AD NUMBER
AD340927
CLASSIFICATION CHANGES
TO: unclassified
FROM: confidential
LIMITATION CHANGES
TO: Approved for public release, distribution unlimited
FROM: Controlling Organization. Central Intelligence Agency, Office of Central Reference, 2430 E. Street, NW, Washington, DC 20505.
AUTHORITY
CIA ltr, 7 Sep 2004; CIA ltr, 7 Sep 2004

CONFIDENTIAL

(10)

SCIENTIFIC INFORMATION REPORT

CHINESE SCIENCE

(30)

Summary No. 4924

21 August 1963

340927

Prepared by

Foreign Documents Division
CENTRAL INTELLIGENCE AGENCY
2430 E St., N. W., Washington 25, D. C.

CONFIDENTIAL

WARNING

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

SCIENTIFIC INFORMATION REPORT

Chinese Science (30)

This is a serialized report consisting of unevaluated information prepared as abstracts, summaries, and translations from recent publications of the Sino-Soviet Bloc countries. Individual items are unclassified unless otherwise indicated.

Table of Contents

BIOLOGICAL AND MEDICAL SCIENCES

COMPARATIVE STUDIES OF PERIPHERAL MULTIPLICATION OF JAPANESE B ENCEPHALITIS VIRUS IN WHITE MICE -- Peiping, Science Abstracts of China, Biological Science, No 2, 1963, pp 7-8

/The following is an English-language abstract of an article, entitled "Comparative Studies of the Peripheral Multiplication of the Peking and the Nakayama Strains of Janpanese B Encephalitis Virus in White Mice," by Wang Chin (3076/3866) and Huang Chen-hsiang (7806/4394/4382), which appeared in Acta Microbiologica Sinica, Volume 8, No 1, 1960, pages 94-98./

In this report, comparative studies on the multiplication and rate of spread of virus after peripheral inoculation between high (Peking) and a low (Nakayama) peripheral pathogenic strain were made.

After large inoculum of the virus (6.2 and 6.6 log LD_{50}) intravenously into 3-week-old mice, no remarkable difference in the multiplication in the extracentral nervous tissues was found between the Peking and the Nakayama strains. However, after a small inoculum (3.5 and 3.2 log LD_{50}), a notable difference was found. Multiplication of the Peking strain of virus was demonstrated in the extracentral nervous tissues tested, while no multiplication of the Nakayama strain was found in these tissues.

After large inoculum (7.0 and 7.5 log LD_{50}) of the strains into the pad of 3-week-old mice, virus titer in the tissue at the local site of innoculation was always higher than that in the blood. Ten minutes after inoculation, virus was found in the blood in both strains, indicating no difference in the rate of spread of virus from site of subcutaneous inoculation.

Large inoculum of 7.4 log LD_{50} of Peking strain subcutaneously to 14-month-old mice gave rise to only a very low level of virus content in peripheral tissues which was 1-1.5 log LD_{50} lower than that in 3-week-old mice. No disease or death of animals was noted.

It is suggested that the difference in the degree of peripheral multiplication of different strains of virus may be the explanation of the difference in the peripheral pathogenicity. The low peripheral multiplication and absence of peripheral pathogenicity of the Peking strain of virus in 14-month-old mice further strengthened the above disclosure.

TISSUE CULTURE STUDIES OF JAPANESE B ENCEPHALITIS VIRUS -- Peiping, Science Abstracts of China, Biological Science, No 2, 1963, p 4

/The following is an English-language abstract of an article, entitled "Cytophathogenicity and Multiplication of the Virus in Chick Embryo Cell Cultures," by Kuo Hui-yu (6753/8748/3768), which appeared in Acta Microbiologica Sinica, Volume 8, No 2, 1960, pages 109-115./

Two strains of Japanese B type encephalitis virus (Peiping and pig 17) exerted a marked cytopathogenic effect on fibroblast cells grown in monolayer cell cultures from the skin-muscle tissues of chick embryo. Macroscopic plaques were produced on monolayer cell cultures under nutrient agar overlay. The specificity of this cytopathogenic effect was confirmed by the neutralization test with the homologous immune serum. The cytopathogenic effect on the virus and its propagation were evident in every generation. Altogether ten serial passages were made with a total final dilution of 10^{44}, which far exceeded the titer of the original infected mouse brain virus suspension. The maximal titer obtained was 10^{6} LD_{50} per 0.03 ml. A control culture without cells showed a rapid decline of the virus titer in maintenance solution.

TISSUE CULTURE STUDIES OF JAPANESE B ENCEPHALITIS VIRUS -- Peiping, Science Abstracts of China, Biological Science, No 2, 1963, p 4

/The following is an English-language abstract of an article, entitled "Tissue Culture Studies of Japanese B Encephalitis Virus. II. Factors Influencing the Cytopathogenicity of the Virus," by Kuo Hui-yu (6753/8748/3768), which appeared in Acta Microbiologica Sinica, Volume 8, No 2, 1960, page 116-123./

Factors influencing the cytopathogenicity of Japanese B type encephalitis virus in vitro were investigated. In the studies on the influence of different tissues of chick embryo on the appearance of the cytopathogenic effect of the virus, it was found that the fibroblasts grown in monolayer cell culture and primary explant culture from skin-muscle tissue, heart muscle, leg muscle, and kidney tissue were markedly destroyed after inoculation of virus; but no evident cytopathogenic effect was observed on the epithelial cells grown from the brain, lung, liver, and kidney tissue of the chick embryo, even after a larger amount of Japanese B encephalitis virus had been inoculated. Among 13 other kinds of animal cells tested for the cytopathogenicity of Japanese B encephalitis virus, marked cellular destruction was observed in fibroblast culture from embryonic duck and epithelium culture from adult pig kidney. In cultures of human embryonic fibroblast, human embryonic kidney, and monkey kidney epithelium, cellular destruction was produced only by one strain of Japanese B encephalitisi virus (pig 17 strain), while

no cytopathogenic effect was noticed in cell cultures from mouse embryonic skin-muscle, human amnion, Detroit-6, HeLa, FL, angiosarcoma, neurolemma, or osteo-chondrosacrcoma strains of cells. Among 11 strains of serologically proven JBE viruses isolated from various sources in different localities in China and abroad, considerable variation in cytopathogenicity for chick embryo tissue culture was demonstrated. The cytopathogenic titers in monolayer cell culture varied from 7.50 for the pig $_{17}$ strain to 3.50 for several other strains. From the studies of the effect of environmental factors on viral cytopathogenicity, it was shown that the cytopathogenic effect on Japanese B encephalitis virus was partially inhibited or even significantly suppressed with the addition of normal rabbit serum in the culture medium of monolayer cell culture or primary explant culture from chick embryo. The role of the above-mentioned factors influencing the cytopathogenicity of the Japanese B encephalitis virus was discussed.

IMMUNITY MECHANISM IN JAPANESE B ENCEPHALITIS STUDIED IN WHITE MICE -- Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 1, Feb 63, pp 59-64

/The following is an English-language summary of a Chinese article, entitled "Experimental Study on the Mechanism of Immunity in Japanese B Encephalitis," by Ku Fang-chou (7357/2455/5297) of the Department of Virology, Chinese Academy of Medical Sciences. Additional data contained in the source are also given below./

After the white mice were immunized by means of subcutaneous, intraperitoneal, intravenous, or intramuscular inoculation with inactivated Japanese B encephalitis vaccine, neutralizing antibodies appeared in the circulating blood, but the animals remained suscepitble to intracerebral challenge with the virus. However, when the mice were immunized with live Japanese B encephalitis virus Strain M-47 (by the above routes as well as by intranasal route), the aniamals not only showed high antibody titer in the blood, they also showed increased resistance to intracerebral challenge. In neither was the virus neutralizing antibody found in the brain. However, after the virulent virus was injected into the vein or into the brain, there was only a very slight amount of virus recovered 72 hours and 5 days after intracerebral injection and non after intravenous injection.

White mice immunized with inactivated virus vaccine intracerebrally acquired resistance to intracerebral challenge with the homologous virus but not to Russian Spring-Summer encephalitis virus.

In writing this paper, the author used 17 sources: 11 English, 4 Russian, and 2 Chinese, dated 1922-1955. This paper was submitted for publication on 27 March 1962. The author expressed thanks to Ye. N. Levkovin under whose direction the work was carried out and to K. V. Fokina for assistance in technical operations.

USE OF PLAGUE ASSAY METHOD SUGGESTED TO TEST INFECTIVITY OF JAPANESE B ENCEPHALITIS -- Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 1, Feb 63, pp 53-58

[The following is an English-language summary appearing at the end of Chinese article, entitled "Preliminary Studies on the Titration and Neutraligation and Neutralization Test of Japanese B Encephalitis Virus With Plaque Assay Method," by Ch'en Po-ch'uan (7115/0130/2938), Hsu Chao-hsiang (6079/0340/4382), Liu Yuan-yuan (2692/0337/0337), and Fan Jui-lien (5400/3843/5571) of the Department of Virology, Chinese Academy of Medical Sciences. Additional data contained in this source are also given below.]

This study showed that the infectivity titers of Japanese B encephalitis virus obtained with the plaque assay method were approximately lower by one Log than those obtained through intracerebral inoculation of mice. However, the ratio between these two sets of titer was relatively constant, and the number of plaques fromed was proportional to the quantity of virus inoculated. Therefore, it is suggested that the plaque assay method may be used for routine quantitive titrations of the infectivity of Japanese B encephalomyelitis virus.

By comparing the results obtained in the neutralization tests performed with the plaque assay method and the mouse brain inoculation method, it was found that the nuctralization index of a given serum obtained with the former method was 2-6 times higher than that obtained from the latter. The possible explanations for this phenomenon were given in the discussion.

Certain factors which were considered to be essential for the titration and neutralization test of Japanese B encephalitis virus with the plaque assay method were also studied and discussed.

In making these studies, the author used 12 references: 10 English and 2 Chinese, dated 1938-1961. The paper was received for publication on 3 August 1962.

MULTIPLICATION OF JAPANESE B ENCEPHALITIS VIRUS IN WHITE MICE -- Peiping, Science Abstracts of China, Biological Science, No 2, 1963, p 7

/The following is an English-language abstract of an article, entitled "Dynamics of Multiplication of Japanese B Encephalitis Virus in the Extra Central Nervous Tissues of White Mice," by Wang Chin (3076/3866) and Huang Chen-hsiang (7806/4394/4382), which appeared in Acta Microbiologica Sinica, Volume 8, No 1, 1960, pages 85-91./

In this report, the authors demonstrated the multiplication of Peiping strain of Japanese B encephalitis virus in different extra central nervous tissues (liver, spleen, heart, kidney, adrenal and subcutaneous tissue), but the titer was 3 to 4.5 log lower than that in the brain.

Evidences pointing to virus multiplications in these tissues are: (1) after infective dose (7.5-8.4 log LD_{50}) given intravenously or subcutaneously, virus titer in the blood and most of the peripheral tissues dropped to a low level at the 6th hour in comparison with those tested at 30 minutes and increased to a maximum level at the 24th hour. This change of virus titer was not found to be due to the adsorption, multiplication, and release of virus from blood cells. The dark phase period was between 3 and 10 hours after inoculation; (2) from the perfusion wxperiment, it was found that there was a difference in virus content in organs between perfused and not perfused at 0.5 and 6 hours after peripheral inoculation (suggesting that most of the virus was extracellular), while at 24 hours andlater periods, no such difference was found (indicating that most of the virus was intracellular). The presence of intracellular virus in peripheral tissues for several days is in favor of virus multiplication in these tissues; (3) with small infective dose (3.5 log LD_{50}) given intraveneously, a change from indetectable or very low level in the first 24 hours to an appearance of virus in various peripheral tissues indicates actual multiplication of virus in the peripheral tissues; (4) increase in virus content in various tissues at one day was found ont to be due to the centrifugal spread of the virus from the brain, as at that time the virus content in the brain was lower than that in the peripheral tissues; and (5) ability ot carry the subcutaneous passage from more than 30 generations of virus obtained from infected mouse heart or subcutaneous tissue further indicates the multiplication in extracental nervous tissues.

SCIENTIFIC CONFERENCE OF NURSING -- Peiping, Chin-jih Hsin-wen, 15 May 63, p 3

Shanghai's First Scientific Conference on Nursing, attended by nurses from various hospitals in the city, closed recently. More than 160 papers, summarizing the experience and scientific research of the nurses, were presented.

These papers included such subjects as medicine, surgery, gynecology and obstetrics, pediatrics, and operative surgery. A paper by the nurses of Chung-shan Hospital, Shanghai First Medical College, dealt with nursing care for open-heart surgery with extracorporal circulation under hypothermia which is a new subject in nursing. The nurses of Chung-shan Hospital summarized their experience with more than 40 such operations in one year's time. They made a detailed analysis of their most important operative work -- calculating the blood loss and preventing complications due to transfusion of too much little blood. The paper also discussed in detail the use of the "ventricular defibrillator" in restoring normal heartbeat, the sterilization of surgical instruments, and preparation. Other hospitals in Shanghai have sent people to Chung-shan Hospital to learn nursing procedures relevant to open-heart surgery when they were about to perform such operations.

Six papers summarized experiences in caring for patients who have had skull or brain surgery. The nurses from the Shanghai First Municipal Hospital have been nursing a patient with skull injuries for 3 months, and no complications have arisen. Two papers, "Three Months of Nursing Care for Patient With Cranio-Cerebral Injuries" and "Nursing Care for Patients With Cranio-Cerebral Injuries," were written on the basis of their accomplishments.

