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Cyr.4QK20

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SO: LETOPIS' NO. 31, 1949

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SO: LETOPIS' NO. 31, 1949

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Principles of botanical research in the algology of continental waters. Probl.bot. no.1:184-208 '50. (MLRA 8:11)
(Algae)

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Algae - Karelia

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9. Monthly List of Russian Accessions, Library of Congress, ________ 1953. Unclassified.

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Algae - Borovoye Reservation

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VORONIKHIN, Nikolay Nikolayevich, 1882- ;SHISHKIN, B.K., redaktor.

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R51 R923

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SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

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SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

VORONIN

Water consumption proportioning device. Pozh.delo 6:22 Mr '60. (MIRA 13:6)

1. Zamestitel' nachal'nika Otdeleniya pozharnoy okhrany Angarsk, Irkutskaya oblast'.
(Angarsk--Fire Departments--Equipment and supplies)

Voronin

USSR/General Division - History. Classics. Personalities. A-2

Abs Jour : Ref Zhur - Biologiya, No 1, 1957, 36.

Author : Voronin.
Inst :
Title : The Works of A.A. Bogomolets on Hemodynamics.

Orig Pub : Fiziol. Zh. 1956, 2, No 3, 29-30.

Abst : No abstract.

Card 1/1

VORONIN, fnu Captain

Arctic Exploration

Soviet Source: N: Kommunist Tadzhikistana 28 June 1948 Stalinabad

Abstracted in USAF "Treasure Island" Report No. 41105, on file in Library of Congress, Air Information Division.

VORONIN,A.

Additional source for producing leather goods. Prom.koop. no.3:31 Mr '55. (MLRA 8:11)

1. Predsedatel' pravleniya promsoveta Tul'skoy oblasti (Tula--Harness making) (Belts and belting)

VORONIN, A.

Exhibition of fire prevention posters. Pozh.delo 6 no.9:12 S '60. (MIRA13:9)

(Fire prevention)

VORONIN, A.; IVANOVA, R.

Development of socialist property and the process of collevtivized labor in collective farm production. Sots.trud 4 no.12:3-12 D '59. (MIRA 13:6)

(Collective farms)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001860910008-8"

VORONIN, A.

Use of spacial kinematic diagrams for the study of the construction and setting of machines. Politekh.obuch. no.10: 83-85 O '59. (MIRA 13:2)

1. Pedagogicheskiy institut, Orel.
(Mechanical engineering--Audio-visual aids)

VORONIN, A.

AID P - 4902

Subject : USSR/Aeronautics - Training (DOSAAF)

Card 1/1 Pub. 58 - 8/12

Author : Voronin, A., Head, Flying unit, Kirov's Aeroclub

Title : More attention must be given to the preliminary ground training for forthcoming flights and to the immediate preparation of said flights.

Periodical : Kryl. rod., 8, 12, Ag 1956

Abstract : The article describes in some detail the methods used in preliminary ground training of sportsmen for forthcoming flights at the Aeroclub of Kirov (Kirovskaya Oblast', RSFSR), and outlines the substance of the immediate pre-flight preparation.

Institution : None

Submitted : No date

VORONIN, A.

Fiery sword. Kryl.rod. 13 no.7:5 Jl '62. (MIRA 16:2)
(World War, 1939-1945—Aerial operations)

VORONIN, A.

Bring theory and practice as close together as possible. Kryl. rod. 8 no.7:17 Jl '57. (MLRA 10:9)

1. Nachal'nik letnoy chasti Kirovskogo oblastnogo aerokluba.
(Aeronautics--Study and teaching)

VORONIN, A., starshiy inzhener.

Wide-range dissemination of technological information. Rech. transp. 19 no.10:45-46 O '60. (MIRA 13:11)
(Inland water transportation--Technological innovations)

VORONIN, A.

Combining the agricultural and industrial production in a village. Vop. ekon. no.10:83-90 O '61. (MIRA 14:10)
(Agriculture—Economic aspects)

SOV/84-58-10-17/54

AUTHOR: Voronin, A., OTK (Technical Control Division)

TITLE: Our Komsomol Youth (Nasha komsomol'skaya yunost') Two Pieces of Advice (Dva soveta)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 10, p. 10 (USSR)

ABSTRACT: The author, a former Komsomol member, relates events of his past life and advises the young generation not to scorn any labor, and to continue learning in order not to be by-passed by life. There is 1 photo of the author.

Card 1/1

VORONIN, A.A.

Soft container for storing petroleum products. Rech.transp. 18 no.10:56 O '59. (MIRA 13:2)

1. Starshiy inzhener Moskovskogo parokhodstva.
(Petroleum storage)

VORONIN, A. A.

Inland Water Transportation

Intensify the struggle for lowering the cost of transportation. Rech. transp., No. 12,#4 4:23-25 1952

9. Monthly List of Russian Accessions, Library of Congress, ____?____ 1953. Unclassified.

28790
B/106/61/000/010/002/006
A055/A127

6.9400 (also 1031)

AUTHOR: Voronin, A. A.

TITLE: Potential noise immunity in radio-channels with random variation of the parameters

PERIODICAL: Elektrosvyaz', no. 10, 1961, 11 - 18

TEXT: In the works already published [Ref. 1: L. M. Fink, "O potentsial'noy pomekhoustoychirosti pri neopredelennoy faze signala" (On the potential noise immunity with indeterminate signal phase), "Radiotekhnika", 1959, v. 14, no. 1; Ref. 2: L. M. Fink, "O potentsial'noy pomekhoustoychirosti pri zamiraniyakh signala" (On the potential noise immunity during signal fading), "Radiotekhnika", 1960, no. 9; Ref. 3: D. D. Klovskiy, "Voprosy potentsial'noy pomekhoustoychirosti pri zamiraniyakh signala" (Problems of potential noise immunity during signal fading), "Radiotekhnika", 1960, no. 15, no. 5] the problem of the potential noise immunity as applied to channels with random variation of the parameters has been treated under the assumption that the amplitudes and phases of the incoming signals are distributed according either to the Rayleigh law or to the generalized Rayleigh

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law. The present article is a more general examination of this problem, the amplitude and phase distribution laws being assumed unknown. The author investigates the case of the single-reception channel in the absence of inter-symbol interference. In that case:

$$y(t) = \beta(t)S[t-\tau(t)] + \nu(t), \quad (2)$$

$y(t)$ being the signal at the channel output, $\beta(t)$ the multiplicative components of interferences, $\tau(t)$ their time components, $\nu(t)$ their additive components (white noises) and $S(t)$ the transmitted signal. It is assumed that, during the interval T, the transmitter radiates one of the N possible signals, the a priori probabilities of the signals being equal, and the "value of losses" [Abstracter's note: the quotation marks are used by the author himself.] at the fixation of the r-th signal (when the q-th signal has been transmitted) being the same. Expanding signal $S_r(t)$ into a Fourier series, the following expression is obtained:

$$y(t) = \sum_{k=1}^{\infty}\beta_{r,k}(t)\left\{a_{r,k}\cos[k\omega_0 t-\psi_{r,k}(t)] + b_{r,k}\sin[k\omega_0 t-\psi_{r,k}(t)]\right\} + \nu(t) \quad (4)$$

where $\omega_0 = \frac{2\pi}{T}$, $r = 1,\ldots,N$. (3)

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Potential noise immunity in radio-channels with...

