15 2450

24 7900

AUTHORS: [illegible]

TITLE: Ferrimagnetic [illegible] exhibiting [illegible] high [illegible] permeability [illegible]

PERIODICAL: [illegible] 1961 [illegible] 1808-1811

TEXT: It has been previously [illegible] of ferrites with spinel structure, in the tetrahedral sites of which the magnetoactive ions of the transition metals of the 3d group were replaced by diamagnetic ions (Zn^{2+}, Cd^{2+}), exhibited a particularly high initial magnetic permeability. It has been also established that saturation magnetization in such ferrites passes through a maximum, and that the Neel temperature and saturation magnetostriction of polycrystalline samples are reduced on a rise of Zn or Cd content. The authors of the present paper continued studying the properties of various compounds of the system $\{Y_3\}[Fe_{2-x} [illegible]_x](Fe_3)O_{12}$ [illegible] were able to show that these compounds exhibit an [illegible] initial [illegible] at low frequencies (for $x = 0$ μ_0 [illegible]

Card 1/5

S/1[illegible]/001/[illegible]/0[illegible]/031
5102/[illegible]01

for $x = 0.1$ [illegible]. Yet, this system forms, like systems $\{Y_3\}[Fe_{2-x}M_x]Fe_3O_{12}$ or $\{Y_3\}[Fe_{2-x}In_x]Fe_3O_{12}$ a limited series of [illegible]. Besides, a continuous series of solid solutions can be formed in the system $\{Y_{3-2x}Ca_{2x}\}[Fe_{2-x}M_x]Fe_3O_{12}$, where $M = Ti^{4+}$, Zr^{4+}, Sn^{4+} [illegible]. Besides, saturation magnetization for $x = 0.3$ attains a maximum and the Neel temperature drops. The initial permeability was determined on polycrystalline samples from solid solutions of the last mentioned [illegible]. The [illegible] for the [illegible] of different solid [illegible] the content of the second component in them, as well as the [illegible] are listed in the table. The formation of the [illegible] is controlled radiographically in each case. A microstructural [illegible] was performed in some cases. The pores were [illegible] mainly of the open type, and only rarely were [illegible] permeability values at room temperature with the [illegible] [illegible] from [illegible] of μ cannot be explained [illegible] by the [illegible], and of nonstoichiometry due to the [illegible] by the fact that we have taken into account, as [illegible]

has been shown by studies of the temperature dependence of μ_o, that the maximum value of μ_o rises with the content of diamagnetic ions. The authors believe that anisotropy and magnetostriction drop in consequence of a diminution of the content of magnetically active ions. The value of μ_o is determined by shifts of the domain boundaries. K. P. Belov and L. A. Fomenko are mentioned. There are 1 figure, 1 table, and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: S. Geller. J. Appl. Phys. 31, 5, 305, 1960

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: January 17, 1961

Legend to the Table: 1, content of second component in mole%; 2, last thermal treatment; 3, density in g/cm^3; 4, maximum temperature; 5, holding time in hours; 6, apparent density; 7, density in % of theoretical values; 8, μ_o for $t = 20^\circ C$ and $f = 10^4$ cps.

Card 3/5

Ferrimagnetic materials with...

① Содержание в мол. % второго компонента		② Окончательный обжиг: ④ максимальная температура, °C	② Окончательный обжиг: ⑤ время выдержки час.	③ Плотность г/см³: ⑥ кажущаяся	③ Плотность г/см³: ⑦ в % от теоретической	⑧ μ_0 при $f = 20^\circ$ C и $f = 10^4$ гц
$Ca_2YSn_2Fe_3O_{12}$	0	1450	2	5.00	97	144
	10	1450	2	4.70	92	230
	30	1450	2	4.81	94	556
	40	1450	2	4.83	95	694
	50	1400	4	4.82	95	153
$Ca_2YTl_2Fe_3O_{12}$	10	1350	6	4.46	—	188
	20	1350	6	4.43	—	256
	30	1350	6	4.67	—	326
	40	1300	2.5	4.30	—	206
	50	1300	2.5	4.80	—	42
	60	1280	3	4.33	—	17
	70	1280	3	4.78	—	8
$Ca_2YZr_2Fe_3O_{12}$	10	1350	2	4.70	92	176
	20	1350	2	4.98	98	210
	30	1350	2	4.98	99	243
	40	1350	2	4.80	97	248
	50	1350	2	4.78	97	35

Card 4/5

Ferrimagnetic materials with ...