Many of the more than 160 papers were special studies on fundamental theories and work methods of the nursing profession. One paper, entitled "A Discussion of Methods for Treatment of Intravenous Transfusion and Infusion Apparatus," dealt with a major problem in the field of nursing--how to protect patients receiving transfusions and infusions from chills, fever, nausea, and vomiting due to "pyrogens," an endotoxin produced by bacteria. Nurses from the Central Supply Laboratories of the Central Hospital in Ching-an Ch'u, the Central Hospital in Hung-k'ou Ch'u, Chung-shan Hospital, and Kuang-ts'u Hospital have been doing reserch on this subject since 1960. They carefully examined the sterilization of every transfusion apparatus, carried out a series of animal experiments, and finally found the cause of the reactions. They presented recommendations for improving the sterilization of transfusion apparatus and for thoroughly destroying the "pyrogens." This paper was well received by the nurses and workers and was /subsequently/ read at the National Conference on Nursing. Not long ago, the authors of this paper were invited to report their experiences at numerous hospitals in Anhwei Province.

EARTH SCIENCES

NEW CONCEPT OF THE GENESIS OF SEDIMENTARY DEPOSITS -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1049-1064

[The following is an abstract of an article, entitled "Sedimentary Divisions of China's Manganese Deposits," by Yeh Lien-chun (5509/6647/0193), Institute of Geology, Chinese Academy of Sciences.]

Chinese sedimentary deposits possess many of the characteristics that are critical to the deciphering of ore genesis. It is on the basis of these characteristics that the author presents the theory of inbibition of terrestrial weathering products. In discussing the characteristic of the Chinese sedimentary ores, he followed three categories: (1) rule of spatial relation, (2) rule of time relation, and (3) physicochemical conditions of ore precipitation. In addition, the author discusses the fundamental problems of sedimentary ore genesis. In this discussion, he disproves the validity of series on chemical differentiation and solution transportation. However, he justifies the relationship of ore formation and oceanogenic moments. Points are brought out to demonstrate the fact that the type of the terrestrial weathering products control the way and kind of sedimentary ore genesis. The role of organic synthesis in the formation of sedimentary ore-deposits cannot be overlooked since in the ore-bearing series there are rocks rich in organic substances and also in minor element associates of sedimentary ores which consist largely of biogenic elements.

According to the viewpoints of the author, the theory of inbibition of terrestrial weathering products is nothing but the result of mutual transformation, contradiction, and promotion of the various related geological processes. The process of ore formation is by multiple stages: the terrestrial weathering stage is characterized by oxidation, ordinary temperature and pressure, and acidic media; the marine stage is characterized by reducing, basic media, low temperature, and high pressure; the halmyrolysis substage, by being comparatively more acidic and reducing; and their precipitations substage, by being comparatively more basic and oxidizing.

In this paper, the writer made references to 54 sources, among which were articles from the American Scientific Journal, Economic Geology, Acta Geochin et Cosmochin, Bulletin of the Institute of Mining and Metallurgy, Hebdondaries des Scienes, Osnovy Teorii Litogeneza, Report of the 21st Session of the International Geological Congress, the Proceedings at Second United Nations International Conference on PUAE, and others.

POTASSIUM-ARGON AGE DETERMINATIONS OF PEGMATITES AND GRANITES IN INNER MONGOLIA AND NANLING REGION OF CHINA -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1041-1048

[The following is an abstract of an English article, the title of which is given above, Li Pu (2621/3877). This article was first published in Chinese in Ti-chih Hsueh-pao (acta Geologia Sinica), No 2, 1963, pages 1-9.]

In a study, pure samples of micas of different species were used for the determination of the pegmatites found in the southern part of Inner Mongolia and the granites in the Nan-ling region of South China. The amount of potassium was analyzed by flame photometer, and the isotope-determination of argon was carried out on the mass spectrometer MI-1305. Standard samples of micas supplied by the Academy of Sciences, USSR, were used for control.

In the southern part of Inner Mongolia, the elevated old land is composed chiefly of crystalline schists. The metamorphic series which crops out here in this old land generally belongs to the granulite and amphibolite facies. On top of the metamorphic series lies a weakly metamorphosed calcareous and argillaceous sediment. In this studies area, sediments later than the Proterozoic age such as the pegmatitic veins are of regional occurences. Therefore, in an attempt to define the upper limit of the age of this Archaean metamorphosed series, a study must be made of the absolute ages of the pegmatites.

In comparison, the geological features of the Nan-ling region (south range) are very different from those of the southern part of Inner Mongolia as mentioned above. This region is situated between the border regions of the provinces of Kwangtung, Kwangsi, Hunan, and Kiangsi in South China. The basement rocks of the Nan-ling region are composed of a series of very weak widespread metamorphosed rocks, such as phyllites, slates, quartzites, and gray wackes of enormous thickness. The most striking feature of this region is the wide occurences of granitic intrusions. The exact ages of such intrusions have long been a dispute. This studied area is a country rich in tungsten and tin deposits. The age study of these granites aims at the finding of the age of these intrusions and the time interval during which the tungsten and tin mineralization occurred.

From 26 samples of mica collected from the southern part of Inner Mongolia, 32 determinations were made. From the granites and other rocks of the Nan-ling region, 41 determinations were made. In this paper, data and results were listed in tabulated forms. By comparing these figures with a corresponding period of tectonic movements, the writers were able to draw a conclusion of the absolute ages of the pegmatites and granites of the studies areas.

INFRARED SPECTRA OF CHINESE COALS -- Peiping, Science Abstracts of China: Technical Sciences, No 1, 1963, pp 26-27

[The following is an English-language abstract of an article, entitled, "Infrared Spectra of Chinese Coal," by T. A. Kuharenko and Ch'ien Ping-chun (6929/4426/6874) which was published originally in K'o-hsueh Tung'pao (scientia), No 12, pages 47-49.]

The infrared spectra of Chinese vitrinites of various degrees of coalification and of some other typical macerals (including Lopin suberinnite, sporonite, resinite and fusinite) are presented in this paper. According to the writers, the general characteristics of the spectra of various vitrinites are similar to those described in contemporary papers; however, in the higher rank coals, one additional band at 1655 cm^{-1} is observed; and this band becomes more apparent as the degree of coalification increases. In comparison with corresponding vitrinites, the Lopin superinites and sporonite have stronger aliphatic CH absorption and weaker bands of oxygen groups. The spectra of resinite has no general similarity to others. The spectra of fusinite has stronger background absorption which may tentatively be co-related to its highly condensed aromatic structure.

SYNOPSIS ON GEOLOGY FROM VIEWPOINTS OF BASIC THEORIES AND PROBLEMS IN DIRECTION AND METHODS -- Peiping, K'o-hsueh Tung-pao, No 6, Jun 63, pp 29-30

[Following is an abstract of a brief article by the above title by Chang Wen-yu (1728/2429/0147).]

The purpose of this paper is to explain briefly the aim of conducting geological research work. The writer states that in this research work, geological phenomena, geological stages of development, and the rules and reasons of geological activities must all be understood in order to carry out the development of underground resources as well as surface engineering construction. Included in the basic courses of geology are the following: mining, petrology, sedimentation geology, stratigraphy, tectonic geology, and topography.

The research in the development of underground resources and surface engineering construction both stress courses in mineral prospecting, mineralogy, civil engineering, and hydraulic engineering. Generally speaking, geological phenomena on the earth's surface have organic association with geophysics, geochemistry, and geobiology.

To raise the standard of geological science, the article points out that research must be started in the field of high-temperature and high-pressure geology during long periods of slow geological transformation.

In conclusion, the author emphasizes the need of conducting a study of the earth as a planet in association with particles obtained from cosmic investigations and that the furtherance of geological research work cannot overlook the importance of comparing the earth with other celestial bodies which may serve as bases for future interplanetary travel.

TREATMENT OF HISTORICAL DATA IN FLOOD FREQUENCY ANALYSIS -- Peiping, Science Abstracts of China, Earch Sciences, No 1, 1963, pp 13-14

[The following is an English abstract of an article by Yeh Yung-i (5509/3057/3015) and Ch'en Chih-kai (7115/1807/1956), which was published orginally in Chinese, in Journal of Hydraulic Engineering, No 1, 1962.]

This paper explains the use of historical flood data to extend more accurately the frequency curve of floods beyond the observed portion. Careful examination of flood frequency is the key to the treatment of historical floods. For return periods, reasonable answers may be obtained by studying the historical data. Observation of a longer period may also affect either the extension of the frequency curve or the computed result of the statistical parameters. Comparing the observed series with the long-standing records of adjacent stations may throw light on the answer. Adjusting the frequency of observed data by Benson's formula $P' = \frac{a+[(N-a)/n]m}{N+1}$ gives uncertain results. Actually the true P may lie on either side of $P = m/(n+1)$, while Benson's formula always gives a higher P' value. It is also not true even when the P of the smallest observation in n years is changed from $n/(n+1)$ to $N/(N+1)$.

The statistical parameter of the discontinuous series may be computed by the traditional method $Q_0' = \sum_1^N Q_i'N$ after a new series $(Q_1, Q_2 \ldots, Q_M \ldots, Q_N)$ has been picked out from the empirical frequency curve by making the frequency of each item follow the order of $P = M/(N+1)$. While using the formula of Kritski and Menkel, attention should be paid to examining the representativeness of the recorded series and as to whether a reasonable relation between N, n, and a exists.

DEBATE ON THE FOURTH CLIMATIC EVOLUTION IN CHINA -- Peiping, K'o-hsueh Tung-pao, No 6, 1963, pp 31-35

[Following is an abstract of an article by Wu Hsi-hao (0702/6932/3185), Pu Ch'ing-ye (3184/1987/0151), and Yang Ta-yuan (2799/6671/3293).]

This paper presents arguments against the conclusion drawn by Huang Pei-hua (7806/1014/4578), member of Department of Geography, Nanking University, 1959, in his article, "A Preliminary Study of the Fourth Climatic

Evolution in China" [published in K'o-hsueh Tung-pao, January 1963, pages 38-39], in which Huang pointed out emphatically that during the late Pleistocene epoch, with the exception of the mountainous regions in western China and the northern part of Ta-hsing-an-ling Mountain Range in Manchriia, there was no evidence of a glacial period anywhere in China. This belief is entirely erroneous, state the authors. To defend their argument, the authors give evidence to prove that traces (glacial deposits, drift, erosion, striae, etc.) of glacial flow existed elsewhere in China, such as the lower reaches of the Yangtze River, outlying districts of Lu-shan, Huang-shan, Chiu-hua-shan, Tien-mu-shan, etc.

The question of red earth and red glacial striae was also debated in this paper. Research in pedology has shown evidences that red earth was not produced solely in wet and hot climates, but also was produced in dry and hot climates as, for example, in North China. This red striae can, therefore, be also produced by wind action during the glacial period following a severe hot spell. Evidence thus shows that climatic conditions need not be the same to produce red striated earth.

WEATHER STATIONS IN HEILUNGKIANG PROVINCE -- Peiping, Chung-kuo Hsin-wen, 30 Jun 63, p 7

Weather stations are being established everywhere in the northern part of Heilungkiang Province. In the entire province, the number of weather stations has increased 14-fold since 1949. Since the weather in this region often drops to 40 degrees centegrade and the period of clear weather is very short, agro-meteorological work here is very important to agricultural production.

Heilungkiang is a region where much reclamation work is done. In the northern part of the province, there are large areas of virgin soil. The weathermen often follow where reclamation work is done to set up weather stations.

ARTESIAN WELLS IN LEI-CHOU PENINSULA -- Peiping, Chung-kuo Hsin-wen (China News Service), 12 Jun 63, p 8

This article is a review of antidrought work in Lei-chou Peninsula, Kwangtung Province. In this article, it is reported that during the last few years in the areas of Hai-kang, Sui-chi, Hsu-wen hsiens, and Chan-chiang (Fort Bayard), some 4,300 artesian wells have been drilled. As result, more than 149,000 mous of land have been benefited; moreover, these wells were of great help in combating the 1963 drought. During the long drought this year, many lakes and streams were dried up, but the artesian wells continued to flow.

During the last 2 months, an additional 89 wells were drilled in the Hai-kang and Chan-chiang areas to relieve more than 4,000 mous of agricultural land threatened by drought. The Geological Bureau of Kwangtung Province has recently sent 100 men with 5 drilling machines to Hsu-wen, Hai-kang, Sui-chi, Pei-hai, and other areas to drill wells. By employing these mechanical powered drills, areas with hard underlying rock strata can be penetrated and subterrean water allowed to spurt to the surface.

SCIENTISTS INVESTIGATE WATER RESOURCES OF THE URUMCHI RIVER -- Peiping, Chin-jih Hsin-wen, 7 Jun 63, p 6

Scientists realize that rivers in many areas of China's northwest depend on the melting of ice and snow for water resources and that the source of the subsurface water in all the river basins is primarily the result of surface water seepage. Because of this, when calculating the water content of these rivers and the water conservancy resources of the entire basin, the calculations cannot be repeated or they could be highly inaccurate. Based on this, there is no practical way to decide on water conservancy plan.