Assuming that $\beta_{r,k}(t)$ and $\Psi_{r,k}(t)$ do not change during T and that the fading is smooth, we can state that $\beta_{r,k}(t) = \beta_r$ and $\Psi_{r,k}(t) = \Psi_r$. The process $\nu(t)$ can be represented by its canonical expansion

$$\nu(t) = \sum z_m \bar{\Phi}_m(t) \qquad (6)$$

where $z_m \int_0^T \nu(t)\bar{\Phi}_m(t)dt$ are independent normal components, $E[z_m] = 0$, $E[z_m^2] = \sigma_m^2$, and and $\bar{\Phi}_m(t)$ are coordinate functions satisfying equation:

$$\int_0^T K(t,u)\bar{\Phi}_m(t)dt = \lambda_m \bar{\Phi}_m(u) \qquad (7)$$

$K(t,u)$ being the correlation function of $\nu(t)$ and λ_m being the eigenvalues equal to σ_m^2. Under these conditions:

$$y_m = \int_0^T y(t)\bar{\Phi}_m(t)dt, \qquad (8)$$

and the coordinates of the signal in the reception point will be equal to

$$y_m = z_m + s_{m,r}, \qquad (9)$$

where $s_{m,r}$ is the mathematical expectation of y_m;

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Potential noise immunity in radio-channels with...

$$\left.\begin{aligned} s_{m,r} &= \beta_r \sum_{k=1}^{\infty} c_{m,r,k} \cos\psi_r + \beta_r \sum_{k=1}^{\infty} d_{m,r,k} \sin\psi_r, \\ c_{m,r,k} &= \int_0^T \bar{\Phi}_m(t)(a_{r,k}\cos k\omega_0 t + b_{r,k}\sin k\omega_0 t)dt, \\ d_{m,r,k} &= \int_0^T \bar{\Phi}_m(t)(a_{r,k}\sin k\omega_0 t - b_{r,k}\cos k\omega_0 t)dt, \end{aligned}\right\} \quad (10)$$

For the estimation of the most probable parameters β_r and ψ_r, the author resorts to the maximum verisimilitude method of Davenport and Root [Ref.: Introduction to the Theory of Random Signals and Noise. New York, 1958]. He finds (for M observed coordinates):

$$\beta_r = \frac{\sum_{m=1}^{M} \frac{1}{\sigma_m^2} \cdot y_m(a_{m,r}\cos\psi_r + b_{m,r}\sin\psi_r)}{\sum_{m=1}^{M} \frac{1}{\sigma_m^2}(a_{m,r}\cos\psi_r + b_{m,r}\sin\psi_r)^2} \quad (14)$$

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Potential noise immunity in radio-channels with....

(where $a_{m,r} = \sum_{k=1}^{\infty} c_{m,r,k}$; $b_{m,r} = \sum_{k=1}^{\infty} d_{m,r,k}$)

and

$$\operatorname{tg}\psi_r = \left[\left(\sum_{m=1}^{M}\frac{a_{m,r}^2}{\sigma_m^2}\right)\left(\sum_{m=1}^{M}\frac{y_m b_{m,r}}{\sigma_m^2}\right) - \left(\sum_{m=1}^{M}\frac{a_{m,r}b_{m,r}}{\sigma_m^2}\right)\left(\sum_{m=1}^{M}\frac{y_m a_{m,r}}{\sigma_m^2}\right)\right] : \left[\left(\sum_{m=1}^{M}\frac{b_{m,r}^2}{\sigma_m^2}\right)\left(\sum_{m=1}^{M}\frac{y_m a_{m,r}}{\sigma_m^2}\right) - \left(\sum_{m=1}^{M}\frac{a_{m,r}b_{m,r}}{\sigma_m^2}\right)\left(\sum_{m=1}^{M}\frac{y_m b_{m,r}}{\sigma_m^2}\right)\right]. \quad (15)$$

For $M \to \infty$:

$$\sum_{m=1}^{M}\frac{b_{m,r}^2}{\sigma_m^2} = -\int_0^T S_r^*(t) f_d(t)\,dt \quad (16)$$

where $S_r^*(t)$ is a function conjugated (according to Hilbert) with $S_r(t)$;

$$f_d(t) = \lim_{M\to\infty}\sum_{m=1}^{M}\frac{\sum_{k=1}^{\infty} d_{m,r,k}}{\sigma_m^2}\Phi_m(t).$$

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Potential noise immunity in radio-channels with...

In the case of white noises:

$$f_d(t) = -S_r^*(t). \qquad (18)$$

Then:

$$\lim_{M\to\infty} \sum_{m=1}^{M} \frac{b_{m,r}^2}{\sigma_m^2} = P_{sign.,r}. \qquad (19)$$

Deriving also analogous expressions for the other sums appearing in (14) and (15), the author finally obtains:

$$\beta_r = \frac{(\cos\Psi_r)\int_0^T y(t)\cdot S_r(t)dt - (\sin\Psi_r)\int_0^T y(t)\cdot S_r^*(t)dt}{P_{sign.,r} - (\sin 2\Psi_r)\int_0^T S_r(t)S_r^*(t)dt}, \qquad (24)$$

and

$$tg\Psi_r = \frac{\int_0^T y(t)S_r(t)dt \cdot \int_0^T S_r(t)\cdot S_r^*(t)dt - P_{sign.,r}\int_0^T y(t)\cdot S_r^*(t)dt}{P_{sign.,r}\int_0^T y(t)S_r dt - \int_0^T y(t)S_r^*(t)dt \cdot \int_0^T S_r(t)S_r^*(t)dt}. \qquad (25)$$

Analogous expressions are found for the transmission of signal $S_q(t)$. In the examined case; the verisimilitudecequation will be:

$$\log\frac{p_r(y_1,\ldots,y_M)}{p_q(y_1,\ldots,y_M)} = 0. \qquad (28)$$

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Potential noise immunity in radio-channels with...

The use of equation (28) and adequate substitutions make it possible to obtain the reception criterion:

$$\frac{\theta_r^2 - 2X_r \cdot Y_r \cdot \gamma_r}{P_{sign.,r}(1-\gamma_r^2)} > \frac{\theta_q^2 - 2X_q \cdot Y_q \cdot \gamma_q}{P_{sign.,q}(1-\gamma_q^2)} \qquad (29)$$

where $\theta^2 = \sqrt{X^2+Y^2} = \sqrt{[\int_0^T y(t)S(t)dt]^2 + [\int_0^T y(t)S^*(t)dt]^2}$

and $\gamma = \frac{1}{P_{sign}} \int_0^T S(t)S^*(t)dt$. For systems with active interval and with $\gamma_r = \gamma_q = \gamma$, the criterion is:

$$\theta_r^2 - 2X_r Y_r \cdot \gamma > \theta_q^2 - 2X_q \cdot Y_r \cdot \gamma. \qquad (29')$$

After a brief description of one of the possible systems permitting to realize this criterion [this system contains N generators reproducing the shape of the expected signals, N phase-shifters and 2N multipliers to which are applied y(t) and the reference voltages], the author determines the probabilities of errors at coherent and noncoherent reception for orthogonal systems, this determination being limited to two-position systems where two different signals $S_1(t)$ and $S_2(t)$ are possible. In coherent reception, and in the absence of fading, the probability of error is:

