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EXTINCTION OF LIGHT AT NORMAL
INCIDENCE BY DIELECTRIC CYLINDERS
WITH REFRACTIVE INDEX IN THE RANGE
 $m=1.15$ to $m=1.30$ SCATTERING
COEFFICIENTS

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31 AUGUST 1962

UNITED STATES NAVAL ORDNANCE LABORATORY, WHITE OAK, MARYLAND

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EXTINCTION OF LIGHT AT NORMAL INCIDENCE BY DIELECTRIC
CYLINDERS WITH REFRACTIVE INDEX IN THE RANGE $m=1.15$ to $m=1.30$
SCATTERING COEFFICIENTS

Prepared by:
Louis F. Libelo

ABSTRACT: Presented here are tables of the complex scattering coefficients for the problem of scattering of normally incident linearly polarized plane electromagnetic waves by dielectric infinite circular cylinders. The numerical results were obtained by means of the IBM 7090 computer system at the U. S. Naval Ordnance Laboratory.

Contained in the tables are the scattering coefficients for the incident plane wave polarized parallel to the cylinder axis and also those for the incident plane wave polarized normal to the cylinder axis.

The extent of the tables are as follows. For refractive indices $m=1.15$ and $m=1.30$ the circumference to wave length ratio $x=2\pi a/\lambda$ extends over the range 0.100(0.200)13.500. For refractive indices $m=1.20$ and $m=1.25$ the range in x is 0.100(0.200)13.300.

The rather extensive results tabulated here are compared, where possible, with those somewhat more limited ones obtained by other investigators.

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This report contains a portion of the results of an investigation of the theory of scattering of electromagnetic radiation by very long dielectric cylinders. The investigation was carried out as part of the research program of the Electromagnetics Division in the Physics Research Department of the U. S. Naval Ordnance Laboratory.

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R. E. ODENING
Captain, USN
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By direction

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CHAPTER I

GENERAL INTRODUCTION

1. Electromagnetic scattering problems for infinite cylinders of arbitrary cross-section may be thought of as falling roughly into two broad categories, namely, scattering by homogeneous cylinders, and scattering by radially inhomogeneous cylinders.
2. For the latter not a great deal in the way of results have been obtained and reported on in the literature. Van de Hulst (1) and Twersky (2) have dealt with this case. There is also the work of Kerker and Matijević (3) on concentric infinite circular cylinders. These authors have considered the scattering of normally incident plane electromagnetic waves by two concentric, homogeneous, isotropic circular cylinders. They indicate, furthermore, how to generalize the problem to any arbitrary but finite number of such concentric cylinders. Finally, Negi (4) has considered the case of radially varying conductivity, dielectric constant, and magnetic permeability for normal incidence and negligible dielectric constant.
3. In the case of scattering of electromagnetic radiation by homogeneous infinite cylinders there is somewhat more information available in the literature. Sieger (5) and Morse and Rubenstein (6) have solved the problem for the perfectly conducting elliptical infinite cylinder at normal incidence. Again at normal incidence, the scattering problem for the isotropic, infinite, dielectric, elliptical cylinder has only just been solved by Yeh (7). For the problem of scattering at normal incidence by infinite circular cylinders of arbitrary radius and arbitrary refractive index Lord Rayleigh (8) was the first to present the complete solution. Shortly thereafter it was given independently by von Ignatowsky (9). Numerical results for metal wires for wavelengths ≈ 30 cm may be found in the papers by Seitz (11), (12) and in those by von Ignatowsky (9), (10). Seitz (13) also worked out an example for an optical wavelength choosing gold wire and a circumference to wavelength ratio of 3. The scattering problem for perfectly conducting infinite cylinders has recently been surveyed by King and Wu (14). Except to note that Panofsky and Phillips (15) give the details of solution

for scattering of normally incident radiation by perfectly conducting infinite cylinders nothing more will be said of this particular problem. The complete solution to the scattering problem for dielectric and partially conducting isotropic infinite circular cylinders at oblique incidence has only relatively recently been given by Wait (16) and Burberg (17).

4. In spite of the interest on the part of many workers in the problems of scattering of vector waves by infinite cylinders there exists a dearth of available useful numerical results. Reference has already been made above to some such numerical results although it should be pointed out these are quite limited. To these references should be added the work of Larkin and Churchill (18) on dielectric circular cylinders for normal incidence. These authors obtained their numerical results in the course of studying the scattering of radiant energy by the filaments of a porous insulation. It may be of some interest to point out here that the numerical results of Larkin and Churchill were later used by Matijević, Ottewill and Kerker (19) in their investigations of the scattering of light by spider fibers. In addition to those mentioned there are the results obtained by van de Hulst (1) for normally incident radiation on isotropic, dielectric circular cylinders. Also Libelo and Greenberg (20) have considered in an astrophysical application the scattering of light, at normal incidence, by a distribution of very long, perfectly aligned, isotropic, dielectric, circular cylinders and in the course of the work obtained further numerical results. To this list must be added some very recent numerical computations carried out by Farrone, Kerker and Matijević (21), again, for the case of normally incident radiation scattered by infinite dielectric circular cylinders. Numerical results for partially conducting cylinders have been found to be exceedingly scarce in the literature. This seeming void has been partially filled by the author (22) quite recently. Van de Hulst (1) also presented a somewhat limited set of numerical results for this case.

5. With the results presented in the accompanying tables and those in a forthcoming publication it is felt that sufficient numerical data will have been made available to other researchers to significantly reduce the time required to interrupt their scattering work to carry out needed extensive computation. This represents a part of the origin of this report.

CHAPTER II

FORMULATION OF THE PROBLEM

6. The mathematical basis and details of the solution of the Maxwell equations for the scattering of linearly polarized, plane electromagnetic waves falling normally on an infinite dielectric circular cylinder has been given by many authors. Included among these are Stratton (23), Morse and Feshbach (24) and Mentzer (25). The reader is referred to these sources for the derivations. Here we shall be content with merely stating the pertinent relations.

7. As has become customary we consider two separate cases. In case I, referred to as "parallel polarization" the incident wave is polarized parallel to the cylinder axis, whereas in case II referred to as "polarization normal to the axis" the magnetic vector of the incident radiation is polarized parallel to the cylinder axis.

8. We assume the cylinder axis coincides with the z-axis and the incident wave is propagating along in the positive direction of the x-axis. In what follows we will use the notation:

\vec{H} = magnetic field

$Y_N(\alpha)$ = Neumann function of order N

$H_N(\alpha) = J_N(\alpha) - iY_N(\alpha)$ = Hankel function of the second kind of order N

$k = 2\pi/\lambda$ = the propagation constant of the incident wave

m = index of refraction

a = radius of the cylinder

Case I: Parallel Polarization

9. The external fields ($r > a$) are given by

$$\vec{E}(r, \theta) = (i/mk) \text{curl curl} \{ \vec{u}_z \Psi(r, \theta) \} \quad (1)$$

$$\vec{H}(r, \theta) = -m \text{curl} \{ \vec{u}_z \Psi(r, \theta) \} \quad (2)$$

where $\Psi(r, \theta) = \sum_{N=-\infty}^{\infty} \exp[iN\theta + i\omega t] (-1)^N [J_N(kr) - B(N)H_N(kr)]$ (3)
and \vec{u}_z is a unit vector along the z-axis

The coefficients are readily found to be

$$B(N) = \frac{mJ_N'(y)J_N(x) - J_N(y)J_N'(x)}{mJ_N'(y)H_N(x) - J_N(y)H_N'(x)} \quad (4)$$

where $y = mka = mx$. It is also easy to show that

$$B(N) = B(-N). \quad (5)$$

10. The scattered wave is found for $kr \gg 1$ from

$$\Psi(r, \theta) \rightarrow (2/\pi kr)^{1/2} \exp[-ikr + i\omega t - i3\pi/4] T_1(\theta) \quad (6)$$

where $T_1(\theta) = \sum_{N=-\infty}^{\infty} B(N) \exp(iN\theta)$ (7)

The quantity $T_1(\theta)$ has a meaning quite similar to the more familiar amplitude function $S(\theta)$ in the case of finite particles.

11. Referring to the definitions reveals that E_z is everywhere proportional to Ψ . Thus the intensity is proportional to $|\Psi|^2$. Then if I_0 is the intensity of the incident radiation and I the intensity of the radiation scattered in the direction θ at a large distance from the cylinder axis we have

$$I = (2/\pi rk) |T_1(\theta)|^2 I_0 \quad (8)$$

12. The extinction efficiency factor per unit length, which is just the scattering efficiency factor since we assumed no conductivity, is given by

$$Q_1 = (2/x) \text{Re}\{T_1(0)\} \quad (9)$$

Substituting from equation (6) into equation (9) we find

$$Q_1 = (2/x) \{ \text{Re} B(0) + 2 \sum_{N=1}^{\infty} \text{Re} B(N) \} \quad (10)$$

Case II: Normally Polarized Incident Radiation

13. Now the external fields ($r > a$) are given by

$$\hat{E}(r, \theta) = \text{curl} (\hat{u}_z \Psi) \quad (11)$$

$$\mathcal{H}(r, \theta) = (i/k) \text{curl} \text{curl} (\hat{u}_z \Psi) \quad (12)$$

where the scalar function Ψ is now

$$\Psi(r, \theta) = \sum_{N=-\infty}^{\infty} \exp[iN\theta + i\omega t] (-1)^N [J_N(kr) - A(N)H_N(kr)] \quad (13)$$

And the coefficients are again easily found to be

$$A_N = \frac{J'_N(y) J_N(x) - m J_N(y) J'_N(x)}{J'_N(y) H_N(x) - m J_N(y) H'_N(x)} \quad (14)$$

where we again see that

$$A(N) = A(-N) \quad (15)$$

The scattered wave, for $kr \gg 1$, is

$$\Psi(r, \theta) \rightarrow (z/\pi kr)^{1/2} \exp[-ikr + i\omega t - i3\pi/4] T_2(\theta) \quad (16)$$

where

$$T_2(\theta) = \sum_{N=-\infty}^{\infty} A(N) \exp(iN\theta) \quad (17)$$

Just as in the previous case $T_2(\theta)$ has a meaning similar to the amplitude function $S(\theta)$ for finite particles. Corresponding to equations (8) to (10) we have for case II

$$I = (z/\pi rk) |T_2(\theta)|^2 I_0 \quad (18)$$

$$Q_2 = (2/x) \text{Re} \{ T_2(0) \} \quad (19)$$

and finally substituting from equation (17) into equation (19) we obtain

$$Q_2 = (2/x) \{ \text{Re}A(0) + 2 \sum_{N=1}^{\infty} \text{Re}A(N) \} \quad (20)$$

CHAPTER III

SUMMARY OF THE NUMERICAL RESULTS

14. To obtain the tabulated complex scattering coefficients a program for use on the IBM 7090 computer system at the U. S. Naval Ordnance Laboratory was constructed and employed. For each fixed index of refraction m , and circumference to wave length ratio x the coefficients were computed for successively larger orders N until the real part became less than 10^{-8} . The program then went on to repeat the procedure for the next value of x . Each coefficient was obtained to six significant figures which is most probably more than was sufficient. These constraints were decided upon to minimize any loss due to oscillation of the coefficients with increasing order N . The tables appearing here represent direct output in tabular form from the IBM 7090. Those entries consisting of only a decimal point preceded by a signed or unsigned zero are to be interpreted as having the value 0.000000.
15. The full ranges in x of the computations were for $m = 1.150$, 0.100 (0.100) 24.900; for $m = 1.200$, 0.100 (0.100) 23.900; for $m = 1.250$, 0.100 (0.100) 22.900; and for $m = 1.300$, 0.100 (0.100) 21.900. However, to keep this report within reasonable size not all of the numerical results obtained have been included in the accompanying tables. Furthermore, discussion of the results has been deferred to a forthcoming publication wherein they shall be treated in considerable detail.
16. The results of the calculations for $m = 1.250$ have been compared with those obtained by van de Hulst (1) and found to be in excellent agreement with these.
17. An examination of the expressions in Chapter II quickly reveals the significance of the numerical values of the complex scattering coefficients $A(N)$ and $B(N)$. Armed with a precise table of these one has available now a means of checking the validity of analytic approximations to the exact infinite dielectric cylinder problem in the "low" refractive index range. In addition, one may interpolate between the tabulated values and obtain, after some manipulation, the numerical values

of the physical quantities defined in Chapter II anywhere in the refractive index range from roughly 1.15 to roughly 1.30. These tables will also be used shortly to attempt to solve approximately the scattering of light by spheroids whose sizes are of the order of the wave length.

Table 1

Real and Imaginary Parts of the Scattering
Coefficients $A(N)$ and $B(N)$ for the Infinite Circular
Cylinder. Refractive Index $m = 1.150$. Range of
Variable $x = 2\pi a/\lambda$; 0.100(0.200)13.500

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
0.100	0	-0.	-0.	0.0000064	0.0025374
	1	0.	0.	0.	0.
0.300	0	0.0000001	0.0002539	0.0005193	0.0227814
	1	0.0000939	0.0096891	0.0000001	0.0002539
	2	0.0000000	0.0001090	0.	0.
0.500	0	0.0000037	0.0019268	0.0038167	0.0616614
	1	0.0006789	0.0260475	0.0000037	0.0019268
	2	0.0000007	0.0008226	0.	0.
0.700	0	0.0000522	0.0072239	0.0130844	0.1136360
	1	0.0023327	0.0482420	0.0000522	0.0072239
	2	0.0000093	0.0030570	0.0000000	0.0001476
0.900	0	0.0003652	0.0191064	0.0295591	0.1693680
	1	0.0054324	0.0735042	0.0003652	0.0191064
	2	0.0000639	0.0079934	0.0000004	0.0006455
	3	0.0000001	0.0002750	0.	0.
1.100	0	0.0016702	0.0408334	0.0505620	0.2191020
	1	0.0098789	0.0989007	0.0016702	0.0408334
	2	0.0002848	0.0168726	0.0000043	0.0020692
	3	0.0000008	0.0008762	0.	0.
1.300	0	0.0056774	0.0751346	0.0709208	0.2566920
	1	0.0151538	0.1221640	0.0056774	0.0751346
	2	0.0009459	0.0307410	0.0000290	0.0053867
	3	0.0000051	0.0022627	0.0000000	0.0001932
1.500	0	0.0153244	0.1228400	0.0862985	0.2808040
	1	0.0206740	0.1422900	0.0153244	0.1228400
	2	0.0025232	0.0501685	0.0001457	0.0120711
	3	0.0000252	0.0050195	0.0000003	0.0005784
	4	0.0000001	0.0002451	0.	0.
1.700	0	0.0340065	0.1812460	0.0951521	0.2934250
	1	0.0261900	0.1597000	0.0340065	0.1812460
	2	0.0056559	0.0749927	0.0005829	0.0241359
	3	0.0000984	0.0099174	0.0000022	0.0014911
	4	0.0000004	0.0006284	0.	0.
1.900	0	0.0633291	0.2435540	0.0985372	0.2980400
	1	0.0320166	0.1760440	0.0633291	0.2435540
	2	0.0109769	0.1041940	0.0019445	0.0440541
	3	0.0003195	0.0178722	0.0000117	0.0034195
	4	0.0000020	0.0014311	0.0000000	0.0001601
2.100	0	0.1007390	0.3009830	0.0989941	0.2986540
	1	0.0390900	0.1938090	0.1007390	0.3009830
	2	0.0188586	0.1360260	0.0055726	0.0744419
	3	0.0008922	0.0298572	0.0000509	0.0071360
	4	0.0000088	0.0029613	0.0000002	0.0004103
	5	0.0000000	0.0001732	0.	0.

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
2.300	0	0.1398090	0.3467890	0.0995911	0.2994540
	1	0.0489631	0.2157910	0.1398090	0.3467890
	2	0.0292255	0.1684380	0.0139557	0.1173070
	3	0.0021914	0.0467610	0.0001898	0.0137772
	4	0.0000320	0.0056594	0.0000009	0.0009548
	5	0.0000002	0.0004011	0.	0.
2.500	0	0.1735540	0.3787250	0.1034610	0.3045600
	1	0.0637864	0.2443720	0.1735540	0.3787250
	2	0.0415957	0.1996630	0.0307757	0.1727090
	3	0.0048105	0.0691907	0.0006209	0.0249098
	4	0.0001023	0.0101129	0.0000042	0.0020492
	5	0.0000007	0.0008559	0.0000000	0.0001126
2.700	0	0.1977110	0.3982730	0.1137440	0.3175000
	1	0.0861218	0.2805440	0.1977110	0.3982730
	2	0.0553732	0.2287070	0.0598368	0.2371840
	3	0.0095477	0.0972448	0.0018138	0.0425497
	4	0.0002910	0.0170549	0.0000169	0.0041054
	5	0.0000029	0.0017028	0.0000001	0.0002648
	6	0.0000000	0.0001116	0.	0.
2.900	0	0.2116330	0.4084660	0.1335900	0.3402110
	1	0.1162160	0.3228640	0.2116330	0.4084660
	2	0.0702425	0.2555550	0.1025160	0.3033260
	3	0.0172820	0.1303200	0.0047920	0.0690579
	4	0.0007479	0.0273381	0.0000601	0.0077508
	5	0.0000102	0.0031880	0.0000003	0.0005801
	6	0.0000001	0.0002433	0.	0.
3.100	0	0.2173810	0.4124640	0.1656160	0.3717360
	1	0.1605270	0.3670940	0.2173810	0.4124640
	2	0.0864739	0.2810630	0.1552680	0.3621600
	3	0.0287361	0.1670640	0.0115325	0.1067690
	4	0.0017565	0.0418734	0.0001931	0.0138959
	5	0.0000320	0.0056592	0.0000014	0.0011943
	6	0.0000002	0.0004983	0.	0.
3.300	0	0.2184480	0.4131930	0.2103170	0.4075340
	1	0.2102130	0.4074600	0.2184480	0.4131930
	2	0.1050450	0.3066110	0.2101080	0.4073850
	3	0.0442125	0.2055670	0.0253297	0.1571240
	4	0.0037993	0.0615215	0.0005669	0.0238038
	5	0.0000919	0.0095843	0.0000054	0.0023293
	6	0.0000009	0.0009662	0.0000000	0.0001626
3.500	0	0.2188590	0.4134730	0.2641060	0.4408560
	1	0.2612360	0.4393080	0.2188590	0.4134730
	2	0.1275700	0.3336110	0.2584600	0.4377880
	3	0.0634626	0.2437930	0.0506114	0.2192030
	4	0.0076136	0.0869233	0.0015345	0.0391431
	5	0.0002422	0.0155626	0.0000187	0.0043294
	6	0.0000032	0.0017834	0.0000001	0.0003422
	7	0.0000000	0.0001433	0.	0.

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
3.700	0	0.2227230	0.4160740	0.3193430	0.4662220
	1	0.3067230	0.4611330	0.2227230	0.4160740
	2	0.1560360	0.3628890	0.2948950	0.4559950
	3	0.0858132	0.2800880	0.0913960	0.2881710
	4	0.0141921	0.1182820	0.0038570	0.0619850
	5	0.0005921	0.0243256	0.0000594	0.0077087
	6	0.0000099	0.0031499	0.0000005	0.0006851
	7	0.0000001	0.0002857	0.	0.
3.900	0	0.2340590	0.4234090	0.3675250	0.4821310
	1	0.3418470	0.4743290	0.2340590	0.4234090
	2	0.1922520	0.3940700	0.3181470	0.4657570
	3	0.1105200	0.3135370	0.1482470	0.3553450
	4	0.0246769	0.1551380	0.0090399	0.0946479
	5	0.0013500	0.0367173	0.0001745	0.0132078
	6	0.0000286	0.0053457	0.0000017	0.0013111
	7	0.0000003	0.0005440	0.	0.
4.100	0	0.2566130	0.4367640	0.4031050	0.4905220
	1	0.3651200	0.4814640	0.2566130	0.4367640
	2	0.2369590	0.4252170	0.3300530	0.4702320
	3	0.1371720	0.3440290	0.2158270	0.4113950
	4	0.0401169	0.1962330	0.0197700	0.1392090
	5	0.0028860	0.0536436	0.0004780	0.0218572
	6	0.0000766	0.0087499	0.0000058	0.0024089
	7	0.0000010	0.0009938	0.0000000	0.0001985
4.300	0	0.2931980	0.4552280	0.4248960	0.4943270
	1	0.3779480	0.4848750	0.2931980	0.4552280
	2	0.2888180	0.4532130	0.3341180	0.4716810
	3	0.1659600	0.3720450	0.2842410	0.4510520
	4	0.0611398	0.2395870	0.0402053	0.1964400
	5	0.0058056	0.0759732	0.0012295	0.0350422
	6	0.0001920	0.0138560	0.0000182	0.0042657
	7	0.0000031	0.0017480	0.0000001	0.0003892
	8	0.0000000	0.0001622	0.	0.
4.500	0	0.3441840	0.4751010	0.4351220	0.4957730
	1	0.3835510	0.4862510	0.3441840	0.4751010
	2	0.3439920	0.4750380	0.3345420	0.4718300
	3	0.1977100	0.3982720	0.3438010	0.4749760
	4	0.0876888	0.2828420	0.0754597	0.2641320
	5	0.0110157	0.1043760	0.0029840	0.0545449
	6	0.0004532	0.0212841	0.0000534	0.0073045
	7	0.0000088	0.0029699	0.0000005	0.0007342
	8	0.0000001	0.0003047	0.	0.

NOLTR 62-157
REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
4.700	0	0.4057070	0.4910280	0.4378900	0.4961270
	1	0.3860460	0.4868410	0.4057070	0.4910280
	2	0.3970440	0.4892850	0.3357220	0.4722420
	3	0.2336630	0.4231600	0.3889140	0.4875040
	4	0.1190070	0.3237970	0.1294080	0.3356510
	5	0.0197365	0.1390930	0.0068549	0.0825098
	6	0.0010112	0.0317827	0.0001472	0.0121314
	7	0.0000239	0.0048879	0.0000018	0.0013372
	8	0.0000003	0.0005523	0.0000000	0.0001139
4.900	0	0.4696270	0.4990770	0.4381040	0.4961540
	1	0.3899020	0.4877280	0.4696270	0.4990770
	2	0.4428760	0.4967260	0.3420490	0.4743960
	3	0.2750310	0.4465300	0.4186120	0.4933320
	4	0.1539300	0.3608820	0.2010840	0.4008110
	5	0.0333995	0.1796770	0.0149141	0.1212090
	6	0.0021402	0.0462123	0.0003840	0.0195919
	7	0.0000610	0.0078113	0.0000056	0.0023575
	8	0.0000009	0.0009683	0.0000000	0.0002196
5.100	0	0.5266300	0.4992900	0.4408710	0.4964910
	1	0.3996100	0.4898180	0.5266300	0.4992900
	2	0.4784110	0.4995340	0.3577530	0.4793390
	3	0.3223580	0.4673790	0.4350370	0.4957620
	4	0.1913490	0.3933630	0.2826510	0.4502880
	5	0.0533778	0.2247860	0.0306564	0.1723850
	6	0.0043085	0.0654980	0.0009517	0.0308348
	7	0.0001476	0.0121478	0.0000163	0.0040341
	8	0.0000027	0.0016463	0.0000002	0.0004097
	9	0.0000000	0.0001701	0.	0.
5.300	0	0.5703090	0.4950320	0.4511330	0.4976060
	1	0.4193370	0.4934510	0.5703090	0.4950320
	2	0.5031160	0.4999900	0.3865140	0.4869510
	3	0.3748470	0.4840830	0.4418370	0.4966000
	4	0.2306150	0.4212270	0.3622000	0.4806360
	5	0.0805803	0.2721890	0.0591541	0.2359130
	6	0.0082642	0.0905315	0.0022492	0.0473727
	7	0.0003394	0.0184193	0.0000451	0.0067160
	8	0.0000074	0.0027205	0.0000005	0.0007410
	9	0.0000001	0.0003064	0.	0.
5.500	0	0.5988620	0.4901290	0.4731930	0.4992810
	1	0.4522620	0.4977100	0.5988620	0.4901290
	2	0.5185360	0.4996560	0.4304620	0.4951410
	3	0.4300110	0.4950770	0.4432210	0.4967660
	4	0.2717050	0.4448390	0.4295520	0.4950120
	5	0.1150560	0.3190900	0.1060510	0.3079030
	6	0.0151126	0.1220010	0.0050825	0.0711100
	7	0.0007444	0.0272737	0.0001188	0.0109008
	8	0.0000192	0.0043775	0.0000017	0.0013020
	9	0.0000003	0.0005358	0.0000000	0.0001234

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
5.700	0	0.6141160	0.4868030	0.5097760	0.4999040
	1	0.4993320	0.5000000	0.6141160	0.4868030
	2	0.5275560	0.4992400	0.4884910	0.4998680
	3	0.4840430	0.4997450	0.4435520	0.4968030
	4	0.3150970	0.4645550	0.4798130	0.4995920
	5	0.1558520	0.3627150	0.1745260	0.3795610
	6	0.0263375	0.1601370	0.0109915	0.1042630
	7	0.0015617	0.0394882	0.0002988	0.0172835
	8	0.0000472	0.0068715	0.0000050	0.0022266
	9	0.0000008	0.0009114	0.0000000	0.0002282
5.900	0	0.6198550	0.4854220	0.5605020	0.4963260
	1	0.5577380	0.4966550	0.6198550	0.4854220
	2	0.5337960	0.4988570	0.5549140	0.4969750
	3	0.5329230	0.4989150	0.4472140	0.4972060
	4	0.3614230	0.4804130	0.5129840	0.4998310
	5	0.2012650	0.4009450	0.2612240	0.4393020
	6	0.0436900	0.2044050	0.0227203	0.1490110
	7	0.0031408	0.0559546	0.0007196	0.0268151
	8	0.0001111	0.0105393	0.0000138	0.0037137
	9	0.0000023	0.0015107	0.0000002	0.0004103
	10	0.0000000	0.0001698	0.	0.
6.100	0	0.6206860	0.4852160	0.6205280	0.4852560
	1	0.6205270	0.4852560	0.6206860	0.4852160
	2	0.5412290	0.4982970	0.6205270	0.4852560
	3	0.5736660	0.4945440	0.4585090	0.4982750
	4	0.4109830	0.4920120	0.5318580	0.4989840
	5	0.2493960	0.4326630	0.3552480	0.4785890
	6	0.0688712	0.2532350	0.0446822	0.2066050
	7	0.0060633	0.0776306	0.0016647	0.0407670
	8	0.0002503	0.0158180	0.0000366	0.0060510
	9	0.0000060	0.0024440	0.0000005	0.0007187
	10	0.0000001	0.0002962	0.	0.
6.300	0	0.6215030	0.4850120	0.6812630	0.4659870
	1	0.6788560	0.4669160	0.6215030	0.4850120
	2	0.5538660	0.4970900	0.6764900	0.4678150
	3	0.6050400	0.4888420	0.4813840	0.4996530
	4	0.4632600	0.4986480	0.5403290	0.4983710
	5	0.2987160	0.4576950	0.4429570	0.4967350
	6	0.1030170	0.3039820	0.0828759	0.2756950
	7	0.0112430	0.1054350	0.0037088	0.0607873
	8	0.0005413	0.0232604	0.0000931	0.0096481
	9	0.0000149	0.0038649	0.0000015	0.0012285
	10	0.0000003	0.0005040	0.0000000	0.0001268