This was the conclusion of the workers from the Glaciers and Permafrost Laboratory of the Institute of Geography, Chinese Academy of Sciences, the combined Institutes of Climate and Biology of the Sinkiang Branch, the Chinese Academy of Sciences, the Lanchow Institute of Geophysics, Chinese Academy of Sciences. The course of inversion of the Urumchi River, which is representative of the rivers in the Northwest, was arrived at after research at key points since 1961.

From the glaciers in the T'ien Shan area of the upper reaches of the Urumchi River to the lower reaches in the Gobi Desert, the scientists carried out a combined investigation of the hydrography, weather, hydrology, etc. of this section of the river and the whole basin and spent 2 years in observation and research. They have already measured the amount of water contributed by the glaciers in the high mountains, by the melting of accumulated snow, by rainfall, and by the subsurface water in the yearly water content of this section, and they understand that the principal source the river is the ice and snow of the high mountain areas, not the rainfall or subsurface water.

The water resources of many rivers in our country's northwest region, such as the Ma-Na-Ssu Ho and T'a-Li-Mu Ho of Sinkiang, the Shu-Le Ho of the Ch'i-Lien Shan area, the Tang Ho, the Hei Ho, and others, are the same as those of the Urumchi River, principally glaciers and snow masses.

In the future, the pattern and speed in the development of the animal husbandry and agricultural industries in this area will, to a great degree, be decided by how much water these basins can offer. At present, the research personnel of the Glaciers and Permafrost Laboratory already have completed writing a report on this research which will be published before long.

SCIENTISTS INVESTIGATE GLACIER IN CH'I-LIEN SHAN -- Peiping, Chin-jih Hsin-wen, 7 Jun 63, p 6

A group of scientists from the Glacier and Permafrost Laboratory of the Institute of Geography, Chinese Academy of Sciences, recently went to the glacier on the upper reaches of the Hsi-ying Ho in the Ch'i-lien Shan and carried out research work. The scientists will establish an observation station on the glacier at the point of origin of the Hsi-ying Ho and establish a hydrological and meteorological station. They are going to study the changes in the glacier and the characteristics of meteorological changes between glacial and nonglacial areas of this river and seek out various factors affecting the Hsi-ying Ho water conservation resources. They also want to find out the distribution, the gross storage capacity, and the method of storage of various water conservation resources within the Hsi-ying Ho Basin to study methods of development and utilization for these resources.

The climate of the Ho-Hsi area of Kansu Province is dry, and water for agriculture depends completely on rivers originating in the mountain area. To utilize the high mountains' ice and snow and expand the water conservancy resources, a research group on ice and snow utilization of the Chinese Academy of Sciences, in concert with concerned units, basically investigated the distribution, type, and gross water capacity of the modern glacier in that mountain area in 1958. However, they did not fully comprehend the actual circumstances of various factors in the mountain areas' influence on water capacity, as well as other circumstances which can contribute to the development and utilization of water resources. The scientists, according to the actual needs of production, decided to promote an intensive investigation with the Shih-yang Basin, where the fields are intensively cultivated and water capacity is small, as the center. The Hsi-ying Ho is a tributary of the Shih-yang Ho. This year's investigation will establish a base for research work on over-all development of the Shih-yang Ho.

CHEMISTRY AND METALLURGY

USE OF ARSENIC IN 70-30d BRASS TO PREVENT PRECIPITATION OF ZINC -- Peiping, K'o-hsueh Tung-pao, No 6, Jun 63, pp 54-58

[The following is an abstract of an article by the above title by Ch'en Chun-ming (7115/0193/2494) and Chu Hsiang-jung (2612/4161/2837) of the Institute of Metallurgy, Chinese Academy of Sciences.]

Commenting on the effect of corrosion of brass in electric power plants and steel condensing tubes in ships, this article pointed out the need to decrease this corrosion of copper separating from zinc at varying conditions by using brass containing 0.03% arsenic. The influence of arsenic in preventing this separation of copper from zinc is shown in graphs which give the relationship between percent of arsenic in brass alloys and (1) rate of corrosion expressed in milligram/cm^2, (2) rate of dissolution of copper expressed in milligram/milliliter, (3) a comparison of corrosion effects between copper and zinc in solution for 72 hours, and (4) the rate of copper electrolytic precipitation.

In this paper, eight foreign references were cited, among them American, British, and German Journals and scientific papers, i.e., Journal of the Institute of Metallurgy; Translations of A. I. M. E.; Journal of the Electrochemical Society; Translations of the American Electrochemical Society; Metal Technology; Metal and Chemical Engineering; and The Corrosion and Oxidation of Metals, by Evans.

CORROSIVE AND ELECTROCHEMICAL PROPERTIES OF METAL COMPOUNDS -- Peiping, K'o-hsueh Tung-pao, No 6, Jun 63, pp 56-58

[Following is an abstract of an article by Ch'en Chun-ming (7115/0193/2494) and Tai A-fen (2071/0068/5358), both members of the Institute of Metallurgy, Chinese Academy of Sciences.]

A comparison of the amount of corrosion in mg/cm^2 of metals and metal compounds, i.e., Al, Fe, Ni, Al/Fe, $FeAl_3$, $NiFeAl_9$, $NiAl_3$, Al/Ni, and Ni, is given in bar graphs; four curve graphs are presented giving the relationship between (%) Ni and the rate of corrosion of $NiAl_3$ expressed in mg/cm^2; a table is also given on results of corrosion of $FeAl_3$, $NiAl_3$, and $NiFeAl_9$ in 0.5 M HCl, 0.5 M H_2SO_4, 0.5 M NaCl, and 0.5 M Na_2SO_4 and also three graphs showing the relationship between these given metal compounds in 0.5 M H_2SO_4 solution and (1) their electric potential, (2) anode ray polar curve, and (3) cathode ray polar curve.

The authors expressed their appreciation to Shih Sheng-tai (4258/5116/3141) for his guidance, to Ch'iu Ch'un-jung (0092/2504/2837) for his practical experience, and to Miss Pao Chang-chen (7637/1281/3791) of the Institute of Metallurgy for carrying out the chemical analysis on this subject. Both German and Soviet references are cited in this paper.

EXPLANATION OF HYDROGEN IN SILICATE FUSION MATERIAL AT DISSOLVING TEMPERATURES -- Peiping, K'o-hsueh Tung-pao, No 6, Jun 63, pp 51-53

[The following is an abstract of an article by Tsou yuan-hsi (6760/0337/8764), Institute of Metallurgy and Ceramics.]

The influence of high dissolving temperature on silicate fusion material is considered in this paper. By a graph and formulas, the writer explains the reaction of high temperature steam on silicate fusion material as follows: $H_2O(Steam) + \rightarrow Si\text{-}O\text{-}Ca\text{-}O\text{-}Si \leftarrow =$ $\rightarrow Si\text{-}O\text{-}Si \leftarrow + Ca^{++} + 2OH^-$ and $H_2O(Steam) + \rightarrow Si\text{-}O\text{-}Si \leftarrow = 2 \rightarrow Si\text{-}O\text{-}H$.

In this article, the writer made references to experiments conducted by Kurkjian and Russell, Kobatake and Alder, Walsh, Kozakevitch, and others. Eighteen references by Soviet, American, French, and Japanese scientists were referred to in this paper. Among the technical journals cited were: Journal of the Society of Glass Technology; Physical Chemistry of Steel Making; Journal of Physical Chemistry; Journal of the National Bureau of Standards; Translation of the AIME; Revue de Metallurgie; The Nature of the Chemical Bond (Cornell University Press); and others.

CAVITATION-RESISTING PROPERTIES OF Cu-BASE ALLOYS USED FOR MARINE PROPELLERS -- Peiping, Science Abstracts of China: Technical Sciences, No 1, 1963, p 22

[The following is an English abstract of an article, entitled "The Cavitation-Resisting Properties of Cu-Base Alloys Used for Marine Propellers," by Ch'en Tung-ching (7115/0681/1987), which was published originally in Chung-kuo Tsao-ch'uan (China's Shipbuilding), No 2, 1962.]

This paper presents the fact that on investigating the failure of marine propellers, cavitation erosion is found to be one of the main causes for their breakage, and for this reason great attention is paid to this point when doing research for new propeller alloys. There are two fundamental methods for studying the accelerated rate of cavitation, that is, the vibratory method and the high-pressure water jet

method. The latter method is considered to be better. From the results of systematic experiments made by Kurl regarding the cavitation-resisting properties of Cu-alloys, Al-bronze appears to be the best, while Mn-bronze and Ni-bronze came next. The author further discusses the effect of Al, Ni, and Mn on cavitation-resisting properties of Cu-alloys. On investigating the fracture of broken propellers, it is noted that the microstructure is all in beta-phase, thus proving that wherever the material is used, the alloys of Al-bronze, Mn-bronze, and Ni-bronze should be (Aplha plus beta) phase. It is stated that in Cu-alloys there is no relationship between their mechanical properties and c[illegible] cavitation-resisting properties, since by merely raising the hardness of alloys it often results in poor cavitation-resisting properties, and it seems that fatigue strength is an essential property of good materials for making propellers.

CHROMIUM PLATING OF STEEL BY SALT FUSION PROCESS -- Peiping, K'o-hsueh Tung-pao, No 5, 1963, pp 56-59

[The following is a summary of an article, entitled "Chromium Plating of Steel by Salt Fusion Process," by Shih Sheng-tai (4258/5116/3141), Feng Ming-jen (7458/2494/0088), Fan Yao-t'an (5400/5069/2905), Lin Lien-hao (2651/5114/3493), and Ts'ao Tieh-liang (2580/6993/2733), Institute of Metallurgy, Chinese Academy of Sciences.]

By the salt fusion process of chromium plating of steel, tests were made to determine the advantages of this particular process. This process is described as a salt bath of chloride containing powdered metal or earth metals. The results of the tests and analysis have shown that the strong chromium-steel alloy produced by this process, over the entire range of carbon concentrations in the alloy (0.21% C-1.14% C) and at temperatures 800° C to 1,150° C is resistant to erosion and resistant to high-temperature oxidation and is characterized by good wearing qualities. By this method, the author also claimed a great saving in the use of chromium.

Included in this report are eight tables and charts showing various grades of iron and steel used for chromium plating; thickness (in millimeters) of chromium plating in relation to temperature (°C) and time (hours); coefficient of expansion (expressed as cm^2 sec^{-1} x 10^{-10}) for chromium and iron and steel in relation to temperature (°C); effect of carbon content (%C) in steel on the thickness of chromium plating; and the relation between time/temperature and the amount of oxidation (in milligrams/cm^2) of chromium-steel.

ALLOYING OF METAL SURFACE -- Peiping, K'o-hsueh Tung-pao, No 6, Jun 63, pp 8-22

[Following is an abstract of an article, by Shih Sheng-tai (4258/5116/3141).

This paper presents a study of both the economic aspects of metal products and their capability of satisfying certain requirements. This latter aspect is divided into two categories: (1) over-all capabilities and (2) external capabilities. The first category includes mechanical properties, physical qualities, finished product characteristics, weldability, etc. The second category includes corrosion-resistant properties, high-temperature resistant and oxidation resistant characteristics, good abrasion and wearing qualities, etc.

The second part of this paper describes methods of protecting the surface of metals. This includes the addition of a coating layer on the surface of the metal, such as oil paints, electroplating, and metal spray coating, or the use of a protective layer which is impregnated inside the surface layer of the metal, actually forming a surface layer having all the properties of an allpy.

The general procedures of alloying metals are described with the aid of a chart showing the following three methods: (1) solid state method, liquid state method, and the gaseous state method. In this discussion, the author pointed out especially the plaster compound method, the salt fusion method with direct application of powdered metal, and the various gaseous state methods.

The purpose of this paper is mainly to discuss the basic theory of metal alloying and to explain by formulas the chemical reactions which take place when the atom (M) of an alloy element unites with the atom (M_1) of a base metal. Essential data are given in two large tables on the alloying of steel surfaces (Fe) and nonferrous metal surfaces (Cu, Ni, Ng, Mo, U) with various surface alloying elements.

Besides enumerating the advantages of improving the surface characteristics of base metals by alloying their surfaces, the writer added that as far as scientific work in China is concerned, research hereafter should still be on the investigation of problems of assembling [stock-piling] China's special resources. Unquestionably, one aspect is that the Chinese Communists should concentrate on saving alloy elements found scarce in China. To this end, methods must be found to produce substitute elements on a large scale. However, if this cannot be accomplished, then a satisfactory method of using alloy elements should be developed and used to advantage in order to save alloys and alloy steel.

A total of 119 references were cited in this paper. References were made to US journals such as American Society of Metals Handbook, published by the American Society of Metals; Soviet publications such as Annual of Institute of Polytech (Leningrad); Japan Science Reports, Tohoku Imperial University; British Journal on Chemical Age (London; Structure of Metals and Alloys, Institute of Metal, London; Revue de Matallurgie, (France); Deutsche Metallwaren-Industrie Zeitschrift [Germany]; Gazzetta Chimica Italiana (Italy); and many others. Besides referring to articles written by himself, Shih Sheng-tai mentioned articles prepared by Chinese metallurgists Shih Lin-i (4258/7207/6230), Chia Lai-mien (0502/3471/0517), Ho Wei-ch'in (0149/4850/0530), Chao Pao-jen (P. J. Chao) (6392/5508/0088), and Hu I-cheng (5170/0110/2973).

EXPERIMENTAL EVIDENCE FOR THE EXISTENCE OF DISLOCATIONS WITH BURGERS VECTOR [100] IN MOLYBDENUM CRYSTALS -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 979-986

[The following is an abstract of an English article by Feng Tuan (7458/4551), and Lin Tien-nan (2651/1131/0589) of Department of Physics, Nanking University.]