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$$P_{error} = \frac{1}{2}\left[1-\Phi(\alpha)\right] \qquad (31)$$

where $\Phi(\alpha) = \frac{2}{\sqrt{2\pi}}\int_0^{\alpha} e^{-\frac{x^2}{2}}dx$

and $\alpha^2 = \frac{\beta^2}{2P_{interf.}}\int_0^T \left[S_1(t)-S_2(t)\right]^2 dt = \beta^2 \frac{P_{sign.}}{P_{interf.}}$. The knowledge of the distribution law for β is necessary. The generalizing law is the m-distribution:

$$p(x) = \frac{2m^m x^{2m-1}}{\Gamma(m)\Omega^m} e^{-\frac{m}{\Omega}x^2} \qquad (33)$$

where $\Omega = \overline{x^2}$ and $m = \frac{(\overline{x^2})^2}{(x - \overline{x^2})^2} \geqslant \frac{1}{2}$ (the Rayleigh law, for instance, being obtained at m = 1). Taking into account that: $\alpha = \frac{\beta}{\beta_0}\alpha_0$

where $\alpha_0^2 = \frac{\beta_0^2}{2P_{interf.}}\int_0^T \left[S_1(t)-S_2(t)\right]^2 = \frac{P_{sign.}}{P_{interf.}}$ and $\beta_0 = \sqrt{\Omega}$, the author obtains, after appropriate substitutions:

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$$P_{error} = \frac{1}{2}\left[1 - m^m \frac{\Gamma(m+0.5)}{\Gamma(m)} \frac{2^{m+1}}{\sqrt{\pi}} \int_0^{\alpha_0} \frac{dx}{(2m+x^2)^{m+1/2}}\right]. \qquad (34)$$

In the case of noncoherent reception, he obtains, for orthogonal systems:

$$P_{error} = \frac{m^m 2^{m-1}}{(2m+\alpha_1^2)^m}. \qquad (38)$$

In conclusion the author states that, to ensure the same probability of error, the necessary signal power is nearly halved in the case of coherent reception. There are 4 figures, 5 Soviet-bloc and 3 non-Soviet-bloc references. The English-language references are: Green. The Output Signal-to-Noise Ratio of Correlation Detectors. "Trans. of IRE", 1957, v.IT-3; Davenport, Root. Introduction to the Theory of Random Signals and Noise. New York, 1958. Statistical Methods in Radio Wave Propagation. New York, 1960.

SUBMITTED: October 10, 1960

[Abstracter's note: The following subscripts are translated in formulae: error stands for ош; interf. stands for п; sign. stands for с]

Card 9/9

VORONIN, A.A.

Spectra of pseudorandom binary sequences. Elektrosviaz' 19 no.2:77-79 F '65. (MIRA 18:3)

L 34793-66 EWT(1)

ACC NR: AR6017206 SOURCE CODE: UR/0058/65/000/012/A035/A035

AUTHOR: Voronin, A. A.

TITLE: Semiconductor electrometric amplifier

SOURCE: Ref. zh. Fizika, Abs. 12A332

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat, 1964, 90-99

TOPIC TAGS: amplifier design, electrometry, silicon diode, resistance bridge, current stabilization, electric measurement/ D810 silicon diode, D811 silicon diode

ABSTRACT: An electrometric amplifier constructed of semiconductor devices is described, with dc to ac conversion modulation of the nonlinear capacitance of silicon stabilitrons (ballast diodes) (type D810 and D811), whose capacitance scatter about the mean value is small. Stabilitrons whose temperature coefficient differs by not more than 5% were selected. The modulator is constructed in the form of a balanced bridge, two neighboring arms of which comprise two stabilitrons, and the two others are fixed resistors. The input signal is fed through a resistor in the diagonal of the balanced bridge. Temperature compensation of the modulator is by means of a temperature-independent bridge circuit. The modulator output voltage is fed to an ac amplifier, a phase detector, and a dc amplifier. The instrument has 18 current-measurement ranges, 10^{12} - 3×10^{-4} a, and its gain (with the feedback loop open) is 5×10^{5}; at the lower limit, the rise time is 1.5 sec at a noise of 0.8% of the maximum output voltage; the daily drift at the input is smaller than 10^{-13} a. [Translation of abstract]

SUB CODE: 09, 20

Card 1/1

VORONIN, A.A.

Problem concerning the potential interference rejection of radio channels with random variation of parameters. Elektrosviaz' 15 no.10:11-18 O '61. (MIRA 14:10)

(Radio)

L 34035-66 EWP(1)/[illegible] IJP(c) BB/GG

ACC NR: AR6017196 SOURCE CODE: UR/0058/65/000/012/A032/A032

AUTHOR: Voronin, A. A.

41

TITLE: Precision code-analog converter 16

B

SOURCE: Ref. zh. Fizika, Abs. 12A313

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po vadern. radioelektron. T. 2. M., Atomizdat, 1965, 52-57

TOPIC TAGS: computer coding, binary code, analog encoder, digital analog converter

ABSTRACT: The author discusses the difficulty of obtaining good uniformity of the scale of conversion in converters from binary code into analog quantities, constructed [illegible] The principle of conversion of binary code into a pulse off-duty cycle is considered. It is noted that when the number of digits in such a converter is large, it is difficult to obtain a good operating speed. A 12-digit converter is described, designed to insert information in the form of a binary code into an electronic analog computer. In this converter, to obtain good uniformity of the scale at sufficiently [illegible] operating speed, use is made of a combination of the principle of digit-by-digit summation and conversion into pulse [illegible] The non-uniformity of the conversion scale is better than 0.01% of the entire scale. L. S. [Translation of abstract]

SUB CODE: 20, 09

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L 09917-67 EWT(d)/FSS-2/EWT(1)

ACC NR: AP6023603 SOURCE CODE: UR/0106/66/000/007/0073/0075

AUTHOR: Voronin, A. A.

ORG: none

TITLE: Noise-like signals — an efficient method of reducing fading

SOURCE: Elektrosvyaz', no. 7, 1966, 73-75

TOPIC TAGS: signal transmission, signal noise separation

ABSTRACT: The functioning of the F. Lange signal-transmission system ("Correlation Electronics," Sudpromgiz, 1963) is theoretically considered. In this system, the transmitting end (see Fig. 1) comprises: noise generator 1, filter 2 having $\Delta f \ll f_0$, delay line 3, phase reverser 4, summator 5, and transmitter proper Tmr; the receiving end (see Fig. 2) includes: receiver proper Rvr, delay line 1, multiplier 2, and integrator 3. The theoretical

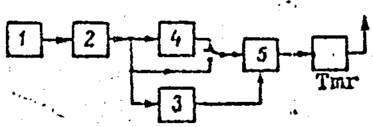

Fig. 1 - Transmitting end

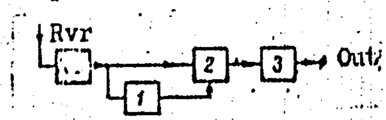

Fig. 2 - Receiving end

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ACC NR: AP6023603

analysis shows that: (1) With a certain relation between the delay time and the central frequency f_0, the error can be minimized; (2) If wideband noise-like signals are used, the ratio of signal energy to noise spectral density is constant, and $2T\Delta f = \sqrt{5h}$, then the error probability is minimized; here, T - signal duration, Δf - frequency band; (3) When smooth and selective fading is encountered, the error probability is independent of the law of amplitude distribution. Orig. art. has: 4 figures and 13 formulas.

SUB CODE: 17, 09 / SUBM DATE: 24Mar65 / ORIG REF: 004

VORONIN, A. A.

Mining Engineering

Dissertation: "Investigation of the Properties of Low-Inertia Dynamometers for Measuring Forces in Metal Cutting." Cand Tech Sci, Moscow Aviation Technological Inst, 19 Mar 54. (Vechernyaya Moskva Moscow, 8 Mar 54)

SO: SUM 213, 20 Sep 1954

VORONIN, A.A., kandidat tekhnicheskikh nauk.

On the properties of low-inertia dynamometers for measuring metal-cutting forces. Vest.mash.35 no.10:51-56 O '55. (MLRA 9:1)

(Dynamometer) (Metal cutting)

VORONIN, A.A.