NOLTR 62-157
REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
6.500	0	0.6271830	0.4835540	0.7339180	0.4419080
	1	0.7258290	0.4460960	0.6271830	0.4835540
	2	0.5753310	0.4942930	0.7179250	0.4500100
	3	0.6275370	0.4834610	0.5186940	0.4996500
	4	0.5166610	0.4997220	0.5425600	0.4981850
	5	0.3483800	0.4764570	0.5145460	0.4997880
	6	0.1461590	0.3532650	0.1431710	0.3502470
	7	0.0200176	0.1400600	0.0079679	0.0889070
	8	0.0011263	0.0335488	0.0002274	0.0150769
	9	0.0000353	0.0059824	0.0000042	0.0020521
	10	0.0000007	0.0008375	0.0000000	0.0002269
6.700	0	0.6421540	0.4793660	0.7732850	0.4187060
	1	0.7587650	0.4278330	0.6421540	0.4793660
	2	0.6081120	0.4881720	0.7444780	0.4361540
	3	0.6429420	0.4791320	0.5707930	0.4949630
	4	0.5686720	0.4952620	0.5427340	0.4981700
	5	0.3982120	0.4895300	0.5666290	0.4955410
	6	0.1969620	0.3977030	0.2272550	0.4190590
	7	0.0341749	0.1816780	0.0165016	0.1273940
	8	0.0022612	0.0474981	0.0005350	0.0231232
	9	0.0000824	0.0090752	0.0000113	0.0033545
		10	0.0000018	0.0013611	0.0000002
	11	0.0000000	0.0001637	0.	0.
6.900	0	0.6695780	0.4703650	0.7986630	0.4009990
	1	0.7786530	0.4151530	0.6695780	0.4703650
	2	0.6524280	0.4761990	0.7586610	0.4278950
	3	0.6538520	0.4757410	0.6339240	0.4817310
	4	0.6164750	0.4862440	0.5450220	0.4979690
	5	0.4484140	0.4973320	0.6005980	0.4897760
	6	0.2529920	0.4347260	0.3284390	0.4696450
	7	0.0558183	0.2295710	0.0328504	0.1782450
	8	0.0043806	0.0660414	0.0012159	0.0348483
	9	0.0001825	0.0135078	0.0000289	0.0053736
		10	0.0000047	0.0021656	0.0000005
	11	0.0000001	0.0002785	0.	0.
7.100	0	0.7100030	0.4537610	0.8123060	0.3904680
	1	0.7884500	0.4084070	0.7100030	0.4537610
	2	0.7051560	0.4559730	0.7641810	0.4245090
	3	0.6633310	0.4725710	0.7000970	0.4582150
	4	0.6577660	0.4744570	0.5535580	0.4971230
	5	0.4991650	0.4999990	0.6200290	0.4853790
	6	0.3114280	0.4630770	0.4325100	0.4954240
	7	0.0869734	0.2817960	0.0624571	0.2419840
	8	0.0081991	0.0901768	0.0026753	0.0516541
	9	0.0003901	0.0197478	0.0000713	0.0084466
		10	0.0000114	0.0033776	0.0000013
	11	0.0000002	0.0004639	0.0000000	0.0001256

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.300	0	0.7600100	0.4270770	0.8176860	0.3861030
	1	0.7918450	0.4059890	0.7600100	0.4270770
	2	0.7599740	0.4270990	0.7651070	0.4239320
	3	0.6746430	0.4685080	0.7599380	0.4271210
	4	0.6913410	0.4619400	0.5722320	0.4947550
	5	0.5502220	0.4974710	0.6290430	0.4830610
	6	0.3698420	0.4827620	0.5248480	0.4993820
	7	0.1269280	0.3351200	0.1121810	0.3155890
	8	0.0148244	0.1208500	0.0057076	0.0753325
	9	0.0008062	0.0283829	0.0001702	0.0130441
	10	0.0000267	0.0051691	0.0000034	0.0018581
11	0.0000006	0.0007566	0.0000000	0.0002189	
7.500	0	0.8123540	0.3904300	0.8186270	0.3853270
	1	0.7927600	0.4053290	0.8123540	0.3904300
	2	0.8096000	0.3926170	0.7656250	0.4236070
	3	0.6909510	0.4621010	0.8069110	0.3947220
	4	0.7172440	0.4503390	0.6040940	0.4890440
	5	0.6006930	0.4897560	0.6316940	0.4823450
	6	0.4266830	0.4945950	0.5970950	0.4904820
	7	0.1815170	0.3854460	0.1875920	0.3903860
	8	0.0258658	0.1587350	0.0118120	0.1080390
	9	0.0016134	0.0401350	0.0003928	0.0198147
	10	0.0000604	0.0077707	0.0000089	0.0029885
	11	0.0000015	0.0012101	0.0000001	0.0003738
12	0.0000000	0.0001539	0.	0.	
7.700	0	0.8588220	0.3482060	0.8190720	0.3849580
	1	0.7951930	0.4035600	0.8588220	0.3482060
	2	0.8489030	0.3581440	0.7698990	0.4208970
	3	0.7148240	0.4514980	0.8392430	0.3673060
	4	0.7365640	0.4404970	0.6501580	0.4769200
	5	0.6490730	0.4772600	0.6318900	0.4822910
	6	0.4813200	0.4996510	0.6480200	0.4775880
	7	0.2427770	0.4287610	0.2878330	0.4527530
	8	0.0434597	0.2038900	0.0236804	0.1520510
	9	0.0031307	0.0558647	0.0008793	0.0296397
	10	0.0001319	0.0114859	0.0000223	0.0047212
	11	0.0000036	0.0018994	0.0000004	0.0006259
12	0.0000001	0.0002567	0.	0.	
7.900	0	0.8941310	0.3076700	0.8229390	0.3817200
	1	0.8029660	0.3977580	0.8941310	0.3076700
	2	0.8764070	0.3291160	0.7817040	0.4130900
	3	0.7474700	0.4344640	0.8587020	0.3483290
	4	0.7511020	0.4323750	0.7078310	0.4547600
	5	0.6935840	0.4610050	0.6334820	0.4818530
	6	0.5337680	0.4988580	0.6805760	0.4662530
	7	0.3093030	0.4622060	0.4019760	0.4902970
	8	0.0700942	0.2553060	0.0457943	0.2090390
	9	0.0058952	0.0765539	0.0019132	0.0436982
	10	0.0002792	0.0167077	0.0000538	0.0073341
	11	0.0000086	0.0029288	0.0000011	0.0010285
12	0.0000002	0.0004200	0.0000000	0.0001208	

NOLTR 62-157
REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.100	0	0.9174160	0.2752530	0.8337070	0.3723430
	1	0.8191280	0.3849130	0.9174160	0.2752530
	2	0.8934700	0.3085150	0.8036260	0.3972550
	3	0.7878350	0.4088410	0.8684800	0.3379680
	4	0.7630940	0.4251840	0.7702510	0.4206710
	5	0.7326700	0.4425660	0.6402950	0.4799140
	6	0.5842800	0.4928460	0.6990560	0.4586690
	7	0.3772260	0.4846920	0.5127460	0.4998380
	8	0.1081010	0.3105080	0.0847164	0.2784590
	9	0.0107757	0.1032450	0.0040529	0.0635330
	10	0.0005733	0.0239364	0.0001258	0.0112148
	11	0.0000197	0.0044404	0.0000027	0.0016601
12	0.0000005	0.0006747	0.0000000	0.0002062	
8.300	0	0.9307400	0.2538950	0.8535410	0.3535660
	1	0.8449100	0.3619910	0.9307400	0.2538950
	2	0.9026750	0.2964000	0.8358150	0.3704440
	3	0.8321580	0.3737260	0.8719590	0.3341360
	4	0.7749930	0.4175870	0.8283100	0.3771110
	5	0.7654310	0.4237290	0.6559760	0.4750490
	6	0.6329610	0.4819970	0.7076930	0.4548220
	7	0.4432720	0.4967720	0.6057970	0.4886790
	8	0.1588010	0.3654900	0.1479630	0.3550630
	9	0.0191082	0.1369050	0.0083669	0.0910871
	10	0.0011437	0.0337987	0.0002856	0.0168980
	11	0.0000439	0.0066249	0.0000069	0.0026345
	12	0.0000011	0.0010649	0.0000001	0.0003455
13	0.0000000	0.0001420	0.	0.	
8.500	0	0.9370130	0.2429400	0.8820380	0.3225630
	1	0.8785130	0.3266920	0.9370130	0.2429400
	2	0.9068200	0.2906850	0.8748610	0.3308760
	3	0.8748470	0.3308920	0.8724050	0.3336390
	4	0.7892420	0.4078470	0.8748340	0.3309070
	5	0.7918030	0.4060180	0.6834750	0.4651200
	6	0.6795320	0.4666560	0.7103360	0.4536060
	7	0.5053920	0.4999710	0.6753150	0.4682570
	8	0.2215940	0.4153200	0.2399790	0.4270710
	9	0.0328188	0.1781620	0.0168285	0.1286290
	10	0.0022198	0.0470620	0.0006311	0.0251131
	11	0.0000948	0.0097344	0.0000169	0.0041141
	12	0.0000027	0.0016529	0.0000003	0.0005691
13	0.0000001	0.0002329	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.700	0	0.9389780	0.2393700	0.9153530	0.2783560
	1	0.9147790	0.2792100	0.9389780	0.2393700
	2	0.9086380	0.2881230	0.9141980	0.2800710
	3	0.9107510	0.2851020	0.8730460	0.3329220
	4	0.8079460	0.3939160	0.9073970	0.2898750
	5	0.8124880	0.3903220	0.7239920	0.4470210
	6	0.7232900	0.4473720	0.7105490	0.4535070
	7	0.5627920	0.4960410	0.7226060	0.4477120
	8	0.2935730	0.4553990	0.3560730	0.4788370
	9	0.0544419	0.2268880	0.0328988	0.1783720
	10	0.0041957	0.0646386	0.0013593	0.0368436
	11	0.0001988	0.0140977	0.0000400	0.0063279
	12	0.0000064	0.0025245	0.0000008	0.0009213
13	0.0000001	0.0003755	0.0000000	0.0001137	
8.900	0	0.9391470	0.2390600	0.9471080	0.2238170
	1	0.9470470	0.2239390	0.9391470	0.2390600
	2	0.9108170	0.2850080	0.9469860	0.2240610
	3	0.9372890	0.2424420	0.8770390	0.3283920
	4	0.8323520	0.3735540	0.9275990	0.2591510
	5	0.8287420	0.3767340	0.7755010	0.4172520
	6	0.7632760	0.4250720	0.7117970	0.4529260
	7	0.6155810	0.4864580	0.7520910	0.4317990
	8	0.3701050	0.4828330	0.4804610	0.4996180
	9	0.0868774	0.2816550	0.0621574	0.2414410
	10	0.0077275	0.0875659	0.0028594	0.0533970
	11	0.0004057	0.0201377	0.0000921	0.0095953
	12	0.0000144	0.0037973	0.0000022	0.0014681
13	0.0000004	0.0005958	0.0000000	0.0001908	
9.100	0	0.9399660	0.2375500	0.9715830	0.1661620
	1	0.9706310	0.1688380	0.9399660	0.2375500
	2	0.9159030	0.2775340	0.9696810	0.1714650
	3	0.9547890	0.2077670	0.8871020	0.3164680
	4	0.8621980	0.3446930	0.9386280	0.2400110
	5	0.8421660	0.3645850	0.8319130	0.3739440
	6	0.7985790	0.4010620	0.7175210	0.4502050
	7	0.6642870	0.4722390	0.7685590	0.4217540
	8	0.4462130	0.4970990	0.5937620	0.4911300
	9	0.1327170	0.3392680	0.1123240	0.3157650
	10	0.0138656	0.1169330	0.0058819	0.0764677
	11	0.0008067	0.0283907	0.0002062	0.0143566
	12	0.0000317	0.0056288	0.0000053	0.0023035
	13	0.0000009	0.0009299	0.0000001	0.0003147
14	0.0000000	0.0001291	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.300	0	0.9437490	0.2304050	0.9867760	0.1142340
	1	0.9848990	0.1219540	0.9437490	0.2304050
	2	0.9258730	0.2619730	0.9829490	0.1294610
	3	0.9652410	0.1831680	0.9046780	0.2936590
	4	0.8952460	0.3062360	0.9435720	0.2307470
	5	0.8545220	0.3525820	0.8845810	0.3195270
	6	0.8266420	0.3768220	0.7310170	0.4434310
	7	0.7094380	0.4540220	0.7761860	0.4167990
	8	0.5179460	0.4996780	0.6835230	0.4651020
	9	0.1931360	0.3947590	0.1911460	0.3932040
	10	0.0242145	0.1537150	0.0118375	0.1081540
	11	0.0015648	0.0395262	0.0004502	0.0212142
	12	0.0000677	0.0082204	0.0000127	0.0035620
	13	0.0000020	0.0014296	0.0000003	0.0005110
	14	0.0000000	0.0002089	0.	0.
9.500	0	0.9521500	0.2134480	0.9944240	0.0744610
	1	0.9921930	0.0880120	0.9521500	0.2134480
	2	0.9413250	0.2350140	0.9896610	0.1011550
	3	0.9709290	0.1680000	0.9288080	0.2571460
	4	0.9275850	0.2591740	0.9449810	0.2280170
	5	0.8675650	0.3389640	0.9263110	0.2612640
	6	0.8534310	0.3536760	0.7549610	0.4301100
	7	0.7513040	0.4322570	0.7785110	0.4152490
	8	0.5830720	0.4930510	0.7473740	0.4345180
	9	0.2667790	0.4422760	0.3007440	0.4585820
	10	0.0410704	0.1984530	0.0232858	0.1508100
	11	0.0029641	0.0543626	0.0009610	0.0309846
	12	0.0001409	0.0118702	0.0000295	0.0054325
	13	0.0000047	0.0021659	0.0000007	0.0008172
	14	0.0000001	0.0003326	0.0000000	0.0001054
9.700	0	0.9652230	0.1832150	0.9976030	0.0488983
	1	0.9954150	0.0675557	0.9652230	0.1832150
	2	0.9605880	0.1945720	0.9925990	0.0857106
	3	0.9737910	0.1597560	0.9554490	0.2063160
	4	0.9550380	0.2072200	0.9450830	0.2278190
	5	0.8828050	0.3216520	0.9546340	0.2081050
	6	0.8734380	0.3324820	0.7904390	0.4069950
	7	0.7898040	0.4074480	0.7786990	0.4151230
	8	0.6409820	0.4797130	0.7891840	0.4078880
	9	0.3494230	0.4767880	0.4311940	0.4952430
	10	0.0674180	0.2507440	0.0446202	0.2064680
	11	0.0054870	0.0738710	0.0020078	0.0447630
	12	0.0002860	0.0169097	0.0000669	0.0081779
	13	0.0000105	0.0032356	0.0000017	0.0012878
	14	0.0000003	0.0005219	0.0000000	0.0001741

NOLTR 62-157

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.900	0	0.9805450	0.1381170	0.9987110	0.0358780
	1	0.9966170	0.0580623	0.9805450	0.1381170
	2	0.9795980	0.1413710	0.9935910	0.0797997
	3	0.9754110	0.1548680	0.9786040	0.1447020
	4	0.9750390	0.1560080	0.9460200	0.2259780
	5	0.9011650	0.2984410	0.9714600	0.1665090
	6	0.8895570	0.3134410	0.8355900	0.3706470
	7	0.8245900	0.3803180	0.7797900	0.4143880
	8	0.6921550	0.4616020	0.8145150	0.3886910
	9	0.4349870	0.4957550	0.5618600	0.4961590
	10	0.1065840	0.3085840	0.0826778	0.2753950
	11	0.0099291	0.0991488	0.0041124	0.0639964
	12	0.0005668	0.0238018	0.0001479	0.0121609
	13	0.0000227	0.0047692	0.0000040	0.0020009
	14	0.0000006	0.0008069	0.0000001	0.0002832
	15	0.0000000	0.0001160	0.	0.
10.100	0	0.9935210	0.0802296	0.9990020	0.0315676
	1	0.9969240	0.0553770	0.9935210	0.0802296
	2	0.9935210	0.0802311	0.9937330	0.0789148
	3	0.9771730	0.1493520	0.9935210	0.0802325
	4	0.9875150	0.1110360	0.9498070	0.2183430
	5	0.9225320	0.2673330	0.9803830	0.1386790
	6	0.9029260	0.2960580	0.8847370	0.3193390
	7	0.8552400	0.3518590	0.7848040	0.4109580
	8	0.7375560	0.4399630	0.8283490	0.3770770
	9	0.5174460	0.4996960	0.6730010	0.4691170
	10	0.1613300	0.3678350	0.1462630	0.3533700
	11	0.0175558	0.1313300	0.0082664	0.0905433
	12	0.0010983	0.0331220	0.0003197	0.0178783
	13	0.0000482	0.0069405	0.0000094	0.0030680
	14	0.0000015	0.0012303	0.0000002	0.0004544
	15	0.0000000	0.0001854	0.	0.
10.300	0	0.9997360	0.0162496	0.9990280	0.0311689
	1	0.9970020	0.0546731	0.9997360	0.0162496
	2	0.9996280	0.0192852	0.9938570	0.0781344
	3	0.9802550	0.1391210	0.9995050	0.0222501
	4	0.9942280	0.0757547	0.9578660	0.2008950
	5	0.9454120	0.2271740	0.9845540	0.1233180
	6	0.9147770	0.2792140	0.9296800	0.2556860
	7	0.8814780	0.3232250	0.7966260	0.4025080
	8	0.7781670	0.4154800	0.8346180	0.3715250
	9	0.5924880	0.4913710	0.7557590	0.4296360
	10	0.2324260	0.4223790	0.2425920	0.4286510
	11	0.0302884	0.1713800	0.0163076	0.1266560
	12	0.0020825	0.0455872	0.0006767	0.0260053
	13	0.0000996	0.0099775	0.0000216	0.0046447
	14	0.0000034	0.0018509	0.0000005	0.0007188
	15	0.0000001	0.0002922	0.	0.

NOLTR 62-157

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.500	0	0.9980230	-0.0444162	0.9991240	0.0295782
	1	0.9973960	0.0509655	0.9980230	-0.0444162
	2	0.9968890	-0.0333124	0.9947130	0.0725185
	3	0.9853110	0.1203030	0.9994880	-0.0226266
	4	0.9973990	0.0509327	0.9701710	0.1701140
	5	0.9670510	0.1785020	0.9860830	0.1171470
	6	0.9262910	0.2612960	0.9635490	0.1874100
	7	0.9033290	0.2955090	0.8175450	0.3862190
	8	0.8147180	0.3885260	0.8364570	0.3698600
	9	0.6581170	0.4743400	0.8116850	0.3909630
	10	0.3173400	0.4654410	0.3698520	0.4827650
	11	0.0508532	0.2196980	0.0315211	0.1747210
	12	0.0038680	0.0620729	0.0014047	0.0374531
	13	0.0002010	0.0141778	0.0000483	0.0069473
	14	0.0000076	0.0027487	0.0000013	0.0011220
15	0.0000002	0.0004541	0.0000000	0.0001568	
10.700	0	0.9911210	-0.0938103	0.9995260	0.0217664
	1	0.9984410	0.0394534	0.9911210	-0.0938103
	2	0.9946920	-0.0726599	0.9966910	0.0574260
	3	0.9918790	0.0897505	0.9972530	-0.0523374
	4	0.9987650	0.0351239	0.9843740	0.1240230
	5	0.9843370	0.1241690	0.9863500	0.1160320
	6	0.9384360	0.2403620	0.9842990	0.1243160
	7	0.9211610	0.2694880	0.8483480	0.3586840
	8	0.8475900	0.3594180	0.8365950	0.3697350
	9	0.7142660	0.4517630	0.8468560	0.3601270
	10	0.4101410	0.4918590	0.5116750	0.4998640
	11	0.0827394	0.2754880	0.0594224	0.2364140
	12	0.0070411	0.0836154	0.0028641	0.0534403
	13	0.0003972	0.0199250	0.0001056	0.0102762
	14	0.0000162	0.0040319	0.0000030	0.0017290
	15	0.0000005	0.0006966	0.0000001	0.0002525
16	0.0000000	0.0001033	0.	0.	
10.900	0	0.9832530	-0.1283210	0.9999900	0.0032077
	1	0.9997440	0.0160115	0.9832530	-0.1283210
	2	0.9903090	-0.0979665	0.9991530	0.0290915
	3	0.9978760	0.0460358	0.9952820	-0.0685221
	4	0.9993500	0.0254824	0.9958900	0.0639775
	5	0.9952160	0.0690008	0.9864610	0.1155680
	6	0.9517220	0.2143520	0.9945270	0.0737781
	7	0.9356180	0.2454320	0.8870530	0.3165270
	8	0.8768550	0.3286040	0.8376330	0.3687870
	9	0.7620060	0.4258560	0.8674960	0.3390380
	10	0.5031750	0.4999900	0.6435510	0.4789500
	11	0.1296930	0.3359650	0.1082430	0.3106870
	12	0.0125623	0.1113750	0.0057433	0.0755668
	13	0.0007683	0.0277083	0.0002262	0.0150385
	14	0.0000341	0.0058439	0.0000069	0.0026315
	15	0.0000011	0.0010546	0.0000002	0.0004008
16	0.0000000	0.0001634	0.	0.	

REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.100	0	0.9774220	-0.1485530	0.9991400	-0.0293068
	1	0.9995230	-0.0218418	0.9774220	-0.1485530
	2	0.9874230	-0.1114390	0.9997980	-0.0142140
	3	0.9999150	-0.0091954	0.9943640	-0.0748637
	4	0.9996610	0.0184218	0.9999840	-0.0039922
	5	0.9996650	0.0183037	0.9874520	0.1113130
	6	0.9659250	0.1814220	0.9985090	0.0385911
	7	0.9475050	0.2230230	0.9281280	0.2582760
	8	0.9024190	0.2967480	0.8421520	0.3645990
	9	0.8028200	0.3978690	0.8784580	0.3267560
	10	0.5896180	0.4919030	0.7477710	0.4342920
	11	0.1944890	0.3958070	0.1876000	0.3903930
	12	0.0219522	0.1465270	0.0113359	0.1058650
	13	0.0014573	0.0381462	0.0004751	0.0217924
	14	0.0000701	0.0083751	0.0000157	0.0039583
	15	0.0000025	0.0015769	0.0000004	0.0006283
	16	0.0000001	0.0002552	0.	0.
11.300	0	0.9744910	-0.1576650	0.9941510	-0.0762561
	1	0.9945800	-0.0734176	0.9744910	-0.1576650
	2	0.9861520	-0.1168620	0.9950000	-0.0705346
	3	0.9950050	-0.0705012	0.9942030	-0.0759171
	4	0.9998990	0.0100422	0.9950090	-0.0704677
	5	0.9994270	-0.0239355	0.9901160	0.0989269
	6	0.9798650	0.1404630	0.9996860	0.0177040
	7	0.9576590	0.2013660	0.9637420	0.1869310
	8	0.9241940	0.2646870	0.8525870	0.3545170
	9	0.8381150	0.3683460	0.8832600	0.3211100
	10	0.6652750	0.4718940	0.8204820	0.3837850
	11	0.2771160	0.4475740	0.3029510	0.4595340
	12	0.0375055	0.1899970	0.0220141	0.1467290
	13	0.0027122	0.0520085	0.0009802	0.0312923
	14	0.0001410	0.0118733	0.0000347	0.0058879
	15	0.0000054	0.0023296	0.0000009	0.0009726
	16	0.0000001	0.0003934	0.0000000	0.0001403
11.500	0	0.9737220	-0.1599600	0.9817410	-0.1338880
	1	0.9818130	-0.1336270	0.9737220	-0.1599600
	2	0.9857080	-0.1186910	0.9818860	-0.1333650
	3	0.9828120	-0.1299720	0.9941070	-0.0765393
	4	0.9999870	-0.0035537	0.9836880	-0.1266710
	5	0.9968510	-0.0560301	0.9944260	0.0744531
	6	0.9915040	0.0917788	0.9999370	0.0079117
	7	0.9668260	0.1790910	0.9875790	0.1107550
	8	0.9422450	0.2332800	0.8707760	0.3354470
	9	0.8689690	0.3374340	0.8845730	0.3195370
	10	0.7288520	0.4445520	0.8670440	0.3395270
	11	0.3733560	0.4836950	0.4466050	0.4971410
	12	0.0624480	0.2419670	0.0419596	0.2004970
	13	0.0049574	0.0702338	0.0019890	0.0445543
	14	0.0002776	0.0166603	0.0000751	0.0086663
	15	0.0000116	0.0034022	0.0000022	0.0014876
	16	0.0000004	0.0005990	0.0000000	0.0002234

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.700	0	0.9736500	-0.1601750	0.9606970	-0.1943140
	1	0.9608790	-0.1938820	0.9736500	-0.1601750
	2	0.9849850	-0.1216110	0.9610600	-0.1934530
	3	0.9663110	-0.1804260	0.9932970	-0.0815983
	4	0.9993310	-0.0258658	0.9709530	-0.1679380
	5	0.9938010	-0.0784914	0.9987680	0.0350787
	6	0.9985850	0.0375941	0.9999740	0.0051102
	7	0.9755310	0.1544990	0.9983810	0.0402065
	8	0.9568450	0.2032070	0.8970780	0.3038570
	9	0.8960650	0.3051770	0.8846670	0.3194240
	10	0.7811310	0.4134790	0.8950900	0.3064380
	11	0.4752060	0.4993850	0.5951820	0.4908570
	12	0.1008220	0.3010930	0.0780222	0.2682060
	13	0.0089019	0.0939290	0.0039763	0.0629323
	14	0.0005362	0.0231496	0.0001596	0.0126305
	15	0.0000241	0.0049136	0.0000051	0.0022492
	16	0.0000008	0.0009010	0.0000001	0.0003513
17	0.0000000	0.0001431	0.	0.	
11.900	0	0.9726340	-0.1631470	0.9338690	-0.2485100
	1	0.9354750	-0.2456870	0.9726340	-0.1631470
	2	0.9827460	-0.1302160	0.9370380	-0.2428950
	3	0.9499510	-0.2180460	0.9907700	-0.0956297
	4	0.9964690	-0.0593197	0.9607940	-0.1940850
	5	0.9912050	-0.0933697	0.9996240	-0.0193805
	6	0.9996730	-0.0180846	0.9999760	0.0049086
	7	0.9839200	0.1257820	0.9997170	-0.0168229
	8	0.9684550	0.1747840	0.9292040	0.2564840
	9	0.9197260	0.2717160	0.8857030	0.3181720
	10	0.8239050	0.3809010	0.9109740	0.2847820
	11	0.5735020	0.4945680	0.7224970	0.4477670
	12	0.1567460	0.3635610	0.1398950	0.3468780
	13	0.0157025	0.1243220	0.0078399	0.0881953
	14	0.0010166	0.0318687	0.0003328	0.0182396
	15	0.0000493	0.0070219	0.0000113	0.0033639
	16	0.0000018	0.0013399	0.0000003	0.0005461
17	0.0000000	0.0002216	0.	0.	

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REFRACTIVE INDEX M= 1.150.