S/181/61/003/006/020/031
B102/B201

$Y_3Cr_2Fe_3O_{12}$	5	1450	1.25	4.90	—	222
	10	1450	1.25	5.00	—	250
$Ca_3Fe_2Si_3O_{12}$	10	1320	1	4.82	94	49
	20	1320	1	4.82	96	17
	30	1320	1	4.52	90	2
$Y_3Al_2Fe_3O_{12}$	20	1460	1	4.60	—	60
	40	1480	1	4.52	—	33

Card 5/5

9.2571
1.5 2660
24 7900 (1055,1144,1163)

30066
S/048/61/025/011/011/051
B104/B102

AUTHORS: Gurevich, A. G., Safant'yevskiy, A. P., Solov'yev, V. I., and Sher, Ye. S.

TITLE: Effect of induced anisotropy upon ferromagnetic resonance

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1361 - 1367

TEXT: The authors studied the effect of electron-induced anisotropy of polycrystalline yttrium garnets upon ferromagnetic resonance from 4.2-300°K. The measuring technique used in the temperature range of 77 - 300°K had been described in a previous paper (A. G. Gurevich et al., Fizika tverdogo tela [illegible], no. [illegible], 19 (1961). A square resonator was dipped into liquid helium with the specimen between 4.2 and 77°K. With 3.2-cm waves the resonance field H_{res} and the width $2\Delta H$ of the resonance curve were determined from the dependence of the reflection factor $|\Gamma|$ on the magnetic field, as recorded by an ЭПП-09(EPP-09) voltmeter. An example is illustrated in Fig. 1. Manganese-free specimens annealed at high temperatures showed a rapid increase of $2\Delta H$ with decreasing temperature. For an initial yttrium oxide

Card 1/4

S/048/61/025/011/[illegible]/037
B104/B102

with a purity of 99.995%, the said rise cannot be attributed to rare-earth impurites. Present results show that the induced anisotropy of polycrystalline yttrium garnet is due to Fe^{2+} ions. To clarify the establishment of induced anisotropy with time, the authors determined the time dependence of $|\Gamma|$ when the specimens were rotated through 90° within ~0.1 sec. $|\Gamma|$ did not change noticeably above 130°K. At lower temperatures, $|\Gamma|$ changed abruptly during rotation, and then returned to its original value (Fig. 4). Sign and amplitude of the jump were found to depend on the constant field H_0.

It is believed that induced anisotropy is not yet fully established immediately after rotation through 90° and that the resonance curve at a given temperature shifts by H_c toward stronger fields relative to the static curve. H_c = 450 oersteds is obtained at 77°K, and H_c = 200 oersteds at 90°K. It follows from a discussion of this result that in addition to the processes that are observed after rotation, also other processes take place which have time constants considerably smaller than the time of rotations. These processes are held responsible for the major part of the induced anisotropy field. As is shown, a superposition of several processes with different time constants and activation energies of the order of 0.05 ev

Effect of induced anisotropy...

takes place. This activation energy is considerably lower than that of electron processes (0.375 ev) accompanying the shift of domain boundaries. These processes differ substantially from those which determine the induced anisotropy. The electron cloud of the Fe^{2+} ion is evidently deformed in the present case. This deformation requires much less activation energy than the electron processes mentioned before. G. A. Smolenskiy and Ya. M. Ksendov are thanked for discussions. N. N. Parfenova carried out chemical analyses. There are 12 references: 5 Soviet and 7 non-Soviet. The three most recent references to English-language publications read as follows: Epstein D. J., Frackiewicz E., Hunt R. F., J. Appl. Phys., 32, no. 3, 217 S. (1961); White R. L., Phys. Rev. Lett., 2, no. 11, 465 (1959); Dillon, J. F., Bull. Amer. Phys. Soc., 6, no. 2, 160 (1961).