122-3-20/30

AUTHOR: Voronin, A.A. Candidate of Technical Sciences.

TITLE: A Universal Dynamometric Milling Cutter Head ДУГ-2 (Dinamometricheskaya universal'naya frezernaya golovka DUG-2)

PERIODICAL: Vestnik Mashinostroyeniya, 1957, No.3, pp. 50-53 (USSR)

ABSTRACT: A torque-meter head arranged for mounting milling face cutters of 50 to 500 mm dia. on a spigot or a mandrel is described. Its torque range is 0.5 to 50 kgm and its natural frequency about 450 c.p.s. For torque measurements a number of condenser elements are used, each pair connected differentially. The amplifier is electronic, working on the principle of amplitude modulation of a carrier frequency. The amplifier output is recorded by an oscillograph. The unit is designed for a maximum of 1 000 r.p.m. A plan view and a cross-sectional drawing are reproduced. The differential condenser elements are the gaps between the external radial blades of a star-shaped ring mounted on the cutter carrying mandrel and one plate; each side of every blade is fixed on the housing type base of the unit. The mechanical connection between the ring and the housing consists of spokes acting as leaf springs. The small condenser gaps are filled by layers of mica. The slip rings for current collection are at the extreme end of the tool spindle. Their surface speed does not exceed 0.2 m/sec. A standard

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strain gauge amplifier has been adapted for use as a carrier amplifier. The measuring head output is led to a bridge circuit fed with an audio-frequency (6 500 c.p.s.) by an oscillator through a buffer stage. A low-pass filter removes the carrier frequency from the output. The calibration of the instrument is discussed. It is shown, with the help of measurements, that its calibration is independent of the direction of the cutting force. The indicated current depends solely on the torque and not on individual force components.

There are 4 figures (including 1 graph) and 5 Slavic references.

AVAILABLE: Library of Congress

28(5) SOV/115-59-4-11/27

AUTHOR: Voronin, A.A.

TITLE: Equipment for Measuring the Cutting Force on a Lathe (Apparatura dlya izmereniya sily rezaniya pri tochenii)

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 4, pp 17-19 (USSR)

ABSTRACT: NIAT developed a low-inertia equipment for measuring the three cutting force components on a lathe. The equipment consists of standard industrial devices and a number of special accessories built according to plans of NIAT. The measuring set consists of the following units: one low-inertia, three-component lathe dynamometer TDV-2; one calibrating device PTV-2 with a set of calibrating plates; one loop oscillograph MPO-2 for recording the measurements; one three- or four-channel amplifier (for the resistance wire transducers), with rectifier, voltage stabilizer and three microammeters; and various auxiliary accessories. The amplifier unit is described in [Ref 1]. The author describes in

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detail the TDV-2 dynamometer, which is installed on the tool rest of a lathe. It consists of a housing, whose front end will hold a standard cutting tip. The forces acting on the tip are transmitted by a system of elastic elements, as shown in figure 1, to a system of resistance wire transducers, shown in figure 2. The wire transducers are connected to the input amplifier bridges. Before starting the actual measurement of the cutting force, the dynamometer must be calibrated by the PTV-2 device. The latter is installed between the centers of the lathe and the cutting tip of the dynamometer is replaced by a plate. Then static pressure is applied to the dynamometer and by the readings of the microammeters, a calibration graph is plotted, as shown in figure 5. The graph must be used when processing the oscillograms. Figure 4 is a diagram of the calibrating device. Since the dynamometer TDV-2 has a low inertia, calibrating by static force is permissible. The experimental investigation and the

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Equipment for Measuring the Cutting Force on a Lathe

actual operation of this equipment proved its suitability for recording slow and rapid change of the three cutting force components within a range of 20-600 kg at any applicable cutting speed. The equipment is vibration-proof. The sum error is ± 4%. There are 4 diagrams, 1 graph and 2 Soviet references.

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VORONIN, A.A.

The DUG-3 universal dynamometer head. Izm.tekh. 20 no.1:20-22 Ja '59. (MIRA 11:12)

(Dynamometer)

1.5100

86163

S/121/60/000/011/007/013
A004/A001

AUTHOR: Voronin, A. A., Markov, A. I.

TITLE: Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

PERIODICAL: Stanki i Instrument, 1960, No. 11, pp. 15-17

TEXT: Investigations have been carried out to study the effect of ultrasonic vibrations on turning and surface grinding of heat-resistant alloys. Since the surface finish and tool life depend to a great extent on the contact-surface interaction of the cutting part of the tool and the material being machined, high sonic or ultrasonic vibrations of small amplitude are able to affect this interaction, while they do not show any effects,

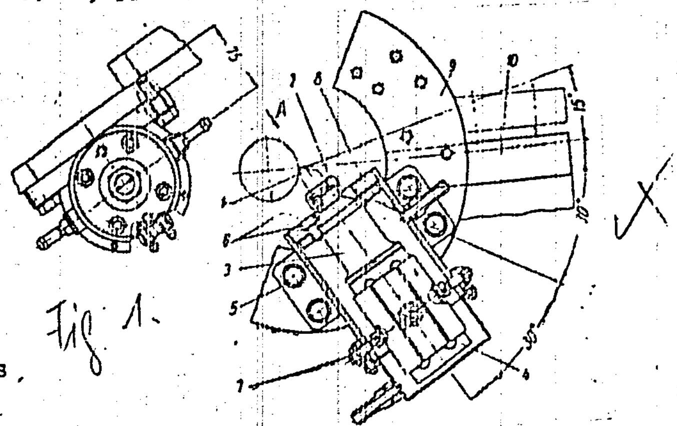

Fig. 1.

Figure 1:

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Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

on the dimensions and shape of the workpiece being tooled. Figure 1 shows the magnetostriction vibration head producing radial-tangential vibrations of the tool. Tool 1 by nut 2 is tightened to concentrator 3. The vibration system composed of block 4, concentrator 3 and tool 1 is fastened to body 8 by screws 6 and 7. The tool top is located in the zone near the translation antinode of the concentrator. With the aid of a flange, body 8 is screwed to connection plate 9 welded on to strip 10 which is clamped into the tool post of the machine tool. The vibration head can take four different positions on connection plate 9 which makes it possible to change the direction of ultrasonic vibrations in the radial-tangential direction. The ГУЗ-5П (GUZ-5P) generator was used as the source of electric vibrations. Its maximum output power amounts to some 3.5 kw, while its frequency range is between 13 and 30 kc. The grinding tests established the effects of ultrasonic vibrations on the surface finish, quality of surface layer and grinding disk wear. Figure 3 shows the dependence of the rms-height of microroughness H_{rms} on the depth of cut t during the surface grinding of the heat-resistant steel grades ЭИ437Б (EI437B) and ЖС6 (ZhS6) with and without vibrations. Vibration frequency was 21 kc, double amplitude of vibration 2A = 0.015 ÷ 0.018 mm. Grinding was carried out by a ЭБ60СТ2К (EB60ST2K) grinding

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85153

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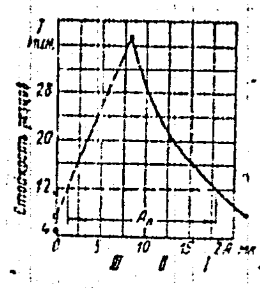
A004/A001

Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

disk with cooling by a 5%-emulsion at the following grinding conditions: v_d = 21 ÷ 25 m/sec, s_{long} = 4.6 m/min, s_{trans} = 5 mm/double motion. As a result of the tests it was found that the use of high sonic or ultrasonic vibrations of small amplitude (double amplitude, 10-15) greatly improves the surface finish - surface roughness decreases by 1.5 - 2 times -, and also reduces the cutting forces and temperature. However, the grinding disk wear increases by approximately 1.5 times. In turning of heat-resistant alloys the effects of ultrasonic vibrations on the tool life, deformation of the layer being cut and finish of the machined surface were studied. Figure 4 shows the depencence of the tool life (P18 - R18 - grade steel) on the amplitude of ultrasonic vibrations of radial direction of 22 kc frequency. Heat-resistant EI437B alloy was machined under the following conditions: v = 10 m/min, s = 0.2 mm/rev, t = 0.5 mm, blunting criterion h_d = 0.6 mm. Figure 5 shows an analogous dependence obtained with radial-tangential vibrations of a R18 tool. Vibration amplitude in radial direction A_r = 0.97 A, in tangential direction A_t = 0.26 A, where A is the

Figure 4:



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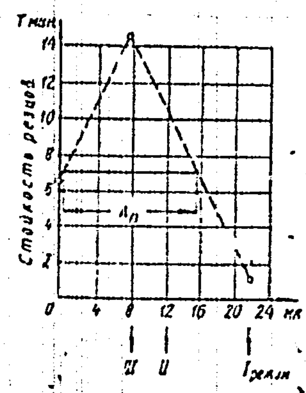
86163

S/121/60/000/011/007/013
A004/A001

Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

magnitude of the vibration amplitude of the tool top. The heat-treated EI437B alloy was machined at v = 12 m/min, s = 0.2 mm/rev, t = 0.5 mm. A_n in figures 4 and 5 marks the range of double amplitudes of tool vibrations which has a positive effect. Condition I means ultrasonic vibrations of great intensity (maximum output power of generator about 3.5 kw), condition II = vibrations of medium intensity (at a medium output power of about 2 kw) and condition III = vibrations of low intensity (at a minimum output power of the generator of about 1 kw). As a result of the tests carried out it was found, that the application of radial-tangential ultrasonic vibrations to high-speed cutting tools increase their wear resistance by three times or more, while showing a de decrease in the wear resistance of sintered carbide tools (in this case the ВК8 (VK8) grade sintered carbide was tested). However, ultrasonic vibration turning practically does not affect the surface finish of the machined workpiece. Table 2 presents data on the surface finish of EI437B specimens machined with and without transverse ultra-

Figure 5:



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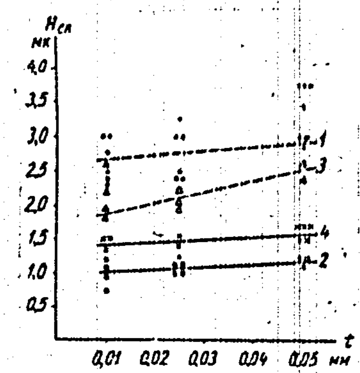
A004/A001

Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

sonic vibrations at v = 8 m/min, t = 0.5 mm, s = 0.2 - 0.6 mm/rev with cooling. As the investigation results show, increased or lowered tool wear resistance depends also on the intensity of the ultrasonic vibrations.

Figure 3. The dependence of H_{rms} on t, grinding the EI437B alloy: 1 - without ultrasonics, 2 - with ultrasonics; grinding the ZhS6 alloy: 3 - without ultrasonics, 4 - with ultrasonics.



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86363

S/121/60/000/011/007/013
A004/A001

Effects of Ultrasonic Vibrations on Machining of Heat-Resistant Alloys

Table 2:

Operation Conditions	Feed in mm/rev								
	0.2			0.4			0.6		
	Conditions								
	I	II	-	I	II	-	I	II	-
	H_{av} in								
Without Ultrasonic Vibration	-	-	14.0	-	-	10.6	-	-	28
With Ultrasonic Vibration	16.7	16.1	-	10.1	-	-	20.1	-	-

There are 6 figures, 2 tables and 2 references: 1 Soviet and 1 USA.

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84629

S/182/60/000/003/001/007
A161/A029

1.1200

AUTHORS: Karnov, M.Ya.; Voronin, A.A.

TITLE: Vibrational Deformation Method

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 3, pp. 3 - 8

TEXT: Experiments have been carried out at a (not named) plant laboratory with a hydraulic 100-ton experimental press (Fig. 1) with vibrating vertical plunger. The press produces an alternating force of up to 350 tons; the maximum oscillations frequency of the oscillator connected mechanically to the press plunger is 1,500/min; the oscillations amplitude is adjustable from fractions of 1 mm to 25 mm. Specimen material was 40XHMA (40KhNMA) steel, aluminum alloys AK-6 (AK-6) and ВД-17 (VD-17) and the titanium alloy BT-2 (VT-2). Deformations and forces were measured by an especially built electro-dynamometric system (Fig. 2) with resistance wire pickups. Detailed description of the experimental technique, press design and measuring system is included. For comparison, experiments were carried out also on a 1,000-ton coining press. As seen in curves (Fig. 5), the plasticity of the titanium alloy increased in vibrational stamping with different temperature. Cold stamped VD-17 alloy had a 30 - 40% higher plas-

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84629

S/182/60/000/003/001/007
A161/A029

Vibrational Deformation Method

ticity, titanium alloy VT-2 stamped with vibration, hot or cold, had 25% more than after deformation with the coining press, and twice as high as after drop forging. A photo (Fig. 6) shows macrostructure of the AK-6 alloy after deformation on a nonvibrating (a) and the vibrational (b) press. The most homogeneous and fine structure was obtained in specimens swaged on the vibrational press with the use of a lubricant. The method will be used for mass-production. It has the following advantages: 1) More uniform deformation of metal. 2) Up to 60% lower friction on contact surfaces. 3) Up to 40% higher plasticity obtained in light and titanium alloys and structural steel. 4) Work pressure is 1.5 - 2 times lower, and this increases the die life and reduces the required power. 5) The accuracy of work is considerably higher. Blanks (blades) from VD-17 alloy were obtained with +0.05 mm allowance for polishing, and with better surface finish than is possible with mechanical stamping and coining presses. Engineers V.I. Vlasov, B.I. Petrov, A.P. Rogachevskiy, V.A. Filatov (deceased), M.S. Sotskiy and S.N. Shestakov took part in the experiments. There are 8 figures.

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VORONIN, A.A.; MARKOV, A.I.

Effect of ultrasonic oscillations on the cutting of heat-resistant alloys. Stan.i instr. 31 no.11:15-17 N '60. (MIRA 13:11)
(Metal cutting)
(Ultrasonic waves--Industrial applications)

VORONIN, A.A.

Low-inertia dynamometric table. Izm. tekh. no. 6:18-20 Je '60.
(MIRA 14:2)

(Dynamometer)

VORONIN, A.A.; MARKOV, A.I.; SHCHERBAK, M.A.

Effect of the application of ultrasonic oscillations in grinding on the strength of cutting tools. Stan.i instr. 32 no.2:14-16 F '61. (MIRA 14:2)

(Ultrasonic waves—Industrial applications)
(Grinding and polishing)

25903 S/121/61/000/002/001/005
A207/A101

1.1100

AUTHORS: Voronin, A. A., Markov, A. I., Sherbakov, M. A.