This paper introduces the experimental methods of observing the dislocation of molyodenum crystals. This dislocation and plastic deformation of ionic and covalent crystals are produced with aqueous solutions of oxalic acid. When (001) plane is served as the observation plane, etch-pit densities along three intersecting tilt subboundaries and kinked tilt subboundaries are measured. The Read-Shockley formula for asymmetrical tilt boundaries is verified, and 1-to-1 correspondence between etch-pits and dislocations with Burgers vector [100] is demonstrated.

In this experiment, Prof L. C. Tsien (possibly Ch'ien Lin-Chao; 6929/5259/3564) was mentioned as a close associate in the execution of this study. In this paper, 12 references were listed, including one Russian, one Czechoslovakian, one Japanese, and the rest British.

CHINESE ACADEMY OF SCIENCES CONDUCTS RESEARCH IN OIL, GAS, AND PLASTIC -- Peiping, Kuang-ming Jih-pao, 8 Jul 63, p 1

The Ta-lien Institute of Chemistry and Physics of the Chinese Academy of Sciences has nurtured a new spirit through its own efforts in the field of research in oil, gas, and plastics. Despite the lack of technical data, this institute has achieved some success in the eyes of the new scientific and technological world. By consolidating China's special resources, it has expanded the application of these resources to the field of industrial production.

Based on a few simple data obtained from foreign publications, Chu Pao-lin (2612/5508/3829) and Ting Ching-chun (0002/2529/5028) designed and built a capillary chromatic spectroscope for the analysis of petroleum composition. This instrument is the most sensitive and quick in operation of all color spectroscopes. All the parts, including the essential glass capillary tube, were made by the researchers themselves or instrument factory technicians. The diameter of the hair-line capillary tube is only 0.1 mm. Because of its high sensitivity, this new instrument can be used for petroleum prospecting. Prospectors in areas suspected of containing oil can use this sensitive capillary chromatic spectroscope to test the atmosphere above the area for oil composition.

How to produce exceptionally pure gaseous substances and how to detect minute impurities in it are some of the important and difficult problems to be resolved in the electronic tube and semiconductor industries in China. Under the direction of a young chemist, Tang Hsueh-yuan (0781/1331/8673), a kind of catalyst has successfully been produced which is capable of reducing the impurities in hydrogen to a great extent. This purified hydrogen gas is used to produce semiconductors of a very pure quality. In addition to producing hydrogen of a high standard of purity, this team of young chemists developed a molecular screen to produce gases in a pure state. Although this catalyst has already been discovered in a foreign country, technical data on this subject are still being kept a secret. When Tang and his colleagues used their own innovation to produce pure hydrogen with a molecular screen, the results obtained were good, and the degree of purity surpassed the standard as set forth by the government.

The Institute of Chemistry and Physics also contributed another item to industrial production by utilizing large quantities of paraffin, a by-product of petroleum, to produce a plasticizer for the purpose of mass production of inexpensive and beautiful articles of polyvinyl plastic.

THEORETICAL TREATMENT OF SOL-GEL DISTRIBUTION IN HIGH POLYMERS -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 997-1010

[The following is a summary of an English-language article, entitled "On the Problem of the Sol-gel Distribution of the Cross-linked Long-chain Polymers," by T'ang Ao-ch'ing (0781/2407/1987) and Chiang Yuan-sheng (3068/0337/3932) of Kirin University. Additional data contained in the source are also given below.]

Referring to previous work in this field, the authors state that T'ang Ao-ch'ing and his co-workers [Science Record, 1959, Volume 3, No 8, 9, and 11] criticized Charlesby's work and proposed a new theory, which, however, left two questions unanswered: (1) the critical condition of gelation deduced from the sol curve is different from that determined according to the rule Mw approaches infinity and (2) there is a lack of experimental evidence to show that gel as an assembly contributed collectively by various kinds of cross-linking molecules with arbitrary length. Using two independent methods, namely, the direct summation of infinite series and probability derivation, they obtained the sol fraction formula of cross-linked high polymer produced from initial linear polymer of an arbitrary distribution and made the analysis as to how the other physical quantities vary with degree of cross-linking.

In writing this paper, which was submitted for publication on 11 January 1963, the authors used seven English references dated 1941-1954 and four Chinese references all dated 1959 except one, which is to be published in the future. The principal author of all the Chinese references is T'ang Ao-ch'ing.

RESEARCH ON POLYMERIZATION OF BUTADIENE -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1074-1076

[The following is a summary of an English-language note, entitled "The Effects of Various Oxygen-, Nitrogen-, Sulfur-, and Chlorine-Containing Compounds on the Stereospecific Polymerization of Butadiene," by Hsieh Hung-ch'uan (6200/3163/3123) and Li P'ing-sheng (2621/1627/3932) of the Institute of Applied Chemistry, Chinese Academy of Sciences. Additional data found in the source are also given below.]

The author studied the effects of eight compounds of the type stated in the title of the note, such as acetone, pyridine, and nitrobenzene, on the stereospecific polymerization of butadienne catalyzed by triisobutyl aluminum and titanium tetraiodide.

The authors used nine references in four languages: one Japanese, 2 English, 2 Russian, and 4 Chinese. Three of the Chinese references were written by the authors of this note. The date span of the references is from 1958 to 1962. This note was submitted for publication on 29 January 1963.

COMPARATIVE RESEARCH ON RING POLYMERS -- Peiping, K'o-hsueh T'ung-pao, No 6, Jun 63, pp 40-43

[The following is a summary of an article, "Structural Research on Ring Polymerization Reaction," by Chang Hung-chih (1728/7703/1807), Ts'ao Wei-hsiao (2580/4850/1321), and Feng Hsin-te (7458/2450/1795). Additional data contained in the source are also given below.]

The research consisted of conducting experiments similar to those of W. Simpson (Journal of Polymer Science, No 10, 1953, p 489), W. E. Gibls (Journal of Polymer Science, 54, No 159, 1961), C. S. Marvel (J. A. C. S., No 80, 1958, p 1742), and others. In conducting their experiments, the authors used dipropylene ethyl malonate, o-phenyl-dimethanoic dipropylene, ethylene glycol 2-methacrylate, and propylene ethyl malonate. They came to the same conclusions as did the authors of the references used except in very few minor instances, which, however, they felt were worthy of further research.

Altogether the authors used 19 references in 5 different languages: 10 English; 2 Chinese, including one by the authors of this article and others in K'o-hsueh T'ung-pao, May 1963, pages 53-55; 2 Russian; one Czechoslovak; and 4 Japanese. The date span of these reference articles is 1953-1961, not including the Chinese article cited above.

LABORATORY EXPERIMENTS WITH POTASSIUM XANTHONATE -- Peiping, Hua-hsueh T'ung-pao, May 63, No 5, p 58

[The following are the conclusions of a Chinese article, entitled "Synthesis of Potassium Ethyl and N-Butyl Xanthonate Labeled With S35," by Wu Sung-lin (0702/2646/2651). Other source data are also given below.]

Following the procedures used in the references, the author arrived at the following conclusions: using simple equipment, he applied acetone as a solvent and from the process obtained comparatively pure products. The methods employed can be used to prepare small quantities in synthesizing the two kinds of potassium xanthonate containing isotope 35 with good results.

The author used two journal references, one Japanese and one Russian, and one Japanese collected works entitled "Synthesis of Organic Chemical Compounds," No 5.

PEIPING AGRICULTURAL UNIVERSITY TRIAL MANUFACTURES WEED KILLER -- Peiping, Jen-min Jih-pao, 29 Jun 63, p 2

Peiping Agricultural University has recently test-manufactured a chemical weed killer whose chief component is phenyl propyl dichloramine. When sprayed on rice paddies, it is effective up to 100 percent. Its use in rice paddies of large areas, however, still is in need of further research. Research on this chemical agent was done by the organic chemistry, agrochemistry, and cultivation teaching and research sections of the Peiping Agricultural University in cooperation with Mukden Chemical Industry Institute and the Institute of Botany of the Chinese Academy of Sciences.

HOU TE-P'ANG, CHEMICAL INDUSTRY SPECIALIST, INTERVIEWED -- Canton, Chung-kuo Hsin-wen, 3 Jul 63, p 8

Seventy-three-year-old Hou Te-p'ang (0186/1795/2831), chemical industry specialist, revealed in an interview recently that he is currently engaged in writing about the theory of alkali manufacturing techniques. In the past, he has written a great deal in this field, including such books as Chih-hsien Kung-hsueh (Alkali Manufacture Engineering), in two large volumes; T'ien-jan Hsien (Natural Alkalies); and Chih-hsien Kung-yeh Kung-tso-che Hsou-ts'e (Alkali Manufacturing Industry Workers' Handbook).

MATHEMATICAL AND PHYSICAL SCIENCES

PHASE SHIFT ANALYSIS OF SCATTERING PROCESSES EXAMINED -- Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 5, May 63, pp 3-6-319

[The following is an English-language abstract of an article titled "On the Problem of Ambiguity in the Phase Shift Analysis of Scattering Processes" by Huang Nien-ning (7806/1819/1380). The author's affiliation is not given. The article was received for publication on 25 May 1962. Of 14 references listed at the end of the article, 10 are English language, 2 are Russian, and 2 are Chinese.]

Starting from the conditions which should be satisfied by the existence of different choices in the phase shift analysis, in this paper the general ambiguity in the analysis of elastic scattering of particles with arbitary spins has been discussed. The transformation matrices among the different sets of phase shifts are given; the real parameters involved are determined by the system of second order algebraic equations. The problem of ambiguity in the phase shift analysis therefore is reduced to the problem of finding the real roots of those equations. The number of different sets of real roots is twice that of different phase shift choice. Therefore, the kinematical ambiguity in the phase shift analysis in general is solved. When the channel spin is 1/2 it has been shown that only tow sets of phase shifts exist; when the channel spin is one, only two sets of phase shift are given also; therefore, it has been shown that the Minami's ambiguity is the whole ambiguity in these cases. When the channel spin is 3/2, it has been found that there are four different sets of phase shift. Therefore, in addition to the known transformation there are two new transformation matrices in that case.

In general, the ambiguity in the phase shift analysis corresponds to the motion of spin which conserves the components of spin-tensors in the direction of momentum, and the paramemters which characterize those general spin motions take the fixed values. In our discussion it has been shown that the system of algebraic equations which are satisfied by the real parameters in the transformation matrices in the whole integer spin cases are quite different from that in the half integer spin cases. Therefore, the number of real roots in those two cases are also different; this means that the number of different phase shift sets are quite different. From the properties of those algebraic equations, it has been suggested that the ambiguity in the case of integer spin is much small than that in the case of half integer spin.

DATA ON SPIN AND PARITY OF RESONANT STATE Y^*_0 -- Peiping, Scientia Sinica, No 7, Jul 63, 1073-1074

[The following is a descriptive abstract of an English-language article by Kao Ch'ung-shou (7559/1594/1108) of the Department of Physics, Peking University. The article was submitted for publication on 15 April 1963.]

The author of this article refers to the recent establishment of the existence of the resonant state Y^*_0 of the Sigma Pi system, with mass 1,405 Mev and Zero isospin. He asserts that this resonant state may have the spin-parity J^P 3-/2. His argument is founded on the Gell-Mann theory of strong-interaction particles.

The author expresses his thanks to Prof Hu Ning (5170/1380 and Dr Chou Kuang-chao (0719/9342/0664) for their assistance. Of the ten references at the end of the article, seven wer to articles in 1962 issues of the physical review, two referred to the report of the 1962 International Conference on High Engergy Physics at CERN, Geneava, and one referred to a reprint of an article by S. F. Tuan.

INVESTIGATION OF ROTATIONAL ENERGY LEVELS -- Peiping, Science Abstracts of China, No 1, 1963, p 17

[The following is an English-language abstract of an article, "A Preliminary Investigation of the Rotational Energy on the Rotational Energy Levels, of Mg^{24}," by Shen Sung-ch'ing (3088/3163/3237) and Chou Hsiao-ch'ien (0719/1321/6197), which appeared in Wu-li Hsueh-pao (Acta Physica Sinica), Volume 17, No 3, March 1961, pp 133-142.]

Up to now, the energy, spin, and parity of the energy levels of Mg^{24} below 5.24 Mev have precisely measured, but those above it are far less accurate. Though the rotational characteristic of Mg^{24} levels is well established, the discrepancy between the experimental value 4.12 Mev and thevalue 4.6 Mev calculated from the simple rotation energy formula is beyond the limit of experimental uncertainty. There are two kinds of corrections, the rotation vibration interaction and the rotational perturbation. In this paper, we show that the levels of Mg^{24} cannot be explained satisfactorily by taking into consideration either one of the above-mentioned corrections singly. When both of them are taken up simultaneously, the experimental values of the energy levels and spin of Mg^{24} can be well accounted for and the recently measured gamma-transition branching ratio and E (2)/M(1) ratio can also be explained.

ATOMIC REACTION PILE FOR PRODUCTION OF CHEMICAL FERTILIZERS -- Peiping, K'o-hsueh Ta-chung, No 6, Jun 63, pp 8-9

[The following is a descriptive abstract of an article by Lu Ming (7627/2494). His affiliation is not given.]