Fig. 1. $|\Gamma|$ as a function of the magnetic field. Legend: $|\Gamma|_\infty$ is $|\Gamma|$ far away from ferromagnetic resonance.
Fig. 4. Time dependence of $|\Gamma|$ after rotation of the specimen through 90°.

Card 3/4

24.2200 (1137, 1144, 1164)
15 2660

30077
S/[illegible]
B117/B102

AUTHORS: Smolenskiy, G. A., Chang Tsung, and Sher, Ya. S.

TITLE: Frequency and temperature dependences of initial permeability of ferrites with garnet structure

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1402-1407

TEXT: The frequency and temperature dependence of the magnetic permeabilities μ' and μ'' of ferrites with garnet structure were studied. Both high-density polycrystalline specimens, and single crystals were used (Polycrystalline yttrium-ferrite of a resistivity of $\rho \sim 10^6$ ohm·cm and air-sintered at 1450°C displayed a relaxation of the dispersion of μ' at room temperature.) With rising temperature the maximum of $\mu'(f)$ is shifted toward higher frequencies. In the state of remanent magnetization, μ' is considerably lower than the state of zero magnetization. The magnetic spectrum of polycrystalline resistivity ferrites ($\sim 10^{10}$ ohm·cm) differs significantly from the spectrum of ferrites with a low resistivity. The high resistivity is obtained by introducing MnO which leads to formation

Card 1/4

Frequency and temperature

of donor-acceptor pairs. Introduction of CuO allows to reduce the sintering temperature. In this case, a temperature rise shifts the maximum of μ'' toward lower frequencies (domain boundary resonance). High-resistivity single crystals display a similar effect, but their resonant frequency is at room temperature by one order of magnitude lower than that of polycrystalline specimens. The magnetic spectra of high resistivity ferrites were almost independent of the state of magnetization. Magnetic spectra of one and the same specimens were examined when changing resistivity by heat treatment in various gaseous media. Measurements were made prior to and after heat treatment on toroidal single-crystal specimens. At low temperatures, resistivity was found to be inversely proportional to the initial permeability. It is pointed out that annealing might change μ' due to a change of the domain structure as defects form or disappear. Independently of resistivity, these ferrite single crystals have low dielectric constants, a fact which was first established by Ya. M. Kseandze. Up to now it was assumed that all ferrites with low μ' should have a high ε, which was explained by microheterogeneities of the specimens. In addition to yttrium ferrite, solid solutions based on it were examined. Values of initial permeability are presented in Table 2 for several solid solutions. As may be seen, μ'

Card 2/4

Frequency and temperature ...

in case of yttrium ferrite or of rare-earth ferrites does not grow larger unless diamagnetic ions are introduced into the octahedral sublattice. There are 6 figures, 2 tables, and 8 Soviet references.

Legend to Table 2: (1) content, mole%; (2) first component; (3) second component; (4) final annealing; (5) maximum temperature, °C; (6) holding time, hr; (7) initial low-frequency permeability at 20°C.

X.

Card 3/3

S/056/62/043/003/023/063
B102/B104

AUTHORS: Smolenskiy, G. A., Yudin, V. M., Sher, Ye. S., Stolypin, Yu. Ye.