TITLE: Ultrasonic vibrations in grinding cutting tools

PERIODICAL: Stanki i Instrument, Mashgiz, no. 2, 1961, 14 - 16

TEXT: Previous investigations of the authors (Ref. 1) have shown that excitation of low-amplitude high-frequency vibrations in flat grinding of heat-resistant alloys and tool steels improves considerably the quality of the surface. Further experiments were conducted to investigate the effect of forced ultrasonic vibrations in grinding on the wear-resistance of the cutting tools. High-speed P 18 (R-18) steel and BK 8 (VK8) sintered carbide plates were studied. The vibration parameters were: frequency, 22 kc, and double amplitude, 0.01 - 0.015 mm. The wear resistance was evaluated on a continuously turning heat-resistant alloy. The experiments showed that, in all cases, grinding with ultrasonic vibrations considerably improved the wear-resistance of the cutting tools. For the R18 steel cutters the greatest improvement was observed in the range of higher cutting speeds. Test data showed that the wear-resistance of the VK8 cutters (92% tungsten carbide, 8% cobalt) ground with ultrasonic vibrations was more than twice that of conventionally

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ground cutters. The НЭЛ -IV (NEL-IV) type magnetostrictional vibrator-nickel block was used as the source of mechanical vibrations. The vibrational head was power supplied from a ГУЗ -5П (GUZ-5P) ultrasonic generator, with a maximum output power of about 3.5 kw. The ЭБ 60СМИК (EB60SMIK) sphere was used for the grinding of the fast-cutting plates, and the КЧ 60СМИК- (KCh60SMIK) sphere-for the sintered carbide plate. The cutting tool resistance in both cases was determined by taking the usual blunting criterion - the magnitude of wear along the back edge equal to h = 0.6 mm. Figure 5 shows the relationship between the cutting speed and the resistance for the R18 tools ground with and without vibrations. The following v-T relationships could be derived from these graphs: 1) when working with tools ground with ultrasonic vibrations: $v = \frac{15.3}{T^{0.16}}$ m/min; 2) when grinding with tools which are ground without vibrations: $v = \frac{9.7}{T^{0.06}}$ m/min (T - service time). The results of comparative experiments of the tool resistance with VK8 plates ground with and without vibrations is given by the table: the data show that the resistance of the cutters ground at ultrasonic vibrations exceeds those ground without vibrations by a factor of two. It is pointed out that an even greater effect can be expected when grinding the tools with cooling. The authors derive the following conclusions from experimental data: 1)

Ultrasonic vibrations in grinding cutting tools 25903

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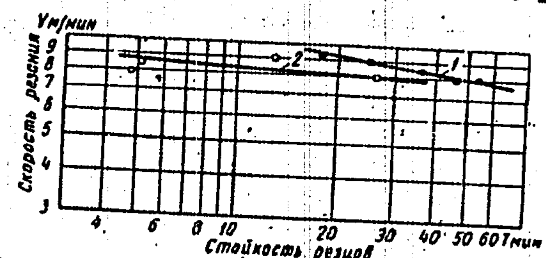
A207/A101

It is expedient to grind the cutting tools made of various materials under conditions of relative vibrations (the tool-material system) of high or ultrasonic frequency and low amplitude (2A ⩽ 0.01 ÷ 0.015 mm). The experiments showed that the tool resistance increases considerably in the latter case. 2) The experiments indicated further that at the present time, it is worth to develop experimental constructions of the simplest vibrating systems for grinding the cutting tools using relative vibrations of the gridning circle-blank system. There are 6 figures 1 table, 1 Soviet-bloc reference.

Figure 5:
1 - grinding using ultrasonic vibrations, 2 - grinding without vibrations



cutting speed

tool resistance

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VORONIN, A. A.; MARKOV, A. I.

Influence of ultrasonic oscillations on the splintering process of refractory alloys. Metalurgia constr mas 13 no. 4: 359 Ap '61.

Voronin, A. A.

18.5200

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SOV/19-59-15-236/312

AUTHORS: Voronin, A.A., and Markov, A.I.

TITLE: A Method of Cutting Metals, Particularly Heat-Resisting Steels and Alloys Difficult to Machine, With a Bladed Cutting Tool

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 15, p 63 (USSR)

ABSTRACT: Class 49a, 1_{01}. Nr 121638 (13967/25 of 12 January 1956). A method as in the title, carried out with additional vibratory movements communicated to either the tool or the blank. To reduce friction on the working surfaces of the tool and facilitate the plastic deformation process of the metal in the cutting zone, the vibratory movements have ultrasonic frequencies and small amplitudes from 0.01 to 0.03 mm.

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S/019/62/000/019/017/028
A154/A126

AUTHORS: Chudin, Yu.I., Voronin, A.A.

TITLE: A pressure-difference pickup

PERIODICAL: Byulleten' izobreteniy, no. 19, 1962, 44

TEXT: Class 42k, 14_{04}. No. 150676 (762603/26-10 of January 30, 1962). This pressure-difference pickup contains a diaphragm unit enclosed in a casing. The unit consists of two intercommunicating liquid-filled diaphragm boxes, the movable center of one of which is rigidly connected with the plunger of an induction differential-transformer-type converter. The transmitter differs in that, to reduce the temperature error, the movable center of the second diaphragm box is also connected with the plunger of a second, similar, converter, whose measuring winding is connected in series with the measuring winding of the first converter.

[Abstracter's note: Complete translation]

Card 1/1

FOR OFFICIAL USE ONLY

"Three Dimensional Deformation With the Application of Vibration," by M. Ya. Karnov, A. A. Voronin, and V. I. Vlasov, pp 11-17

The construction and operation of a new type of vibration press is described. Use of the press makes it possible to decrease external friction and time of deformation and provides more uniform macro- and microstructures and mechanical properties of the deformed samples. Research on vibration processes using the vibration press was conducted by the NIAT (Scientific Research Institute of Technology and Production Organization of the Aviation Industry).

Aviatsionnaya Promyshlennost', No. 6, June 1958

Although this is BIBLIOGRAPHIC material the Official Use only restriction has been applied because of sensitivity of the source (FDD Sum. 2152, 9 May 1959, For Official Use Only.)

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L 1281-64 MLK(a) USSR

ACCESSION NR: AP3006702 S/0286/63/000/008/0059/0059

AUTHOR: Voronin, A. A.

TITLE: Static trigger with a counter input [Author's certificate NR 154089 class G 06f; 42m, 14sub02]

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 8, 1963, 59

TOPIC TAGS: static trigger, counter input static trigger

ABSTRACT: A static trigger with a counter input (See Enclosure 1), including two triodes, a source of voltage supply and a resistance common to both stages, characterized in that, to increase the reliability and the speed of response, load impedances are connected in grid circuits, and anodes are connected to grids through voltage-stabilizing tubes. Orig. art. has: one figure.

ASSOCIATION: none

Card 1/3

L 1281-64

ACCESSION NR: AP3006702

SUBMITTED: 09Apr62 DATE ACQ: 30Sep63 ENCL: 01

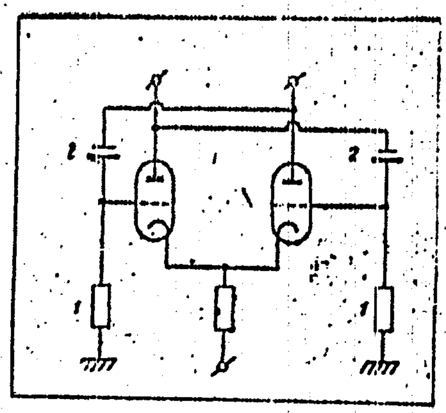
SUB CODE: SD, GE NO REF SOV: 000 OTHER: 000

Card 2/3

L 1281-64

ACCESSION NR: AP3006702

ENCLOSURE NR: 01



1. load impedances;
2. voltage stabilizing tubes.