This article discusses the possibility of utilizing atomic energy in the production of nitrogen fertilizers and predicts that when atomic energy has been more widely developed, it will replace electricity, which is quite expensive, in the manufacture of chemical fertilizers. The method considered is one in which an atomic reaction pile produces nitrogen dioxide in the air which is used as a coolant. This nitrogen dioxide can then be used as a raw material in the production of nitrogen fertilizers. The differences between this pile and an ordinary pile would be that the metal shielding separating the reaction from the cooling air would be removed and the uranium fuel would be reduced almot to a powder.

The article revies the progress which has been made in foreign research on this type of process and points out that one of the difficulties lies in controlling both the nuclear reaction and thechemical reaction simultaneously. It is stated that the system described can produce 2 tons of nitric acid per gram of uranium 235 as opposed to 55-80 grams of nitric acid per kilowatt-hour of electric power under the present methods of chemical industry. The article is accompanied by an illustration showing how a nuclear reaction pile can be applied to both the production of electricity and the production of raw materials for chemical fertilizers.

CHINA ORDERS RADIATION MEASURING INSTRUMENTS FROM GREAT BRITAIN -- New Delhi, The Hindustan Times, 26 Jul 63, p 7

China has recently ordered radiation measuring equipment valued at 7,000 pounds from a British manufacturing firm. The equipment can be used to measure radiation from contaminated services, personnel, a reactor, or from nuclear fallout.

PARAMETRICAL COUPLING OF ISOLATIONS DISCUSSED -- Peiping, Science Abstracts of China; Mathematical and Physical Sciences, No 1, 1963, pp 17-18

/The following is an English-language abstract of an article, "Theory of the Parametrically-Coupled Isolations in Ferrite," by Li Yin-yuan (2621/5593/6678), Hsu Cheng-i (6079/2398/0001,) and Liu Ta-kan (0491/1129/0051), which appeared in Wu-li Hsueh-pao (Acta Physica Sinica), Volume 17, No 3, March 1961, pp 117-132./

In this article the parametrical coupling of isolations in a small ellipsoid of ferrite under the excitation of a uhf pumping of any spatial distribution is discussed. It is pointed out that the coupled isolations may be induced through the two types of driving, field driving and magnetization driving. A special case of the former was recently discovered by Denton, who used a lonitudinal pumping field uniform in space. A special example of the latter is found in Suhl's theoretical analysis and a number of experimental works after him. The pumping field transverse in direction and spatially uniform does not induce thecoupled isolations directly, but the rf magnetization of the Kittel precession excited by the pumping becomes the driving force of the isolations. For each type of a uniform pumping we obtain from a set of differential equiations the magnetostatic potential functions (the first order approximation) as linear combinations of Walker's functions.

These solutions are different from those given by Monosov. Making use of the boundary conditions at the ferrite surface we find that for the Walker modes involved in the isolations to be coupled, their indexes must satisfy certain conditions. For the case of magnetostatic operations, the dc magnetic field is turned to a pair of the Walker modes, the potential functions may be reduced greatly. By studying the power drawn by the coupled isolations from the pumping, we obtain the selection rules of a pair of magnetostatic modes excited by a pumping field of any given spartial distribution. We point out that for the determination of the amplitudes of the isolations, the equation derived from the conservation of energy and from the equality of the number of quanta emitted must be used. Finally, the threshold intensity of Denton's pumping field is derived using Suhl's method. We indicate that this method is based on a perturbation calculation.

SHALLOW IMPURITY STATES IN SEMICONDUCTORS -- Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 5, May 63, pp 273-284.

[The following is an abstract of an article titled "Miscellaneous Mass-Energy States in Semiconductors," by Huo-p'ing (7202/5940/1627). The article was received for publication on 15 January 1962, and a corrected draft was received on 21 September 1962. Of 13 references at the end of the article, 12 are to English-language publications, and the one Chinese-language reference is an earlier article by the same author.]

In accordance with the band formation of impurity atoms in semiconductors, a wave function of the local molecular type was admixed into the band function. We obtained an effective massequation with an additional term of the δ-function type. In the case of simple band structure, the influence of atomic character on the ionization energy and the relation between the shallow and the deep levels were discussed. Furthermore, we anlayzed the valley-orbit splitting caused by the existence of several equivalent minima of conduction band in gernmanium and silicon. Because of the interaction between bonds, the variation of wave function of a shallow level is small, but the correction on the ionization energy may be appreciable. This is in agreement with the hyberfine structure data of the electron spin resonance.

COAXIAL WAVE GUIDES DESCRIBED -- Peiping, Science Abstract of China: Mathematical and Physical Sciences, No 1, 1963, p 19

[The following is an English-language abstract of an article titled "Properties of Ridge Coaxial Wave Guides," by Lin Wei-kan (2651/3634/1626), which was published originally Wu-li Hsueh-pao (Acta Physica Sinica), Vol 17, No 4, April 1961, pp 170-179.]

Curves giving the cut-off frequencies of some modes and the power carrying capacities of the lowest propagating mode and an equation giving the attenuation constant are presented for a ridge coaxial wave guide. It is shown that the ridge coaxial wave guide has very low cut-off frequencies and rather great higher-mode separation which also are properties of the coaxial TEM mode.

ARTICLE REVIEWS IN ELECTROMAGNETIC RADIATION -- Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 5, May 63, pp 320-335

/The following is an abstract of an article, titled "Coherence Properties of Electromagnetic Radiation," by Wang Chih-chiang (3769/0037/3068). The author's affiliation is not given. The article was received for publication on 18 June 1962. Of 21 references listed at the end of the article, 17 are English language and 4 are Russian./

In this paper, recent advances in the search of coherence properties of electromagnetic radiation are discussed. Using the conception of photon degeneracy and degree of coherence, the author is able to explain many problems such as light mixing, intensity fluctuations, and the properties of coherent light source. Since the occurrence of radiation process is at random, the intensity of the singla generated by the mixing of different sources can be dtermined by the correlation of radiation processes as derived in the present paper. Recording photons as bosons, the phenomena "intensity interference" is explained as quantum fluctuations. The coherence properties of radiation may not be interpreted well on the basic conception of quantum mechanics.

POLYTERMINAL NETWORK THEORY APPLIED TO RESEARCH IN NONLINEAR NETWORKS -- Peiping, Science Abstracts of China: Mathematical and Physical Sciences No 1, 1963, p 19

/The following is an English-language abstract of an article, "The Nonlinear Polyterminal Network Theory," by Yu Chueh-pang (5713/0628/6721), which initally appeared in Wu-li Hsueh-pao (Acta Physica Sinica), Vol 17, No 3, Mar 61, pp 143-147/

As an attempt in the research of nonlinear networks, the application of the polyterminal network theory is suggested in the present paper.

The fundamental character of the nonlinear polyterminal networks with constant flux is considered. Two theorems about N-terminal nonlinear networks are established as follows:

Theorem one: The nonlinear N-terminal network is determined by a function system of N-1 independent functions, each of which contains N-1 independent variables.

Theorem two: The equivalent network of the nonlinear N-terminal (N greater than two) networks cannot be realized by the nonlinear elements, whose potential difference-flux characteristic is a function of a single variable; the potential difference-flux charateristic of the nonlinear elements in the equivalent network of the nonterminal network is a function of the variables.

PHOTOMETRY OF LARGE SOLAR FLARES -- Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 965-977

/The following is an abstract of a English-language by Chang Ho-chi (1728/0735/4388) and Hao Chiao-hsiu (6787/1564/4423) of the Purple Mountain Observatory, Nanking./

In this article, a short account of the method and result of photometric measurements of three large flares is presented by the authors. The dates of occurrences, duration, heliographic longitude and latitude, and provisional classification of these flares were made on April 4, 25, and 28, 1960, at the Purple Mountain Observatory using the standard Lyot Type chromospheric patrol telescrope. In this article, the method of measurement, computations, photographs, and results of measurement were presented.

DAYLIGHT ASTROPHOTOCAMERA -- Shanghai, K'o-hsueh Hua-pao (Science Pictorial), No 11, Nov 62, p 417

/Following is a description of a brief article by Yang Chien (2799/1696 or 0256?) of the Tzu Chin-shan (Purple Mountain) Observatory, Nanking, Chinese Academy of Sciences./

A photograph appearing in this magazine shows what appears to be a man operating a battery of five long tubes, pointed at an angle toward the sky. A brief accompanying article says that this large instrument is not a battery of guns, but is a new type of large astrophotocamera. It is used for photographing the planets such as Venus and Jpiter, in broad daylight. It may also be used for taking pictures of rockets, artificial satellites, and fixed stars. This camera consists of 19 long tubes; and each tube is a 127-mm reflecting telescope equipped with a camera. Because light rays during daylight hours are too bright, the human eye cannot see the stars. By the use of this specially designed huge camer, it is possible to photograph the stars during broad daylight. (FOR OFFICIAL USE ONLY)

MISCELLANEOUS

SCIENCE PUBLICATIONS -- Peiping, Kuang-ming Jih-pao, 26 Jun 63, p 1

The Scientific and Technological Commission and the Ministry of Culture jointly sponsored a national conference on the publication of scientific and technical works in Peiping, recently. The conference extensively discussed how scientific and technical publications meet the needs of national construction projects, especially the needs of scientific and technological development in China.

The conference pointed out that both the party and government highly regard scientific and technical publications and that since the nation was established, many valuable scientific and technical works have been published. According to incomplete statistics, more than 51,900 illustrated books on science and technology (including textbooks on physics, industry, agriculture, and medicine) have been published from October 1949 to the end of 1961. These books have played a positive role in promoting scientific research, production and construction, and teaching and in popularizing science and technology. Along with the development of socialist construction projects, there has been the development of scientific and technological projects; and the need for scientific and technical publications by the increasing numbers of scientific and technical personnel and readers in other walks of life has become more and more urgent. Because of this, it is necessary immediately to offer scientific and technical personnel, university and middle-school students, rural technical workers, and young intellectuals a timely and adequate supply of all kinds of publications; to encourage scientific and technical personnel to write original articles and to translate; to improve the quality of scientific and technical publications; and to increase the variety to meet the actual needs.

The conference acknowledged that at present, in addition to encouragring scientists and technicians to write new books, it is necessary to make reprints or revisions of good books that have already been published. Meanwhile, themanagement of periodic publications must ensure the timely exchange of scientific research achievements and production experiences. At present, every scientific or technical journal published in China is an important periodical representing the level of China's science. The conference resolved to continue publishing the 57 journals now in existence and to initiate some in other fields of science. It also proposed that the concerned publishers publish various types of magazines designed for intermediate-level scientific and technical workers to keep them informed of research activities and allow for the exchange of experiences in research, teaching, and production techniques. The concensus of opinion was that the publication of popular reading materials be strengthened. Planning should be unified;

efforts, concentrated; quality, raised; and duplication, avoided. In addition, the conference discussed problems pertaining to improving the scientific and technical translations series, regulating scientific and technological publications, the division of labor by concerned units, and better distribution.

During the period of this conference, scientists were invited to speak at meetings sponsored by [local] scientific and professional societies. They discussed problems concerning scientific and technical books, as well as writing and publishing papers, and offered many valuable and constructive opinions.

CHINESE SCIENCE DELEGATION ARRIVES IN HANOI -- Peiping, Jen-min Jih-pao, 9 Jul 63, p 4

The Chinese Scientific and Technological Delegation which will participate in the third meeting of the implementing agency for Sino-Vietnamese scientific and technological cooperation, under the leadership of Chief Delegate and Vice-Chairman of the State Scientific and Technological Commission Wu Heng (2976/5899), arrived in Hanoi by plan on 9 July.

The Vice-Chairman of the Vietnam Planning Commission, the Vice-Chairman of the Vietnam State Science Commission, the Vietnamese Vice-Minister of Agriculture, the Vietnamese Vice-Minister of Heavy Industry, and others went to the airport to welcome them.

Ts'ao Yen-hsing (2580/6056/5887), Deputy Chief Delegate of the Chinese Scientific and Technological Delegation, was also at the airport to welcome them.

NEW SCIENCE FILMS ---Peiping, Jen-min Jih-pao, 19 Jun 63, p 2

More than 2,052,000 persons saw scientific educational films that were exhibited at a film festival held in ten major Chinese cities from 8 to 14 June.

This was China's second scientific educational film festival, the first having been held in 1954. Viewers of both exhibits noticed the progress that has been made in the art of filming. The variety of scientific and technological knowledge and the achievements of scientific research were realistic, interesting, and easy to understand. A special feature of the exhibit was the large number and high quality of films reflecting the achievements of agricultural science.

Of the 20 films, shown, 8 agricultural science films, including "Tiny Golden Wasps and Pink Bollworms," "Resourceful Farming Brings Bumper Harvest," "Three Major Diseases of Cabbages, " and "Maintenance of Tractors," were highly commended by the broad masses of peasants. They said that these films would guide them in their work and that they would be advantageous to agricultural production.

FIRST GRADUATING CLASS FROM CHI-NAN UNIVERSITY -- Calcutta, Chung-kuo Hsin-wen, 26 Jul 63, p 1

Chi-nan University's first graduating class, consisting of 206 members, recently took the final exams and graduated in good standing. They are now in the midst of securing work.

Chi-nan University, a comprehensive university, was established in the fall of 1958. At present there are the 8 departments of Chinese Literature, History, Foreign Languages, Economics, Mathematics, Physics, Chemicstry, and Biology, offering 12 special courses of study. Of this year's 206 graduates in the fields of Chinese literature, history, foreign languages, mathematics, and biology, 105 are overseas Chinese or students from Hong Kong and Macao.