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.100	0	0.9689450	-0.1734660	0.9070470	-0.2903670
	1	0.9113660	-0.2842150	0.9689450	-0.1734660
	2	0.9774320	-0.1485230	0.9155110	-0.2781200
	3	0.9371560	-0.2426830	0.9848480	-0.1221590
	4	0.9890150	-0.1042340	0.9547930	-0.2077580
	5	0.9891490	-0.1036030	0.9927510	-0.0848322
	6	0.9949990	-0.0705397	0.9999920	0.0028537
	7	0.9915880	0.0913296	0.9967020	-0.0573366
	8	0.9776390	0.1478550	0.9615700	0.1922320
	9	0.9400470	0.2374000	0.8898210	0.3131120
	10	0.8591650	0.3478510	0.9191290	0.2726370
	11	0.6610990	0.4733360	0.8155140	0.3878800
	12	0.2327550	0.4225870	0.2374050	0.4254930
	13	0.0271825	0.1626150	0.0152527	0.1225560
	14	0.0018945	0.0434827	0.0006825	0.0261164
	15	0.0000987	0.0099334	0.0000248	0.0049787
	16	0.0000039	0.0019702	0.0000007	0.0008391
	17	0.0000001	0.0003391	0.0000000	0.0001243
12.300	0	0.9604870	-0.1948130	0.8855660	-0.3183380
	1	0.8930770	-0.3090160	0.9604870	-0.1948130
	2	0.9668330	-0.1790720	0.9002240	-0.2997010
	3	0.9291440	-0.2565840	0.9728660	-0.1624740
	4	0.9744460	-0.1578020	0.9524470	-0.2128190
	5	0.9871640	-0.1125680	0.9760400	-0.1529230
	6	0.9863930	-0.1158510	0.9999700	-0.0054571
	7	0.9974760	0.0501764	0.9931650	-0.0823937
	8	0.9849470	0.1217650	0.9866700	0.1146820
	9	0.9570350	0.2027790	0.8989930	0.3013380
	10	0.8886490	0.3145660	0.9225410	0.2673190
	11	0.7345270	0.4415850	0.8760890	0.3294800
	12	0.3275450	0.4693180	0.3724360	0.4834540
	13	0.0460785	0.2096550	0.0292564	0.1685240
	14	0.0034718	0.0588199	0.0013786	0.0371035
	15	0.0001937	0.0139176	0.0000532	0.0072965
	16	0.0000082	0.0028661	0.0000016	0.0012751
	17	0.0000003	0.0005130	0.0000000	0.0001962

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.500	0	0.9445860	-0.2287860	0.8718930	-0.3342090
	1	0.8821660	-0.3224110	0.9445860	-0.2287860
	2	0.9482100	-0.2216020	0.8919120	-0.3104910
	3	0.9251790	-0.2631020	0.9518300	-0.2141250
	4	0.9518310	-0.2141240	0.9521110	-0.2135320
	5	0.9844360	-0.1237820	0.9518310	-0.2141240
	6	0.9763550	-0.1519400	0.9994160	-0.0241503
	7	0.9999940	0.0025330	0.9908510	-0.0952102
	8	0.9908090	0.0954265	0.9989280	0.0327301
	9	0.9707510	0.1685030	0.9145530	0.2795450
	10	0.9136530	0.2808760	0.9233750	0.2659950
	11	0.7936400	0.4046920	0.9127060	0.2822660
	12	0.4346330	0.4957090	0.5294150	0.4991340
	13	0.0761911	0.2653040	0.0551370	0.2282470
	14	0.0062627	0.0788890	0.0027463	0.0523329
	15	0.0003735	0.0193218	0.0001123	0.0105945
	16	0.0000170	0.0041262	0.0000037	0.0019168
	17	0.0000006	0.0007675	0.0000001	0.0003061
	18	0.0000000	0.0001246	0.	0.
12.700	0	0.9185860	-0.2734700	0.8654860	-0.3412040
	1	0.8775380	-0.3278190	0.9185860	-0.2734700
	2	0.9195580	-0.2719760	0.8889910	-0.3141430
	3	0.9233740	-0.2659970	0.9205410	-0.2704540
	4	0.9232900	-0.2661310	0.9517510	-0.2142920
	5	0.9798290	-0.1405850	0.9258920	-0.2619470
	6	0.9669700	-0.1787150	0.9968000	-0.0564771
	7	0.9975130	-0.0498114	0.9899380	-0.0998033
	8	0.9954300	0.0674469	0.9981750	-0.0426867
	9	0.9813850	0.1351600	0.9363460	0.2441350
	10	0.9350080	0.2465110	0.9234510	0.2658750
	11	0.8402690	0.3663560	0.9337320	0.2487500
	12	0.5436970	0.4980870	0.6786250	0.4670040
	13	0.1221530	0.3274620	0.1013000	0.3017260
	14	0.0111222	0.1048740	0.0054035	0.0733096
	15	0.0007076	0.0265923	0.0002326	0.0152508
	16	0.0000346	0.0058815	0.0000081	0.0028521
	17	0.0000013	0.0011358	0.0000002	0.0004724
	18	0.0000000	0.0001915	0.	0.

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.900	0	0.8817530	-0.3229010	0.8638630	-0.3429340
	1	0.8765560	-0.3289460	0.8817530	-0.3229010
	2	0.8818010	-0.3228430	0.8886830	-0.3145240
	3	0.9213640	-0.2691690	0.8818500	-0.3227860
	4	0.8935090	-0.3084650	0.9492650	-0.2194550
	5	0.9717610	-0.1656550	0.9039340	-0.2946820
	6	0.9593060	-0.1975800	0.9891500	-0.1035980
	7	0.9891560	-0.1035700	0.9898170	-0.1003940
	8	0.9986780	0.0363305	0.9891610	-0.1035430
	9	0.9892540	0.1031050	0.9616500	0.1920390
	10	0.9531530	0.2113110	0.9244980	0.2641990
	11	0.8769310	0.3285170	0.9451610	0.2276660
	12	0.6444070	0.4786930	0.7955550	0.4032950
	13	0.1883460	0.3909880	0.1788160	0.3831980
	14	0.0194406	0.1380680	0.0105117	0.1019860
	15	0.0013192	0.0362974	0.0004745	0.0217788
	16	0.0000690	0.0083039	0.0000177	0.0042024
	17	0.0000028	0.0016634	0.0000005	0.0007212
18	0.0000001	0.0002912	0.0000000	0.0001095	
13.100	0	0.8373840	-0.3690150	0.8637030	-0.3431030
	1	0.8759890	-0.3295940	0.8373840	-0.3690150
	2	0.8398740	-0.3667230	0.8878310	-0.3155740
	3	0.9166330	-0.2764360	0.8422970	-0.3644630
	4	0.8674230	-0.3391170	0.9424050	-0.2329760
	5	0.9581480	-0.2002510	0.8890100	-0.3141200
	6	0.9533740	-0.2108370	0.9727000	-0.1629570
	7	0.9754520	-0.1547420	0.9896440	-0.1012380
	8	0.9999990	0.0007618	0.9778910	-0.1470380
	9	0.9947400	0.0723324	0.9847140	0.1226860
	10	0.9682460	0.1753440	0.9282220	0.2581200
	11	0.9060270	0.2917910	0.9507900	0.2163060
	12	0.7300190	0.4439490	0.8740780	0.3317620
	13	0.2766710	0.4473530	0.2966070	0.457620
	14	0.0334027	0.1796860	0.0202220	0.1407590
	15	0.0024220	0.0491544	0.0009541	0.0308738
	16	0.0001350	0.0116178	0.0000376	0.0061347
	17	0.0000058	0.0024113	0.0000012	0.0010895
18	0.0000002	0.0004381	0.0000000	0.0001714	

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REFRACTIVE INDEX M= 1.150

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
13.300	0	0.7924860	-0.4055270	0.8614880	-0.3454370
	1	0.8725000	-0.3335320	0.7924860	-0.4055270
	2	0.8008180	-0.3993850	0.8832420	-0.3211320
	3	0.9065340	-0.2910850	0.8087570	-0.3932800
	4	0.8480570	-0.3589660	0.9285250	-0.2576160
	5	0.9368070	-0.2433100	0.8812030	-0.3235500
	6	0.9483850	-0.2212490	0.9451970	-0.2275940
	7	0.9583380	-0.1998150	0.9885100	-0.1065720
	8	0.9983960	-0.0400199	0.9685590	-0.1745060
	9	0.9981970	0.0424278	0.9983640	0.0404135
	10	0.9803150	0.1389160	0.9361180	0.2445420
	11	0.9294920	0.2560010	0.9530050	0.2116270
	12	0.7984420	0.4011640	0.9215270	0.2689150
	13	0.3838710	0.4863270	0.4505410	0.4975480
	14	0.0562660	0.2304350	0.0384152	0.1921960
	15	0.0043826	0.0660563	0.0018937	0.0434756
	16	0.0002597	0.0161146	0.0000788	0.0088775
	17	0.0000120	0.0034614	0.0000027	0.0016294
	18	0.0000004	0.0006522	0.0000001	0.0002655
19	0.0000000	0.0001079	0.	0.	
13.500	0	0.7544250	-0.4304280	0.8537200	-0.3533870
	1	0.8627610	-0.3440990	0.7544250	-0.4304280
	2	0.7702910	-0.4206460	0.8717000	-0.3344240
	3	0.8882590	-0.3150470	0.7852320	-0.4106610
	4	0.8358780	-0.3703860	0.9046640	-0.2936780
	5	0.9066020	-0.2909890	0.8786010	-0.3265910
	6	0.9430450	-0.2317570	0.9085910	-0.2881900
	7	0.9404120	-0.2367230	0.9852760	-0.1204450
	8	0.9925830	-0.0858020	0.9627860	-0.1892870
	9	0.9998410	0.0125988	0.9979550	-0.0451777
	10	0.9893790	0.1025100	0.9489890	0.2200200
	11	0.9486980	0.2206140	0.9534660	0.2106380
	12	0.8510160	0.3560730	0.9483960	0.2212260
	13	0.5066050	0.5000000	0.6156760	0.4864350
	14	0.0924878	0.2897130	0.0717294	0.2580390
	15	0.0078208	0.0880889	0.0037161	0.0608463
	16	0.0004917	0.0221697	0.0001624	0.0127419
	17	0.0000242	0.0049225	0.0000058	0.0024136
	18	0.0000009	0.0009613	0.0000002	0.0004073
19	0.0000000	0.0001651	0.	0.	

Table 2

Real and Imaginary Parts of the Scattering
Coefficients A(N) and B(N) for the Infinite Circular
Cylinder. Refractive Index $m = 1.200$. Range of
Variable $x = 2\pi a/\lambda$; 0.100(0.200)13.300

REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
0.100	0	0.	0.	0.0000120	0.0034674
	1	0.	0.	0.	0.
0.300	0	0.0000001	0.0003471	0.0009822	0.0313254
	1	0.0001592	0.0126182	0.0000001	0.0003471
	2	0.0000000	0.0001417	0.	0.
0.500	0	0.0000070	0.0026435	0.0072938	0.0850917
	1	0.0011564	0.0339869	0.0000070	0.0026435
	2	0.0000011	0.0010703	0.	0.
0.700	0	0.0000994	0.0099695	0.0249418	0.1559480
	1	0.0039792	0.0629551	0.0000994	0.0099695
	2	0.0000159	0.0039860	0.0000000	0.0002021
0.900	0	0.0007070	0.0265796	0.0552430	0.2284540
	1	0.0092450	0.0957054	0.0007070	0.0265796
	2	0.0001093	0.0104522	0.0000008	0.0008868
	3	0.0000001	0.0003580	0.	0.
1.100	0	0.0032956	0.0573130	0.0913746	0.2881410
	1	0.0167199	0.1282200	0.0032956	0.0573130
	2	0.0004903	0.0221372	0.0000082	0.0028551
	3	0.0000013	0.0011425	0.	0.
1.300	0	0.0114083	0.1061990	0.1232920	0.3287720
	1	0.0254793	0.1575760	0.0114083	0.1061990
	2	0.0016407	0.0404729	0.0000559	0.0074762
	3	0.0000087	0.0029564	0.0000001	0.0002656
	4	0.0000000	0.0001071	0.	0.
1.500	0	0.0311214	0.1736460	0.1447630	0.3518620
	1	0.0346036	0.1827740	0.0311214	0.1736460
	2	0.0044069	0.0662384	0.0002851	0.0168816
	3	0.0000432	0.0065763	0.0000006	0.0007978
	4	0.0000001	0.0003195	0.	0.
1.700	0	0.0687163	0.2529710	0.1553030	0.3621940
	1	0.0438778	0.2048230	0.0687163	0.2529710
	2	0.0099281	0.0991440	0.0011623	0.0340725
	3	0.0001700	0.0130378	0.0000043	0.0020655
	4	0.0000007	0.0008205	0.	0.
1.900	0	0.1247180	0.3303990	0.1582390	0.3649650
	1	0.0541483	0.2263100	0.1247180	0.3303990
	2	0.0193093	0.1376100	0.0039657	0.0628486
	3	0.0005568	0.0235911	0.0000227	0.0047620
	4	0.0000035	0.0018724	0.0000000	0.0002208
2.100	0	0.1898800	0.3922060	0.1584590	0.3651710
	1	0.0674162	0.2507410	0.1898800	0.3922060
	2	0.0331343	0.1789870	0.0116359	0.1072400
	3	0.0015697	0.0395888	0.0001001	0.0100053
	4	0.0000151	0.0038840	0.0000003	0.0005677
	5	0.0000000	0.0002261	0.	0.

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REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
2.300	0	0.2500420	0.4330370	0.1612080	0.3677220
	1	0.0868720	0.2816470	0.2500420	0.4330370
	2	0.0511498	0.2203030	0.0297245	0.1698260
	3	0.0038942	0.0622816	0.0003797	0.0194816
	4	0.0000554	0.0074460	0.0000018	0.0013262
	5	0.0000003	0.0005244	0.	0.
2.500	0	0.2950710	0.4560750	0.1718100	0.3772150
	1	0.1168210	0.3212070	0.2950710	0.4560750
	2	0.0724455	0.2592240	0.0660934	0.2484450
	3	0.0086317	0.0925053	0.0012681	0.0355880
	4	0.0001784	0.0133563	0.0000082	0.0028601
	5	0.0000013	0.0011210	0.0000000	0.0001556
2.700	0	0.3223890	0.4673910	0.1958050	0.3968190
	1	0.1618610	0.3683240	0.3223890	0.4673910
	2	0.0961016	0.2947310	0.1269270	0.3328910
	3	0.0172726	0.1302850	0.0037977	0.0615088
	4	0.0005123	0.0226275	0.0000332	0.0057643
	5	0.0000050	0.0022351	0.0000001	0.0003672
	6	0.0000000	0.0001457	0.	0.
2.900	0	0.3349330	0.4719670	0.2384760	0.4261520
	1	0.2243590	0.4171590	0.3349330	0.4719670
	2	0.1219260	0.3272010	0.2094120	0.4068890
	3	0.0314322	0.1744830	0.0103138	0.1010320
	4	0.0013311	0.0364600	0.0001202	0.0109632
	5	0.0000176	0.0041960	0.0000006	0.0008074
	6	0.0000001	0.0003183	0.	0.
3.100	0	0.3381960	0.4730960	0.3023250	0.4592650
	1	0.3007650	0.4585910	0.3381960	0.4730960
	2	0.1509170	0.3579680	0.2991660	0.4578930
	3	0.0523453	0.2227220	0.0255000	0.1576380
	4	0.0031640	0.0561608	0.0003935	0.0198338
	5	0.0000559	0.0074738	0.0000028	0.0016696
	6	0.0000004	0.0006531	0.0000000	0.0001012
3.300	0	0.3384680	0.4731890	0.3826530	0.4860350
	1	0.3806170	0.4855390	0.3384680	0.4731890
	2	0.1853160	0.3885540	0.3786390	0.4850480
	3	0.0803373	0.2718150	0.0571318	0.2320940
	4	0.0069325	0.0829726	0.0011812	0.0343481
	5	0.0001616	0.0127095	0.0000107	0.0032735
	6	0.0000016	0.0012689	0.0000000	0.0002260
3.500	0	0.3421830	0.4744400	0.4662720	0.4988610
	1	0.4513300	0.4976260	0.3421830	0.4744400
	2	0.2282380	0.4196970	0.4373820	0.4960640
	3	0.1146600	0.3186110	0.1144840	0.3183980
	4	0.0140696	0.1177780	0.0032829	0.0572023
	5	0.0004303	0.0207384	0.0000375	0.0061231
	6	0.0000055	0.0023479	0.0000002	0.0004771
	7	0.0000000	0.0001876	0.	0.

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REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
3.700	0	0.3557710	0.4787460	0.5380280	0.4985520
	1	0.5047250	0.4999780	0.3557710	0.4787460
	2	0.2827240	0.4503230	0.4740260	0.4993250
	3	0.1539190	0.3608710	0.2017930	0.4013380
	4	0.0265206	0.1606770	0.0085053	0.0918314
	5	0.0010639	0.0326009	0.0001207	0.0109875
	6	0.0000173	0.0041591	0.0000009	0.0009590
	7	0.0000001	0.0003747	0.	0.
3.900	0	0.3854430	0.4867000	0.5892390	0.4919720
	1	0.5392190	0.4984600	0.3854430	0.4867000
	2	0.3500150	0.4769740	0.4925990	0.4999450
	3	0.1968820	0.3976430	0.3099710	0.4624810
	4	0.0464840	0.2105310	0.0205870	0.1419970
	5	0.0024587	0.0495241	0.0003612	0.0190033
	6	0.0000502	0.0070838	0.0000034	0.0018438
	7	0.0000005	0.0007148	0.0000000	0.0001352
4.100	0	0.4360310	0.4958910	0.6194890	0.4855120
	1	0.5578910	0.4966370	0.4360310	0.4958910
	2	0.4274730	0.4947120	0.4990850	0.4999990
	3	0.2431910	0.4290090	0.4182700	0.4932750
	4	0.0758191	0.2647080	0.0463635	0.2102710
	5	0.0053353	0.0728483	0.0010126	0.0318054
	6	0.0001356	0.0116448	0.0000116	0.0034065
	7	0.0000017	0.0013085	0.0000001	0.0002771
	8	0.0000000	0.0001088	0.	0.
4.300	0	0.5079900	0.4999360	0.6333010	0.4819030
	1	0.5659850	0.4956270	0.5079900	0.4999360
	2	0.5078800	0.4999380	0.4998530	0.5000000
	3	0.2935940	0.4554080	0.5077710	0.4999400
	4	0.1152810	0.3193610	0.0959589	0.2945350
	5	0.0109051	0.1038560	0.0026773	0.0516733
	6	0.0003437	0.0185350	0.0000369	0.0060724
	7	0.0000053	0.0023077	0.0000003	0.0005453
	8	0.0000000	0.0002129	0.	0.
4.500	0	0.5936850	0.4911450	0.6369840	0.4808690
	1	0.5694990	0.4951460	0.5936850	0.4911450
	2	0.5818430	0.4932560	0.5012670	0.4999980
	3	0.3496070	0.4768460	0.5708670	0.4949520
	4	0.1640430	0.3703140	0.1789110	0.3832780
	5	0.0210204	0.1434520	0.0067101	0.0816400
	6	0.0008211	0.0286434	0.0001099	0.0104817
	7	0.0000155	0.0039331	0.0000011	0.0010330
	8	0.0000002	0.0004005	0.	0.

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REFRACTIVE INDEX $M = 1.200$

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
4.700	0	0.6781460	0.4671870	0.6372680	0.4807880
	1	0.5746780	0.4943920	0.6781460	0.4671870
	2	0.6420390	0.4794010	0.5096780	0.4999060
	3	0.4126450	0.4923100	0.6094220	0.4878800
	4	0.2199320	0.4142010	0.2943850	0.4557660
	5	0.0381940	0.1916640	0.0159765	0.1253850
	6	0.0018583	0.0430684	0.0003090	0.0175764
	7	0.0000422	0.0064972	0.0000036	0.0018907
	8	0.0000005	0.0007273	0.0000000	0.0001591
4.900	0	0.7471020	0.4346730	0.6409380	0.4797250
	1	0.5877770	0.4922350	0.7471020	0.4346730
	2	0.6857370	0.4642220	0.5312990	0.4990190
	3	0.4827770	0.4997030	0.6292350	0.4830100
	4	0.2803530	0.4491720	0.4241450	0.4942120
	5	0.0652967	0.2470490	0.0360514	0.1864180
	6	0.0039979	0.0631028	0.0008252	0.0287147
	7	0.0001088	0.0104293	0.0000112	0.0033527
	8	0.0000016	0.0012782	0.0000001	0.0003080
9	0.0000000	0.0001202	0.	0.	
5.100	0	0.7945080	0.4040600	0.6545700	0.4755080
	1	0.6145440	0.4867030	0.7945080	0.4040600
	2	0.7142730	0.4517600	0.5713830	0.4948780
	3	0.5575670	0.4966750	0.6367160	0.4809460
	4	0.3432970	0.4748090	0.5421070	0.4982240
	5	0.1047890	0.3062810	0.0763772	0.2656010
	6	0.0081955	0.0901574	0.0021033	0.0458135
	7	0.0002659	0.0163051	0.0000334	0.0057765
	8	0.0000047	0.0021791	0.0000003	0.0005768
9	0.0000000	0.0002237	0.	0.	
5.300	0	0.8221780	0.3823630	0.6836830	0.4650380
	1	0.6568240	0.4741040	0.8221780	0.3823630
	2	0.7312210	0.4433250	0.6319900	0.4822640
	3	0.6319080	0.4822870	0.6379310	0.4805990
	4	0.4078500	0.4914350	0.6318250	0.4823090
	5	0.1576210	0.3643860	0.1491320	0.3562180
	6	0.0160242	0.1255690	0.0051384	0.0714982
	7	0.0006192	0.0248769	0.0000940	0.0096952
	8	0.0000130	0.0036125	0.0000011	0.0010478
9	0.0000002	0.0004036	0.	0.	
5.500	0	0.8352830	0.3709250	0.7307170	0.4435870
	1	0.7199270	0.4490350	0.8352830	0.3709250
	2	0.7410180	0.4380760	0.7084840	0.4544610
	3	0.6995440	0.4584560	0.6386640	0.4803880
	4	0.4740090	0.4993240	0.6912530	0.4619760
	5	0.2224060	0.4158630	0.2616350	0.4395250
	6	0.0298649	0.1702150	0.0120619	0.1091620
	7	0.0013785	0.0371022	0.0002526	0.0158903
	8	0.0000340	0.0058353	0.0000034	0.0018502
9	0.0000005	0.0007072	0.0000000	0.0001732	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
5.700	0	0.8393830	0.3671780	0.7920020	0.4058750
	1	0.7901300	0.4072150	0.8393830	0.3671780
	2	0.7483840	0.4339420	0.7882110	0.4085760
	3	0.7555630	0.4297530	0.6446410	0.4786220
	4	0.5419590	0.4982360	0.7261340	0.4459410
	5	0.2955780	0.4563020	0.4036840	0.4906360
	6	0.0529283	0.2238900	0.0271892	0.1626340
	7	0.0029420	0.0541603	0.0006501	0.0254892
	8	0.0000847	0.0092014	0.0000101	0.0031830
	9	0.0000015	0.0012059	0.0000001	0.0003213
	10	0.0000000	0.0001247	0.	0.
11	0.0000103	-0.0032122	0.	0.	
5.900	0	0.8397330	0.3668540	0.8565600	0.3505210
	1	0.8563460	0.3507380	0.8397330	0.3668540
	2	0.7581220	0.4282210	0.8561340	0.3509540
	3	0.7980460	0.4014580	0.6614920	0.4732020
	4	0.6111650	0.4874860	0.7437060	0.4365860
	5	0.3726430	0.4835080	0.5466030	0.4978230
	6	0.0888466	0.2845220	0.0584972	0.2346810
	7	0.0060328	0.0774367	0.0016103	0.0400960
	8	0.0002014	0.0141889	0.0000286	0.0053458
	9	0.0000040	0.0020045	0.0000003	0.0005801
	10	0.0000000	0.0002237	0.	0.
11	0.0000199	-0.0044581	0.	0.	
6.100	0	0.8414480	0.3652580	0.9110110	0.2847280
	1	0.9074620	0.2897830	0.8414480	0.3652580
	2	0.7748300	0.4176940	0.9039690	0.2946330
	3	0.8279340	0.3774380	0.6940510	0.4608080
	4	0.6796990	0.4665920	0.7503490	0.4328110
	5	0.4497180	0.4974650	0.6632130	0.4726110
	6	0.1405950	0.3476040	0.1183830	0.3230610
	7	0.0118995	0.1084340	0.0038525	0.0619485
	8	0.0004595	0.0214304	0.0000771	0.0087823
	9	0.0000106	0.0032537	0.0000010	0.0010208
	10	0.0000001	0.0003910	0.	0.
11	0.0000370	-0.0060857	0.	0.	
6.300	0	0.8494690	0.3575910	0.9480370	0.2219520
	1	0.9403980	0.2367480	0.8494690	0.3575910
	2	0.8020930	0.3984220	0.9326470	0.2506330
	3	0.8478420	0.3591740	0.7444430	0.4361740
	4	0.7442890	0.4362600	0.7514780	0.4321560
	5	0.5244140	0.4994040	0.7441320	0.4363480
	6	0.2089060	0.4065270	0.2198120	0.4141190
	7	0.0225717	0.1485340	0.0089271	0.0940606
	8	0.0010089	0.0317471	0.0002000	0.0141405
	9	0.0000267	0.0051655	0.0000031	0.0017539
	10	0.0000004	0.0006667	0.0000000	0.0001786
11	0.0000669	-0.0081797	0.0002416	-0.0155409	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
6.500	0	0.8677740	0.3387360	0.9689540	0.1734410
	1	0.9586620	0.1990700	0.8677740	0.3387360
	2	0.8408850	0.3657830	0.9475380	0.2229570
	3	0.8609960	0.3459510	0.8089800	0.3931050
	4	0.8012630	0.3990500	0.7520330	0.4318330
	5	0.5957660	0.4907430	0.7941190	0.4043440
	6	0.2910660	0.4542540	0.3634930	0.4810050
	7	0.0410947	0.1985090	0.0200519	0.1401780
	8	0.0021372	0.0461802	0.0005000	0.0223557
	9	0.0000645	0.0080324	0.0000087	0.0029475
	10	0.0000012	0.0011106	0.0000001	0.0003209
11	0.0001174	-0.0108346	0.0003816	-0.0195316	
6.700	0	0.8975380	0.3032550	0.9790810	0.1431140
	1	0.9674370	0.1774890	0.8975380	0.3032540
	2	0.8875780	0.3158850	0.9539060	0.2096880
	3	0.8707060	0.3355250	0.8764230	0.3290990
	4	0.8479510	0.3590680	0.7568630	0.4289770
	5	0.6635320	0.4725010	0.8220160	0.3824990
	6	0.3812580	0.4856960	0.5254610	0.4993510
	7	0.0715282	0.2577050	0.0435247	0.2040350
	8	0.0043765	0.0660105	0.0012100	0.0347639
	9	0.0001501	0.0122511	0.0000235	0.0048522
	10	0.0000033	0.0018102	0.0000003	0.0005631
11	0.0002004	-0.0141549	0.0005879	-0.0242400	
6.900	0	0.9347170	0.2470250	0.9831650	0.1286510
	1	0.9708220	0.1683060	0.9347170	0.2470250
	2	0.9335920	0.2489940	0.9556390	0.2058970
	3	0.8802120	0.3247140	0.9324260	0.2510140
	4	0.8835970	0.3207070	0.7707230	0.4203680
	5	0.7273770	0.4453080	0.8355350	0.3706970
	6	0.4725830	0.4992480	0.6691520	0.4705180
	7	0.1183270	0.3229950	0.0903817	0.2867280
	8	0.0086756	0.0927380	0.0028438	0.0532513
	9	0.0003369	0.0183511	0.0000614	0.0078372
	10	0.0000083	0.0028899	0.0000009	0.0009666
11	0.0003333	-0.0182549	0.0008847	-0.0297307	
7.100	0	0.9696990	0.1714140	0.9842350	0.1245650
	1	0.9716900	0.1658560	0.9696990	0.1714140
	2	0.9692670	0.1725930	0.9557620	0.2056240
	3	0.8925170	0.3097260	0.9688410	0.1737470
	4	0.9092640	0.2872340	0.7975870	0.4017980
	5	0.7863440	0.4098860	0.8404280	0.3662090
	6	0.5594110	0.4964580	0.7732980	0.4186980
	7	0.1847530	0.3880970	0.1758660	0.3807060
	8	0.0166529	0.1279670	0.0065107	0.0804258
	9	0.0007311	0.0270291	0.0001548	0.0124397
	10	0.0000205	0.0045251	0.0000026	0.0016254
11	0.0000004	0.0006149	0.0000000	0.0001775	

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REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.300	0	0.9924190	0.0867378	0.9843110	0.1242690
	1	0.9723860	0.1638650	0.9924190	0.0867378
	2	0.9900450	0.0992766	0.9570670	0.2027060
	3	0.9099160	0.2863020	0.9875190	0.1110180
	4	0.9270750	0.2600130	0.8388730	0.3676480
	5	0.8388510	0.3676680	0.8411720	0.3655160
	6	0.6385770	0.4804130	0.8388290	0.3676880
	7	0.2705990	0.4442690	0.3106280	0.4627510
	8	0.0309180	0.1730950	0.0145461	0.1197270
	9	0.0015379	0.0391856	0.0003778	0.0194341
	10	0.0000484	0.0069575	0.0000072	0.0026806
	11	0.0000010	0.0010055	0.0000001	0.0003106
12	0.0000000	0.0001194	0.	0.	
7.500	0	0.9999260	0.0086089	0.9851500	0.1209520
	1	0.9750600	0.1559430	0.9999260	0.0086089
	2	0.9984040	0.0399188	0.9621030	0.1909460
	3	0.9350010	0.2500210	0.9952630	0.0686637
	4	0.9394490	0.2385050	0.8906450	0.3120840
	5	0.8832250	0.3211520	0.8417280	0.3649950
	6	0.7091380	0.4541600	0.8763760	0.3291520
	7	0.3707190	0.4829970	0.4823850	0.4996900
	8	0.0553505	0.2286630	0.0316904	0.1751750
	9	0.0031416	0.0559622	0.0008966	0.0299294
	10	0.0001106	0.0105161	0.0000188	0.0043420
	11	0.0000026	0.0016129	0.0000003	0.0005327
12	0.0000000	0.0002035	0.	0.	
7.700	0	0.9973750	-0.0511640	0.9882300	0.1078500
	1	0.9812170	0.1357570	0.9973750	-0.0511640
	2	0.9999990	-0.0009944	0.9722730	0.1641900
	3	0.9593850	0.1973970	0.9979420	0.0453138
	4	0.9486630	0.2206840	0.9421150	0.2335250
	5	0.9184570	0.2736670	0.8459750	0.3609730
	6	0.7713900	0.4199380	0.8961410	0.3050770
	7	0.4761020	0.4994290	0.6516800	0.4764380
	8	0.0950224	0.2932460	0.0669290	0.2498990
	9	0.0062423	0.0787613	0.0020748	0.0455024
	10	0.0002448	0.0156429	0.0000478	0.0069163
	11	0.0000065	0.0025404	0.0000008	0.0008963
12	0.0000001	0.0003401	0.	0.	