TITLE: Antiferromagnetic properties of some perovskites

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 877-880

TEXT: The authors studied the magnetic properties of polycrystalline single-phased $LaCrO_3$ and $BiFeO_3$ samples by measuring the temperature dependences of the magnetic susceptibility χ, of $1/\chi$ and of the spontaneous ferromagnetic moment m_o. The $\chi(T)$ curves of both compounds showed sharp peaks at the Neel point, $BiFeO_3$ had no spontaneous ferromagnetic moment, and that of $LaCrO_3$ was very small but could be increased by thermomagnetic treatment. The weak ferromagnetism of these perovskites is assumed to be caused mainly by an anisotropic indirect exchange interaction. It is suggested that the exchange interaction is responsible also for the

Card 1/2

S/056/62/043/003/023/063
B102/B104

Antiferromagnetic properties of...

noncolinearity of the spin moments, which is assumed to be the cause of no ferromagnetic moment being observed in $BiFeO_3$. There are 2 figures and 1 table.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors of the Academy of Sciences USSR)

SUBMITTED: April 24, 1962

Card 2/2

43142
S/181/62/004/011/049/049
B108/B186

AUTHORS: Smolenskiy, G. A., Yudin, V. M., and Sher, Ye. S.

TITLE: A new group of antiferromagnetics with K_2NiF_4-type structure

PERIODICAL: Fizika tverdogo tela, v. 4, no. 11, 1962, 3350-3351

TEXT: Compounds of the type $A_2^{3+}B^{2+}O_4$ (A^{3+} = La^{3+}, Ce^{3+}, Pr^{3+}, Nd^{3+}; B^{2+} = Ni^{2+}, Co^{2+}) are antiferromagnetic when either the ions B or both the ions B and A have magnetic moments. Crystals of this type are assumed to consist of perovskite-type layers mutually displaced. When only the B have magnetic moments, interaction will occur through one or two oxygen atoms (B-O-B or B-O-O-B). When also the ions A have magnetic moments, interaction may be indirect or direct (A-O-A, A-O-B, A-A). The temperature dependence of the magnetic susceptibility χ of the compounds La_2NiO_4 and Nd_2NiO_4 was examined over the range 77-1100°K. The specimens were obtained by solid-phase reaction at 1200°C of the materials La_2O_3, Nd_2O_3, and NiO. The temperature Θ, obtained by extrapolation of $1/\chi(T)$ from high-temperature

Card 1/2

regions, equals 500°K for La_2NiO_4 and 440°K for Nd_2NiO_4. The effective magnetic moments as determined from the inclination of the $1/\chi(T)$ curve is 3.7 Bohr's magnetons for La_2NiO_4 and 7.5 Bohr's magnetons for Nd_2NiO_4. The dependence $\chi(T)$ is linear at high temperatures but tends to a maximum corresponding to phase transition on approaching the Neel point. This is characteristic of weak ferromagnetics. The antiferromagnetic behavior of the substances in question can be inferred from the negative sign of the temperature θ; however, a weak ferromagnetism may arise as the result of relativistic interactions. There are 2 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: July 26, 1962

L 10414-67

ACC NR: AP6029825 (A) SOURCE CODE: UR/0363/66/002/008/1487/1491

AUTHOR: Toropov, N. A.; Sher, Ye. S.; Boykova, A. I.

ORG: Institute of Silicate Chemistry im. I. V. Grebenshchikov, Academy of Sciences, SSSR (Institut khimii silikatov Akademii nauk SSSR)

TITLE: Study of the products of thermal treatment of muscovite

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1487-1491

TOPIC TAGS: mica, thermal decomposition

ABSTRACT: Samples of ground muscovite were fired at 600-1400°C at 50° intervals for 3 hr at each temperature and the products formed were analyzed by optical examination, x-ray diffraction, differential thermal analysis, and infrared spectroscopy. The first structural changes were observed at 700°C. Thermal treatment at 1000°C was associated with the breakdown of the structure and with amorphization. The formation of new crystalline phases occurred at temperatures above 1000°C. The following compounds were identified by x-ray diffraction: γ-Al_2O_3, spinel $MgAl_2O_4$, sanidine, $K_2O \cdot Al_2O_3 \cdot 6SiO_2$, α-Al_2O_3 (corundum). On the basis of the infrared spectra of muscovite samples subjected to different temperatures, a quantitative description of the decomposition process of mica is proposed (see Fig. 1). Authors are grateful to G. P. Stavitskaya, who took the IR spectra. Orig. art. has: 6 figures and 1 table.