BIOGRAPHIC INFORMATION

[The following biographic information on selected Chinese Communist scientific and technical personnel was taken from the sources cited in parentheses.]

CHANG Chen-ta (4545/2182/1129), Astronomy Department, Nanking University; author of an article, "A Comparison of the Total Absorption Spectra of the Center and Edges of the Solar Disk," The author acknowledges the assistance of Ch'en Piao (7115/1753); Hsu Ao-ao (6079/2407/2407), Li K'ai-yuan (2621/7030/0337), and Tsao T'ien-chun (2580/1131/0689) helpted with the experiemtnal work. (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 2, Dec 62, pp 173-182)

CHANG Cheng, Leningrad Railroad Engineers Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Investigation of Mining Pressure Acting Upon the Construction of Subway Station, Being Built in Cambrian Clays," in Russian. (Moscow, Vestnik Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Zheleznodorozhnogo Transporta, No 4, 24 Jun 63, p 65)

CHANG Ch'i-yu, Moscow Institute of Radioelectronics and Mining Electromechanics; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Control of High Temperatures in Working Sections of Coal Mines," in Russian. (Moscow, Vechernyaya Moskva, 18 Jun 63, p 4)

CHANG Chia-hsiang (1728/1367/4382)
CHE I-hsing (6508/0001/7160)
HSU Wan-ch'ing (1776/1238/7230)
YANG Hsiu-i (2799/0208/5030)
SHEN Yung-pao (3088/3057/0202)
WANG Ch'i (3769/3823))
KU Fu-yuan (7357/4395/0337)
CHOU Hsing-hai (0719/5281/3189)
MO Ching-erh (5459/7234/0348)
SUN SHou-sheng (1327/1108/3933)
All of the Planetary Section, Purple Mountain Observatory; all participated in the work reported in an article, "Photographic Observations of Planetoid Positions at Purple Mountain Observatory July 1959 -- December 1960." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 1, Jun 62, pp 16-24)

CHANG Chun; author of article, "Investigation of the Process of Ductile Rolling of Profiling Parts on Asymmetric Roller Form Ben. ding Machines," in Russian.; published in Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1960, (Kazan, Izvestiya Vysshikh Uchebnykh Zavedeniy Aviatsionnaya Tekhnika, No 4, 11 Dec 62, p 167)

CHANG Chung-hsiang, Leningrad Institute of Construction Engineers; coauthor with S. M. Shifrin of report, "Investigation of the Work of Radial Settling Tanks on Models," in Russian; read at the Institute's 21st Scientific Conference held in February 1963. (Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 6, Jun 62, p 36)

CHANG K'o-ying (1728/0344/2503), Yunnan Tropical Forest Biogeocoenology Station, Chinese Academy of Sciences; author of an article, "Preliminary Analysis of the Climatic Characteristics of Southern Yunnan and Their Causative Factors." (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 218-230)

CHANG Tz'u-hsien, Leningrad; coauthor with F. L. Litvin of article, "Matrix Method of Determining the Connection Between Surface Curvatures in Gearing," in Russian. (Moscow, Izvestiya Akademii Nauk SSR, Mekhanika i Mashinostroyeniye, No 3, May/Jun 63, pp 155-160)

CHE I-hsiung (6508/0001/7160)
YANG Hsiu-i (2799/0208/5030)
SHEN Yung-pao (3088/3057/0202)
HSU Wan-ch'ing (1776/1238/7230)
WEI She-ling (1414/3195/3781)
P'AN Sheng-ti (3382/3932/1229)
WANG Te-ch'ang (3769/1795/2490)
CHANG Chia-hsiang (1728/1367/4382)
All of the Planetary Section, Purple Mountain Observatory; all participated in the work reported in an article, "Photographic Observations of Planetoid Positions at Purple Mountain Observatory." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 2, Dec 62, pp 59-63)

CH'EN Chia-i (7115/1367/1355)
T'AN Hsin (6223/6580)
TUNG Su-chen (5516/4790/6297)
All of the Geophysics Department, Peking University; coauthors of an article, "Microstructure of Turbulence in the Lower Troposphere." (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 271-280)

CH'EN Ch'iu-shih (7115/4428/1102), Geophysics Department, Peking University; author of an article, "The Formation and Destruction of a Thermal Wind in a Simple Baroclinic Atmosphere II." The author acknowledges the direction of Yeh Tu-cheng (5509/4648/2973). (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 153-162)

CH'EN Hsieh-ch'ang (3088/3610/2490), Peking University; author of article, "On the Completeness of the System of Functions $\{z^{\tau_n} \mid n^{\gamma_z}\}$ on Infinite Curves in a Complex Plane," in Russian; first published in Chinese in Acta Mathematica Sinica, Volume 13, No 2, 1962, pp 170-192. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 921-949)

CH'EN Piao (7115/1753), Purple Mountain Observatory, Chinese Academy of Sciences; author of an article, "On Regularities of Solar Activity." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 1-7)

CH'EN Wen-chieh (7115/2429/2638), deputy director, Institute of Hematology and Blood Transfusion, Chinese Academy of Medical Sciences; author of article, "Establishing a Research Program ea Raising the Quality of Research." (Peiping, Kuang-ming Jih-pao, 13 Jul 63, p 2)

CH'EN Yun-mi, Hunan Provincial Institute of Forestry; author of article, "Effect of Gibberellin on the Growth of Poplars," in Russian. (Moscow, Lesnoye Khozyaystvo, No 12, Dec 62, pp 45-47)

CH'ENG Li-chia (4453/3810/0857), author of article, "Measurement -- The 'Eyes' of Productive and Scientific Research." (Peiping, Kuang-ming Jih-pao, 7 Jul 63, p 4)

CH'I T'ien-mao, Central Institute for the Advancement of Physicians and Institute of Virology, Academy of Medical Sciences USSR; coauthor with M. Ye. Sukhareya, L. Ya. Zakstel'skaya, L. A. Berzina, Ye. A. Linyayeva, and N. L. Trivus of article, "The Effect of Respiratory Viral Infections on the Course of Gastrointestinal Diseases in Children," in Russian. (Moscow, Voprosy Okhrany Materinstva i Detstva, Vol 8, No 7, Jul 63, pp 3-7)

CHIANG Chia-ho (3068/0857/4421), Institute of Mathematics, Chinese Academy of Sciences; author of article, "Essential Component of the Set of Fixed Points of the Multivalued Mappings and Its Application to the Theory of Games," in English; received for publication on 28 December 1962. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 951-964)

CHIANG Ming-ch'uan (5592/0682/1557), Institute of Olericulture, Chinese Academy of Agricultural Sciences; author of article, "Improve the Quality and Increase Production of Vegetables." (Peiping, Pei-ching Jih-pao, 7 Jun 63, p 3)

CHIANG Tse-han (3068/3419/3211)
CHIANG Po-chu (1203/0130/7467)
Both affiliated with Peking University; coauthors of article, "The Nielsen Numbers of Self-Mappings of the Same Homotopy Type," in English; received for publication on 25 March 1963. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1071-1072)

CH'IAO Ch'i-ping, Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR; author of report, "Labor Hygiene During Welding With Chromium-Containing Electrodes," which is one of 50 reports presented at the institute's conference held in Moscow in November 1962. (Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 63, pp 62-63)

CH'IAO Tz'u-pin, author of article, "Total Separation of Aerosol and Gases During Welding By Chromium-Containing Electrodes," in Russian; published in new book, Gigiyena Truda i Tekhniki Bezopasnosti Pri Elektrosvarochnykh Rabotakh, Moscow, 1962. (Moscow, Svarochnoye Proizvodstvo, No 7, Jul 63, p 46)

CHIN Jung-ho (6855/1369/6378), Mathematics Department, Yen-pien University; author of an article, "Thermal-Radio [Wavelength] Emissions of Ionized Diffuse Nebulae." The author acknowledges the assistance of Wang Shou-kuan (3768/4849/3828). (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 2, Dec 62, pp 145-154)

CH'IN Tseng-hao (4440/2582/3493), Shantung Oceanography College; author of an article, "A Two-Parameter Baroclinic Model." (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 3, May 63, pp 131-144)

CH'ING Chin-shang, Moscow Power Engineering Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Structure and Reliability of Information Networks," in Russian. (Moscow, Vechernyaya Moskva, 12 Jun 63, p 4)

CHOU Hsing-hai (0719/5281/3189)
SUN Shou-sheng (1327/1108/3933)
CHANG Shih-ch'i (1728/1709/3825)
CHANG Pao-lo (1728/0202/5012)
All of Tsingtao Observatory; all participated in the work reported in an article, "Photographic Observations of the Positions of Planetoids at Tsingtao Observatory July 1960 -- December 1961." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 1, Jun 62, pp 12-15)

CHOU Li-hsing, Leningrad Polytechnic Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences and approved by the Higher Certifying Commission (1962), "Evaporation and Combustion of Individual Drops and of the Aggregate of Liquid Hydrocarbon Fuels Powdered in the Air," in Russian. (Moscow, Teploenergetika, No 4, Apr 63, p 94)

CHU Chin-p'eng; coauthor with D. M. Vasil'yev and V. P. Plakhtiy of article, "X-Ray Study of the Process of Fatigue in Metals," in Russian; first published in Fizika Metallov i Metallovedeniye, Volume 15, No 4, 1963, pages 605-611. (Moscow, Letopis' Zhurnal'nykh Statey, 8 Jun 63, p 94)

CHU Jui-keng, Institute of Mining Imeni A. A. Skochinskiy, Academy of Sciences USSR; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Effect of External Static Loads on the Stability of Slopes in Quarries," in Russian. (Moscow, Verchernyaya Moskva, 15 Apr 63, p 4)

FANG Hua-ts'an (2455/5478/3605), deputy director of Department of Machinery, Peking Petroleum College; author of article, "Several Points on Organizing and Putting Into Practice Extracurricular Production Activities." (Peiping, Kuang-ming Jih-pao, 1 Jul 63, p 2)

FANG Tsung-hsi (2455/1350/3556), Shantung College of Oceanography and Institute of Oceanography, Chinese Academy of Sciences;
WU Ch'ao-yuan (0702/6389/0337)
CHIANG Pen-yu (5592/2609/4416)
LI Chia-chun (2621/1367/0193)
JEN Kuo-chung ()117/0948/1813)
Latter four affiliated with Institute of Oceanography, Chinese Academy of Sciences; coauthors of article, "The Breeding of a New Variety of Haidai (Laminaria japonica Aresch.)," in English; the main parts were separately published in Chinese in Acta Botanica Sinica, Volume 10, No 3, 1962, pages 197-209, and Oceanologia et Limnologia Sinica, Volume 4, No 1-2, 1962, pages 29-37. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1011-1018)

HSIEH I-ping (6200/5030/3521)
CH'EN Shou-chun (7115/0649/6874)
CHANG I-liang (1728/0001/5328)
HUANG Yin-liang (7806/1377/0081)
All of the Institute of Geophysics, Chinese Academy of Sciences; coauthors of an article, "Statistical and Synoptic Studies on the Basic Currents Over Southeast Asia and Typhoon Genesis." The authors acknowledge the suggestions of T'ao Shih-yen (7118/6108/6056) and the assistance of Hsiao Wen-chun (5135/2429/0193), Yeh Hui-jung (5509/1979/5554), and Ch'en Chen-hua (7115/2182/5478). (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 206-217)

HSU Lung-tao, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR; coauthor with G. F. Zharkov of article, "Hollow Superconductors in a Magnetic Field," in Russian; received on 27 February 1963. (Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 44, No 6, Jun 63, pp 2122-2130)

HSUEH Yu-hua, Moscow State University; author of dissertation for the scientific degree of Candidate of Biological Sciences, "On Radiomimetic Action of Oxidized Oleic Acid Isolated From the Liver of Irradiated Animals," in Russian. (Moscow, Vechernyaya Moskva, 14 May 63, p 4)

HU Chi-ming, Institute of Geology and Processing of Mineral Fuels, Academy of Sciences USSR; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Investigation of the Conditions of the Casification of Coals in the Boiling Layer Under a Pressure of 20 ATI [excess air]," in Russian. (Moscow, Vechernyaya Moskva, 27 May 63, p 4)

HUANG Lin (7806/7792)

HU Ching-yao (5170/2529/3613)
Both of the Preparatory Office, Peking Observatory, Chinese Academy of Sciences

MO Ching-erh (5459/7234/0348), Purple Mountain Observatory, Chinese Academy of Sciences
All are coauthors of an article, "Spectrophotometric Studies of Several Visible Double Stars." The authros acknowledge the assistance and direction of Ch'eng Mao-lan (4453/5399/5695) at Peking Observatory and of Kung Shu-mo (7895/2885/2875). (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 2, Dec 62, pp 120-144)

JEN Chi-shun (0117/4764/5293)

CH'U Ching-ch'uan (2575/2529/1557)

CH'EN Yao-chih (7115/5212/3112)

CHAO Kuo-kuang (6392/0948/0342)
All affiliated with the Research Academy of Geological Sciences of the Ministry of Geology; coauthors of article, "Definite Proof of the Existence of 'Indosiniyskiy' Geosyncline Folding Zones in the Ta-li--Li-chiang Region in Western Yunnan," in Russian; received for publication on 4 May 1963. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1077-1078)