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REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.900	0	0.9919670	-0.0892687	0.9937850	0.0785922
	1	0.9903890	0.0975613	0.9919670	-0.0892687
	2	0.9993820	-0.0248538	0.9860870	0.1171290
	3	0.9832740	0.1282410	0.9987090	0.0359089
	4	0.9567160	0.2034960	0.9799640	0.1401240
	5	0.9446870	0.2285890	0.8576550	0.3494030
	6	0.8258870	0.3792060	0.9052120	0.2929220
	7	0.5773130	0.4939860	0.7819910	0.4128940
	8	0.1551940	0.3620900	0.1349700	0.3416910
	9	0.0120739	0.1092160	0.0046965	0.0683696
	10	0.0005258	0.0229245	0.0001177	0.0108487
	11	0.0000155	0.0039329	0.0000022	0.0014808
	12	0.0000003	0.0005578	0.0000000	0.0001713
8.100	0	0.9880190	-0.1088010	0.9991870	0.0284947
	1	0.9965490	0.0380580	0.9880190	-0.1088010
	2	0.9986830	-0.0362719	0.9976980	0.0479290
	3	0.9976730	0.0481826	0.9988320	0.0341604
	4	0.9652200	0.1832210	0.9976480	0.0484391
	5	0.9631320	0.1884390	0.8796460	0.3253750
	6	0.8728640	0.3331260	0.9082320	0.2886990
	7	0.6677680	0.4710140	0.8650510	0.3416700
	8	0.2369120	0.4264190	0.2526140	0.4345110
	9	0.0227271	0.1490320	0.0104240	0.1015650
	10	0.0010987	0.0331292	0.0002816	0.0167799
	11	0.0000359	0.0059904	0.0000058	0.0024048
	12	0.0000008	0.0008984	0.0000001	0.0002936
	13	0.0000000	0.0001124	0.	0.
8.300	0	0.9864430	-0.1156410	0.9982000	-0.0423878
	1	0.9983920	-0.0400732	0.9864430	-0.1156410
	2	0.9983070	-0.0411119	0.9985750	-0.0377157
	3	0.9989810	-0.0319083	0.9988740	0.0335322
	4	0.9751200	0.1557590	0.9993030	-0.0263828
	5	0.9755940	0.1543050	0.9122130	0.2829850
	6	0.9121390	0.2830920	0.9085850	0.2881980
	7	0.7447800	0.4359850	0.9120670	0.2831980
	8	0.3438650	0.4749970	0.4222040	0.4939110
	9	0.0415518	0.1995630	0.0227070	0.1489680
	10	0.0022376	0.0472509	0.0006572	0.0256280
	11	0.0000807	0.0089858	0.0000148	0.0038434
	12	0.0000020	0.0014224	0.0000002	0.0004943
	13	0.0000000	0.0001880	0.	0.

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.500	0	0.9862530	-0.1164410	0.9839040	-0.1258440
	1	0.9839130	-0.1258080	0.9862530	-0.1164410
	2	0.9979140	-0.0456201	0.9839230	-0.1257730
	3	0.9897100	-0.1009190	0.9992450	0.0274712
	4	0.9860960	0.1170910	0.9938690	-0.0780609
	5	0.9839260	0.1257600	0.9504950	0.2169200
	6	0.9434120	0.2310530	0.9092260	0.2872880
	7	0.8085950	0.3934070	0.9368220	0.2432830
	8	0.4610450	0.4984800	0.6117680	0.4873480
	9	0.0734710	0.2609080	0.0484216	0.2146550
	10	0.0044486	0.0665491	0.0015002	0.0387032
	11	0.0001766	0.0132871	0.0000366	0.0060515
	12	0.0000049	0.0022154	0.0000007	0.0008179
13	0.0000001	0.0003092	0.	0.	
8.700	0	0.9858790	-0.1179920	0.9551940	-0.2068780
	1	0.9565860	-0.2037880	0.9858790	-0.1179920
	2	0.9968420	-0.0561054	0.9579290	-0.2007520
	3	0.9761250	-0.1526600	0.9999100	0.0095117
	4	0.9958500	0.0642855	0.9881460	-0.1082310
	5	0.9896740	0.1010900	0.9835890	0.1270510
	6	0.9667030	0.1794120	0.9130450	0.2817700
	7	0.8608120	0.3461430	0.9489660	0.2200670
	8	0.5775800	0.4939450	0.7712390	0.4200350
	9	0.1247220	0.3304030	0.1001190	0.3001580
	10	0.0086437	0.0925691	0.0033597	0.0578656
	11	0.0003759	0.0193854	0.0000883	0.0093976
	12	0.0000115	0.0033973	0.0000018	0.0013315
13	0.0000002	0.0004997	0.0000000	0.0001618	
8.900	0	0.9835960	-0.1270210	0.9195730	-0.2719540
	1	0.9251960	-0.2630740	0.9835960	-0.1270210
	2	0.9937880	-0.0785690	0.9304660	-0.2543600
	3	0.9637910	-0.1868100	0.9993160	-0.0261535
	4	0.9999930	-0.0027257	0.9848350	-0.1222090
	5	0.9939370	0.0776294	0.9994470	0.0235032
	6	0.9826500	0.1305700	0.9227210	0.2670330
	7	0.9031690	0.2957280	0.9541420	0.2091770
	8	0.6822110	0.4656170	0.8758890	0.3297080
	9	0.2011760	0.4008790	0.1963520	0.3972380
	10	0.0164221	0.1270920	0.0074029	0.0857210
	11	0.0007807	0.0279307	0.0002077	0.0144117
	12	0.0000264	0.0051338	0.0000046	0.0021348
	13	0.0000006	0.0007948	0.0000001	0.0002727
14	0.0000000	0.0001040	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.100	0	0.9770630	-0.1497030	0.8875400	-0.3159320
	1	0.8989680	-0.3013710	0.9770630	-0.1497030
	2	0.9859500	-0.1176960	0.9094980	-0.2869000
	3	0.9552670	-0.2067170	0.9930900	-0.0828410
	4	0.9936680	-0.0793244	0.9838050	-0.1262240
	5	0.9972790	0.0520902	0.9942460	-0.0756379
	6	0.9924880	0.0863431	0.9398890	0.2376920
	7	0.9369540	0.2430450	0.9556500	0.2058720
	8	0.7690180	0.4214610	0.9336550	0.2488850
	9	0.3047030	0.4602820	0.3517230	0.4775080
	10	0.0304821	0.1719100	0.0160807	0.1257860
	11	0.0015845	0.0397742	0.0004777	0.0218518
	12	0.0000585	0.0076508	0.0000114	0.0033734
	13	0.0000015	0.0012445	0.0000002	0.0004517
	14	0.0000000	0.0001713	0.	0.
9.300	0	0.9624010	-0.1902240	0.8655780	-0.3411050
	1	0.8823030	-0.3222490	0.9624010	-0.1902240
	2	0.9684970	-0.1746720	0.8976280	-0.3031370
	3	0.9503640	-0.2171910	0.9743910	-0.1579670
	4	0.9748820	-0.1564830	0.9837300	-0.1265130
	5	0.9995630	0.0209031	0.9753550	-0.1550410
	6	0.9977360	0.0475303	0.9633900	0.1878030
	7	0.9629260	0.1889440	0.9557680	0.2056090
	8	0.8373380	0.3690570	0.9624770	0.1900390
	9	0.4291410	0.4949540	0.5510160	0.4973910
	10	0.0551224	0.2282190	0.0344329	0.1823380
	11	0.0031479	0.0560181	0.0010772	0.0328025
	12	0.0001267	0.0112543	0.0000277	0.0052592
	13	0.0000037	0.0019200	0.0000005	0.0007371
	14	0.0000001	0.0002777	0.	0.
9.500	0	0.9341400	-0.2480370	0.8544230	-0.3526820
	1	0.8746540	-0.3311110	0.9341400	-0.2480370
	2	0.9362110	-0.2443780	0.8932360	-0.3088130
	3	0.9473030	-0.2234280	0.9383170	-0.2405790
	4	0.9468020	-0.2244290	0.9830060	-0.1292500
	5	0.9996290	-0.0192606	0.9540160	-0.2094500
	6	0.9998100	0.0137830	0.9870780	0.1129360
	7	0.9815430	0.1345970	0.9564890	0.2040040
	8	0.8895090	0.3135010	0.9760560	0.1528760
	9	0.5601450	0.4963690	0.7402210	0.4385130
	10	0.0965563	0.2953530	0.0723202	0.2590170
	11	0.0061310	0.0780605	0.0023883	0.0488115
	12	0.0002675	0.0163543	0.0000656	0.0080973
	13	0.0000085	0.0029205	0.0000014	0.0011852
	14	0.0000002	0.0004434	0.0000000	0.0001504

NOLTR 62-157

REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.700	0	0.8881480	-0.3151850	0.8510290	-0.3560600
	1	0.8726570	-0.3333570	0.8881480	-0.3151850
	2	0.8881710	-0.3151560	0.8926890	-0.3095080
	3	0.9436000	-0.2306920	0.8881930	-0.3151280
	4	0.9161710	-0.2771310	0.9798420	-0.1405420
	5	0.9949950	-0.0705700	0.9377170	-0.2416690
	6	0.9997350	-0.0162834	0.9997740	0.0150252
	7	0.9933100	0.0815175	0.9597460	0.1965540
	8	0.9286910	0.2573410	0.9820820	0.1326550
	9	0.6812060	0.4660090	0.8723910	0.3336540
	10	0.1622750	0.3687030	0.1467990	0.3539050
	11	0.0117175	0.1076110	0.0052223	0.0720768
	12	0.0005524	0.0234967	0.0001519	0.0123253
	13	0.0000192	0.0043831	0.0000035	0.0018793
	14	0.0000005	0.0006976	0.0000001	0.0002495
9.900	0	0.8271760	-0.3780950	0.8507770	-0.3563080
	1	0.8719210	-0.3341770	0.8271760	-0.3780950
	2	0.8314380	-0.3743640	0.8917820	-0.3106560
	3	0.9363640	-0.2441030	0.8355110	-0.3707190
	4	0.8893130	-0.3137440	0.9716370	-0.1660070
	5	0.9820790	-0.1326660	0.9285800	-0.2575250
	6	0.9979840	-0.0448499	0.9912150	-0.0933181
	7	0.9990200	0.0312951	0.9671290	0.1782980
	8	0.9576240	0.2014450	0.9843860	0.1239770
	9	0.7811910	0.4134390	0.9444280	0.2290930
	10	0.2582150	0.4376530	0.2790770	0.4485460
	11	0.0219777	0.1466110	0.0112923	0.1056640
	12	0.0011170	0.0334032	0.0003449	0.0185690
	13	0.0000422	0.0064951	0.0000086	0.0029408
	14	0.0000012	0.0010819	0.0000002	0.0004079
	15	0.0000000	0.0001541	0.	0.
10.100	0	0.7625230	-0.4255370	0.8486710	-0.3583690
	1	0.8678370	-0.3386680	0.7625230	-0.4255370
	2	0.7778560	-0.4156870	0.8861920	-0.3175780
	3	0.9220840	-0.2680400	0.7920180	-0.4058640
	4	0.8694450	-0.3369130	0.9540630	-0.2093490
	5	0.9576210	-0.2014510	0.9252340	-0.2630130
	6	0.9944030	-0.0746036	0.9613100	-0.1928550
	7	0.9997810	-0.0148134	0.9789290	0.1436220
	8	0.9782260	0.1459440	0.9849280	0.1218390
	9	0.8570380	0.3500340	0.9774670	0.1484090
	10	0.3833880	0.4862120	0.4735450	0.4993000
	11	0.0403989	0.1968930	0.0241827	0.1536160
	12	0.0022159	0.0470213	0.0007692	0.0277232
	13	0.0000905	0.0095106	0.0000207	0.0045457
	14	0.0000027	0.0016555	0.0000004	0.0006576
	15	0.0000001	0.0002470	0.	0.

NOLTR 62-157

REFRACTIVE INDEX $M = 1.200$

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.300	0	0.7074120	-0.4549510	0.8396230	-0.3669550
	1	0.8556020	-0.3514920	0.7074120	-0.4549510
	2	0.7366820	-0.4404330	0.8712640	-0.3349080
	3	0.8963800	-0.3047670	0.7633180	-0.4250460
	4	0.8565060	-0.3505760	0.9211110	-0.2695660
	5	0.9211570	-0.2694930	0.9248240	-0.2636760
	6	0.9881120	-0.1083820	0.9212030	-0.2694210
	7	0.9968290	-0.0562265	0.9923950	0.0868761
	8	0.9916640	0.0909230	0.9849760	0.1216460
	9	0.9113550	0.2842300	0.9909560	0.0946704
	10	0.5254930	0.4993500	0.6873870	0.4635580
	11	0.0724970	0.2593090	0.0512146	0.2204350
	12	0.0043193	0.0655793	0.0016894	0.0410680
	13	0.0001897	0.0137709	0.0000482	0.0069466
	14	0.0000063	0.0025005	0.0000011	0.0010461
15	0.0000001	0.0003902	0.0000000	0.0001377	
10.500	0	0.6692980	-0.4704660	0.8182690	-0.3856230
	1	0.8299900	-0.3756420	0.6692980	-0.4704660
	2	0.7108540	-0.4533660	0.8417300	-0.3649940
	3	0.8547620	-0.3523410	0.7487390	-0.4337380
	4	0.8482360	-0.3587920	0.8682680	-0.3382000
	5	0.8766140	-0.3288800	0.9241200	-0.2648060
	6	0.9773920	-0.1486500	0.8840680	-0.3201430
	7	0.9912380	-0.0931967	0.9999750	0.0050319
	8	0.9986440	0.0367932	0.9856450	0.1189510
	9	0.9488000	0.2204050	0.9960280	0.0628951
	10	0.6639920	0.4723420	0.8533550	0.3537520
	11	0.1260460	0.3319010	0.1063590	0.3082970
	12	0.0062838	0.0906374	0.0036659	0.0604357
	13	0.0003895	0.0197325	0.0001104	0.0105047
	14	0.0000139	0.0037305	0.0000027	0.0016430
15	0.0000004	0.0006081	0.0000000	0.0002256	
10.700	0	0.6484140	-0.4774650	0.7791900	-0.4147930
	1	0.7858790	-0.4102110	0.6484140	-0.4774650
	2	0.6981370	-0.4590660	0.7926650	-0.4053980
	3	0.7955190	-0.4033220	0.7440410	-0.4363990
	4	0.8412330	-0.3654590	0.7984590	-0.4011510
	5	0.8309640	-0.3747840	0.9197840	-0.2716270
	6	0.9596860	-0.1966950	0.8573980	-0.3496670
	7	0.9836620	-0.1267720	0.9904470	-0.0972738
	8	0.9997550	-0.0156506	0.9879500	0.1091070
	9	0.9737430	0.1598980	0.9978080	0.0467682
	10	0.7806340	0.4138170	0.9460280	0.2259630
	11	0.2096990	0.4070940	0.2117610	0.4085560
	12	0.0156440	0.1240940	0.0078822	0.0884312
	13	0.0007848	0.0280031	0.0002477	0.0157363
	14	0.0000303	0.0055010	0.0000065	0.0025496
	15	0.0000009	0.0009357	0.0000001	0.0003648
16	0.0000000	0.0001375	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.900	0	0.6404660	-0.4798640	0.7189780	-0.4494980
	1	0.7210300	-0.4484930	0.6404660	-0.4798640
	2	0.6936220	-0.4609890	0.7231100	-0.4474620
	3	0.7235480	-0.4472430	0.7436380	-0.4366240
	4	0.8315450	-0.3742700	0.7239810	-0.4470260
	5	0.7907780	-0.4067530	0.9080210	-0.2889960
	6	0.9320750	-0.2516170	0.8423480	-0.3644140
	7	0.9741730	-0.1586200	0.9561820	-0.2046890
	8	0.9957030	-0.0654113	0.9923750	0.0869887
	9	0.9893920	0.1024460	0.9983480	0.0406138
	10	0.8675160	0.3390160	0.9852440	0.1205750
	11	0.3282630	0.4695810	0.3868560	0.4870300
	12	0.0290853	0.1680460	0.0168361	0.1286570
	13	0.0015537	0.0393868	0.0005468	0.0233777
	14	0.0000644	0.0080220	0.0000153	0.0039116
	15	0.0000020	0.0014216	0.0000003	0.0005820
	16	0.0000000	0.0002180	0.	0.
11.100	0	0.6392920	-0.4802060	0.6405870	-0.4798280
	1	0.6405880	-0.4798280	0.6392910	-0.4802060
	2	0.6914260	-0.4619050	0.6405880	-0.4798280
	3	0.6503070	-0.4768730	0.7416370	-0.4377350
	4	0.8148440	-0.3884240	0.6594500	-0.4738940
	5	0.7596340	-0.4273060	0.8839850	-0.3202430
	6	0.8925870	-0.3096370	0.8363340	-0.3699730
	7	0.9621770	-0.1907680	0.9017710	-0.2976240
	8	0.9873860	-0.1116040	0.9977840	0.0470174
	9	0.9977600	0.0472729	0.9984350	0.0395338
	10	0.9264230	0.2610810	0.9977350	0.0475337
	11	0.4752410	0.4993870	0.6125930	0.4871580
	12	0.0531265	0.2242860	0.0357571	0.1856840
	13	0.0030278	0.0549424	0.0011906	0.0344843
	14	0.0001341	0.0115779	0.0000353	0.0059383
	15	0.0000046	0.0021342	0.0000008	0.0009172
	16	0.0000001	0.0003413	0.0000000	0.0001249
11.300	0	0.6382200	-0.4805160	0.5558510	-0.4968710
	1	0.5579150	-0.4966340	0.6382200	-0.4805160
	2	0.6854240	-0.4643470	0.5599500	-0.4963930
	3	0.5878300	-0.4922250	0.7320880	-0.4428710
	4	0.7865060	-0.4097730	0.6133580	-0.4869810
	5	0.7377320	-0.4398670	0.8419060	-0.3648290
	6	0.8420300	-0.3647130	0.8352870	-0.3709220
	7	0.9463870	-0.2252520	0.8421550	-0.3645950
	8	0.9757730	-0.1537540	0.9997520	-0.0157378
	9	0.9999610	-0.0062559	0.9984710	0.0390765
	10	0.9635540	0.1873960	0.9999950	0.0021868
	11	0.6298190	0.4828530	0.8155450	0.3878550
	12	0.0948394	0.2929930	0.0752459	0.2637880
	13	0.0058170	0.0760469	0.0025640	0.0505710
	14	0.0002739	0.0165489	0.0000797	0.0089280
	15	0.0000100	0.0031673	0.0000020	0.0014286
	16	0.0000003	0.0005276	0.0000000	0.0002023

NOLTR 62-157

REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.500	0	0.6305310	-0.4826610	0.4803590	-0.4996140
	1	0.4877040	-0.4998490	0.6305310	-0.4826610
	2	0.6694620	-0.4704070	0.4948780	-0.4999740
	3	0.5426920	-0.4981740	0.7089710	-0.4542370
	4	0.7422310	-0.4374060	0.5864120	-0.4924760
	5	0.7228230	-0.4476050	0.7776820	-0.4158040
	6	0.7849230	-0.4108760	0.8347820	-0.3713770
	7	0.9248530	-0.2636290	0.7915480	-0.4062020
	8	0.9616770	-0.1919740	0.9894260	-0.1022830
	9	0.9965870	-0.0583232	0.9987840	0.0348515
	10	0.9852860	0.1204060	0.9994690	-0.0230375
	11	0.7662020	0.4232450	0.9380440	0.2410750
	12	0.1638050	0.3700980	0.1547240	0.3616420
	13	0.0110313	0.1044490	0.0054787	0.0738149
	14	0.0005499	0.0234439	0.0001771	0.0133058
	15	0.0000216	0.0046498	0.0000048	0.0022004
	16	0.0000006	0.0008059	0.0000001	0.0003237
17	0.0000000	0.0001217	0.	0.	
11.700	0	0.6096500	-0.4878290	0.4244860	-0.4942650
	1	0.4379720	-0.4961380	0.6096500	-0.4878290
	2	0.6376470	-0.4806800	0.4511540	-0.4976080
	3	0.5150540	-0.4997730	0.6666550	-0.4714090
	4	0.6800110	-0.4664720	0.5745180	-0.4944160
	5	0.7112680	-0.4531730	0.6942500	-0.4607240
	6	0.7281480	-0.4449140	0.8303250	-0.3753470
	7	0.8951780	-0.3063240	0.7565010	-0.4291940
	8	0.9455180	-0.2269670	0.9561820	-0.2046890
	9	0.9880590	-0.1086220	0.9995070	0.0221943
	10	0.9964180	0.0597419	0.9987840	-0.0348456
	11	0.8683790	0.3380790	0.9881030	0.1084230
	12	0.2693310	0.4436120	0.3004990	0.4584750
	13	0.0206638	0.1422560	0.0116514	0.1073110
	14	0.0010862	0.0329401	0.0003874	0.0196778
	15	0.0000456	0.0067559	0.0000112	0.0033536
	16	0.0000015	0.0012167	0.0000003	0.0005116
17	0.0000000	0.0001912	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.900	0	0.5698110	-0.4951020	0.3900900	-0.4877700
	1	0.4087800	-0.4916080	0.5698110	-0.4951020
	2	0.5855800	-0.4926220	0.4271770	-0.4946680
	3	0.5010340	-0.4999990	0.6020350	-0.4894780
	4	0.6031890	-0.4892360	0.5716670	-0.4948370
	5	0.6987360	-0.4588070	0.6043700	-0.4889860
	6	0.6780200	-0.4672350	0.8171360	-0.3865550
	7	0.8551510	-0.3519480	0.7367500	-0.4403970
	8	0.9271500	-0.2598890	0.8961780	-0.3050290
	9	0.9748730	-0.1565120	0.9999840	-0.0040116
	10	0.9999850	0.0039335	0.9985030	-0.0386570
	11	0.9350160	0.2464970	0.9998330	0.0129043
	12	0.4128130	0.4923400	0.5196740	0.4996130
	13	0.0382114	0.1917060	0.0247222	0.1552770
	14	0.0021148	0.0459378	0.0008366	0.0289112
	15	0.0000945	0.0097217	0.0000256	0.0050614
	16	0.0000033	0.0018165	0.0000006	0.0007997
17	0.0000001	0.0002969	0.0000000	0.0001122	
12.100	0	0.5081960	-0.4999330	0.3733160	-0.4836850
	1	0.3955240	-0.4889630	0.5081960	-0.4999330
	2	0.5133300	-0.4998220	0.4176030	-0.4931640
	3	0.4950020	-0.4999750	0.5186230	-0.4996530
	4	0.5216020	-0.4995330	0.5713500	-0.4948830
	5	0.6805500	-0.4662630	0.5244780	-0.4994000
	6	0.6380460	-0.4805660	0.7898030	-0.4074480
	7	0.8039140	-0.3970340	0.7285150	-0.4447260
	8	0.9057940	-0.2921150	0.8193920	-0.3846930
	9	0.9576900	-0.2012960	0.9975930	-0.0490044
	10	0.9976350	-0.0485780	0.9984740	-0.0390351
	11	0.9735000	0.1606180	0.9976750	-0.0481628
	12	0.5786050	0.4937830	0.7548920	0.4301510
	13	0.0695483	0.2543840	0.0523320	0.2226960
	14	0.0040648	0.0636259	0.0017885	0.0422524
	15	0.0001922	0.0138635	0.0000573	0.0075699
	16	0.0000072	0.0026833	0.0000015	0.0012363
17	0.0000002	0.0004556	0.0000000	0.0001798	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.300	0	0.4286540	-0.4948840	0.3680530	-0.4822760
	1	0.3919070	-0.4881760	0.4286540	-0.4948840
	2	0.4287450	-0.4948970	0.4158720	-0.4928720
	3	0.4907610	-0.4999150	0.4288350	-0.4949100
	4	0.4476440	-0.4972510	0.5669910	-0.4954920
	5	0.6519690	-0.4763460	0.4650840	-0.4987790
	6	0.6085290	-0.4880790	0.7425920	-0.4372060
	7	0.7432640	-0.4368320	0.7268130	-0.4455960
	8	0.8800500	-0.3249030	0.7439540	-0.4364480
	9	0.9372610	-0.2424920	0.9862420	-0.1164870
	10	0.9901140	-0.0989380	0.9983820	-0.0401858
	11	0.9927290	0.0849609	0.9929100	-0.0839029
	12	0.7361880	0.4406990	0.9175850	0.2749960
	13	0.1237120	0.3292530	0.1097610	0.3125920
	14	0.0077258	0.0875563	0.0037969	0.0615017
	15	0.0003845	0.0196058	0.0001261	0.0112297
	16	0.0000154	0.0039236	0.0000036	0.0018917
	17	0.0000005	0.0006915	0.0000001	0.0002851
18	0.0000000	0.0001070	0.	0.	
12.500	0	0.3435140	-0.4748810	0.3676170	-0.4821560
	1	0.3912200	-0.4880240	0.3435140	-0.4748810
	2	0.3461970	-0.4757570	0.4151660	-0.4927510
	3	0.4819870	-0.4996750	0.3488250	-0.4765990
	4	0.3899680	-0.4877430	0.5520530	-0.4972830
	5	0.6088210	-0.4880140	0.4278680	-0.4947700
	6	0.5873800	-0.4923060	0.6718300	-0.4695470
	7	0.6780250	-0.4672340	0.7264410	-0.4457850
	8	0.8480420	-0.3589800	0.6837650	-0.4650060
	9	0.9142320	-0.2800210	0.9561550	-0.2047510
	10	0.9776910	-0.1476850	0.9978460	-0.0463637
	11	0.9996230	0.0194031	0.9893670	-0.1025680
	12	0.8585270	0.3485090	0.9868510	0.1139130
	13	0.2121860	0.4088560	0.2230300	0.4162780
	14	0.0145387	0.1196970	0.0080314	0.0892577
	15	0.0007577	0.0275158	0.0002736	0.0165388
	16	0.0000323	0.0056821	0.0000082	0.0028662
	17	0.0000011	0.0010381	0.0000002	0.0004471
18	0.0000000	0.0001667	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.700	0	0.2683620	-0.4431070	0.3652320	-0.4814950
	1	0.3867000	-0.4869940	0.2683620	-0.4431070
	2	0.2789280	-0.4484720	0.4086680	-0.4915880
	3	0.4625320	-0.4985940	0.2891820	-0.4533820
	4	0.3507810	-0.4772140	0.5204040	-0.4995840
	5	0.5490340	-0.4975900	0.4089080	-0.4916320
	6	0.5710990	-0.4949190	0.5808070	-0.4934270
	7	0.6146570	-0.4866760	0.7221680	-0.4479300
	8	0.8077780	-0.3940460	0.6434400	-0.4789830
	9	0.8889170	-0.3142340	0.8983560	-0.3021790
	10	0.9605090	-0.1947610	0.9961230	-0.0621486
	11	0.9985450	-0.0381128	0.9876490	-0.1104470
	12	0.9371910	0.2426190	0.9999370	-0.0079263
	13	0.3435840	0.4749040	0.4175430	0.4931540
	14	0.0271025	0.1623820	0.0169828	0.1292070
	15	0.0014730	0.0383519	0.0005864	0.0242091
	16	0.0000665	0.0081543	0.0000185	0.0043030
	17	0.0000024	0.0015425	0.0000005	0.0006937
	18	0.0000001	0.0002569	0.	0.
12.900	0	0.2130270	-0.4094470	0.3542420	-0.4782830
	1	0.3717970	-0.4832840	0.2130270	-0.4094470
	2	0.2324520	-0.4223960	0.3898770	-0.4877220
	3	0.4271710	-0.4946680	0.2515130	-0.4338830
	4	0.3275070	-0.4693040	0.4677400	-0.4989580
	5	0.4749870	-0.4993740	0.4022140	-0.4903450
	6	0.5554640	-0.4969140	0.4826890	-0.4997000
	7	0.5588160	-0.4965290	0.7085730	-0.4544200
	8	0.7578250	-0.4284000	0.6209540	-0.4851500
	9	0.8611330	-0.3458080	0.8141050	-0.3890220
	10	0.9388130	-0.2396730	0.9913780	-0.0924545
	11	0.9918320	-0.0900075	0.9872010	-0.1124060
	12	0.9793590	0.1421810	0.9923050	-0.0873825
	13	0.5120100	0.4998560	0.6692930	0.4704680
	14	0.0499948	0.2179340	0.0359753	0.1862290
	15	0.0028304	0.0531258	0.0012450	0.0352627
	16	0.0001347	0.0116033	0.0000410	0.0064057
	17	0.0000051	0.0022690	0.0000011	0.0010656
	18	0.0000001	0.0003919	0.0000000	0.0001587

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REFRACTIVE INDEX M= 1.200

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
13.100	0	0.1784940	-0.3829280	0.3287630	-0.4697640
	1	0.3410040	-0.4740470	0.1784940	-0.3829280
	2	0.2050700	-0.4037530	0.3536420	-0.4781000
	3	0.3734090	-0.4837090	0.2317860	-0.4219730
	4	0.3153930	-0.4646720	0.3947510	-0.4887970
	5	0.3948110	-0.4888100	0.4013910	-0.4901800
	6	0.5359390	-0.4987070	0.3948700	-0.4888230
	7	0.5135640	-0.4998160	0.6798730	-0.4665250
	8	0.6982900	-0.4590000	0.6114440	-0.4874220
	9	0.8301270	-0.3755210	0.7189740	-0.4495000
	10	0.9130610	-0.2817460	0.9794660	-0.1418180
	11	0.9804840	-0.1383300	0.9871630	-0.1125710
	12	0.9969210	0.0553989	0.9814020	-0.1351010
	13	0.6887910	0.4629880	0.8791550	0.3259470
	14	0.0908767	0.2874340	0.0762119	0.2653370
	15	0.0053843	0.0731802	0.0026261	0.0511781
	16	0.0002684	0.0163821	0.0000895	0.0094627
	17	0.0000109	0.0033061	0.0000026	0.0016209
	18	0.0000003	0.0005915	0.0000001	0.0002497
13.300	0	0.1605190	-0.3670870	0.2853930	-0.4516010
	1	0.2918660	-0.4546210	0.1605190	-0.3670870
	2	0.1918500	-0.3937560	0.2985230	-0.4576100
	3	0.3043200	-0.4601190	0.2242230	-0.4170690
	4	0.3090270	-0.4620920	0.3103910	-0.4626540
	5	0.3198430	-0.4664160	0.4000410	-0.4899060
	6	0.5080230	-0.4999360	0.3287510	-0.4697590
	7	0.4790930	-0.4995630	0.6304340	-0.4826870
	8	0.6316590	-0.4823550	0.6093280	-0.4879010
	9	0.7946430	-0.4039620	0.6329250	-0.4820070
	10	0.8838610	-0.3203920	0.9527800	-0.2121090
	11	0.9647260	-0.1844700	0.9866290	-0.1148580
	12	0.9997100	-0.0170297	0.9731820	-0.1615520
	13	0.8358570	0.3704060	0.9802520	0.1391350
	14	0.1612000	0.3677160	0.1594760	0.3661190
	15	0.0101578	0.1002730	0.0055222	0.0741058
	16	0.0005276	0.0229640	0.0001928	0.0138837
	17	0.0000228	0.0047736	0.0000060	0.0024431
	18	0.0000008	0.0008836	0.0000001	0.0003889
	19	0.0000000	0.0001446	0.	0.