Card 1/2 UDC: 661.862.65

ARONOV, V.L.; SHER, Yu.A.

Frequency properties of semiconductor triodes with distributed parameters. Poluprov.prib. i ikh prim. no.3:75-91 '58. (MIRA 12:4)

(Transistors)

PHASE I BOOK EXPLOITATION SOV/4034

Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, vyp. 4. (Semiconductor Devices and Their Application; Collection of Articles, No. 4) Moscow, Izd-vo "Sovetskoye radio," 1960. 421 p. Errata slip inserted. No. of copies printed not given.

Ed. (Title page): Ya. A. Fedotov; Ed. (Inside book): I. M. Volkova; Tech. Ed.: A. A. Sveshnikov; Editorial Board: Ya. A. Fedotov (Resp. Ed.), N. A. Barkanov, L. G. Bergel'son, A. M. Broyde, Ye. I. Gal'perin (Deputy Resp. Ed.), Yu. A. Kamenetskiy, S. P. Kausov, A. V. Krasilov, A. A. Kulikovskiy, I. F. Nikolayevskiy, N. A. Penin, and I. P. Stepanenko.

PURPOSE: This collection of articles is for technicians and scientists working in the field of semiconductors.

COVERAGE: These articles cover the following problems: physical processes occurring in semiconductor diodes and transistors; transistor parameters, and methods and instruments for measuring them; special features of transistor operation in amplifying and oscillating circuits; and circuits and systems utilizing transistors. Several articles mention personalities. References accompany most articles.

L 22099-66 EWG(k)-2/EWT(l)/T/EWA(h) IJP(c)
ACC NR: AT5025634 SOURCE CODE: UR/2657/65/000/013/0023/0064

AUTHOR: Sher, Yu. A.

ORG: none

TITLE: Generalized formulas for differential parameters of junction transistors

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 13, 1965, 23-64

TOPIC TAGS: transistor, transistor theory, junction transistor

ABSTRACT: Introduction. Zero boundary conditions at the base edge were assumed in the classical V. Shockley works and in the J. Early article (BSTJ, 1954, v. 33) on the theory of junction transistors. This fundamental assumption is claimed to be inaccurate. Equivalent velocity at the strong-field region boundary; boundary conditions. D-c conditions are considered. These general formulas are developed for the equivalent velocity:

$$v_p(\psi) = \frac{1}{\left[\frac{1}{v_{sp}} - \frac{1}{v_{Ep}}\right] e^{-\Delta\psi} + \frac{1}{v_{Ep}}},$$

$$v_n(\psi) = \frac{1}{\left[\frac{1}{v_{sn}} - \frac{1}{v_{En}}\right] e^{\Delta\psi} + \frac{1}{v_{En}}}.$$

Carrier concentration at the base-collector-junction boundary exceeds the Shockley-evaluated concentration by $10^{12} - 10^{14}$ times. These boundary conditions are proposed to replace the Shockley conditions: $\rho_{kc} = \rho_p(W) = \frac{I_p}{v_{max}}$, $v_0 = v_{max}$. The drift velocity

