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FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OH
CONTRAST SENSITIVITY OF CIRCUIT TELEVISION SYSTEMS, (U)
JUN 80 L A SHIFRIN
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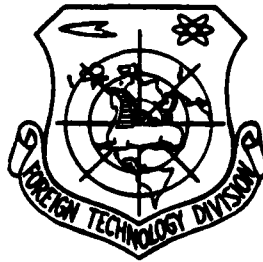


CONTRAST SENSITIVITY OF CIRCUIT TELEVISION SYSTEMS

by

L. A. Shifrin

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U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, sch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
When written as ë in Russian, transliterate as yě or ě.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sin ⁻¹
cos	cos	ch	cosh	arc ch	cos ⁻¹
tg	tan	th	tanh	arc th	tan ⁻¹
ctg	cot	cth	coth	arc cth	cot ⁻¹
sec	sec	sch	sech	arc sch	sec ⁻¹
cosec	csc	csch	csch	arc csch	csc ⁻¹

Russian English

rot curl
lg log

CONTRAST SENSITIVITY OF
CIRCUIT TELEVISION SYSTEMS

L. A. Shifrin

In the television systems using tracing scanning, the control signals are shaped in the feedback loop closed through a photoelectron converter or, in other words, through an image.

It is possible to show that for stable tracing, it is necessary that the scanning radius R exceeded τ - a values which is inverse to the sharpness of the brightness transient. It is obvious that in this case, which is important from a practical standpoint, the value of this difference changes linearly into the amplitude of the video signal, making it possible to identify the contrast K with a transmission coefficient of a certain linear inertialess link.

The presence of a link with such characteristics in the composition of a circuit system with a linear control leads to the fact that the equivalent time constant of the clamping channel of this system τ proves to be proportional to the difference contrast in the degree n , where n is determined by a specific method of shaping of the control signal. According to [1], under similar conditions, the rate of the disturbing effect of the clamping channel Ω is proportional to the square of the contrast. In accordance with this, the dynamic error of reproduction ϵ will prove to be connected with the contrast by the expression

$$\epsilon = \tau \Omega \propto K^{2-n} \quad (1)$$

possible speed in the system - scanning speed.

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3. Поспелов Г.С. Вибрационная линеаризация релейных систем автоматического регулирования. Труды II Всесоюзного Совещания по автоматическому регулированию, г.Льв., "Наука", 1955.