Table 3

Real and Imaginary Parts of the Scattering
Coefficients A(N) and B(N) for the Infinite Circular
Cylinder. Refractive Index $m = 1.250$. Range of
Variable $x = 2\pi a/\lambda$; 0.100(0.200)13.300

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REFRACTIVE INDEX $M = 1.250$

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
0.100	0	0.	-0.	0.0000197	0.0044400
	1	0.	0.	0.	0.
0.300	0	0.0000002	0.0004446	0.0016324	0.0403705
	1	0.0002372	0.0154010	0.0000002	0.0004446
	2	0.0000000	0.0001726	0.	0.
0.500	0	0.0000115	0.0033992	0.0122414	0.1099610
	1	0.0017297	0.0415542	0.0000115	0.0033992
	2	0.0000017	0.0013053	0.	0.
0.700	0	0.0001664	0.0129002	0.0416253	0.1997310
	1	0.0059590	0.0769641	0.0001664	0.0129002
	2	0.0000237	0.0048708	0.0000001	0.0002595
	3	0.0000000	0.0001001	0.	0.
0.900	0	0.0012046	0.0346861	0.0898870	0.2860200
	1	0.0138104	0.1167030	0.0012046	0.0346861
	2	0.0001640	0.0128070	0.0000013	0.0011421
	3	0.0000002	0.0004369	0.	0.
1.100	0	0.0057315	0.0754897	0.1430780	0.3501520
	1	0.0248428	0.1556460	0.0057315	0.0754897
	2	0.0007411	0.0272131	0.0000136	0.0036938
	3	0.0000019	0.0013961	0.	0.
1.300	0	0.0202147	0.1407340	0.1854860	0.3886910
	1	0.0376366	0.1903160	0.0202147	0.1407340
	2	0.0024981	0.0499182	0.0000947	0.0097330
	3	0.0000131	0.0036199	0.0000001	0.0003424
	4	0.0000000	0.0001307	0.	0.
1.500	0	0.0555749	0.2290990	0.2106650	0.4077810
	1	0.0509602	0.2199170	0.0555749	0.2290990
	2	0.0067547	0.0819087	0.0004913	0.0221601
	3	0.0000652	0.0080736	0.0000011	0.0010318
	4	0.0000001	0.0003905	0.	0.
1.700	0	0.1210350	0.3261680	0.2209310	0.4148740
	1	0.0648321	0.2462290	0.1210350	0.3261680
	2	0.0152908	0.1227070	0.0020461	0.0451880
	3	0.0002580	0.0160599	0.0000072	0.0026833
	4	0.0000010	0.0010041	0.	0.
1.900	0	0.2112650	0.4082060	0.2227240	0.4160740
	1	0.0810162	0.2728600	0.2112650	0.4082060
	2	0.0297948	0.1700210	0.0071581	0.0843024
	3	0.0008520	0.0291761	0.0000387	0.0062225
	4	0.0000053	0.0022956	0.0000001	0.0002855
	5	0.0000000	0.0001081	0.	0.

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
2.100	0	0.3042870	0.4601050	0.2236020	0.4166580
	1	0.1031890	0.3042050	0.3042870	0.4601050
	2	0.0510546	0.2201090	0.0215498	0.1452080
	3	0.0024245	0.0491796	0.0001735	0.0131719
	4	0.0000228	0.0047736	0.0000005	0.0007366
	5	0.0000001	0.0002766	0.	0.
2.300	0	0.3785440	0.4850240	0.2313100	0.4216700
	1	0.1370500	0.3439000	0.3785440	0.4850240
	2	0.0785133	0.2689780	0.0561035	0.2301220
	3	0.0060761	0.0777119	0.0006708	0.0258909
	4	0.0000843	0.0091798	0.0000030	0.0017282
	5	0.0000004	0.0006425	0.	0.
2.500	0	0.4260250	0.4944970	0.2539600	0.4352750
	1	0.1898590	0.3921900	0.4260250	0.4944970
	2	0.1107350	0.3138040	0.1247360	0.3304190
	3	0.0136018	0.1158310	0.0022946	0.0478465
	4	0.0002733	0.0165293	0.0000140	0.0037466
	5	0.0000019	0.0013758	0.0000000	0.0002019
2.700	0	0.4499040	0.4974840	0.3000240	0.4582680
	1	0.2675550	0.4426840	0.4499040	0.4974840
	2	0.1465890	0.3536950	0.2322430	0.4222630
	3	0.0274431	0.1633710	0.0070710	0.0837914
	4	0.0007920	0.0281318	0.0000578	0.0076007
	5	0.0000076	0.0027491	0.0000002	0.0004777
	6	0.0000000	0.0001784	0.	0.
2.900	0	0.4579110	0.4982250	0.3757070	0.4843050
	1	0.3682220	0.4823220	0.4579110	0.4982250
	2	0.1863910	0.3894220	0.3602910	0.4800850
	3	0.0501955	0.2183480	0.0198182	0.1393750
	4	0.0020810	0.0455703	0.0002125	0.0145761
	5	0.0000268	0.0051752	0.0000011	0.0010544
	6	0.0000001	0.0003903	0.	0.
3.100	0	0.4587340	0.4982940	0.4776190	0.4994990
	1	0.4772920	0.4994840	0.4587340	0.4982940
	2	0.2324210	0.4223760	0.4769690	0.4994690
	3	0.0836655	0.2768860	0.0504374	0.2188460
	4	0.0050092	0.0705983	0.0007104	0.0266432
	5	0.0000856	0.0092494	0.0000048	0.0021910
	6	0.0000006	0.0008021	0.0000000	0.0001316
3.300	0	0.4610600	0.4984810	0.5872320	0.4923320
	1	0.5742260	0.4944600	0.4610600	0.4984810
	2	0.2886310	0.4531260	0.5620690	0.4961320
	3	0.1279610	0.3340460	0.1146710	0.3186240
	4	0.0111250	0.1048870	0.0021880	0.0467247
	5	0.0002495	0.0157950	0.0000187	0.0043209
	6	0.0000024	0.0015616	0.0000001	0.0002946
	7	0.0000000	0.0001095	0.	0.

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
3.500	0	0.4736110	0.4993030	0.6804130	0.4663170
	1	0.6458710	0.4782490	0.4736110	0.4993030
	2	0.3593550	0.4798110	0.6139200	0.4868490
	3	0.1814070	0.3853550	0.2260660	0.4182830
	4	0.0228831	0.1495310	0.0062747	0.0789643
	5	0.0006714	0.0259034	0.0000663	0.0081406
	6	0.0000084	0.0028967	0.0000004	0.0006243
	7	0.0000001	0.0002303	0.	0.
3.700	0	0.5050790	0.4999740	0.7444030	0.4361960
	1	0.6909000	0.4621230	0.5050790	0.4999740
	2	0.4465820	0.4971380	0.6400770	0.4799780
	3	0.2415730	0.4280370	0.3760140	0.4843840
	4	0.0436362	0.2042840	0.0168555	0.1287300
	5	0.0016808	0.0409627	0.0002172	0.0147377
	6	0.0000265	0.0051466	0.0000016	0.0012603
	7	0.0000002	0.0004605	0.	0.
3.900	0	0.5626100	0.4960640	0.7806940	0.4137760
	1	0.7149030	0.4514610	0.5626100	0.4960640
	2	0.5462810	0.4978530	0.6496740	0.4770720
	3	0.3067290	0.4611360	0.5278930	0.4992210
	4	0.0770715	0.2667050	0.0423523	0.2013920
	5	0.0039401	0.0626465	0.0006645	0.0257696
	6	0.0000774	0.0087980	0.0000059	0.0024357
	7	0.0000008	0.0008801	0.0000000	0.0001765
4.100	0	0.6470690	0.4778820	0.7969960	0.4022360
	1	0.7253360	0.4463450	0.6470690	0.4778820
	2	0.6470420	0.4778900	0.6511270	0.4766140
	3	0.3766950	0.4845570	0.6470160	0.4778980
	4	0.1259250	0.3317650	0.0981838	0.2975630
	5	0.0086896	0.0928122	0.0019142	0.0437098
	6	0.0002111	0.0145273	0.0000205	0.0045283
	7	0.0000026	0.0016147	0.0000001	0.0003632
8	0.0000000	0.0001336	0.	0.	
4.300	0	0.7464040	0.4350690	0.8015370	0.3988420
	1	0.7296110	0.4441610	0.7464040	0.4350690
	2	0.7348780	0.4413980	0.6522510	0.4762560
	3	0.4525690	0.4977450	0.7242360	0.4468980
	4	0.1904450	0.3926520	0.2037260	0.4027680
	5	0.0180726	0.1332140	0.0052329	0.0721493
	6	0.0005408	0.0232479	0.0000662	0.0081338
	7	0.0000082	0.0028553	0.0000005	0.0007175
8	0.0000001	0.0002618	0.	0.	

REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
4.500	0	0.8375220	0.3688890	0.8018610	0.3985970
	1	0.7349690	0.4413500	0.8375220	0.3688890
	2	0.8010940	0.3991770	0.6607620	0.4734510
	3	0.5353540	0.4987490	0.7676360	0.4223400
	4	0.2677620	0.4427930	0.3633180	0.4809550
	5	0.0354424	0.1848950	0.0136459	0.1160160
	6	0.0013090	0.0361569	0.0002009	0.0141712
	7	0.0000238	0.0048821	0.0000019	0.0013656
	8	0.0000002	0.0004933	0.0000000	0.0001037
4.700	0	0.9025420	0.2965810	0.8052090	0.3960400
	1	0.7485720	0.4338340	0.9025420	0.2965810
	2	0.8452070	0.3617070	0.6842740	0.4648040
	3	0.6239080	0.4844040	0.7884580	0.4084020
	4	0.3529740	0.4778950	0.5437290	0.4980840
	5	0.0653608	0.2471610	0.0339544	0.1811120
	6	0.0030089	0.0547712	0.0005780	0.0240355
	7	0.0000656	0.0080961	0.0000063	0.0025131
	8	0.0000008	0.0008977	0.0000000	0.0002088
4.900	0	0.9400240	0.2374430	0.8185570	0.3853840
	1	0.7768280	0.4163730	0.9400240	0.2374430
	2	0.8718200	0.3342900	0.7289200	0.4445170
	3	0.7132960	0.4522220	0.7958530	0.4030770
	4	0.4412690	0.4965390	0.6950610	0.4603820
	5	0.1127900	0.3163360	0.0798716	0.2710940
	6	0.0065912	0.0809181	0.0015879	0.0398171
	7	0.0001705	0.0130569	0.0000201	0.0044860
	8	0.0000025	0.0015814	0.0000002	0.0004056
	9	0.0000000	0.0001479	0.	0.
5.100	0	0.9583010	0.1999000	0.8473060	0.3596930
	1	0.8230100	0.3816600	0.9583010	0.1999000
	2	0.8867140	0.3169420	0.7953740	0.4034280
	3	0.7953680	0.4034320	0.7969250	0.4022880
	4	0.5294430	0.4991320	0.7953620	0.4034370
	5	0.1811140	0.3851120	0.1731040	0.3783370
	6	0.0137891	0.1166150	0.0041906	0.0645992
	7	0.0004216	0.0205281	0.0000607	0.0077907
	8	0.0000073	0.0027037	0.0000006	0.0007629
	9	0.0000001	0.0002756	0.	0.
5.300	0	0.9656940	0.1820140	0.8917890	0.3106470
	1	0.8828570	0.3215910	0.9656940	0.1820140
	2	0.8951370	0.3063760	0.8730760	0.3328880
	3	0.8623240	0.3445600	0.7978700	0.4015890
	4	0.6159230	0.4863760	0.8524470	0.3546560
	5	0.2696160	0.4437600	0.3305070	0.4703960
	6	0.0275543	0.1636920	0.0106782	0.1027820
	7	0.0009952	0.0315312	0.0001743	0.0132025
	8	0.0000202	0.0044973	0.0000019	0.0013927
	9	0.0000002	0.0004982	0.0000000	0.0001190

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
5.500	0	0.9676340	0.1769700	0.9427640	0.2322940
	1	0.9418470	0.2340320	0.9676340	0.1769700
	2	0.9017190	0.2976940	0.9409030	0.2358060
	3	0.9106900	0.2851910	0.8047430	0.3963990
	4	0.6996060	0.4584290	0.8816210	0.3230560
	5	0.3723990	0.4834440	0.5313580	0.4990160
	6	0.0524620	0.2229570	0.0263254	0.1601010
	7	0.0022519	0.0474004	0.0004796	0.0218937
	8	0.0000532	0.0072938	0.0000061	0.0024736
	9	0.0000008	0.0008749	0.0000000	0.0002282
5.700	0	0.9677710	0.1766070	0.9827630	0.1301520
	1	0.9824610	0.1312680	0.9677710	0.1766070
	2	0.9107060	0.2851680	0.9821620	0.1323640
	3	0.9421150	0.2335250	0.8233860	0.3813420
	4	0.7784550	0.4152860	0.8945700	0.3071070
	5	0.4803270	0.4996130	0.7146310	0.4515900
	6	0.0946394	0.2927160	0.0624928	0.2420480
	7	0.0048997	0.0698263	0.0012708	0.0356252
	8	0.0001336	0.0115572	0.0000184	0.0042849
	9	0.0000022	0.0014956	0.0000002	0.0004252
	10	0.0000000	0.0001537	0.	0.
	11	0.0000077	0.0027705	0.	0.
5.900	0	0.9692700	0.1725870	0.9993770	0.0249579
	1	0.9987120	0.0358660	0.9692700	0.1725870
	2	0.9256570	0.2623280	0.9978550	0.0462609
	3	0.9610300	0.1935240	0.8579120	0.3491400
	4	0.8488940	0.3581520	0.8987140	0.3017070
	5	0.5847820	0.4927600	0.8383570	0.3681230
	6	0.1603910	0.3669680	0.1401790	0.3471720
	7	0.0102749	0.1008430	0.0032620	0.0570206
	8	0.0003214	0.0179253	0.0000526	0.0072556
	9	0.0000062	0.0024936	0.0000006	0.0007711
	10	0.0000001	0.0002762	0.	0.
	11	0.0000145	0.0038099	0.	0.
6.100	0	0.9749050	0.1564140	0.9963080	-0.0606524
	1	0.9987460	-0.0353914	0.9749050	0.1564140
	2	0.9480290	0.2219690	0.9998680	-0.0114857
	3	0.9720280	0.1648940	0.9069240	0.2905390
	4	0.9066990	0.2908540	0.8991540	0.3011250
	5	0.6802540	0.4663780	0.9064790	0.2911620
	6	0.2529100	0.4346800	0.2850430	0.4514350
	7	0.0207825	0.1426560	0.0081527	0.0899236
	8	0.0007438	0.0272625	0.0001449	0.0120381
	9	0.0000165	0.0040619	0.0000019	0.0013639
	10	0.0000002	0.0004837	0.0000000	0.0001280
	11	0.0000264	0.0051353	0.0001181	0.0108654

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
6.300	0	0.9855360	0.1193950	0.9861120	-0.1170260
	1	0.9937030	-0.0791036	0.9855360	0.1193950
	2	0.9745610	0.1574540	0.9981680	-0.0427669
	3	0.9786800	0.1444500	0.9587210	0.1989360
	4	0.9490580	0.2198800	0.9002130	0.2997160
	5	0.7643930	0.4243780	0.9399860	0.2375140
	6	0.3683550	0.4823580	0.4954180	0.4999790
	7	0.0404881	0.1971010	0.0199078	0.1396830
	8	0.0016610	0.0407210	0.0003849	0.0196160
	9	0.0000419	0.0064755	0.0000056	0.0023578
	10	0.0000007	0.0008267	0.0000001	0.0002365
11	0.0000460	0.0067848	0.0001871	0.0136782	
6.500	0	0.9970520	0.0542183	0.9778980	-0.1470140
	1	0.9897750	-0.1006020	0.9970520	0.0542183
	2	0.9954670	0.0671715	0.9969470	-0.0551707
	3	0.9835030	0.1273780	0.9933830	0.0810745
	4	0.9761710	0.1525150	0.9061040	0.2916840
	5	0.8365170	0.3698050	0.9552380	0.2067810
	6	0.4950580	0.4999760	0.7098810	0.4538170
	7	0.0756255	0.2643980	0.0474477	0.2125950
	8	0.0055899	0.0598084	0.0009912	0.0314669
	9	0.0001024	0.0101196	0.0000159	0.0039904
	10	0.0000019	0.0013809	0.0000002	0.0004265
11	0.0000772	0.0087859	0.0002866	0.0169273	
6.700	0	0.9984340	-0.0395373	0.9741800	-0.1585980
	1	0.9881820	-0.1080660	0.9984340	-0.0395373
	2	0.9984570	-0.0392519	0.9966880	-0.0574525
	3	0.9882110	0.1079340	0.9984800	-0.0389633
	4	0.9910290	0.0942893	0.9206010	0.2703600
	5	0.8961390	0.3050800	0.9612960	0.1928880
	6	0.6182230	0.4858220	0.8603950	0.3465770
	7	0.1342640	0.3409350	0.1091010	0.3117660
	8	0.0075281	0.0864372	0.0024868	0.0498063
	9	0.0002411	0.0155263	0.0000439	0.0066245
	10	0.0000051	0.0022576	0.0000006	0.0007520
11	0.0001243	0.0111470	0.0004240	0.0205865	
6.900	0	0.9775250	-0.1482220	0.9735150	-0.1605730
	1	0.9877450	-0.1100230	0.9775250	-0.1482220
	2	0.9794400	-0.1419040	0.9965920	-0.0582805
	3	0.9935920	0.0797923	0.9811830	-0.1358800
	4	0.9977340	0.0475461	0.9452330	0.2275240
	5	0.9424060	0.2329750	0.9628990	0.1890100
	6	0.7265050	0.4457530	0.9392160	0.2389330
	7	0.2237240	0.4167390	0.2341230	0.4234500
	8	0.0153385	0.1228950	0.0061112	0.0779350
	9	0.0005489	0.0234227	0.0001168	0.0108079
	10	0.0000131	0.0036173	0.0000017	0.0012979
11	0.0001918	0.0138476	0.0006052	0.0245926	

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REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.100	0	0.9344310	-0.2475280	0.9731780	-0.1615630
	1	0.9866110	-0.1149360	0.9344310	-0.2475280
	2	0.9475000	-0.2230340	0.9955900	-0.0662617
	3	0.9986640	0.0365264	0.9582240	-0.2000770
	4	0.9998660	0.0115550	0.9755660	0.1543930
	5	0.9745850	0.1573830	0.9630110	0.1887350
	6	0.8149620	0.3883280	0.9736480	0.1601800
	7	0.3449940	0.4753660	0.4406690	0.4964670
	8	0.0303603	0.1715770	0.0147738	0.1206460
	9	0.0012119	0.0347915	0.0003016	0.0173639
	10	0.0000324	0.0056884	0.0000048	0.0021962
11	0.0000006	0.0007642	0.0000001	0.0002359	
7.300	0	0.8844180	-0.3197230	0.9701760	-0.1701010
	1	0.9824790	-0.1312030	0.8844180	-0.3197230
	2	0.9162570	-0.2770020	0.9918450	-0.0899352
	3	0.9992780	-0.0268525	0.9409540	-0.2357110
	4	0.9997250	-0.0165907	0.9977290	0.0476046
	5	0.9930360	0.0831597	0.9641500	0.1859150
	6	0.8836030	0.3207000	0.9872800	0.1120630
	7	0.4873990	0.4998410	0.6822120	0.4656170
	8	0.0582109	0.2341420	0.0352016	0.1842890
	9	0.0026022	0.0509457	0.0007584	0.0275285
	10	0.0000773	0.0087903	0.0000133	0.0036485
	11	0.0000016	0.0012530	0.0000002	0.0004147
12	0.0000000	0.0001477	0.	0.	
7.500	0	0.8438200	-0.3630260	0.9606960	-0.1943170
	1	0.9714790	-0.1664550	0.8438200	-0.3630260
	2	0.8939530	-0.3078970	0.9809700	-0.1366300
	3	0.9876540	-0.1104250	0.9321780	-0.2514390
	4	0.9983070	-0.0411099	0.9934830	-0.0804640
	5	0.9997750	0.0150094	0.9687050	0.1741150
	6	0.9345030	0.2474010	0.9923410	0.0871810
	7	0.6306340	0.4826330	0.8652130	0.3414960
	8	0.1073520	0.3095610	0.0822298	0.2747150
	9	0.0054480	0.0736090	0.0018663	0.0431608
	10	0.0001787	0.0133667	0.0000355	0.0059605
	11	0.0000041	0.0020164	0.0000005	0.0007148
12	0.0000001	0.0002523	0.	0.	
7.700	0	0.8193210	-0.3847520	0.9385880	-0.2400850
	1	0.9465820	-0.2248660	0.8193210	-0.3847520
	2	0.8817140	-0.3229470	0.9543820	-0.2086550
	3	0.9558970	-0.2053240	0.9296820	-0.2556820
	4	0.9954950	-0.0669677	0.9574590	-0.2018210
	5	0.9980740	-0.0438407	0.9782220	0.1459570
	6	0.9698000	0.1711380	0.9939820	0.0773438
	7	0.7552100	0.4299630	0.9575080	0.2017080
	8	0.1860370	0.3907420	0.1840530	0.3875270
	9	0.0111429	0.1049700	0.0045173	0.0670591
	10	0.0004012	0.0200266	0.0000920	0.0095915
	11	0.0000102	0.0031878	0.0000015	0.0012092
12	0.0000002	0.0004225	0.0000000	0.0001304	

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.900	0	0.8090140	-0.3930780	0.8950240	-0.3065230
	1	0.8985810	-0.3018830	0.8090140	-0.3930780
	2	0.8763650	-0.3291650	0.9021920	-0.2970550
	3	0.9037190	-0.2949760	0.9295000	-0.2559890
	4	0.9900130	-0.0994369	0.9051800	-0.2929670
	5	0.9913980	-0.0923485	0.9912740	0.0930051
	6	0.9910720	0.0940636	0.9942850	0.0753829
	7	0.8513200	0.3557730	0.9908600	0.0951670
	8	0.3072670	0.4613610	0.3734130	0.4837100
	9	0.0222862	0.1476130	0.0108079	0.1033980
	10	0.0008770	0.0296009	0.0002320	0.0152297
	11	0.0000246	0.0049568	0.0000040	0.0020106
12	0.0000005	0.0006947	0.0000001	0.0002287	
8.100	0	0.8070200	-0.3946370	0.8237560	-0.3810280
	1	0.8238790	-0.3809230	0.8070200	-0.3946370
	2	0.8730350	-0.3329340	0.8240030	-0.3808180
	3	0.8419630	-0.3647760	0.9273450	-0.2595700
	4	0.9790040	-0.1433720	0.8574590	-0.3496040
	5	0.9823880	-0.1315380	0.9999340	0.0081004
	6	0.9996530	0.0186214	0.9943540	0.0749282
	7	0.9189370	0.2729320	0.9992190	0.0279323
	8	0.4596790	0.4983720	0.6320170	0.4822570
	9	0.0435381	0.2040650	0.0256603	0.1581200
	10	0.0018711	0.0432153	0.0005718	0.0239060
	11	0.0000576	0.0075889	0.0000108	0.0032896
	12	0.0000013	0.0011222	0.0000001	0.0003937
13	0.0000000	0.0001393	0.	0.	
8.300	0	0.8063940	-0.3951240	0.7316870	-0.4430810
	1	0.7340250	-0.4418510	0.8063940	-0.3951240
	2	0.8662940	-0.3403370	0.7363090	-0.4406340
	3	0.7853600	-0.4105720	0.9185550	-0.2735170
	4	0.9575460	-0.2016220	0.8251330	-0.3798530
	5	0.9723630	-0.1639310	0.9883880	-0.1071330
	6	0.9972470	-0.0523936	0.9951070	0.0697763
	7	0.9628140	0.1892170	0.9999150	-0.0092345
	8	0.6227550	0.4846970	0.8534720	0.3536340
	9	0.0826942	0.2754190	0.0604312	0.2382840
	10	0.0039067	0.0623812	0.0013837	0.0371726
	11	0.0001312	0.0114531	0.0000281	0.0053033
	12	0.0000032	0.0017824	0.0000004	0.0006660
13	0.0000001	0.0002335	0.	0.	