Card 1/3 UDC: 621.382.31

ACC NR: AT502563-4

varies gradually in the real structures; hence, a better model consisting of three segments (accelerating, maximum, decelerating) is suggested. The voltage variation across the collector junction is different in alloy and drift transistors. Approximate formulas for the charge density in alloy and diffusion junctions are developed. Specific formulas for the equivalent velocity are: for Ge collector junction, $v_0 = \frac{v_{max}}{1 + \left(\frac{v_{max}}{v_{av}} - 1\right)\Lambda u_{2k}}$; for Si collector junction, $v_0 \approx \frac{v_{av}}{\sqrt{\Lambda u_{2k}}}$. Corrections for a-c conditions are introduced. A model of the emitter junction is briefly analyzed. Generalized formulas for differential parameters. Small-signal y and h parameters of a theoretical model with a "multilayer" base are determined on the basis of conventional Shockley boundary conditions. The reasons why these formulas are inaccurate are specified. Then, the modulation of minority-carrier velocity in the base is allowed for, and a technique is shown for deriving more accurate differential-parameter formulas. Parameters of a theoretical model having a uniform distribution of the drift velocity in the base. As an illustration of the above approach, formulas for the open-circuit forward- and reverse-current transfer factor are developed, and the effect of boundary conditions on the forward parameters is analyzed. These conclusions are offered: (1) The concept of equivalent velocity facilitates formulation

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L 23083-66
ACC NR: AT5025634

of collector-base boundary conditions; (2) This concept permits developing general differential-parameter formulas which allow for the base "multilayer" structure and actual d-c and a-c boundary conditions; (3) Collector-junction voltage variation, with a nonuniform distribution of impurity N(x) at the base edge causes equivalent-velocity modulation at the boundary due to variation of the slope of E(x) field curve in the junction; (4) The collector-junction voltage variation may cause a modulation of the equivalent velocity in the base; (5) A variable charge density, with a constant voltage across the emitter junction, is possible due to modulation of the equivalent velocity in the base, at the emitter boundary; (6) To formulate the boundary conditions in the base, at the collector, a three-segment model of the reverse-biased collector junction is established; (7) The boundary conditions at the emitter are determined with an assumption that the drift velocity at the emitter junction can be averaged; (8) In comparing the new transistor model with the conventional (Shockley) model, it should be kept in mind that the true field distribution E(x) in the base and the absolute field value |E| have not been measured so far; (9) The author's formulas hold true when the field strength and μ and D factors are independent of the concentration of the injected (at low level) minority carriers. "The author wishes to thank Yu. A. Kamenetskiy for discussing the problems of this article." Orig. art. has: 1 figure and 158 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 004

Card 3/3

30124
S/194/61/000/007/040/079
D201/D305

9,4310 (1139, 1143, 1159)

AUTHORS: Kamenetskiy, Yu.A. and Sher, Yu.K.

TITLE: Cut-off frequency measurement in the 20-200 mc/s band

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 21, abstract 7 D138 (V sb. Poluprovodniki, pribory i ikh primeneniye, no. 4, M., Sov. radio, 1960, 128-138)

TEXT: A method is given of measuring the current amplification cut-off frequency in common base connection. The voltages U_1 and U_2 at the resistances R_e and R_c in the emitter and collector circuits respectively are proportional to the respective currents. These voltages are applied in an anti-phase after detection and amplification to an adder. At LF

$$|U_1| / |U_2| = |I_c| / |I_e| = \alpha_o.$$

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30124
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D201/D305

Cut-off frequency measurement...

The gain of one of the circuit channels is varied until zero indication of the indicating instrument is obtained $|U_1| = |U_2|$. The resistance R_c is then increased $\sqrt{2}$ times and the HF varied until zero indication is again obtained. This is the required cut-off frequency, since at this frequency

$$|I_c| / |I_e| = \alpha_o / \sqrt{2}$$

The effect of parasitic parameters of the junction transistor and of the circuit is analyzed in detail. Formulae are obtained for evaluating the measurement errors. The measuring junction transistor and junction diode circuits are given. 3 references. [Abstracter's note: Complete translation]

Card 2/2

1. [illegible], Yu. M.

2. USSR (600)

4. Veneers and Veneering

7. Drawing veneer lining into hollow panels. Der. i lesokhim. prom., 2, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

SHER, Yu.M.