Card 3/3

SKVORTSOV, S.G., inzh.; BYKOVSKIY, G.P., inzh.; VASINA, I.N., inzh.; VORONIN, A.D., inzh.; GEL'BSHTEYN, I.V., inzh.; POLYAKOV, L.L., inzh.; GHMKHUSHNIKOV, G.A., inzh., red.

[Catalog of designs of stands, construction yards, equipment and devices for making prestressed reinforced concrete elements] Al'bom-katalog proektov stendov i poligonov, oborudovaniia i prisposoblenii dlia izgotovleniia predvaritel'no napriazhennykh zhelezobetonnykh konstruktsii. Moskva, TSentr. biuro tekhn. inform. No.NZh-2. 1957. 118 p. (MIRA 11:10)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut tekhnicheskoy pomoshchi stroitel'stvu.
(Prestressed concrete)

DIL'DIN, M.S.; VASINA, I.N.; VORONIN, A.D.; GROMOVAYA, V.B.; PANKOVETS, P.L.; GRECHUSHNIKOV, G.A., inzh., red.

[Album of designs for devices, implements, and instruments for assembling large-block buildings] Al'bom chertezhei prisposoblenii, inventaria i instrumentov dlia montazha krupnoblochnykh zdanii. Vypusk KB-2. Moskva, Biuro tekhn.informatsii, 1958. 155 p. (MIRA 12:9)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Sotrudniki Orgstroya Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (for Dil'din, Vasina, Voronin, Gromovaya, Pankovets).
(Building--Tools and implements)

VORONIN, A.D.

Some properties of mechanical fractions of soil complexes from the light Chestnut subzone. Vest.Mosk.un.Ser.biol.,pochv.,geol., geog. 13 no.4:93-102 '58. (MIRA 12:4)

1. Kafedra fiziki i melioratsii pochv Moskovskogo universiteta. (Soil physics)

VORONIN, A. D., Cand Biol Sci (diss) -- "The composition and properties of the fractions of mechanical elements of complex of light-brown podzolic soils". Moscow, 1959. 22 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Soil-Biol Faculty), 120 copies (KL, No 14, 1960, 130)

VORONIN, A.D.

Characteristics of the active surface of fractions of mechanical elements taken from the soil complex of the light-colored Chestnut subzone. Nauch.dokl.vys.shkoly; biol.nauki no.3:237-242 '59. (MIRA 12:10)

1. Rekomendovana kafedroy fiziki i melioratsii pochv Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(Soil physics)

VORONIN, A.D.

Character of ultraporosity of the fractions of mechanical elements in the soil complexes of the light-colored Chestnut subzone. Nauch. dokl. vys. shkoly; biol. nauki no.3:189-192 '63.
(MIRA 16:9)

1. Rekomendovana kafedroy fiziki i melioratsii pochv Moskovskogo gosudarstvennogo universiteta im. Lomonosova.
(Soil absorption)

IONOV, A.N.; SITNIKOV, K.I.; LIFANOVA, A.A.; Prinimali uchastiye: VORONIN, A.D.; SLAVINA, A.Yu.; GORDEYEV, M.I.; CHALIKH, Ye.G.; GORDEYEV, P.A., red.; KASIMOV, D.Ya., tekhn.red.

[Album of drawings for machinery, mechanized equipment, implements, attachments, and instruments for finishing large-panel apartment houses] Al'bom chertezhei mashin, mekhanizirovannykh ustanovok, inventaria, prisposoblenii i instrumentov dlia otdelki krupnopanel'nykh zhilykh domov. Moskva, Gostroiizdat. No.2. 1963. 210 p. (MIRA 17:2)

1. Gosudarstvennyy proyektnyy institut po organizatsii sel'skogo stroitel'stva i okazaniyu tekhnicheskoy pomoshchi.

VORONIN, A.D.; DIL'DIN, M.S.; DUBROVIN, F.M.; GORDEYEV, P.A., red.; KASIMOV, D.Ya., tekhn. red.

[Album of drawings of equipment, devices and tools for the erection of large-panel houses of the 1-464, 1-335, and 1-468 series] Al'bom chertezhei inventariia, prisposoblenii i instrumentov dlia montazha krupnopanel'nykh domov serii 1-464, 1-335 i 1-468. Moskva, Gosstroiizdat, No.1. 1963. 183 p. (MIRA 17:1)

1. Gosudarstvennyy proyektnyy institut po organizatsii sel'skogo stroitel'stva i okazaniyu tekhnicheskoy pomoshchi.

VORONIN, A.D.

Effect of the width of interrows of forest belts on the optimal soil moisture for woody plants in light-colored chestnut soils. Vest. Mosk. un. Ser. 6: Biol., pochv. 17 no.5:65-75 S-O '62. (MIRA 15:11)

1. Kafedra fiziki i melioratsii pochv Moskovskogo universiteta.
(Woody plants--Water requirements)

VORONIN, A.D.

Chemical and mineralogical composition of fractions of mechanical elements of the soil complex of the light colored Chestnut soil subzone. Nauch. dokl. vys. shkoly; biol. nauki no.1:193-199 '62. (MIRA 15:3)

1. Rekomendovana kafedroy fiziki i melioratsii pochv Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

(SOILS)

VORONIN, A. G.

Case of peritonitis as a consequence of hemophilia following herniotomy with simultaneous appendectomy. Pediatriia no.4: 86-87 '62. (MIRA 15:4)

1. Iz kafedry ortopedii i detskoy khirurgii (zav. - prof. I. L. Zaychenko) L'vovskogo meditsinskogo instituta (dir. - prof. L. N. Kuzmenko)

(APPENDECTOMY) (PERITONITIS) (HEMOPHILIA)
(HERNIA)

VORONIN, A.G., assistent (L'vov, ul.Lysenko, d.23, kv.1); YUS'KO, S.M., assistent; ZORINA, Z.P., assistent

Two cases of splenectomy in Werlhof's disease in children. Nov. khir. arkh. no.4:98-99 Jl-Ag '60. (MIRA 15:2)

1. Kafedra travmatologii, ortopedii i detskoy khirurgii (zav. - prof. I.L.Zaychenko i kafedra pediatrii (zav. - prof. S.I.Ignatov) L'vovskogo meditsinskogo instituta.
(SPLEEN—SURGERY) (PURPURA (PATHOLOGY))

VORONIN, A.G.

Case of extensive intestinal intussusception in a two-month-old infant. Pediatriia 42 no.8:87-88 Ag'63 (MIRA 17:4)

1. Iz kafedry ortopedii, travmatologii i detskoy khirurgii (zav. - prof. I.L. Zaychenko) L'vovskogo meditsinskogo instituta.

VORONIN, A.G.; YUS'KO, S.M.; ZORINA, Z.P.

Problem of splenectomy in Werlhof's disease. Pediatriia 39 no.2:
16019 F '61. (MIRA 14:2)

1. Iz kafedry travmatologii, ortopedii i detskoy khirurgii (zav. - doktor med.nauk I.D. Zaychenko) i kafedry pediatrii (zav. - doktor med. nauk S.I. Ignatov) L'vovskogo meditsinskogo instituta (dir. - doktor med. nauk L.N. Kuzmenko).

(PURPURA (PATHOLOGY)) (SPLEEN—SURGERY)

ZORINA, Z.P.; VORONIN, A.G.

Precocious puberty as an adrenal cortex syndrome in adrenal gland tumors. Pediatriia no.7:75 '61. (MIRA 14:9)

1. Iz kliniki detskikh bolezney (zav. kafedroy S.I. Ignatov) i kliniki ortopedii, travmatologii i detskoy khirurgii (zav. kafedroy - prof. I.L. Zaychenko) L'vovskogo meditsinskogo instituta (dir. - prof. L.N. Kuzmenko).
(ADRENAL GLAND—TUMORS) (PUBERTY)

VORONIN, A.G. (L'vov).