KUAN Yu-hsien, Institute of Crystallography, Academy of Sciences USSR: author of dissertation for the scientific degree of Candidate of Geological-Mineralogical Sciences, "Crystal Structure of Bafertisite," in Russian. (Moscow, Vechernyaya Moskva, 3 Jun 63, p 4)

KUNG Hui-jen (7895/1920/0086)

LI Yen-yen (2621/3601/3601)

CHANG Cheng-nien (1728/2973/1628)

HSU Chin-li (6079/3866/7787)

CHIN Wen-ching (6855/2429/2417)

PAO Wan-chueh (0545/1238/3778)

WU Hua-min (0702/5478/3046)

WU Shou-hsien (0702/1343/6343)

HUNG Wei-ying (3163/4850/5391)

WAN T'ung-shan (8001/0681/1472)

T'AN Chih-hsiang (6151/1807/4382)

CHOU Yu-ti (0719/3768/1229)

LI Tung-ming (2621/2639/2494)

CH'EN Hsueh-yin (7115/1331/6892)

YANG Hsi-hung (2799/1585/5725)

WEN Chin-hao (3306/2516/6275)

YEH Shu-hua (5509/0647/5478)

HSIA Sheng-hung (1115/4141/1347)

HSU T'ung-ch'i (7312/0681/4388)

TSOU Hui-ch'eng (6760/1920/2052)

CH'UAN Ho-chun (0356/0735/6874)

All of the Siccawei Observatory, Chinese Academy of Sciences; all participated in the work reported in an article, "1959 Results of Astronomical Time Measurements at Siccawei Observatory." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 1, Jun 62, pp 31-52)

LI Chien-ch'eng (2621/7002/3397), Peking Observatory; author of an article, "On the Length of Shadow of the Gnomen, Day- and Night-time Duration According to the Clepsydra, and the Polar Distances of the Sun in the Later Han [Dynasty's] Quarter-Day [ie.e, Julian] Calendar." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 46-52)

LI Ch'ih-fa, coauthor with I. S. Morozov of article, "The Reciprocal System $SnCl_2 + PbS \rightleftarrows SnS + PbCl_2$," in Russian; received for publication on 26 October 1962. (Moscow, Akademiya Nauk SSSR, Zhurnal Neorganicheskoy Khimii, Vol 8, No 7, 22 Jun 63, pp 1688-1692)

LI Hua (2621/5478)

WANG Cheng-hsu (3769/2398/1645)

LIN She-ying (2651/3195/5391)

MEI Yen-lin (2734/1750/7207)
All of the Practical Astronomy Section, Purple Mountain Observatory; all participated in the work reported in an article, "Report on Astronomical Time Measurements at Purple Mountain Observatory January 1958--December 1959." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 2, Dec 62, pp 64-91)

LIANG Tseng-yung, Moscow Institute of Engineers of Geodesy, Aerial Photography, and Cartography; author of article, "Determination of Time, Longitude, Latitude, and Azimuth by Photoelectric Methods," in Russian; received on 12 February 1963. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniyy, Geodeziya i Aerofotos'yemka, No 1, 5 Jun 63, pp 73-86)

LIEN Chin-chiang, Moscow Institute of Steel and Alloys; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Action of the Thermophysical Properties of Shell Forms on the Mechanical Qualities of Castings During Pouring in Smelted Patterns," in Russian. (Moscow, Vechernyaya Moskva, 18 Jun 63, p 4)

LIN Wei-kan (2651/3634/1626); author of a technical note titled "Characteristic Impedance of Two Infinite Coaxial Cones of Elliptical Cross Section," received for publication on 15 January 1962. (Peiping, Wu-li Hsueh-pao [Acta Physica Sinica], Vol 19, No 5, May 63, pp 336-339)

LIU Chen-jui (0491/2182/6904), Zose Observatory, Chinese Academy of Sciences; author of an article, "Perturbation Calculations and Orbital Corrections for the Planetoid (43) Ariadne." The author acknowledges the assistance of T'ung Kuang-yu (4547/0342/5940), Hu K'un-lin (5170/0981/2651), and Hsu Tsung-hai (1776/1350/3189). (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 61-65)

LIU Ch'un-wan, Moscow State University; coauthor with V. M. Tatevskiy of article, "New Correlations in the Lower Excited Electronic Levels and Electronic Transitions in the Spectra of Multi-Ring Aromatic Hydrocarbons," in Russian; received for publication on 30 June 1962. (Moscow, Zhurnal Fizicheskoy Khimii, Vol 37, No 6, Jun 63, pp 1336-1342)

LIU Ch'un-wan, Moscow State University; author of dissertation for the scientific degree of Candidate of Chemical Sciences, "Law of Development for P-Field Electron Spectra of Aromatic Condensed Hydrocarbons," in Russian. (Moscow, Vechernyaya Moskva, 17 Jun 63, p 4)

LIU Pao-lin (0491/1405/3829), Purple Mountian Observatory, Chinese Academy of Sciences; author, with Nguyen Vuong Mau Tung of the North Vietnam State Meteorological Bureau, of an article, "The Solar Annular Eclipse of 23 November 1965." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 53-60)

LO Hsin-mao, coauthor woth N. M. Turkevich and L. K. Kunitsa of untitled report on original data on disruptions of endocrine regulations leading to tumor development in the mamary glands of rats, presented at the Eighth International Anticancer Congress held in Moscow on 20-28 Jul 62. (Moscow, Problemy Endokrinologii i Gormonoterapii, No 4, Jul/Aug 63, p 119)

LU Yuan-chiao, Deputy Director of the Institute of Automation, Chinese Academy of Sciences; author of article, "Important Success" [re Soviet space flights of Vostok-5 and Vostok-6], in Russian. (Moscow, Pravda, 25 Jun 63, p 6)

MA Ch'ang-kuei, Institute of Electromechanics, Academy of Sciences USSR; author of article, "Relay of Current Direction on the Hall Effect With Stabilization of Polarizing Stress," in Russian. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Energetika, No 5, May 63, pp 26-30)

MA Mei-shen, Leningrad Institute of Construction Engineers; coauthor with G. N. Nikiforov of entitled report on illuminators at the Institute's 21st Scientific Conference held in February 1963. (Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 6, Jun 63, p 36)

MA Ts'an-wen-yu (sic, probably Ts'an-weng), Moscow Power Engineering Institute; author of dissertation defended in 1961 and approved by the Higher Certifying Commission, for the scientific degree of Candidate of Technical Sciences, "Heat Emission at Surface Boiling in Narrow Ring Canals," in Russian, (Moscow, Teploenergetika, No 4, Apr 63, p 93)

OU Pao-hsiang, Laboratory of Chemical Cancerogenous Substances and Laboratory of Pathomorphology, Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR; coauthor with N. T. Raykhlin of article, "Changes in Some Oxidative-Reductive Enzymes in Inflammatory Excrescences of the Skin," in Russian; received for publication on 14 November 1961. (Moscow, Arkhiv Anatomii, Gistologii, i Embriologii, Vol 44, No 6, Jun 63, pp 93-96)

P'ANG Tseng-min (1690/1073/2404)

HU Ching-t'ang (5170/6930/2768)
Both of Purple Mountain Observatory; coauthors of an article, "1960-1961 Sunsport Observations." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 1, Jun 62, pp 1-8)

SHAO Ken-ta, Leningrad Railroad Engineers' Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Investigation of Characteristics of a New Type of Subterranean Station in Cambrian Clays," in Russian. (Moscow, Vestnik Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Zheleznodorozhnogo Transporta, No 3, 23 May 63, p 65)

SHEN Tsou-t'ing (3088/1146/1694) professor; director, Department of Transportation, Peking Railway College; member, Science Committee, Research Academy of Railroad Sciences; died in Peiping on 31 May 63 at the age of 59. (Peiping, Pei-ching Jih-pao, 6 Jun 63)

SHEN Yung-ch'iu, Moscow Higher Technical School imeni N. E. Bauman; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Investigation of Mobile Fittings Made of Plastic and Metal for Connecting Parts," in Russian. (Moscow, Vechernyaya Moskva, 24 May 63, p 4)

SU Ting-ch'iang (5685/1353/1730), Astronomy Department, Nanking University; author of an article, "A Method of Designing a Maksutov Telescope." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 39-45)

SU Yu-jen, Leningrad State University; coauthor with M. M. Shul'ts, L. L. Makarov, and A. N. Marinichev of article, "Thermodynamic Investigation of the System NH_4Cl-$NiCl_2$-H_2O at 25 Degrees Centigrade (I)," in Russian; received for publication on 2 June 1961. (Moscow, Akademiya Nauk SSSR, Zhurnal Fizicheskoy Khimii, Vol 37, No 6, Jun 63, pp 1219-1222)

T'ANG Mao-ts'ang (3282/2021/5547), Lanchow Institute of Geophysics, Chinese Academy of Sciences; author of an article, "Pressure Systems in the Ch'i-lien Shan Region." The author acknowledges the direction of Kao Yu-hsi (7559/2945/4406). (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 175-188)

TENG Tz'u-p'ing, Kiev State University imeni T. G. Shevchenko; author of dissertation for the scientific degree of Candidate of Physico-Mathematical Sciences, "Experimental Investigation of Nonreciprocal Elements of Ultrahigh Frequency Built on Ferrogarnets and Other Ferrites," in Russian. (Kiev, Pravda Ukrainy, 14 Jun 63, p 4)

T'IEN Chao-wu (3944/2507/2976), Department of Chemistry, Amoy University; author of article, "Theoretical Analysis of the Faradaic Impedance in the Case in Which the Electrode Reaction Involves an Adsorbed Substance," in English; first published in Chinese in Universitatis Amoiensis Acta Scientiarum Naturalium, Volume 8, 1961, pages 94-103. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 987-996)

TS'AI Chen-fei [also known as TS'OY Chen-fei], Leningrad Shipbuilding Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences and approved by the Higher Certifying Commission (1961), "Investigation of the Effect of Pressure in a Condensor on the Economic Effect of Turbine Units in Transport Ships," in Russian. (Moscow, Teploenergetika, No 4, Apr 63, p 94)

TSANG Yu-ch'uan (5258/3768/3123), Department of Human Anatomy, Peking Medical College;

CH'IN T'ing-ch'uan (4440/1694/2938), Peiping Institute of Otorhinolaryngology
Coauthors of article, "Neurotoxicity of Streptomycin," in English; first published in Chinese in Acta Anatomica Sinica, Volume 6, No 2, 1963, pages 107-124. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, pp 1019-1040)

TS'AO Neng-nu, Acoustics Institute,,Academy of Sciences USSR; author of dissertation for the scientific degree of Candidate of Physico-Mathematical Sciences, "Investigation of the Sonic Field in a Medium With Positive or Negative Gradient of the Speed of Sound Under Model Conditions," in Russian. (Moscow, Vechernyaya Moskva, 21 Jun 63, p 4)

TS'AO Wu-jih, Moscow Agricultural Academy imeni K. A. Timiryazev; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Investigation of Facility in Operating Furrow Plows at Increased Speeds," in Russian. (Moscow, Vechernyaya Moskva, 29 Mar 63)

TS'UI Meng-yuan, Institute of Chemical Physics, Academy of Sciences USSR; coauthor with V. V. Azatyan, Yu. M. Gershenzon, and A. B. Nalbandyan of article, "Discovery of Free Hydrogen and Oxygen Atoms in Rarefied Flames of Mixtures of Carbon Monoxide and Hydroxide With Small Additions of Ethylene," in Russian; received for publication on 25 January 1963. (Yerevan, Akademiya Nauk Armyanskoy SSR, Vol 16, No 3, 1 Jun 63, pp 201-203)

TUNG Hsueh-chu, Moscow Higher Technical School imeni N. E. Bauman; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Geometry and Kinematics of Hypoid and Spiroid Transmissions," in Russian. (Moscow, Vechernyaya Moskva, 9 May 63, p 4)

WAN Lai (8001/4704)

LIN Jun-shen (2651/3387/3234)

HSIAO Ch'ih-k'un (5135/3589/3540)

All of the Shanghai Observatory, Chinese Academy of Sciences; co-authors of an article, "Error Determination for the Zeiss Coordinate Measuring Machine." (Peiping, T'ien-wen Hsueh-pao Fu-k'an [Acta Astronomica Sinica: Supplementum], Vol 10, No 2, Dec 62, pp 53-58)

WAN Lai (8001/4704)

MA Tsung-liang (7456/1350/5328)

CHIANG Yun-fen (5592/7301/5358)

All of Zose Observatory, Chinese Academy of Sciences; coauthors of an article, "Precise Photographic Observations of Planetoid Positions at Zose Observatory During 1959." (Peiping, T'ien-wen Hsueh-pao Fu-k'an, Vol 10, No 1, Jun 62, pp 25-30)

WANG Cheng (3769/2398), Institute of Forestry Machinery, Chinese Academy of Forestry Science; author of article, "Attending a University Does Not Equal Having Ideals." (Peiping, Pei-ching Jih-pao, 10 May 63, p 3)

WANG Ch'uan-p'eng, Joint Institute of Nuclear Research; coauthor with V. N. Mekhedov, V. N. Rybakov, and R. A. Shimchak, of article, "Search for Secondary Deuterium and Tritium Capture Reactions," in Russian; received for publication on 7 January 1963. (Moscow, Akademiya Nauk SSSR, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 44, No 6, Jun 63, pp 1800-1805)