[Hollow wooden building panels] Pustotelye shchity iz drevesnykh materialov. Moskva, Goslesbumizdat, 1954. 50 p. (MLRA 7:7)
(Plywood)

SHEM, Yu. N.

"Investigation of the Shape Deformation of the Facings of Hallow Carpenter's Benches." Cand Tech Sci, Moscow Forestry Engineering Inst, Min Higher Education USSR, Moscow, 1955. (KL, No 18, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

MILOV, Sergey Grigor'yevich; SHER, Yuliya Mikhaylovna; OBRAZTSOV, S.A., redaktor; TRUBNOVA, L.A., redaktor; AGAPOV, F.F., tekhnicheskiy redaktor

[Work methods of innovators in sawmilling and woodworking] Metody truda novatorov lesopileniia i derevoobrabotki. Moskva, Goslesbum-izdat, 1955. 17 p. (MLRA 8:7)
(Woodworking industries)

SHER, Yu.M.; VOLKOV, M.A.; BALASHOV, B.V.; KRUGLOVA, T.P.

New standards for packing boxes. Der.prom. 8 no.3:14-15 Mr '59. (MIRA 12:4)

1. TSentral'nata nauchno-issledovatel'skaya laboratoriya Rybtara.
(Boxes--Standards)

SHER, Yu.M.

Standardization of containers. Standartizatsiia 24 no.12:21-24 D '60. (MIRA 13:11)
(Containers--Standards)

ЗИМ, Ya.M., kand. tekhn. nauk

New kind of stock and repeated-use containers. Mer. prom. 14 no.9:3-4 S '65. (MIRA 18:12)

DENISOV, Grigoriy Arsen'yevich; SOKOL, Grigoriy Khristoforovich; SHEKHET, Leonid Davidovich; DENOCHKIN, N.I., red.

[The "Krep'" state farm] Sovkhoz "Krep'", Volgograd, Nizhne-Volzhskoe knizhnoe izd-vo, 1964. 39 p. (MIRA 18:2)

SHIRA, I.D. D

Finansirovaniye i kreditovaniye kapital'nykh vlozheniy (by) P.D. Podshivalenko (i) I.D. Shera. Moskva, Gosfinizdat, 1960.
376 p. tables.
Bibliographical footnotes.

SHERA K.

85-8-16/18

AUTHOR: Shera, K.

TITLE: Plotting the Polar of a Glider Model on the Basis of a Practical Experiment (Eksperimental'noye polucheniye polyary modeli planera)

PERIODICAL: Kryl'ya Rodiny, 1957, Nr 8, pp. 28-29 (USSR)

ABSTRACT: The author describes a way of finding out the optimum angle of attack for a given glider model by plotting the polar of the model on the basis of a practical experiment. First, he explains in detail how the gliding angle of a glider model may be determined by photographing the flight of the model against the background of luminous points, and then he offers a series of elementary formulas permitting to figure out the aerodynamic efficiency K of the model, and the lift force C_y, and the drag C_x the model with a given angle of attack will develop under definite conditions of temperature t° and atmospheric pressure P. The author indicates also that photographing the flight of a glider model in an artificially agitated air may contribute to appraising the

Card 1/2

85-8-16/18

Plotting the Polar of a Glider Model on the Basis (Cont.)

stability of the model. The article contains no scientific data of interest. 7 drawings.