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REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.500	0	0.8000110	-0.3999910	0.6399530	-0.4800140
	1	0.6508030	-0.4767160	0.8000110	-0.3999910
	2	0.8501100	-0.3569640	0.6611820	-0.4733080
	3	0.7431120	-0.4369170	0.8970680	-0.3038700
	4	0.9193050	-0.2723660	0.8086420	-0.3933700
	5	0.9612700	-0.1929510	0.9421650	-0.2334320
	6	0.9862620	-0.1164020	0.9971560	0.0532487
	7	0.9882090	0.1079460	0.9992960	-0.0265311
	8	0.7672170	0.4226050	0.9657810	0.1817910
	9	0.1511170	0.3581630	0.1393450	0.3463060
	10	0.0080014	0.0890919	0.0033033	0.0573794
	11	0.0002911	0.0170582	0.0000712	0.0084362
	12	0.0000078	0.0027868	0.0000012	0.0011085
	13	0.0000001	0.0003849	0.0000000	0.0001261
8.700	0	0.7803140	-0.4140340	0.5683880	-0.4953010
	1	0.5898960	-0.4918520	0.7803140	-0.4140340
	2	0.8173310	-0.3863950	0.6103690	-0.4876670
	3	0.7166010	-0.4506490	0.8545060	-0.3525980
	4	0.8600630	-0.3469220	0.8032750	-0.3975220
	5	0.9477920	-0.2224470	0.8659590	-0.3406960
	6	0.9695660	-0.1717770	0.9996840	0.0177876
	7	0.9990930	0.0301025	0.9989650	-0.0321606
	8	0.8747330	0.3310210	0.9980210	0.0444457
	9	0.2609000	0.4391250	0.3014540	0.4588900
	10	0.0161035	0.1258740	0.0078209	0.0880892
	11	0.0006305	0.0251023	0.0001759	0.0132623
	12	0.0000184	0.0042924	0.0000033	0.0018164
	13	0.0000004	0.0006237	0.0000000	0.0002169
8.900	0	0.7389700	-0.4391960	0.5237590	-0.4994350
	1	0.5541950	-0.4970540	0.7389700	-0.4391960
	2	0.7602570	-0.4269260	0.5833730	-0.4930000
	3	0.7021030	-0.4573340	0.7825300	-0.4125250
	4	0.7832140	-0.4120560	0.8027920	-0.3978910
	5	0.9293780	-0.2561930	0.7838800	-0.4115970
	6	0.9498460	-0.2182620	0.9980300	-0.0443409
	7	0.9980680	-0.0439118	0.9989260	-0.0327518
	8	0.9436210	0.2306520	0.9981050	-0.0434942
	9	0.4151440	0.4927470	0.5609380	0.4962730
	10	0.0318615	0.1756310	0.0184588	0.1346030
	11	0.0013370	0.0365405	0.0004262	0.0206401
	12	0.0000425	0.0065203	0.0000086	0.0029342
	13	0.0000010	0.0009949	0.0000001	0.0003670
14	0.0000000	0.0001291	0.	0.	

REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.100	0	0.6686750	-0.4706900	0.5022340	-0.4999950
	1	0.5383660	-0.4985260	0.6686750	-0.4706900
	2	0.6750860	-0.4683430	0.5734540	-0.4945750
	3	0.6936470	-0.4609780	0.6817600	-0.4657930
	4	0.7010130	-0.4578140	0.8007490	-0.3994370
	5	0.9021810	-0.2970690	0.7179510	-0.4499970
	6	0.9289390	-0.2569270	0.9808420	-0.1370800
	7	0.9869760	-0.1133790	0.9988260	-0.0342488
	8	0.9816410	0.1342450	0.9911760	-0.0935200
	9	0.5950620	0.4908800	0.8231610	0.3815330
	10	0.0618362	0.2408580	0.0435637	0.2041220
	11	0.0027822	0.0526733	0.0010161	0.0318605
	12	0.0000956	0.0097767	0.0000219	0.0046773
	13	0.0000024	0.0015630	0.0000004	0.0006113
	14	0.0000000	0.0002131	0.	0.
9.300	0	0.5698370	-0.4950990	0.4957180	-0.4999820
	1	0.5341770	-0.4988310	0.5698370	-0.4950990
	2	0.5698400	-0.4950980	0.5720880	-0.4947760
	3	0.6844560	-0.4647320	0.5698440	-0.4950980
	4	0.6277770	-0.4833970	0.7904920	-0.4069570
	5	0.8612950	-0.3456380	0.6758030	-0.4680740
	6	0.9074510	-0.2898000	0.9319120	-0.2518980
	7	0.9675690	-0.1771410	0.9981760	-0.0426682
	8	0.9978400	0.0464289	0.9856810	-0.1188020
	9	0.7626930	0.4254320	0.9660960	0.1809830
	10	0.1168750	0.3212710	0.1023110	0.3030560
	11	0.0056964	0.0752590	0.0023953	0.0488829
	12	0.0002099	0.0144860	0.0000543	0.0073677
	13	0.0000059	0.0024208	0.0000010	0.0010033
	14	0.0000001	0.0003464	0.0000000	0.0001196
9.500	0	0.4580530	-0.4982370	0.4952180	-0.4999770
	1	0.5328570	-0.4989190	0.4580530	-0.4982370
	2	0.4652570	-0.4987910	0.5705420	-0.4949990
	3	0.6673440	-0.4711650	0.4721540	-0.4992240
	4	0.5719940	-0.4947900	0.7645280	-0.4242930
	5	0.8021790	-0.3983570	0.6545560	-0.4755130
	6	0.8846680	-0.3194220	0.8441180	-0.3627440
	7	0.9418750	-0.2339800	0.9958070	-0.0646194
	8	0.9989290	-0.0327029	0.9830450	-0.1291030
	9	0.8864520	0.3172620	0.9999170	0.0091210
	10	0.2118130	0.4085930	0.2325550	0.4224610
	11	0.0115016	0.1066270	0.0056123	0.0747050
	12	0.0004510	0.0212324	0.0001319	0.0114833
	13	0.0000137	0.0036988	0.0000026	0.0016239
	14	0.0000003	0.0005545	0.0000000	0.0002023

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REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.700	0	0.3581420	-0.4794540	0.4917040	-0.4999310
	1	0.5255870	-0.4993450	0.3581420	-0.4794540
	2	0.3814340	-0.4857390	0.5600420	-0.4963820
	3	0.6347890	-0.4814890	0.4034030	-0.4905800
	4	0.5346180	-0.4988000	0.7142750	-0.4517590
	5	0.7239690	-0.4470320	0.6473450	-0.4777960
	6	0.8586270	-0.3484060	0.7345210	-0.4415880
	7	0.9121050	-0.2831420	0.9883630	-0.1072470
	8	0.9889480	-0.1045450	0.9823960	-0.1315080
	9	0.9595040	0.1971200	0.9895630	-0.1016290
	10	0.3585180	0.4795650	0.4740040	0.4993240
	11	0.0229388	0.1497090	0.0131477	0.1139070
	12	0.0009508	0.0308197	0.0003147	0.0177377
	13	0.0000311	0.0055804	0.0000067	0.0025946
	14	0.0000008	0.0008750	0.0000001	0.0003372
15	0.0000000	0.0001180	0.	0.	
9.900	0	0.2863870	-0.4520730	0.4761520	-0.4994310
	1	0.5035320	-0.4999880	0.2863870	-0.4520730
	2	0.3258360	-0.4686860	0.5317630	-0.4989900
	3	0.5797770	-0.4935950	0.3636350	-0.4810450
	4	0.5117490	-0.4998620	0.6326570	-0.4820810
	5	0.6329730	-0.4819940	0.6465640	-0.4780370
	6	0.8262480	-0.3788960	0.6332840	-0.4819080
	7	0.8802350	-0.3246860	0.9678530	-0.1763900
	8	0.9700940	-0.1703280	0.9823280	-0.1317560
	9	0.9926480	0.0854274	0.9720410	-0.1648540
	10	0.5484420	0.4976480	0.7706320	0.4204270
	11	0.0451853	0.2077100	0.0309589	0.1732060
	12	0.0019711	0.0443532	0.0007405	0.0272019
	13	0.0000692	0.0083203	0.0000168	0.0040963
	14	0.0000018	0.0013618	0.0000003	0.0005541
15	0.0000000	0.0001922	0.	0.	
10.100	0	0.2438760	-0.4294190	0.4399930	-0.4963860
	1	0.4585810	-0.4982810	0.2438760	-0.4294190
	2	0.2950050	-0.4560450	0.4779050	-0.4995120
	3	0.4990300	-0.4999990	0.3456140	-0.4755680
	4	0.4973850	-0.4999930	0.5221230	-0.4995100
	5	0.5417900	-0.4982510	0.6446900	-0.4786070
	6	0.7856020	-0.4117890	0.5592240	-0.4964800
	7	0.8475110	-0.3594940	0.9203140	-0.2708070
	8	0.9436910	-0.2305180	0.9813640	-0.1352370
	9	0.9998830	-0.0108185	0.9591230	-0.1980050
	10	0.7407980	0.4381970	0.9579030	0.2008100
	11	0.0875736	0.2826740	0.0733603	0.2607270
	12	0.0040295	0.0633507	0.0017253	0.0415012
	13	0.0001506	0.0122716	0.0000409	0.0063976
	14	0.0000044	0.0020920	0.0000008	0.0008988
15	0.0000001	0.0003087	0.0000000	0.0001115	

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REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.300	0	0.2235590	-0.4166300	0.3774890	-0.4847590
	1	0.3865030	-0.4869480	0.2235590	-0.4166300
	2	0.2813590	-0.4496620	0.3958420	-0.4890310
	3	0.3987860	-0.4896480	0.3406410	-0.4739250
	4	0.4848020	-0.4997690	0.4018410	-0.4902700
	5	0.4629030	-0.4986220	0.6340920	-0.4816840
	6	0.7266810	-0.4456630	0.5144170	-0.4997920
	7	0.8141070	-0.3890200	0.8322830	-0.3736150
	8	0.9109220	-0.2848560	0.9777060	-0.1476370
	9	0.9914060	-0.0923030	0.9522800	-0.2131720
	10	0.8868990	0.3167160	0.9999050	-0.0097620
	11	0.1651340	0.3713020	0.1724680	0.3777870
	12	0.0081448	0.0898803	0.0040018	0.0631308
	13	0.0003213	0.0179216	0.0000980	0.0098968
	14	0.0000101	0.0031743	0.0000021	0.0014394
15	0.0000002	0.0004889	0.0000000	0.0001860	
10.500	0	0.2170020	-0.4122040	0.2913470	-0.4543830
	1	0.2932000	-0.4552290	0.2170020	-0.4122040
	2	0.2768790	-0.4474560	0.2950860	-0.4560810
	3	0.2967820	-0.4568400	0.3402850	-0.4738050
	4	0.4670130	-0.4989110	0.2984340	-0.4575710
	5	0.4027660	-0.4904540	0.6066190	-0.4885000
	6	0.6531940	-0.4759530	0.4924790	-0.4999430
	7	0.7790150	-0.4149100	0.7083400	-0.4545270
	8	0.8732000	-0.3327490	0.9683150	-0.1751610
	9	0.9729540	-0.1622180	0.9498640	-0.2182260
	10	0.9684010	0.1749290	0.9780350	-0.1465710
	11	0.2959270	0.4564580	0.3801100	0.4854140
	12	0.0163167	0.1266910	0.0092965	0.0959693
	13	0.0006735	0.0259434	0.0002307	0.0151858
	14	0.0000227	0.0047607	0.0000052	0.0022781
	15	0.0000006	0.0007644	0.0000001	0.0003060
16	0.0000000	0.0001065	0.	0.	
10.700	0	0.2163720	-0.4117710	0.1977070	-0.3982700
	1	0.1978170	-0.3983530	0.2163720	-0.4117710
	2	0.2738380	-0.4459270	0.1979260	-0.3984360
	3	0.2126070	-0.4091520	0.3363290	-0.4724530
	4	0.4370700	-0.4960240	0.2265230	-0.4185810
	5	0.3612140	-0.4803520	0.5539240	-0.4970840
	6	0.5652430	-0.4957250	0.4851210	-0.4997790
	7	0.7401330	-0.4385610	0.5777770	-0.4939140
	8	0.8321320	-0.3737490	0.9471370	-0.2237600
	9	0.9471900	-0.2236540	0.9495690	-0.2188320
	10	0.9979720	0.0449898	0.9472420	-0.2235500
	11	0.4853470	0.4997850	0.6930400	0.4612330
	12	0.0324469	0.1771840	0.0217754	0.1459490
	13	0.0013909	0.0372684	0.0005363	0.0231518
	14	0.0000499	0.0070632	0.0000127	0.0035669
	15	0.0000014	0.0011803	0.0000002	0.0004975
16	0.0000000	0.0001717	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.900	0	0.2142280	-0.4102860	0.1192240	-0.3240520
	1	0.1220370	-0.3273290	0.2142280	-0.4102860
	2	0.2646590	-0.4411510	0.1248160	-0.3305100
	3	0.1550120	-0.3619160	0.3206380	-0.4667220
	4	0.3890640	-0.4875380	0.1845710	-0.3879490
	5	0.3341760	-0.4717020	0.4705610	-0.4991330
	6	0.4708940	-0.4991520	0.4843230	-0.4997540
	7	0.6945250	-0.4606080	0.4712200	-0.4991710
	8	0.7891990	-0.4078780	0.9031140	-0.2958020
	9	0.9151470	-0.2786630	0.9490830	-0.2198290
	10	0.9961580	-0.0618667	0.9245390	-0.2641330
	11	0.7000430	0.4582390	0.9375650	0.2419440
	12	0.0639890	0.2447330	0.0516927	0.2214060
	13	0.0028369	0.0531874	0.0012362	0.0351377
	14	0.0001076	0.0103748	0.0000306	0.0055293
	15	0.0000032	0.0018003	0.0000006	0.0007985
16	0.0000001	0.0002729	0.0000000	0.0001026	
11.100	0	0.2032950	-0.4024500	0.0680378	-0.2518110
	1	0.0742186	-0.2621260	0.2032950	-0.4024500
	2	0.2422300	-0.4284330	0.0804440	-0.2719790
	3	0.1211530	-0.3263040	0.2859580	-0.4518700
	4	0.3207830	-0.4667780	0.1641850	-0.3704440
	5	0.3161080	-0.4649560	0.3615190	-0.4804400
	6	0.3817650	-0.4858190	0.4824410	-0.4996920
	7	0.6389700	-0.4802990	0.3997400	-0.4898450
	8	0.7453200	-0.4356810	0.8216810	-0.3827810
	9	0.8772700	-0.3281270	0.9459870	-0.2260440
	10	0.9779010	-0.1470040	0.9116530	-0.2837990
	11	0.8751380	0.3305620	0.9998860	-0.0106534
	12	0.1243420	0.3299720	0.1239230	0.3294930
	13	0.0057318	0.0754912	0.0028393	0.0532099
	14	0.0002281	0.0151015	0.0000722	0.0084969
	15	0.0000074	0.0027151	0.0000016	0.0012671
16	0.0000002	0.0004284	0.0000000	0.0001692	
11.300	0	0.1773470	-0.3819620	0.0408378	-0.1979140
	1	0.0490752	-0.2160250	0.1773470	-0.3819620
	2	0.2016610	-0.4012400	0.0577418	-0.2332550
	3	0.1038150	-0.3050210	0.2288620	-0.4201000
	4	0.2378870	-0.4257900	0.1569640	-0.3637850
	5	0.3011260	-0.4587470	0.2477420	-0.4317010
	6	0.3074350	-0.4614310	0.4717860	-0.4992030
	7	0.5710390	-0.4949280	0.3589600	-0.4796950
	8	0.7005410	-0.4580210	0.6968860	-0.4596040
	9	0.8340750	-0.3720140	0.9371560	-0.2426830
	10	0.9510970	-0.2156640	0.9061290	-0.2916500
	11	0.9715340	0.1662990	0.9670390	-0.1785350
	12	0.2338740	0.4232930	0.2897500	0.4536460
	13	0.0115046	0.1066410	0.0065383	0.0805952
	14	0.0004757	0.0218048	0.0001680	0.0129608
	15	0.0000164	0.0040509	0.0000039	0.0019890
16	0.0000004	0.0006645	0.0000001	0.0002754	

NOLTR 62-157

REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.500	0	0.1341100	-0.3407710	0.0285811	-0.1666260
	1	0.0378422	-0.1908150	0.1341100	-0.3407710
	2	0.1442260	-0.3513190	0.0480765	-0.2139280
	3	0.0962237	-0.2948980	0.1552330	-0.3621260
	4	0.1552330	-0.3621270	0.1559880	-0.3628440
	5	0.2833570	-0.4506280	0.1552340	-0.3621280
	6	0.2516430	-0.4339570	0.4443970	-0.4968990
	7	0.4908230	-0.4999160	0.3398530	-0.4736590
	8	0.6539260	-0.4757170	0.5484270	-0.4976490
	9	0.7864550	-0.4098090	0.9175300	-0.2750790
	10	0.9169730	-0.2728760	0.9048150	-0.2934700
	11	0.9997840	0.0146835	0.9205220	-0.2704830
	12	0.4107210	0.4919650	0.5921180	0.4914410
	13	0.0230069	0.1499060	0.0152050	0.1223680
	14	0.0009784	0.0312644	0.0003864	0.0196541
	15	0.0000358	0.0059835	0.0000096	0.0030911
	16	0.0000010	0.0010186	0.0000002	0.0004430
17	0.0000000	0.0001523	0.	0.	
11.700	0	0.0800174	-0.2713200	0.0241664	-0.1535650
	1	0.0340073	-0.1812480	0.0800174	-0.2713200
	2	0.0814818	-0.2735740	0.0452878	-0.2079350
	3	0.0928583	-0.2902340	0.0829966	-0.2758770
	4	0.0893215	-0.2852070	0.1549340	-0.3618420
	5	0.2572780	-0.4371340	0.0953933	-0.2937570
	6	0.2128390	-0.4093150	0.3929060	-0.4883960
	7	0.4026310	-0.4904280	0.3337800	-0.4715620
	8	0.6036930	-0.4891300	0.4134630	-0.4924540
	9	0.7356410	-0.4409920	0.8783460	-0.3268850
	10	0.8823230	-0.3222250	0.9046800	-0.2936560
	11	0.9887660	-0.1053930	0.8858280	-0.3180200
	12	0.6394390	0.4801630	0.8981560	0.3024430
	13	0.0458659	0.2091940	0.0359807	0.1862420
	14	0.0019902	0.0445676	0.0008820	0.0296847
	15	0.0000767	0.0087565	0.0000227	0.0047602
	16	0.0000024	0.0015440	0.0000005	0.0007046
17	0.0000001	0.0002398	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.900	0	0.0315435	-0.1747810	0.0233328	-0.1509580
	1	0.0333572	-0.1795680	0.0315435	-0.1747810
	2	0.0317470	-0.1753260	0.0450717	-0.2074610
	3	0.0888631	-0.2845460	0.0319488	-0.1758640
	4	0.0471152	-0.2118850	0.1477270	-0.3548290
	5	0.2187120	-0.4133730	0.0629515	-0.2428760
	6	0.1868270	-0.3897730	0.3141780	-0.4641880
	7	0.3149060	-0.4644780	0.3332110	-0.4713610
	8	0.5476090	-0.4977280	0.3156140	-0.4647600
	9	0.6829000	-0.4653470	0.8064740	-0.3950620
	10	0.8409460	-0.3657260	0.9027720	-0.2962690
	11	0.9601320	-0.1956480	0.8652280	-0.3414800
	12	0.8486060	0.3584320	0.9999210	0.0088618
	13	0.0910147	0.2876300	0.0869633	0.2817810
	14	0.0040153	0.0632389	0.0020069	0.0447537
	15	0.0001615	0.0127074	0.0000529	0.0072718
	16	0.0000054	0.0023159	0.0000012	0.0011090
17	0.0000001	0.0003734	0.0000000	0.0001524	
12.100	0	0.0046783	-0.0682377	0.0231160	-0.1502720
	1	0.0325716	-0.1775130	0.0046783	-0.0682377
	2	0.0060132	-0.0773111	0.0436985	-0.2044240
	3	0.0797947	-0.2709750	0.0074479	-0.0859791
	4	0.0246125	-0.1549410	0.1289220	-0.3351130
	5	0.1670200	-0.3729930	0.0477413	-0.2132180
	6	0.1687690	-0.3745480	0.2163890	-0.4117820
	7	0.2370820	-0.4252930	0.3311520	-0.4706280
	8	0.4837130	-0.4997350	0.2554880	-0.4361350
	9	0.6291350	-0.4830360	0.6904430	-0.4623110
	10	0.7945080	-0.4040610	0.8957670	-0.3055630
	11	0.9247060	-0.2638660	0.8553120	-0.3517860
	12	0.9690200	0.1732630	0.9593770	-0.1974150
	13	0.1777380	0.3822920	0.2113370	0.4082570
	14	0.0080603	0.0894165	0.0045805	0.0675245
	15	0.0003351	0.0183032	0.0001217	0.0110329
	16	0.0000118	0.0034392	0.0000030	0.0017280
17	0.0000003	0.0005749	0.0000001	0.0002456	

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.300	0	0.0005874	0.0242295	0.0208504	-0.1428830
	1	0.0286091	-0.1667050	0.0005874	0.0242295
	2	0.0000004	0.0005975	0.0377458	-0.1905810
	3	0.0625084	-0.2420770	0.0004716	-0.0217107
	4	0.0140882	-0.1178550	0.0959706	-0.2945510
	5	0.1079760	-0.3103510	0.0419850	-0.2005550
	6	0.1539980	-0.3609470	0.1220760	-0.3273730
	7	0.1752960	-0.3802200	0.3205940	-0.4667050
	8	0.4114360	-0.4920940	0.2233390	-0.4164830
	9	0.5745740	-0.4944070	0.5374320	-0.4985970
	10	0.7430480	-0.4369530	0.8790980	-0.3260140
	11	0.8864110	-0.3173120	0.8520270	-0.3550740
	12	0.9999850	-0.0039056	0.8948740	-0.3067160
	13	0.3317790	0.4708520	0.4769170	0.4994670
	14	0.0161532	0.1260640	0.0105642	0.1022380
	15	0.0006866	0.0261943	0.0002773	0.0166493
	16	0.0000256	0.0050599	0.0000071	0.0026679
	17	0.0000008	0.0008757	0.0000001	0.0003917
	18	0.0000000	0.0001340	0.	0.
12.500	0	0.0079321	0.0987082	0.0146150	-0.1200060
	1	0.0195719	-0.1315240	0.0079320	0.0887082
	2	0.0026219	0.0511372	0.0254003	-0.1573380
	3	0.0375788	-0.1901750	0.0002355	0.0153435
	4	0.0095540	-0.0972764	0.0534576	-0.2249440
	5	0.0539772	-0.2259730	0.0407868	-0.1977960
	6	0.1382200	-0.3451300	0.0545135	-0.2270280
	7	0.1305380	-0.3368940	0.2945230	-0.4558280
	8	0.3328800	-0.4712440	0.2091380	-0.4066930
	9	0.5186920	-0.4996500	0.3820030	-0.4858770
	10	0.6871970	-0.4636350	0.8455680	-0.3613630
	11	0.8457990	-0.3611410	0.8516710	-0.3554250
	12	0.9798560	-0.1404920	0.8460250	-0.3609250
	13	0.5603560	0.4963440	0.8308970	0.3748430
	14	0.0324117	0.1770910	0.0248383	0.1556320
	15	0.0013925	0.0372902	0.0006270	0.0250330
	16	0.0000545	0.0073802	0.0000167	0.0040844
	17	0.0000017	0.0013201	0.0000004	0.0006180
	18	0.0000000	0.0002094	0.	0.

NOLTR 62-157

REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.700	0	0.0159395	0.1252410	0.0053763	-0.0731256
	1	0.0072458	-0.0848131	0.0159395	0.1252410
	2	0.0060759	0.0777110	0.0094565	-0.0967835
	3	0.0123503	-0.1104430	0.0009929	0.0314943
	4	0.0075945	-0.0868147	0.0158575	-0.1249240
	5	0.0174518	-0.1309480	0.0405855	-0.1973280
	6	0.1178000	-0.3223720	0.0190222	-0.1366030
	7	0.1000440	-0.3000580	0.2473290	-0.4314600
	8	0.2534380	-0.4349800	0.2050450	-0.4037340
	9	0.4604010	-0.4984290	0.2601870	-0.4387370
	10	0.6261110	-0.4833090	0.7840770	-0.4114610
	11	0.8020670	-0.3984410	0.8508420	-0.3562440
	12	0.9399520	-0.2375760	0.8161960	-0.3873240
	13	0.8034120	0.3974180	0.9972850	0.0520307
	14	0.0651767	0.2468370	0.0600297	0.2375420
	15	0.0028035	0.0528736	0.0014143	0.0375810
	16	0.0001141	0.0106802	0.0000385	0.0062064
	17	0.0000039	0.0019706	0.0000009	0.0009657
	18	0.0000001	0.0003238	0.0000000	0.0001362
12.900	0	0.0202858	0.1409760	0.0000091	0.0030208
	1	0.0000028	-0.0016733	0.0202858	0.1409760
	2	0.0078141	0.0880516	0.0000418	-0.0064668
	3	0.0000590	-0.0076840	0.0012520	0.0353620
	4	0.0063005	-0.0791256	0.0000797	-0.0089262
	5	0.0018012	-0.0424019	0.0381233	-0.1914940
	6	0.0906529	-0.2871150	0.0051901	-0.0718554
	7	0.0796845	-0.2708040	0.1789350	-0.3832980
	8	0.1805670	-0.3846590	0.2047410	-0.4035120
	9	0.3985320	-0.4895960	0.1821260	-0.3859490
	10	0.5671680	-0.4954680	0.6817140	-0.4658110
	11	0.7541080	-0.4306150	0.8460230	-0.3609270
	12	0.8952740	-0.3062000	0.8007580	-0.3994300
	13	0.9593010	0.1975920	0.9572270	-0.2023460
	14	0.1307010	0.3370730	0.1488950	0.3559850
	15	0.0056216	0.0747661	0.0031999	0.0564772
	16	0.0002356	0.0153482	0.0000878	0.0093711
	17	0.0000085	0.0029143	0.0000022	0.0014951
	18	0.0000002	0.0004954	0.0000000	0.0002176

NOLTR 62-157
REFRACTIVE INDEX M= 1.250

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
13.100	0	0.0213935	0.1446920	0.0108453	0.1035750
	1	0.0107649	0.1031940	0.0213935	0.1446920
	2	0.0083026	0.0907394	0.0106843	0.1028110
	3	0.0101053	0.1000160	0.0012815	0.0357756
	4	0.0044524	-0.0665776	0.0095589	0.0973012
	5	0.0007311	0.0270293	0.0306237	-0.1722960
	6	0.0579270	-0.2336050	0.0011647	-0.0341077
	7	0.0654958	-0.2473990	0.1010790	-0.3014340
	8	0.1207420	-0.3258280	0.2024290	-0.4018110
	9	0.3325850	-0.4711390	0.1385150	-0.3454400
	10	0.5055630	-0.4999690	0.5356390	-0.4987280
	11	0.7011180	-0.4577680	0.8329060	-0.3730600
	12	0.8506620	-0.3564220	0.7945860	-0.4040040
	13	0.9999180	-0.0090318	0.8727670	-0.3332340
	14	0.2562910	0.4365840	0.3618920	0.4805480
	15	0.0112692	0.1055560	0.0073154	0.0852168
	16	0.0004809	0.0219247	0.0001982	0.0140787
	17	0.0000182	0.0042724	0.0000053	0.0022948
	18	0.0000006	0.0007505	0.0000001	0.0003443
19	0.0000000	0.0001173	0.	0.	
13.300	0	0.0215200	0.1451100	0.0458690	0.2092010
	1	0.0454578	0.2083060	0.0215200	0.1451100
	2	0.0089807	0.0943399	0.0450526	0.2074190
	3	0.0379119	0.1909830	0.0017255	0.0415037
	4	0.0017178	-0.0414106	0.0317745	0.1753990
	5	0.0055223	0.0741068	0.0175212	-0.1312030
	6	0.0257273	-0.1583210	0.0002924	-0.0170966
	7	0.0541728	-0.2263580	0.0369921	-0.1887420
	8	0.0767143	-0.2661380	0.1923220	-0.3941240
	9	0.2636250	-0.4405980	0.1168900	-0.3212890
	10	0.4439980	-0.4968540	0.3703660	-0.4829030
	11	0.6429630	-0.4791260	0.8053380	-0.3959410
	12	0.8063780	-0.3951360	0.7932910	-0.4049450
	13	0.9714830	-0.1664450	0.8074800	-0.3942790
	14	0.4661390	0.4989840	0.7300160	0.4439510
	15	0.0226719	0.1488550	0.0170561	0.1294800
	16	0.0009723	0.0311670	0.0004445	0.0210796
	17	0.0000386	0.0062127	0.0000122	0.0034947
	18	0.0000013	0.0011259	0.0000003	0.0005395
19	0.0000000	0.0001821	0.	0.	