Hemostatic application of wax in hemorrhages from bone tissue. Vop.neirokhir. 17 no.3:43-45 My-Je '53. (MLRA 6:8)

(Hemorrhage) (Waxes)

VORONIN, A.G., podpolkovnik meditsinskoy sluzhby (L'vov)

[redacted]

Osteosynthesis following fracture of the clavicle. Vrach.delo supplement '57:56 (MIRA 11:3)

(CLAVICLE--FRACTURE)

VORONIN, A.G. (L'vov, ul.Lysenko, d.23, kv.1)

Problem of tuberculosis of the stomach. Nov.khir.arkh. no.3: 87-88 My-Je '59. (MIRA 12:10)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov) lechebnogo fakul'teta L'vovskogo meditsinskogo instituta.
(STOMACH--TUBERCULOSIS)

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VORONIN, A.I., inzh.

Some conclusions drawn from the experience in constructing pavements and roadbeds using bitumen-treated mineral mixes. Avt. dor. 23 no. 12:9-10 D '60. (MIRA 13:12)
(Pavements, Bituminous)

VORONIN, A.I., inzhener

Insure practicality in work organization plans and observe them strictly. Avt.dor. 18 no.2:5-7 Mr-Ap '55. (MLRA 8:6)
(Road construction)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001860910008-8"

VORONIN, A.I., inzhener.

Ways of eliminating shortcomings in the calculation of pavements. Avt. dor. 19 no.7:25-26 Jl '56. (MLRA 9:10)

(Pavements)

ACCESSION NR: AP4040...

S/0203/64/004/003/0530/0538

AUTHOR: Voronin, A. L.

TITLE: Refraction of ultrashort radio waves in the ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 3, 1964, 530-538

TOPIC TAGS: ionospheric ultrashort wave, ionosphere, wave refraction

ABSTRACT: It is becoming increasingly important to know the refraction and polarization phenomena of [illegible] waves passing through the ionosphere [illegible]

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ACCESSION NR: AP4040712

formula, considering second-order smallness relative to $4\pi e^2 N/m\omega^2$ and to Z_c/R_o, where e is the charge of the electron, N the electron concentration in the atmosphere, m the mass of the electron, ω the angular velocity, Z_c the height of the cosmic object above the earth's surface, and R_o the radius of the earth. In conclusion, the author expresses his thanks to [illegible] Al'pert and [illegible] for their valuable remarks and counsel. Orig. art. has: [illegible] figures and [illegible]

ASSOCIATION: [illegible] ordena Lenina Akademiya (Naval Academy of the Order of Lenin)

SUBMITTED: 05Feb61

ENCL: 00

SUB CODE: EC, ES

NO REF SOV: 004

OTHER: 001

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[illegible] EWT(1) [illegible] EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Pn-4/Po-4/Pe-5/Pq-4/Pg-4/Pae-2/Pi-10/Peb/Pl-4/Pl-4 AFETR/RAEM(a)/AFWL/RAEM(c)/SSD/ESD(c)/ESD(t)/RAEM(t) GW/WS

ACCESSION NR: AP4040731 S/0203/64/004/003/0521/0526

AUTHOR: Voronin, A. L.

TITLE: Polarization phenomena in a magnetically active ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 3, 1964, 521-526

TOPIC TAGS: wave polarization, ionosphere, radio wave, geomagnetic field, polarization rotation

ABSTRACT: The author has pointed out the necessity of knowing the rotation angle [illegible] the polarization plane of the radio wave and of knowing the course of this wave [illegible] in any proper study of ionospheric structure. He has [illegible] in the ultrashort-wave-length range of radio [illegible] the effect of the earth's magnetic field. He has shown that [illegible] phase paths of the ordinary and extraordinary radio waves and, consequently, the phase shift between these waves and the indicated rotation angle of the polarization plane in a magnetically active ionosphere depend on the angle between the magnetic field and a vertical to the earth's surface at the observation point. This angle is the same as that between the propagation direction of the radio waves and the direction of the earth's magnetic field. This dependence

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ACCESSION NR: AP4040711

changes for different wavelengths. The formula for computing the rotational angle of the polarisation plane is

$$\Psi = \frac{\omega_*\omega_H}{2c\omega^2}\Big\{(\cos\varphi_0 + \sin\varphi_0 \operatorname{tg}\varphi_0)\Big[0{,}534Z_m + \frac{1}{K}(1-\exp(-KZ_0))\Big] -$$

$$- \operatorname{tg}\varphi_0 \frac{\sin\varphi_0}{R_0\cos^2\varphi_0}\Big\{0{,}367Z_m^2 + \frac{1}{K^2}\Big[1-(1+KZ_0)\exp(-KZ_0)\Big] +$$

$$- \frac{3-\cos^2\varphi_0}{2R_0\cos^2\varphi_0}\Big[0{,}270Z_m^3 + \frac{1}{K}\Big[\frac{2}{K^2} - \Big(Z_0^2 + \frac{2Z_0}{K} + \frac{2}{K^2}\Big)\times$$

$$\times \exp(-KZ_0)\Big]\Big]\Big\}\Big\} + \frac{\omega_*^2\omega_H}{4c\omega^4}\Big\{\Big(\cos\varphi_0 + \sin\varphi_0 \operatorname{tg}\varphi_0 \frac{1+\cos^2\varphi_0}{\cos^2\varphi_0}\Big)\times$$

$$\times\Big[0{,}406Z_m + \frac{1}{2K}[1-\exp(-2KZ_0)]\Big] - \operatorname{tg}\varphi_0\frac{\sin\varphi_0}{R_0\cos^2\varphi_0}\Big(\frac{3}{2}+\frac{\cos^2\varphi_0}{\cos^2\varphi_0}\Big)\times$$

$$\times\Big[0{,}306Z_m^2 + \frac{1}{4K^2}[1-(1+2KZ_0)\exp(-2KZ_0)]\Big] -$$

$$- \frac{15-12\cos^2\varphi_0+\cos^4\varphi_0}{2R_0\cos^4\varphi_0}\Big[0{,}244Z_m^3 + \frac{1}{2K}\Big[\frac{1}{2K^2} -$$

$$- \Big(Z_0^2 + \frac{Z_0}{K} + \frac{1}{2K^2}\Big)\exp(-2KZ_0)\Big]\Big]\Big\}.$$

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ACCESSION NR: AP4040711

where $\omega_0^2 = 4\pi e^2 N_{max}/m$, N_{max} is the maximal electron concentration of the ionosphere (F2 layer), m is the mass of the electron, Z_m is the thickness of the lower half of the ionosphere (from the lower boundary to the height of the maximal electron concentration of the F2 layer), $Z_0 = Z_0 - (Z_0 + Z_m)$, h is the height of the lower boundary of the ionosphere, $K = 3.8 \cdot 10^{-9}$ km^{-1}, ω_H is the angular gyrofrequency, r_0 is the radius of the earth, and φ_0 is the zenith angle. At frequencies above 150-200 megacycles terms proportional to $\omega_0^4 \omega_H / 4\omega^4$ may be disregarded. At frequencies less than 100 megacycles these terms have a signif- [illegible] [illegible] figures and 10 formulas.

ASSOCIATION: Voyenno-morskaya ordena Lenina Akademiya (Naval Academy of the Order of Lenin)

SUBMITTED: 05Feb63 ENCL: 00

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