WANG Lien-shen, Moscow State University, author of dissertation for the scientific degree of Candidate of Chemical Sciences, "Interaction of Atoms Yielding Tritium With Terpenes," in Russian. (Moscow, Vechernyaya Moskva, 3 Nov 62, p 4)

WANG Ping-wen, Leningrad Railroad Engineers' Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Application of Semiconducting Elements in Remote Control Systems of Electric Centralization of Switches and Signals," in Russian. (Moscow, Vestnik Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Zheleznodorozhnogo Transporta, No 3, 23 May 63, p 65)

WANG Sheng-wang, Mathematics Department, Nanking University; author of article, "Differentiation of the Nemytskiy Operator," in Russian; received for publication on 12 July 1962. (Moscow, Doklady Akademii Nauk SSSR, Vol 150, No 6, 21 Jun 63, pp 1198-1201)

WANG Tso-shu (3769/0155/6615), Institute of Geophysics, Chinese Academy of Sciences; author of an article, "Studies of Low-Level Shear Lines Over the Yangtze-Huai River Vallies." The author acknowledges the suggestions of T'ao Shih-yen (7118/6108/6056) and the assistance of Liu Hsun-hsing (0491/1852/5887), Yao Li-hua (1202/7787/5478), and Huang Wen-t'ang (7806/2429/1016). (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 189-205)

WU Shou-hsien (0702/1343/6343), Shanghai Observatory, Chinese Academy of Sciences; author of an article, "A Comparison Between the 'Joint Time Signal Corrections' and the Soviet Standard Time Interval 1959-1961." The author acknowledges the suggestions and corrections of Yeh Shu-hua (5509/0647/5478), Miao Yung-jui (5379/3057/4213), and Hsia Sheng-hung (1115/4141/1347); T'ung Hsiu-mei (4547/4423/3780) assisted with the computations. (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 2, Dec 62, pp 192-202)

WU T'uan, Kiev State University; author of article, "On the Theory of Linear Differential Equations of the π-Order With Periodic Coefficients," in Ukrainian; received for publication on 4 February 1963. (Kiev, Dopovidi Akademii Nauk Ukraynskoy RSR, No 6, Jun 63, pp 728-732)

WU Wang-yuan, Institute of Organoelemental Compounds, Academy of Sciences USSR; coauthor with V. V. Korshak and S. V. Vinogradova of article, "Heterochain Polyesters: 43. Synthesis of Phosphorus-Containing Polyamide Esters by Interfacial Polycondensation," in Russian; received on 27 November 1961. (Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 5, No 7, Jul 63, pp 969-975)

YANG Ai-hsi, Moscow State University; coauthor with N. I. Shuykin and L. A. Erivanskaya of article, "Dehydrocyclization of 2-Amylnaphthalins in the Presence of Alumochromic Catalyst and Platinized Carbon," in Russian; received for publication on 9 July 1962. (Moscow, Izvestiya Akademii Nauk, Seriya Khimicheskaya, No 7, Jul 63, pp 1284-1289)

YANG Fen-chun, coauthor with I. I. Shafranovskiy and V. A. Mokiyevskiy of article, "On the Parallelism of Forms on the Pyrite and Calcite Crystals From the Darasun Deposit," in Russian. (Moscow-Leningrad, Zapiski Vsesoyuznogo Mineralogicheskogo Obshchestva, No 3, 3 Jun 63, pp 315-316)

YANG Shih, coauthor with A. P. Pikalov of article, "Autodyne for YaMR Spectrometer With Quartz Stabilization Frequency," in Russian. (Yerevan, Doklady Akademii Nauk Armyanskogo SSR, Vol 35, No 5, May 62, p 167)

YANG Shih-chieh (2799/0013/2638), Purple Mountain Observatory, Chinese Academy of Sciences; author of an article, "The Problem of Selecting Materials for Mirrors and the Feasibility of Constructing a Ceramic Mirror." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 30-33)

YANG Shih-chieh (2799/0013/2638), Purple Mountain Observaroty, Chinese Academy of Sciences; author of an article, "Some Problems in the Construction of Modern Telescopes." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 2, Dec 52, pp 203-207)

YANG Shih-chieh (2799/0013/2638)

LI Te-p'ei (2621/1795/1014)
Both of Purple Mountain Observatory, Chinese Academy of Sciences; coauthors of an article, "Results of Testing a 60-cm Parabolic Mirror." (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 24-29)

YAO Chen-sheng (1633/2650/3932), Meteorology Department, Nanking University; author of an article, "Application of Fundamental Laws of Probability Theory to Climatology." The author acknowledges the direction of Chu P'ei-ju (2612/1014/1172) and Ma I-chen (7456/1355/3791). (Peiping, Ch'i-hsiang Hsueh-pao, Vol 33, No 2, May 63, pp 245-256)

YAO Lu-an, Institute of Electrochemistry, Academy of Sciences USSR; coauthor with V. Ye. Kazarinov, Yu. B. Vasil'yev, and V. S. Bagotskiy of article, "Influence of Adsorption on the Rate of the Processes Taking Place on a Platinum Electrode in the Quinone-Hydroquinone System," in Russian; received for publication on 18 March 1963. (Moscow, Doklady Akademii Nauk SSSR, Vol 151, No 1, Jul/Aug 63, pp 151-154)

YEH Shih-hui (5509/1709/3549), Purple Mountain Observatory, Chinese Academy of Sciences; author of an article, "Spectrophotometric Studies of Two Solar Prominences." The author acknowledges the assistance of Yin Ch;un-lin (0603/2504/7207). (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 8-23)

YEH Shih-hui (5509/1709/3549), Purple Mountain Observatory, Chinese Academy of Sciences; author of an article, "The Growth Curve of Solar Prominences." The author acknowledges the assistance of Ch'en Piao (7115/1753); Yin Ch'un-lin (0603/2504/7207) helped with the computational work. (Peiping, T;ien-wen Hsueh-pao, Vol 10, No 2, Dec 62, pp 183-190)

YING Wei-chuan, Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov; coauthor with Z. N. Shevtsova of article, "Solubility in the Systems $SmCl_3$-KCl-H_2O and $YbCl_3$-KCl-H_2O at Temperatures of 25 and 50 Degrees," in Russian; received for publication on 2 July 1962. (Moscow, Zhurnal Neorganicheskoy Khimii, Vol 8, No 7, Jul 63, pp 1749-1752)

YU Chien-ch'i (1429.1696.0967)

HSU Yin-lin (6079.5255/2651)

CHAO Ting-li (6392/1353/3810)

CHANG Ho-ch'i (1728/0735/4388)
All of Purple Mountain Observatory, Chinese Academy of Sciences; coauthors of an article, "A Solar Spectrograph of Purple Mountain Observatory." The authors acknowledge the direction of Ch'en Piao (7115/1753) in the construction of the spectrograph and the assistance of Yeh Shih-hui (5509/0013/3549). (Peiping, T'ien-wen Hsueh-pao, Vol 10, No 1, Jun 62, pp 34-38)

YU Li-shen, Kiev State University imeni T. G. Shevchenko; author of dissertation for the degree of Candidate of Physico-Mathematical Sciences, "Investigation of Some Properties of the Clean Surface of Germanium and Silicon," in Russian. (Kiev, Pravda Ukrainy, 14 Jun 63, p 4)

YUEH Ching-chung (1471/2529/0022), Institute of Mathematics, Chinese Academy of Sciences; author of article, "Secondary Imbedding Classes," in English; received for publication on 9 May 1963. (Peiping, Scientia Sinica, Vol 12, No 7, Jul 63, p 1072)

YUEH Wen-hsuan, Moscow Institute of Radioelectronics and Mining Electromechanics; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Selection of Basic Parameters and Construction Diagram for Mine Hoisting Apparatus With Friction Pulley," in Russian. (Moscow, Vechernyaya Moskva, 21 Jun 63, p 4)

* * *

Central Intelligence Agency

Washington, D.C. 20505

7 September 2004

Ms. Roberta Schoen
Deputy Director for Operations
Defense Technical Information Center
7725 John J. Kingman Road
Suite 0944
Ft. Belvoir, VA 22060

Dear Ms. Schoen:

In February of this year, DTIC provided the CIA Declassification Center with a referral list of CIA documents held in the DTIC library. This referral was a follow on to the list of National Intelligence Surveys provided earlier in the year.

We have completed a declassification review of the "Non-NIS" referral list and include the results of that review as Enclosure 1. Of the 220 documents identified in our declassification database, only three are classified. These three are in the Release in Part category and may be released to the public once specified portions of the documents are removed. Sanitization instructions for these documents are included with Enclosure 1.

In addition to the documents addressed in Enclosure 1, 14 other documents were unable to be identified. DTIC then provided the CDC with hard copies of these documents in April 2004 for declassification review. The results of this review are provided as Enclosure 2.

We at CIA greatly appreciate your cooperation in this matter. Should you have any questions concerning this letter and for coordination of any further developments, please contact Donald Black of this office at (703) 613-1415.

Sincerely,

Nancy Dotson for

Sergio N. Alcivar
Chief, CIA Declassification Center,
Declassification Review and Referral
Branch

Enclosures:

1. Declassification Review of CIA Documents at DTIC (with sanitization instructions for 3 documents)
2. Declassification Status of CIA Documents (hard copy) Referred by DTIC (with review processing sheets for each document)

Processing of OGA-Held CIA Documents

The following CIA documents located at DTIC were reviewed by CIA and declassification guidance has been provided.

OGA Doc ID	Job Num	Box	Fldr	Doc	Doc ID	Document Title	Pub Date	Pages	Decision	Proc Date
AD0335308	78-03117A	194	1	23	4363	Scientific Information Report Chemistry And Metallurgy (26)	3/7/1963	71	Approved For Release	3/25/2004
AD0335625	78-03117A	197	1	3	4460	Scientific Information Report Chemistry And Metallurgy (27)	4/4/1963	51	Approved For Release	3/25/2004
AD0336825	78-03117A	199	1	26	4562	Scientific Information Report Chemistry And Metallurgy (28)	5/9/1963	70	Approved For Release	3/25/2004
AD0332150	78-03117A	183	1	5	3916	Scientific Information Report Chinese Science (11)	10/4/1962	52	Approved For Release	3/29/2004
AD0332434	78-03117A	183	1	40	3951	Scientific Information Report Chinese Science (12)	10/19/1962	59	Approved For Release	3/29/2004
AD0332795	78-03117A	184	1	37	3988	Scientific Information Report Chinese Science (13)	11/5/1962	48	Approved For Release	3/29/2004
AD0333069	78-03117A	186	1	7	4028	Scientific Information Report Chinese Science (14)	11/16/1962	30	Approved For Release	3/29/2004
AD0333148	78-03117A	187	1	19	4078	Scientific Information Report Chinese Science (15)	11/29/1962	44	Approved For Release	3/29/2004
AD0333835	78-03117A	189	1	6	4144	Scientific Information Report Chinese Science (16)	12/21/1962	65	Approved For Release	3/29/2004
AD0334108	78-03117A	190	1	2	4179	Scientific Information Report Chinese Science (17)	1/10/1963	56	Approved For Release	3/29/2004
AD0334105	78-03117A	191	1	12	4230	Scientific Information Report Chinese Science (18)	1/18/1963	25	Approved For Release	3/29/2004
AD0334378	78-03117A	192	1	21	4277	Scientific Information Report Chinese Science (19)	2/1/1963	27	Approved For Release	3/29/2004
AD0334433	78-03117A	193	1	22	4322	Scientific Information Report Chinese Science (20)	2/15/1963	28	Approved For Release	3/29/2004
AD0335021	78-03117A	194	1	37	4377	Scientific Information Report Chinese Science (21)	3/8/1963	59	Approved For Release	3/29/2004
AD0335847	78-03117A	198	1	33	4526	Scientific Information Report Chinese Science (22)	4/18/1963	61	Approved For Release	3/29/2004
AD0336327	78-03117A	200	1	3	4578	Scientific Information Report Chinese Science (23)	5/2/1963	68	Approved For Release	3/29/2004
AD0337167	78-03117A	201	1	26	4643	Scientific Information Report Chinese Science (24)	5/23/1963	95	Approved For Release	3/29/2004
AD0337777	78-03117A	202	1	27	4687	Scientific Information Report Chinese Science (25)	6/6/1963	52	Approved For Release	3/29/2004
AD0338474	78-03117A	203	1	27	4727	Scientific Information Report Chinese Science (26)	6/20/1963	83	Approved For Release	3/29/2004
AD0338687	78-03117A	204	1	32	4772	Scientific Information Report Chinese Science (27)	7/5/1963	80	Approved For Release	3/29/2004
AD0339386	78-03117A	206	1	4	4820	Scientific Information Report Chinese Science (28)	7/17/1963	32	Approved For Release	3/29/2004
AD0339147	78-03117A	207	1	11	4862	Scientific Information Report Chinese Science (29)	7/30/1963	48	Approved For Release	3/29/2004
AD0340927	78-03117A	208	1	35	4924	Scientific Information Report Chinese Science (30)	8/21/1963	53	Approved For Release	3/29/2004
AD0341855	78-03117A	209	1	43	4974	Scientific Information Report Chinese Science (31)	9/5/1963	46	Approved For Release	3/29/2004
AD0342464	78-03117A	210	1	38	5013	Scientific Information Report Chinese Science (32)	9/16/1963	43	Approved For Release	3/29/2004
AD0342608	78-03117A	211	1	36	5054	Scientific Information Report Chinese Science (33)	9/27/1963	41	Approved For Release	3/29/2004