Table 4

Real and Imaginary Parts of the Scattering
Coefficients $A(N)$ and $B(N)$ for the Infinite Circular
Cylinder. Refractive Index $m = 1.300$. Range of
Variable $x = 2\pi a/\lambda$; 0.100(0.200)13.500

NOLTR 62-157

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
0.100	0	0.	-0.	0.0000298	0.0054556
	1	0.	0.	0.	0.
0.300	0	0.0000003	0.0005465	0.0024995	0.0499327
	1	0.0003256	0.0180416	0.0000003	0.0005465
	2	0.0000000	0.0002018	0.	0.
0.500	0	0.0000176	0.0041952	0.0189169	0.1362320
	1	0.0023828	0.0487554	0.0000176	0.0041952
	2	0.0000023	0.0015280	0.	0.
0.700	0	0.0002569	0.0160270	0.0637278	0.2442670
	1	0.0082168	0.0902734	0.0002569	0.0160270
	2	0.0000326	0.0057124	0.0000001	0.0003197
	3	0.0000000	0.0001171	0.	0.
0.900	0	0.0018944	0.0434840	0.1334000	0.3400060
	1	0.0189943	0.1365050	0.0018944	0.0434840
	2	0.0002268	0.0150592	0.0000020	0.0014118
	3	0.0000003	0.0005116	0.	0.
1.100	0	0.0092141	0.0955466	0.2035870	0.4026650
	1	0.0339938	0.1812130	0.0092141	0.0955466
	2	0.0010314	0.0320989	0.0000210	0.0045883
	3	0.0000027	0.0016373	0.0000000	0.0001151
1.300	0	0.0331146	0.1789360	0.2537130	0.4351360
	1	0.0512426	0.2204920	0.0331146	0.1789360
	2	0.0035012	0.0590675	0.0001482	0.0121718
	3	0.0000181	0.0042537	0.0000002	0.0004236
	4	0.0000000	0.0001531	0.	0.
1.500	0	0.0913325	0.2880810	0.2797490	0.4488760
	1	0.0692848	0.2539380	0.0913325	0.2880810
	2	0.0095293	0.0971520	0.0007826	0.0279633
	3	0.0000905	0.0095115	0.0000016	0.0012813
	4	0.0000002	0.0004579	0.	0.
1.700	0	0.1939150	0.3953630	0.2882160	0.4529320
	1	0.0886523	0.2842410	0.1939150	0.3953630
	2	0.0216734	0.1456150	0.0033365	0.0576659
	3	0.0003605	0.0189825	0.0000112	0.0033482
	4	0.0000014	0.0011793	0.0000000	0.0001221
1.900	0	0.3208850	0.4668170	0.2889650	0.4532820
	1	0.1125220	0.3160070	0.3208850	0.4668170
	2	0.0423042	0.2012820	0.0120016	0.1088930
	3	0.0012001	0.0346224	0.0000611	0.0078133
	4	0.0000073	0.0027011	0.0000001	0.0003546
	5	0.0000000	0.0001268	0.	0.

NOLTR 62-157

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
2.100	0	0.4337340	0.4955890	0.2923120	0.4548250
	1	0.1470340	0.3541400	0.4337340	0.4955890
	2	0.0723841	0.2591230	0.0371426	0.1891110
	3	0.0034480	0.0586187	0.0002782	0.0166758
	4	0.0000317	0.0056303	0.0000008	0.0009180
	5	0.0000001	0.0003248	0.	0.
2.300	0	0.5104780	0.4998900	0.3088720	0.4620280
	1	0.2014030	0.4010490	0.5104780	0.4998900
	2	0.1109260	0.3140410	0.0982273	0.2976220
	3	0.0087310	0.0930311	0.0010985	0.0331262
	4	0.0001180	0.0108602	0.0000047	0.0021635
	5	0.0000006	0.0007554	0.	0.
2.500	0	0.5519810	0.4972910	0.3501520	0.4770170
	1	0.2859440	0.4518630	0.5519810	0.4972910
	2	0.1559410	0.3627990	0.2151730	0.4109420
	3	0.0197442	0.1391200	0.0038616	0.0620216
	4	0.0003855	0.0196301	0.0000222	0.0047174
	5	0.0000026	0.0016204	0.0000001	0.0002514
2.700	0	0.5686360	0.4952670	0.4270300	0.4946470
	1	0.4040190	0.4907010	0.5686360	0.4952670
	2	0.2063330	0.4046720	0.3784570	0.4850020
	3	0.0401718	0.1963620	0.0122997	0.1102200
	4	0.0011279	0.0335649	0.0000929	0.0096404
	5	0.0000105	0.0032449	0.0000004	0.0005969
	6	0.0000000	0.0002097	0.	0.
2.900	0	0.5719500	0.4947960	0.5411570	0.4983030
	1	0.5402910	0.4983740	0.5719500	0.4947960
	2	0.2634170	0.4404870	0.5394050	0.4904450
	3	0.0738420	0.2615140	0.0357333	0.1856240
	4	0.0029975	0.0546671	0.0003483	0.0186607
	5	0.0000375	0.0061256	0.0000018	0.0013233
	6	0.0000002	0.0004593	0.	0.
3.100	0	0.5727520	0.4946790	0.6719440	0.4695050
	1	0.6643120	0.4722310	0.5727520	0.4946790
	2	0.3312020	0.4706460	0.6571100	0.4746750
	3	0.1231130	0.3285670	0.0936036	0.2912760
	4	0.0073113	0.0851928	0.0011927	0.0345143
	5	0.0001207	0.0109859	0.0000076	0.0027643
	6	0.0000009	0.0009455	0.0000000	0.0001643
3.300	0	0.5816470	0.4932890	0.7838510	0.4116170
	1	0.7542520	0.4305300	0.5816470	0.4932890
	2	0.4150580	0.4927320	0.7267240	0.4456420
	3	0.1874600	0.3902800	0.2129580	0.4093980
	4	0.0164730	0.1272860	0.0037867	0.0614195
	5	0.0003551	0.0188405	0.0000301	0.0054871
	6	0.0000034	0.0018444	0.0000001	0.0003690
	7	0.0000000	0.0001288	0.	0.

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
3.500	0	0.6094050	0.4878840	0.8569970	0.3500760
	1	0.8086400	0.3933720	0.6094050	0.4878840
	2	0.5180990	0.4996720	0.7613630	0.4262500
	3	0.2636910	0.4406330	0.3986840	0.4896270
	4	0.0343721	0.1821830	0.0112747	0.1055820
	5	0.0009656	0.0310596	0.0001086	0.0104221
	6	0.0000116	0.0034298	0.0000006	0.0007852
	7	0.0000001	0.0002712	0.	0.
3.700	0	0.6655330	0.4718040	0.8957450	0.3055910
	1	0.8368590	0.3694940	0.6655330	0.4718040
	2	0.6354050	0.4813160	0.7747480	0.4177480
	3	0.3479530	0.4763210	0.5988640	0.4901290
	4	0.0663454	0.2488850	0.0316292	0.1750110
	5	0.0024486	0.0494232	0.0003635	0.0190614
	6	0.0000374	0.0061125	0.0000025	0.0015926
	7	0.0000003	0.0005431	0.0000000	0.0001025
3.900	0	0.7521420	0.4317690	0.9125530	0.2824890
	1	0.8491430	0.3579090	0.7521420	0.4317690
	2	0.7509870	0.4324410	0.7774160	0.4159810
	3	0.4378390	0.4961210	0.7497890	0.4331350
	4	0.1180250	0.3226380	0.0828689	0.2756840
	5	0.0058292	0.0761263	0.0011410	0.0337597
	6	0.0001100	0.0104887	0.0000096	0.0030959
	7	0.0000011	0.0010400	0.0000000	0.0002215
4.100	0	0.8533660	0.3537410	0.9175460	0.2750550
	1	0.8538910	0.3532160	0.8533660	0.3537410
	2	0.8453810	0.3615410	0.7780050	0.4155880
	3	0.5328300	0.4989210	0.8379710	0.3684780
	4	0.1927510	0.3944590	0.1959540	0.3969340
	5	0.0130855	0.1136410	0.0033968	0.0581831
	6	0.0003028	0.0173996	0.0000336	0.0057969
	7	0.0000037	0.0019125	0.0000002	0.0004575
8	0.0000000	0.0001575	0.	0.	
4.300	0	0.9370220	0.2429230	0.9179640	0.2744200
	1	0.8583880	0.3486520	0.9370220	0.2429240
	2	0.9091300	0.2874250	0.7847280	0.4110110
	3	0.6326100	0.4820940	0.8822640	0.3222950
	4	0.2887730	0.4531920	0.3919620	0.4881880
	5	0.0277448	0.1642410	0.0096769	0.0978942
	6	0.0007848	0.0280029	0.0001104	0.0105042
	7	0.0000115	0.0033910	0.0000008	0.0009078
8	0.0000001	0.0003089	0.	0.	

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
4.500	0	0.9826790	0.1304660	0.9200180	0.2712650
	1	0.8695720	0.3367740	0.9826790	0.1304660
	2	0.9459760	0.2260650	0.8056970	0.3956630
	3	0.7340880	0.4418180	0.9018190	0.2975600
	4	0.3989110	0.4896740	0.6255050	0.4839920
	5	0.0554576	0.2288710	0.0265216	0.1606810
	6	0.0019267	0.0438517	0.0003424	0.0185019
	7	0.0000336	0.0058173	0.0000030	0.0017371
	8	0.0000003	0.0005833	0.0000000	0.0001303
4.700	0	0.9979200	0.0455604	0.9295510	0.2559020
	1	0.8933280	0.3086950	0.9979200	0.0455604
	2	0.9651430	0.1834170	0.8470400	0.3599490
	3	0.8292200	0.3763170	0.9084880	0.2883360
	4	0.5136770	0.4998130	0.8069240	0.3947120
	5	0.1038780	0.3051030	0.0696343	0.2545300
	6	0.0045048	0.0669662	0.0010131	0.0318126
	7	0.0000938	0.0096863	0.0000103	0.0032170
	8	0.0000011	0.0010636	0.0000001	0.0002634
4.900	0	0.9999800	-0.0044213	0.9502860	0.2173520
	1	0.9310830	0.2533120	0.9999800	-0.0044213
	2	0.9746020	0.1573310	0.9069350	0.2905230
	3	0.9069150	0.2905520	0.9094650	0.2869460
	4	0.6251650	0.4840800	0.9068940	0.2905810
	5	0.1806010	0.3846880	0.1705550	0.3761200
	6	0.0100696	0.0998408	0.0028821	0.0536075
	7	0.0002465	0.0156989	0.0000335	0.0057864
	8	0.0000035	0.0018781	0.0000003	0.0005139
	9	0.0000000	0.0001746	0.	0.
5.100	0	0.9992870	-0.0266904	0.9787980	0.1440560
	1	0.9735230	0.1605490	0.9992870	-0.0266904
	2	0.9795110	0.1416670	0.9672520	0.1779770
	3	0.9594510	0.1972430	0.9102340	0.2858460
	4	0.7284360	0.4447660	0.9520580	0.2136440
	5	0.2884130	0.4530240	0.3650730	0.4814510
	6	0.0215613	0.1452460	0.0079501	0.0888080
	7	0.0006170	0.0248317	0.0001029	0.0101433
	8	0.0000104	0.0032204	0.0000009	0.0009711
	9	0.0000001	0.0003260	0.	0.
5.300	0	0.9989460	-0.0324419	0.9990000	0.0316049
	1	0.9988700	0.0335981	0.9989460	-0.0324419
	2	0.9831490	0.1287130	0.9987280	0.0356408
	3	0.9874890	0.1111500	0.9160000	0.2773880
	4	0.8201700	0.3840450	0.9705700	0.1690070
	5	0.4203770	0.4936200	0.6259300	0.4838820
	6	0.0441811	0.2054970	0.0214013	0.1447180
	7	0.0014785	0.0384227	0.0003024	0.0173886
	8	0.0000289	0.0053758	0.0000032	0.0017828
	9	0.0000003	0.0005904	0.0000000	0.0001503

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
5.500	0	0.9989170	-0.0328972	0.9893170	-0.1028060
	1	0.9897640	-0.1006540	0.9989170	-0.0328972
	2	0.9877640	0.1099370	0.9901910	-0.0985527
	3	0.9982460	0.0418466	0.9314550	0.2526780
	4	0.8966810	0.3043750	0.9774350	0.1485110
	5	0.5604870	0.4963280	0.8392840	0.3672690
	6	0.0861770	0.2806250	0.0562411	0.2303870
	7	0.0034071	0.0582713	0.0008565	0.0292527
	8	0.0000767	0.0087561	0.0000102	0.0031879
	9	0.0000011	0.0010391	0.0000001	0.0002894
5.700	0	0.9984750	-0.0390169	0.9473360	-0.2233610
	1	0.9542870	-0.2088620	0.9984750	-0.0390169
	2	0.9941910	0.0759983	0.9604060	-0.1950030
	3	0.9999270	-0.0085357	0.9581030	0.2003540
	4	0.9535440	0.2104710	0.9792870	0.1424210
	5	0.6912980	0.4619580	0.9480640	0.2218980
	6	0.1582620	0.3649860	0.1418110	0.3488560
	7	0.0075793	0.0867286	0.0023541	0.0484624
	8	0.0001945	0.0139467	0.0000310	0.0055669
	9	0.0000032	0.0017810	0.0000003	0.0005415
	10	0.0000000	0.0001818	0.	0.
	11	0.0000366	0.0060501	0.	0.
5.900	0	0.9961500	-0.0619304	0.8954420	-0.3059830
	1	0.9155250	-0.2780960	0.9961500	-0.0619304
	2	0.9996980	0.0173771	0.9324870	-0.2509080
	3	0.9981320	-0.0431835	0.9881400	0.1082570
	4	0.9876150	0.1105960	0.9794280	0.1419460
	5	0.8014230	0.3989290	0.9871090	0.1128040
	6	0.2692080	0.4435460	0.3239910	0.4679970
	7	0.0163169	0.1266910	0.0063311	0.0793161
	8	0.0004741	0.0217694	0.0000906	0.0095192
	9	0.0000089	0.0029786	0.0000010	0.0009871
	10	0.0000001	0.0003273	0.	0.
	11	0.0000701	0.0083753	0.	0.
6.100	0	0.9872440	-0.1122210	0.8554200	-0.3516770
	1	0.8884720	-0.3147850	0.9872440	-0.1122210
	2	0.9947970	-0.0719428	0.9160880	-0.2772550
	3	0.9953700	-0.0678867	0.9993500	-0.0254850
	4	0.9997730	0.0150577	0.9803150	0.1389170
	5	0.8867750	0.3168680	0.9977100	0.0477992
	6	0.4168020	0.4930300	0.6034480	0.4891810
	7	0.0340106	0.1812560	0.0167839	0.1284610
	8	0.0011145	0.0333658	0.0002556	0.0159851
	9	0.0000237	0.0048702	0.0000031	0.0017567
	10	0.0000003	0.0005745	0.0000000	0.0001624
	11	0.0001295	0.0113811	0.0005838	0.0241549

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
6.300	0	0.9603160	-0.1952170	0.8338160	-0.3722460
	1	0.8752780	-0.3304030	0.9603160	-0.1952170
	2	0.9641890	-0.1858190	0.9101520	-0.2859630
	3	0.9919210	-0.0895184	0.9681400	-0.1756270
	4	0.9954150	-0.0675554	0.9841780	0.1247870
	5	0.9474060	0.2232210	0.9997700	0.0151702
	6	0.5814580	0.4933200	0.8528040	0.3543010
	7	0.0684116	0.2524510	0.0440432	0.2051910
	8	0.0025371	0.0503058	0.0006995	0.0264395
	9	0.0000608	0.0077992	0.0000094	0.0030583
	10	0.0000010	0.0009842	0.0000001	0.0003013
11	0.0002308	0.0151888	0.0009380	0.0306127	
6.500	0	0.8996240	-0.3005010	0.8265580	-0.3786290
	1	0.8712360	-0.3349390	0.8996240	-0.3005010
	2	0.8997550	-0.3003270	0.9094760	-0.2869310
	3	0.9864800	-0.1154860	0.8998840	-0.3001540
	4	0.9819310	-0.1332020	0.9919100	0.0895824
	5	0.9844890	0.1235740	0.9999930	0.0025605
	6	0.7341060	0.4418080	0.9713990	0.1666820
	7	0.1315520	0.3380030	0.1134770	0.3171740
	8	0.0056140	0.0747161	0.0018708	0.0432128
	9	0.0001502	0.0122546	0.0000272	0.0052199
	10	0.0000027	0.0016486	0.0000003	0.0005461
11	0.0003967	0.0199140	0.0014618	0.0382053	
6.700	0	0.8027720	-0.3979060	0.8258700	-0.3792210
	1	0.8695690	-0.3367770	0.8027720	-0.3979060
	2	0.8153100	-0.3880460	0.9080250	-0.2889910
	3	0.9759160	-0.1533090	0.8265690	-0.3786190
	4	0.9655140	-0.1824730	0.9995190	0.0219156
	5	0.9994580	0.0232648	1.0000000	0.0000958
	6	0.8534880	0.3536190	0.9993900	0.0246815
	7	0.2375360	0.4255730	0.2747870	0.4464070
	8	0.0121128	0.1093900	0.0049266	0.0700168
	9	0.0003583	0.0189265	0.0000766	0.0087545
	10	0.0000073	0.0027042	0.0000009	0.0009681
11	0.0006586	0.0256545	0.0022098	0.0469570	
6.900	0	0.6948300	-0.4604790	0.8233480	-0.3813740
	1	0.8630400	-0.3438050	0.6948300	-0.4604790
	2	0.7369300	-0.4403000	0.8994000	-0.3007990
	3	0.9541330	-0.2091970	0.7726210	-0.4191390
	4	0.9495180	-0.2189370	0.9925360	-0.0860712
	5	0.9948070	-0.0718752	1.0000000	-0.0005014
	6	0.9339400	0.2483860	0.9964400	-0.0595590
	7	0.3925240	0.4883120	0.5602740	0.4963540
	8	0.0255294	0.1577270	0.0128796	0.1127550
	9	0.0008291	0.0287822	0.0002092	0.0144621
	10	0.0000189	0.0043500	0.0000028	0.0016815
11	0.0010557	0.0324747	0.0032403	0.0568310	

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.100	0	0.6073670	-0.4883360	0.8102070	-0.3921370
	1	0.8434560	-0.3633700	0.6073670	-0.4883360
	2	0.6809860	-0.4660950	0.8754830	-0.3301700
	3	0.9113550	-0.2842310	0.7429720	-0.4369950
	4	0.9344450	-0.2475030	0.9468700	-0.2242930
	5	0.9749190	-0.1563710	0.9999480	-0.0071926
	6	0.9800170	0.1399410	0.9892340	-0.1031980
	7	0.5791520	0.4936950	0.8499370	0.3571330
	8	0.0525128	0.2230590	0.0336659	0.1803680
	9	0.0018673	0.0431721	0.0005571	0.0235956
	10	0.0000472	0.0068727	0.0000082	0.0028664
	11	0.0000008	0.0009119	0.0000001	0.0003021
	12	0.0000000	0.0001005	0.	0.
7.300	0	0.5529890	-0.4971840	0.7761720	-0.4168080
	1	0.8003140	-0.3997650	0.5529890	-0.4971840
	2	0.6489630	-0.4772950	0.8247060	-0.3802180
	3	0.8378330	-0.3686040	0.7317410	-0.4430530
	4	0.9185580	-0.2735120	0.8520010	-0.3550990
	5	0.9456580	-0.2266920	0.9991760	-0.0286872
	6	0.9987650	0.0351232	0.9848240	-0.1222530
	7	0.7565520	0.4291630	0.9836200	0.1269330
	8	0.1047580	0.3062410	0.0879607	0.2832380
	9	0.0041089	0.0639689	0.0014564	0.0381354
	10	0.0001141	0.0106805	0.0000231	0.0048039
	11	0.0000022	0.0014998	0.0000003	0.0005337
	12	0.0000000	0.0001754	0.	0.
7.500	0	0.5272990	-0.4992540	0.7093200	-0.4540760
	1	0.7218350	-0.4480950	0.5272990	-0.4992540
	2	0.6342440	-0.4816420	0.7347820	-0.4414490
	3	0.7348090	-0.4414350	0.7300290	-0.4439440
	4	0.8983060	-0.3022450	0.7348360	-0.4414200
	5	0.9127840	-0.2821510	0.9943620	-0.0748719
	6	0.9960020	-0.0631057	0.9833680	-0.1278880
	7	0.8682610	0.3150450	0.9975680	-0.0492583
	8	0.1995020	0.3996260	0.2234040	0.4165270
	9	0.0088649	0.0937352	0.0037666	0.0612567
	10	0.0002674	0.0163518	0.0000629	0.0079315
	11	0.0000059	0.0024219	0.0000008	0.0009251
	12	0.0000001	0.0003003	0.	0.

NOLTR 62-157

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
7.700	0	0.5198010	-0.4996080	0.6024640	-0.4893890
	1	0.6047320	-0.4889080	0.5198010	-0.4996080
	2	0.6277170	-0.4834130	0.6070470	-0.4884070
	3	0.6216980	-0.4849630	0.7287010	-0.4446300
	4	0.8682780	-0.3381880	0.6349250	-0.4814510
	5	0.8803450	-0.3245570	0.9754590	-0.1547200
	6	0.9760650	-0.1528480	0.9832470	-0.1283460
	7	0.9647320	0.1844560	0.9766270	-0.1510840
	8	0.3523390	0.4776990	0.4993780	0.5000000
	9	0.0188073	0.1358440	0.0097188	0.0981039
	10	0.0006106	0.0247023	0.0001672	0.0129281
	11	0.0000148	0.0038446	0.0000025	0.0015755
12	0.0000003	0.0005041	0.0000000	0.0001670	
7.900	0	0.5192530	-0.4996290	0.4683040	-0.4989940
	1	0.4691040	-0.4990450	0.5192530	-0.4996290
	2	0.6197750	-0.4854420	0.4698940	-0.4990930
	3	0.5236870	-0.4994390	0.7184910	-0.4497350
	4	0.8211030	-0.3832660	0.5696670	-0.4951230
	5	0.8499080	-0.3571610	0.9225540	-0.2672970
	6	0.9428420	-0.2321440	0.9825810	-0.1308260
	7	0.9963860	0.0600058	0.9566840	-0.2035680
	8	0.5554550	0.4969150	0.8303610	0.3753150
	9	0.0392852	0.1942730	0.0252505	0.1568850
	10	0.0013621	0.0368815	0.0004351	0.0208543
	11	0.0000361	0.0060071	0.0000070	0.0026399
12	0.0000007	0.0008311	0.0000001	0.0002942	
8.100	0	0.5146070	-0.4997870	0.3415230	-0.4742200
	1	0.3505900	-0.4771550	0.5146070	-0.4997870
	2	0.6004150	-0.4898130	0.3593580	-0.4798120
	3	0.4538950	-0.4978700	0.6890870	-0.4628670
	4	0.7488190	-0.4336920	0.5358720	-0.4987120
	5	0.8206210	-0.3836690	0.8166510	-0.3869520
	6	0.9005630	-0.2992480	0.9791920	-0.1427430
	7	0.9974920	-0.0500204	0.9451120	-0.2277610
	8	0.7604290	0.4268220	0.9890820	0.1039180
	9	0.0805733	0.2721790	0.0664442	0.2490570
	10	0.0029801	0.0545093	0.0011159	0.0333861
	11	0.0000856	0.0092504	0.0000190	0.0043587
	12	0.0000018	0.0013466	0.0000003	0.0005092
13	0.0000000	0.0001658	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.300	0	0.4946350	-0.4999710	0.2502830	-0.4331760
	1	0.2700550	-0.4439860	0.4946350	-0.4999710
	2	0.5590630	-0.4964990	0.2893130	-0.4534430
	3	0.4113880	-0.4920850	0.6287270	-0.4831450
	4	0.6481470	-0.4775490	0.5233420	-0.4994550
	5	0.7896010	-0.4075920	0.6700080	-0.4702100
	6	0.8536930	-0.3534140	0.9693600	-0.1723410
	7	0.9784430	-0.1452330	0.9405370	-0.2364900
	8	0.9091960	0.2873310	0.9879580	-0.1090750
	9	0.1604360	0.3670100	0.1748460	0.3798360
	10	0.0064192	0.0798621	0.0028403	0.0532185
	11	0.0001977	0.0140584	0.0000505	0.0071036
	12	0.0000046	0.0021466	0.0000007	0.0008666
	13	0.0000001	0.0002786	0.	0.
8.500	0	0.4481390	-0.4973030	0.1976840	-0.3982520
	1	0.2255000	-0.4179110	0.4481390	-0.4973030
	2	0.4862300	-0.4998100	0.2532950	-0.4348980
	3	0.3885590	-0.4874230	0.5282780	-0.4992000
	4	0.5283400	-0.4991960	0.5214070	-0.4995420
	5	0.7522830	-0.4316870	0.5284020	-0.4991930
	6	0.8061090	-0.3953450	0.9450730	-0.2278380
	7	0.9452810	-0.2274310	0.9397340	-0.2379790
	8	0.9830940	0.1289180	0.9454950	-0.2270110
	9	0.3018920	0.4590790	0.4258200	0.4944670
	10	0.0136628	0.1160870	0.0072381	0.0847686
	11	0.0004461	0.0211161	0.0001311	0.0114496
	12	0.0000114	0.0033704	0.0000021	0.0014521
	13	0.0000002	0.0004602	0.0000000	0.0001622
8.700	0	0.3675370	-0.4821340	0.1731330	-0.3783630
	1	0.2057970	-0.4042830	0.3675370	-0.4821340
	2	0.3805020	-0.4855100	0.2394000	-0.4267170
	3	0.3763110	-0.4844600	0.3944690	-0.4887360
	4	0.4110160	-0.4920180	0.5200300	-0.4995990
	5	0.7027590	-0.4570440	0.4259050	-0.4944790
	6	0.7601970	-0.4269630	0.8905230	-0.3122370
	7	0.9015180	-0.2979660	0.9393880	-0.2386180
	8	0.9998310	-0.0130130	0.9102840	-0.2857740
	9	0.5123960	0.4998460	0.7917300	0.4060710
	10	0.0288213	0.1673040	0.0186612	0.1353260
	11	0.0009866	0.0313954	0.0003347	0.0182920
	12	0.0000272	0.0052174	0.0000058	0.0023986
	13	0.0000006	0.0007479	0.0000001	0.0002803

NOLTR 62-157

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
8.900	0	0.2588340	-0.4379940	0.1651360	-0.3713030
	1	0.2000250	-0.4000190	0.2588340	-0.4379940
	2	0.2591620	-0.4381750	0.2368080	-0.4251230
	3	0.3655720	-0.4815900	0.2594940	-0.4383570
	4	0.3162440	-0.4650090	0.5092210	-0.4999150
	5	0.6347250	-0.4815070	0.3657240	-0.4816330
	6	0.7163760	-0.4507560	0.7850880	-0.4107620
	7	0.8498520	-0.3572160	0.9361220	-0.2445360
	8	0.9832270	-0.1284190	0.8897770	-0.3131680
	9	0.7460500	0.4352690	0.9901170	0.0989212
	10	0.0602864	0.2380170	0.0491759	0.2162350
	11	0.0021464	0.0462800	0.0008443	0.0290439
	12	0.0000636	0.0079725	0.0000153	0.0039112
	13	0.0000014	0.0011968	0.0000002	0.0004770
	14	0.0000000	0.0001540	0.	0.
9.100	0	0.1494730	-0.3565540	0.1642840	-0.3705330
	1	0.1988560	-0.3991390	0.1494730	-0.3565540
	2	0.1540250	-0.3609730	0.2359890	-0.4246150
	3	0.3473200	-0.4761180	0.1584250	-0.3651390
	4	0.2508300	-0.4334910	0.4783700	-0.4995320
	5	0.5442510	-0.4980380	0.3367240	-0.4725900
	6	0.6731110	-0.4690760	0.6266400	-0.4836970
	7	0.7930830	-0.4050950	0.9256370	-0.2623600
	8	0.9488870	-0.2202280	0.8807260	-0.3241100
	9	0.9187190	0.2732660	0.9752390	-0.1553950
	10	0.1242940	0.3299170	0.1324540	0.3389830
	11	0.0046110	0.0677477	0.0021186	0.0459790
	12	0.0001450	0.0120397	0.0000397	0.0063049
	13	0.0000036	0.0018873	0.0000006	0.0007994
	14	0.0000001	0.0002547	0.	0.
9.300	0	0.0707715	-0.2564430	0.1622200	-0.3686530
	1	0.1935850	-0.3951070	0.0707715	-0.2564430
	2	0.0851607	-0.2791210	0.2277340	-0.4193700
	3	0.3128330	-0.4636470	0.0994891	-0.2993180
	4	0.2105280	-0.4076840	0.4170350	-0.4930690
	5	0.4348080	-0.4957320	0.3267090	-0.4690100
	6	0.6272120	-0.4835460	0.4552660	-0.4979950
	7	0.7341520	-0.4417840	0.9007980	-0.2989330
	8	0.9043420	-0.2941220	0.8783530	-0.3268780
	9	0.9928540	0.0842303	0.9082890	-0.2886180
	10	0.2473700	0.4314840	0.3468250	0.4759590
	11	0.0098226	0.0986210	0.0053353	0.0728478
	12	0.0003239	0.0179932	0.0001013	0.0100655
	13	0.0000086	0.0029358	0.0000017	0.0013213
	14	0.0000002	0.0004151	0.0000000	0.0001545

NOLTR 62-157
REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
9.500	0	0.0296320	-0.1695700	0.1508360	-0.3578890
	1	0.1758080	-0.3806570	0.0296320	-0.1695700
	2	0.0490487	-0.2159700	0.2032200	-0.4023950
	3	0.2557540	-0.4362840	0.0708557	-0.2565840
	4	0.1873390	-0.3901830	0.3205380	-0.4666830
	5	0.3205760	-0.4666980	0.3254120	-0.4685290
	6	0.5743090	-0.4944470	0.3206130	-0.4667120
	7	0.6755810	-0.4681570	0.8487360	-0.3583060
	8	0.8525900	-0.3545140	0.8781790	-0.3270790
	9	0.9940200	-0.0771006	0.8560100	-0.3510800
	10	0.4532840	0.4978130	0.7311370	0.4433690
	11	0.0208368	0.1428380	0.0136348	0.1159690
	12	0.0007107	0.0266502	0.0002544	0.0159474
	13	0.0000203	0.0045088	0.0000046	0.0021564
14	0.0000004	0.0006664	0.0000001	0.0002626	
9.700	0	0.0128899	-0.1128000	0.1233870	-0.3288810
	1	0.1392740	-0.3462320	0.0128899	-0.1128000
	2	0.0328746	-0.1783090	0.1566890	-0.3635070
	3	0.1776820	-0.3822450	0.0593528	-0.2362840
	4	0.1734490	-0.3786350	0.2023330	-0.4017390
	5	0.2206950	-0.4147150	0.3237260	-0.4678970
	6	0.5096960	-0.4999060	0.2371700	-0.4253480
	7	0.6188060	-0.4856800	0.7504310	-0.4327630
	8	0.7948800	-0.4037890	0.8759580	-0.3296290
	9	0.9590890	-0.1980840	0.8255190	-0.3795230
	10	0.7125560	0.4525710	0.9869390	0.1135370
	11	0.0441533	0.2054360	0.0358258	0.1858560
	12	0.0015376	0.0391821	0.0006323	0.0251382
	13	0.0000468	0.0068439	0.0000121	0.0034788
	14	0.0000011	0.0010552	0.0000002	0.0004403
15	0.0000000	0.0001410	0.	0.	
9.900	0	0.0072212	-0.0846701	0.0790025	-0.2697430
	1	0.0854860	-0.2796040	0.0072212	-0.0846701
	2	0.0266990	-0.1612020	0.0924621	-0.2896770
	3	0.0948375	-0.2929900	0.0563603	-0.2306160
	4	0.1619100	-0.3683680	0.0973529	-0.2964380
	5	0.1471240	-0.3542300	0.3126290	-0.4635640
	6	0.4300720	-0.4950860	0.1933020	-0.3948870
	7	0.5637700	-0.4959170	0.5946570	-0.4909580
	8	0.7323100	-0.4427550	0.8669300	-0.3396500
	9	0.9099850	-0.2862030	0.8111370	-0.3914000
	10	0.9177450	0.2747530	0.9629590	-0.1888630
	11	0.0933664	0.2909450	0.0977139	0.2969270
	12	0.0032920	0.0572818	0.0015665	0.0395476
	13	0.0001057	0.0102784	0.0000309	0.0055553
	14	0.0000027	0.0016485	0.0000005	0.0007282
15	0.0000001	0.0002301	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX $M = 1.300$

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.100	0	0.0057674	-0.0757243	0.0301040	-0.1708730
	1	0.0309505	-0.1731840	0.0057674	-0.0757243
	2	0.0248124	-0.1555530	0.0318253	-0.1755350
	3	0.0327377	-0.1779490	0.0561491	-0.2302090
	4	0.1463910	-0.3534980	0.0336301	-0.1802750
	5	0.0997898	-0.2997200	0.2829500	-0.4504320
	6	0.3365820	-0.4725410	0.1739690	-0.3790830
	7	0.5089340	-0.4999200	0.4083820	-0.4915350
	8	0.6664760	-0.4714720	0.8443950	-0.3624800
	9	0.8554940	-0.3516020	0.8064290	-0.3950970
	10	0.9972780	0.0521027	0.8688110	-0.3376070
	11	0.1945160	0.3958280	0.2702850	0.4441070
	12	0.0070070	0.0834142	0.0039007	0.0623337
	13	0.0002339	0.0152925	0.0000774	0.0087958
	14	0.0000065	0.0025440	0.0000014	0.0011899
15	0.0000001	0.0003707	0.0000000	0.0001446	
10.300	0	0.0056484	-0.0749436	0.0016093	-0.0400841
	1	0.0016328	-0.0403754	0.0056484	-0.0749436
	2	0.0235013	-0.1514890	0.0016564	-0.0406646
	3	0.0042680	-0.0651907	0.0537986	-0.2256200
	4	0.1215640	-0.3267820	0.0076818	-0.0873088
	5	0.0718229	-0.2581940	0.2273830	-0.4191420
	6	0.2377870	-0.4257280	0.1680720	-0.3739300
	7	0.4516370	-0.4976560	0.2497120	-0.4328460
	8	0.5994020	-0.4900200	0.7974790	-0.4018790
	9	0.7978150	-0.4016290	0.8059200	-0.3954910
	10	0.9824460	-0.1313230	0.7981400	-0.4013880
	11	0.3834720	0.4862320	0.6477220	0.4776800
	12	0.0149011	0.1211570	0.0098747	0.0988798
	13	0.0005097	0.0225708	0.0001914	0.0138344
	14	0.0000151	0.0038803	0.0000037	0.0019218
15	0.0000003	0.0005890	0.0000001	0.0002425	
10.500	0	0.0051201	-0.0713718	0.0082338	0.0903658
	1	0.0071362	0.0841743	0.0051201	-0.0713718
	2	0.0196850	-0.1389160	0.0061443	0.0781442
	3	0.0004502	0.0212142	0.0448195	-0.2069080
	4	0.0851857	-0.2791580	0.0008712	-0.0295026
	5	0.0557304	-0.2294000	0.1474200	-0.3545240
	6	0.1482810	-0.3553790	0.1675450	-0.3734620
	7	0.3888230	-0.4874830	0.1491140	-0.3562000
	8	0.5330030	-0.4989100	0.7096150	-0.4539400
	9	0.7367420	-0.4404010	0.8047540	-0.3963900
	10	0.9281800	-0.2581900	0.7572130	-0.4287670
	11	0.6589420	0.4740650	0.9771390	0.1494620
	12	0.0318188	0.1755180	0.0257907	0.1585100
	13	0.0010967	0.0330990	0.0004697	0.0216673
	14	0.0000343	0.0058558	0.0000094	0.0030718
	15	0.0000008	0.0009240	0.0000002	0.0004015
16	0.0000000	0.0001275	0.	0.	

NOLTR 62-157

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
10.700	0	0.0029101	-0.0538665	0.0370716	0.1889370
	1	0.0311674	0.1737700	0.0029101	-0.0538665
	2	0.0116079	-0.1071130	0.0259514	0.1589900
	3	0.0057153	0.0753833	0.0272428	-0.1627900
	4	0.0423218	-0.2013220	0.0000022	-0.0014687
	5	0.0457366	-0.2089130	0.0636738	-0.2441710
	6	0.0807622	-0.2724700	0.1654190	-0.3715580
	7	0.3182760	-0.4658070	0.0965706	-0.2953720
	8	0.4684700	-0.4990050	0.5656360	-0.4956730
	9	0.6717660	-0.4695700	0.7978960	-0.4015690
	10	0.8644780	-0.3422800	0.7371360	-0.4401890
	11	0.9053000	0.2928010	0.9538680	-0.2097710
	12	0.0684348	0.2524910	0.0706211	0.2561910
	13	0.0023394	0.0483112	0.0011501	0.0338931
	14	0.0000766	0.0087521	0.0000237	0.0048658
	15	0.0000020	0.0014324	0.0000004	0.0006569
16	0.0000000	0.0002060	0.	0.	
10.900	0	0.0001197	-0.0109393	0.0658898	0.2480890
	1	0.0537642	0.2255520	0.0001197	-0.0109393
	2	0.0020533	-0.0452674	0.0431682	0.2032360
	3	0.0108645	0.1036650	0.0067796	-0.0820590
	4	0.0083604	-0.0910524	0.0000564	0.0075125
	5	0.0376759	-0.1904110	0.0102495	-0.1007190
	6	0.0384873	-0.1923700	0.1548000	-0.3617140
	7	0.2405490	-0.4274170	0.0723645	-0.2590900
	8	0.4059170	-0.4910690	0.3784960	-0.4850120
	9	0.6030510	-0.4892650	0.7789720	-0.4149390
	10	0.8011190	-0.3991580	0.7296150	-0.4441590
	11	0.9988410	0.0340180	0.8298370	-0.3757760
	12	0.1475510	0.3546540	0.2025570	0.4019050
	13	0.0049697	0.0703205	0.0028334	0.0531542
	14	0.0001682	0.0129695	0.0000585	0.0076483
	15	0.0000048	0.0021950	0.0000011	0.0010625
16	0.0000001	0.0003284	0.0000000	0.0001337	
11.100	0	0.0044672	0.0666875	0.0835294	0.2766810
	1	0.0666559	0.2494250	0.0044672	0.0666875
	2	0.0027650	0.0525102	0.0519243	0.2218740
	3	0.0136339	0.1159660	0.0014021	0.0374185
	4	0.0013450	0.0366496	0.0000697	0.0083458
	5	0.0285612	-0.1665700	0.0012903	0.0358972
	6	0.0161255	-0.1259580	0.1293450	-0.3355810
	7	0.1609840	-0.3675160	0.0629135	-0.2428070
	8	0.3444430	-0.4751860	0.2050030	-0.4037030
	9	0.5317210	-0.4989930	0.7385310	-0.4394350
	10	0.7390930	-0.4391290	0.7282620	-0.4448560
	11	0.9682270	-0.1753960	0.7396810	-0.4388090
	12	0.3100150	0.4624990	0.5456630	0.4979110
	13	0.0105712	0.1022720	0.0071033	0.0839813
	14	0.0003642	0.0190807	0.0001429	0.0119525
	15	0.0000111	0.0033282	0.0000029	0.0017007
16	0.0000003	0.0005172	0.0000000	0.0002215	

REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.300	0	0.0323599	0.1769540	0.0901895	0.2864530
	1	0.0710001	0.2568250	0.0323599	0.1769540
	2	0.0318908	0.1757090	0.0541493	0.2263120
	3	0.0151850	0.1222800	0.0314158	0.1744390
	4	0.0241995	0.1536680	0.0001317	0.0114745
	5	0.0169933	-0.1292460	0.0184919	0.1347220
	6	0.0058610	-0.0763323	0.0865491	-0.2811730
	7	0.0897376	-0.2858050	0.0605683	-0.2385370
	8	0.2826390	-0.4502820	0.0932709	-0.2908120
	9	0.4596380	-0.4983680	0.6623730	-0.4729000
	10	0.6766530	-0.4677540	0.7277900	-0.4450970
	11	0.8933030	-0.3087280	0.6882970	-0.4631890
	12	0.5858420	0.4925760	0.9549580	0.2073960
	13	0.0226574	0.1488090	0.0184034	0.1344050
	14	0.0007796	0.0279113	0.0003465	0.0186119
	15	0.0000250	0.0049970	0.0000073	0.0026966
	16	0.0000006	0.0008051	0.0000001	0.0003628
17	0.0000000	0.0001145	0.	0.	
11.500	0	0.0969411	0.2958780	0.0910333	0.2876570
	1	0.0716358	0.2578840	0.0969412	0.2958780
	2	0.0953135	0.2936470	0.0543760	0.2267580
	3	0.0178451	0.1323880	0.0937418	0.2914690
	4	0.0613211	0.2399180	0.0007555	0.0274759
	5	0.0049327	-0.0700595	0.0385360	0.1924860
	6	0.0016692	-0.0408212	0.0353323	-0.1846180
	7	0.0374566	-0.1898780	0.0603934	-0.2382140
	8	0.2195020	-0.4139090	0.0394672	-0.1947040
	9	0.3888270	-0.4874840	0.5346510	-0.4987980
	10	0.6118080	-0.4873390	0.7230660	-0.4474840
	11	0.8149010	-0.3883780	0.6625700	-0.4728330
	12	0.8783000	0.3269390	0.9501130	-0.2177110
	13	0.0492286	0.2163450	0.0502702	0.2185020
	14	0.0016565	0.0406669	0.0008395	0.0289613
	15	0.0000553	0.0074363	0.0000180	0.0042408
	16	0.0000015	0.0012392	0.0000003	0.0005877
17	0.0000000	0.0001831	0.	0.	

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REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
11.700	0	0.1863970	0.3894260	0.0923519	0.2895220
	1	0.0741673	0.2620430	0.1863970	0.3894260
	2	0.1731340	0.3783630	0.0575948	0.2329760
	3	0.0249450	0.1559570	0.1610020	0.3675330
	4	0.0952197	0.2935180	0.0045435	0.0672523
	5	0.0002780	0.0166727	0.0509745	0.2199460
	6	0.0001929	-0.0138884	0.0019146	-0.0437139
	7	0.0087705	-0.0932396	0.0581357	-0.2340000
	8	0.1557130	-0.3625830	0.0178806	-0.1325180
	9	0.3208680	-0.4668100	0.3574130	-0.4792380
	10	0.5433750	-0.4981150	0.7080480	-0.4546610
	11	0.7434800	-0.4367120	0.6520650	-0.4763150
	12	0.9989970	0.0316486	0.7934300	-0.4048440
	13	0.1086580	0.3112090	0.1470350	0.3541410
	14	0.0035095	0.0591372	0.0020475	0.0452025
	15	0.0001206	0.0109799	0.0000439	0.0066233
	16	0.0000036	0.0018874	0.0000009	0.0009421
17	0.0000001	0.0002892	0.0000000	0.0001223	
11.900	0	0.2700780	0.4440000	0.1008010	0.3010650
	1	0.0847848	0.2785610	0.2700780	0.4440000
	2	0.2386460	0.4262560	0.0696539	0.2545630
	3	0.0424757	0.2016720	0.2105490	0.4076980
	4	0.1160740	0.3226960	0.0199007	0.1396590
	5	0.0164406	0.1271620	0.0555763	0.2291020
	6	0.0001249	0.0111761	0.0130027	0.1132850
	7	0.0000692	-0.0083209	0.0497492	-0.2174260
	8	0.0949405	-0.2931330	0.0101121	-0.1000490
	9	0.2565740	-0.4367420	0.1783700	-0.3828240
	10	0.4714380	-0.4991840	0.6744000	-0.4685980
	11	0.6783040	-0.4671270	0.6495020	-0.4771260
	12	0.9540720	-0.2093300	0.6826890	-0.4654300
	13	0.2400780	0.4271310	0.4350950	0.4957690
	14	0.0074559	0.0860250	0.0050832	0.0711152
	15	0.0002595	0.0161059	0.0001059	0.0102912
	16	0.0000081	0.0028465	0.0000022	0.0014961
17	0.0000002	0.0004518	0.0000000	0.0002005	

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REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.100	0	0.3276320	0.4693500	0.1246410	0.3303120
	1	0.1118850	0.3152250	0.3276320	0.4693500
	2	0.2799840	0.4489910	0.0993352	0.2991120
	3	0.0811378	0.2730470	0.2372690	0.4254090
	4	0.1306190	0.3369840	0.0630443	0.2430430
	5	0.0629314	0.2428400	0.0561142	0.2301420
	6	0.0017329	0.0415915	0.0628200	0.2426390
	7	0.0034755	0.0588510	0.0327991	-0.1781100
	8	0.0440855	-0.2052850	0.0077094	-0.0874639
	9	0.1961420	-0.3970770	0.0601027	-0.2376770
	10	0.3974120	-0.4893630	0.6099730	-0.4877560
	11	0.6159200	-0.4863770	0.6492910	-0.4771920
	12	0.8508570	-0.3502190	0.6211180	-0.4851090
	13	0.4974030	0.4999930	0.9111440	0.2845360
	14	0.0159943	0.1254530	0.0130479	0.1134800
	15	0.0005527	0.0235030	0.0002542	0.0159415
	16	0.0000181	0.0042543	0.0000055	0.0023553
	17	0.0000005	0.0006981	0.0000001	0.0003251
	18	0.0000000	0.0001019	0.	0.
12.300	0	0.3574410	0.4792460	0.1753360	0.3802540
	1	0.1674680	0.3733930	0.3574410	0.4792460
	2	0.2995240	0.4580500	0.1595040	0.3661460
	3	0.1534570	0.3604270	0.2467450	0.4311170
	4	0.1376660	0.3445500	0.1471610	0.3542660
	5	0.1325710	0.3391100	0.0571940	0.2322130
	6	0.0072117	0.0846148	0.1200920	0.3250690
	7	0.0119589	0.1087010	0.0108421	-0.1035600
	8	0.0110035	-0.1043190	0.0073023	-0.0851412
	9	0.1397400	-0.3467170	0.0111715	-0.1051030
	10	0.3237030	-0.4678880	0.4998430	-0.5000000
	11	0.5529610	-0.4971870	0.6463230	-0.4781100
	12	0.7634250	-0.4249790	0.5900890	-0.4918170
	13	0.8319100	0.3739470	0.9532190	-0.2111700
	14	0.0349255	0.1835910	0.0353993	0.1847870
	15	0.0011697	0.0341812	0.0006098	0.0246866
	16	0.0000398	0.0063066	0.0000135	0.0036805
	17	0.0000011	0.0010680	0.0000003	0.0005221
	18	0.0000000	0.0001615	0.	0.

NOLTR 62-157
REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.500	0	0.3676100	0.4821550	0.2643880	0.4410070
	1	0.2621390	0.4397980	0.3676100	0.4821550
	2	0.3056400	0.4606780	0.2598550	0.4385550
	3	0.2597560	0.4385010	0.2478670	0.4317740
	4	0.1454470	0.3525510	0.2596570	0.4384460
	5	0.2048310	0.4035780	0.0637798	0.2443600
	6	0.0218431	0.1461710	0.1623320	0.3687550
	7	0.0216158	0.1454250	0.0002226	0.0149172
	8	0.0000008	-0.0009085	0.0071699	-0.0843714
	9	0.0883909	-0.2838630	0.0002159	-0.0146932
	10	0.2530540	-0.4347620	0.3392100	-0.4734410
	11	0.4870630	-0.4998330	0.6349350	-0.4814480
	12	0.6845670	-0.4646880	0.5766870	-0.4940840
	13	0.9977740	0.0471280	0.7611970	-0.4263520
	14	0.0781901	0.2684700	0.1041930	0.3055100
	15	0.0024704	0.0496420	0.0014733	0.0383555
	16	0.0000862	0.0092816	0.0000327	0.0057156
	17	0.0000026	0.0016178	0.0000007	0.0008304
	18	0.0000001	0.0002531	0.0000000	0.0001107
12.700	0	0.3687010	0.4824530	0.3889420	0.4875100
	1	0.3888600	0.4874920	0.3687010	0.4824530
	2	0.3080480	0.4616860	0.3887790	0.4874730
	3	0.3768060	0.4845860	0.2499440	0.4329800
	4	0.1610370	0.3675650	0.3656480	0.4816110
	5	0.2627870	0.4401480	0.0825992	0.2752750
	6	0.0546715	0.2273380	0.1849820	0.3882830
	7	0.0315151	0.1747050	0.0281171	0.1653070
	8	0.0087674	0.0932230	0.0059029	-0.0766035
	9	0.0448226	-0.2069140	0.0013185	0.0362867
	10	0.1878870	-0.3906220	0.1631540	-0.3695060
	11	0.4173050	-0.4931140	0.6077410	-0.4882540
	12	0.6171530	-0.4860810	0.5727320	-0.4946820
	13	0.9423320	-0.2331150	0.6285330	-0.4831970
	14	0.1790460	0.3833910	0.3289620	0.4698360
	15	0.0052365	0.0721739	0.0036231	0.0600829
	16	0.0001844	0.0135775	0.0000781	0.0088350
	17	0.0000059	0.0024285	0.0000017	0.0013094
	18	0.0000001	0.0003926	0.0000000	0.0001798

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REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
12.900	0	0.3714110	0.4831820	0.5203220	0.4995870
	1	0.5159440	0.4997460	0.3714110	0.4831820
	2	0.3166630	0.4651750	0.5116590	0.4998640
	3	0.4744440	0.4993460	0.2625350	0.4400120
	4	0.1930000	0.3946530	0.4406810	0.4964690
	5	0.3013100	0.4588270	0.1245320	0.3301880
	6	0.1151830	0.3192430	0.1929810	0.3946380
	7	0.0428803	0.2025870	0.1051240	0.3067140
	8	0.0299874	0.1705530	0.0027548	-0.0524143
	9	0.0136742	-0.1161350	0.0035994	0.0598871
	10	0.1299670	-0.3362670	0.0415866	-0.1996430
	11	0.3444420	-0.4751860	0.5543230	-0.4970400
	12	0.5558140	-0.4968750	0.5724080	-0.4947290
	13	0.8208390	-0.3834870	0.5572030	-0.4967170
	14	0.4017690	0.4902560	0.8352890	0.3709190
	15	0.0112213	0.1053340	0.0092083	0.0955171
	16	0.0003910	0.0197689	0.0001856	0.0136212
	17	0.0000131	0.0036150	0.0000042	0.0020485
18	0.0000004	0.0006031	0.0000001	0.0002893	
13.100	0	0.3866220	0.4869760	0.6246100	0.4842230
	1	0.6125580	0.4871660	0.3866220	0.4869760
	2	0.3419850	0.4743750	0.6008000	0.4897340
	3	0.5390850	0.4984700	0.2963530	0.4566490
	4	0.2516860	0.4339820	0.4822950	0.4996860
	5	0.3238190	0.4679320	0.2039480	0.4029310
	6	0.2037910	0.4028160	0.1939280	0.3953730
	7	0.0586481	0.2349650	0.2036370	0.4027020
	8	0.0558165	0.2295670	0.0000009	-0.0009345
	9	0.0002393	-0.0154686	0.0045641	0.0674039
	10	0.0805699	-0.2721730	0.0010485	-0.0323638
	11	0.2708680	-0.4444080	0.4613140	-0.4985010
	12	0.4958710	-0.4999830	0.5707220	-0.4949730
	13	0.7118160	-0.4529170	0.5214220	-0.4995410
	14	0.7612430	0.4263240	0.9637050	-0.1870230
	15	0.0245338	0.1546990	0.0247443	0.1553450
	16	0.0008242	0.0286966	0.0004412	0.0209999
	17	0.0000285	0.0053402	0.0000101	0.0031829
	18	0.0000008	0.0009175	0.0000002	0.0004610
19	0.0000000	0.0001416	0.	0.	

NOLTR 62-157
REFRACTIVE INDEX M= 1.300

X	N	RE A(N)	IM A(N)	RE B(N)	IM B(N)
13.300	0	0.4258360	0.4944690	0.6897220	0.4626070
	1	0.6708430	0.4699070	0.4258360	0.4944690
	2	0.3952700	0.4889090	0.6522420	0.4762590
	3	0.5739300	0.4945040	0.3631960	0.4809210
	4	0.3454010	0.4754990	0.4992790	0.4999990
	5	0.3373610	0.4728090	0.3261350	0.4687970
	6	0.3052240	0.4605020	0.1956680	0.3967140
	7	0.0836337	0.2768380	0.2870960	0.4524070
	8	0.0811600	0.2730810	0.0077825	0.0878744
	9	0.0076363	0.0870517	0.0046651	0.0681417
	10	0.0410380	-0.1983780	0.0074964	0.0862569
	11	0.2001290	-0.4000970	0.3203960	-0.4666290
	12	0.4339660	-0.4956200	0.5624260	-0.4960880
	13	0.6260150	-0.4838600	0.5054030	-0.4999710
	14	0.9930610	0.0830119	0.7344910	-0.4416040
	15	0.0553111	0.2285860	0.0725947	0.2594700
	16	0.0017348	0.0416151	0.0010566	0.0324875
	17	0.0000614	0.0078360	0.0000242	0.0049176
	18	0.0000019	0.0013832	0.0000005	0.0007282
19	0.0000000	0.0002205	0.	0.	
13.500	0	0.4995590	0.5000000	0.7222850	0.4478720
	1	0.6988170	0.4587720	0.4995590	0.5000000
	2	0.4852050	0.4997810	0.6753420	0.4682470
	3	0.5887090	0.4920680	0.4700940	0.4991050
	4	0.4692540	0.4990540	0.5027380	0.4999930
	5	0.3501340	0.4770120	0.4683970	0.4990000
	6	0.3976450	0.4894110	0.2063140	0.4046580
	7	0.1248060	0.3304990	0.3405780	0.4739040
	8	0.1043940	0.3057710	0.0475994	0.2129170
	9	0.0341723	0.1816710	0.0049838	0.0704197
	10	0.0133885	-0.1149320	0.0247976	0.1555080
	11	0.1360870	-0.3428810	0.1542940	-0.3612300
	12	0.3663030	-0.4823440	0.5409770	-0.4983180
	13	0.5570840	-0.4967310	0.5000400	-0.5000000
	14	0.9350560	-0.2464270	0.5780850	-0.4938650
	15	0.1295140	0.3357680	0.2376850	0.4256650
	16	0.0036667	0.0604421	0.0025745	0.0506738
	17	0.0001308	0.0114342	0.0000573	0.0075663
	18	0.0000043	0.0020678	0.0000013	0.0011413
19	0.0000001	0.0003401	0.0000000	0.0001605	

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BIBLIOGRAPHIC INFORMATION			
DESCRIPTORS	CODES	DESCRIPTORS	CODES
NOL technical report	NOLTR	Unclassified - 26	UØ 26
62-157	62Ø157		
31 August 1962	Ø962		

SUBJECT ANALYSIS OF REPORT

DESCRIPTORS	CODES	DESCRIPTORS	CODES
Scattering	SCAT	Co-efficients	COFF
Electromagnetic	ELEM	Linearly	LINN
Radiation	RADT	Polarized	POLZ
Dielectric	DIEL	Plane	PLNE
Cylinders	CYLI	Waves	WAVE
Extinction	EXTG	Infinite	IFIT
Light	LIGT	Circular	CIRU
Normal	NORM	IBM	IBMA
Incidence	INCD	7090	7Ø9Ø
Refractive index	REFI	Computer	COMP
1.15	1x15	Mathematics	MATH
1.30	1x3Ø	Axis	AXIA
		Data	DATA
		Data processing	DATP

Naval Ordnance Laboratory, White Oak, Md.
(NOL technical report 62-157)

EXTINCTION OF LIGHT AT NORMAL INCIDENCE BY DIELECTRIC CYLINDERS WITH REFRACTIVE INDEX IN THE RANGE $n=1.15$ to $n=1.30$ SCATTERING COEFFICIENTS (U), by Louis F. Libelo. 31 Aug. 1962 85p. tables. UNCLASSIFIED

Presented here are tables of complex scattering coefficients for problem of scattering of normally incident linearly polarized plane electromagnetic waves by dielectric infinite circular cylinders. Numerical results were obtained by means of IBM 7090 computer system at NOL. Contained in tables are scattering coefficients for incident plane wave polarized parallel to cylinder axis and also those for incident plane wave polarized normal to cylinder axis.

1. Light - Polarization
2. Waves, Electromag-netic - Scattering
3. Cylinders, Circular
4. Cylinders - Electro-magnetic fields
5. Light - Reflection
6. Light - Scattering
- I. Title
- II. Libelo, Louis F.

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