AVAILABLE: Library of Congress

Card 2/2

85-58-1-26/28

AUTHOR: Shera, Karoy

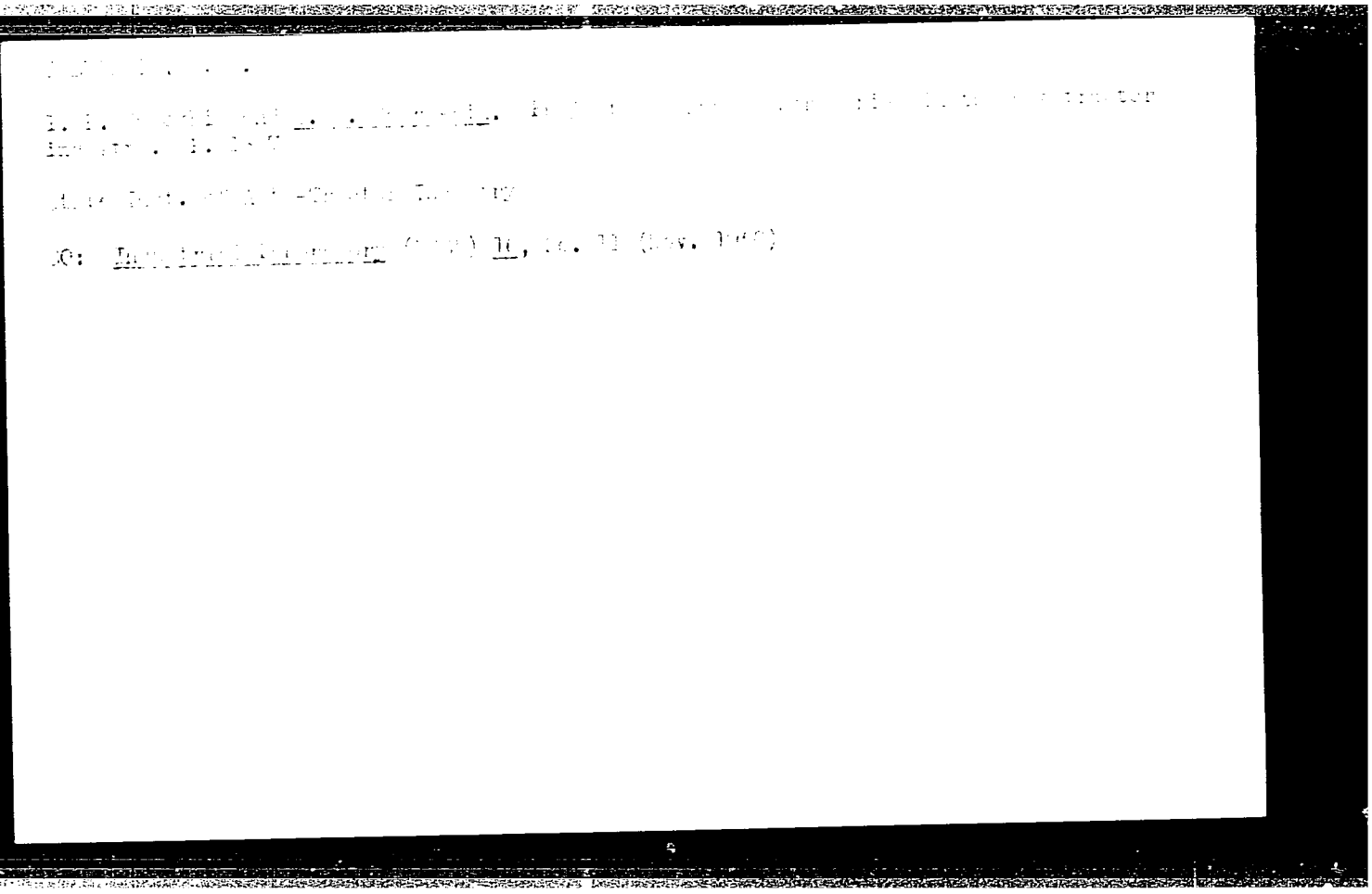
TITLE: Aerodynamics of Model Airplane Profiles (Aerodinamika aviamodel'nykh profiley); Helicopter Model (Model' vertoleta); World Champions' Models (Modeli chempionov mira)

PERIODICAL: Kryl'ya rodiny, 1958, Nr 1, Supplement (USSR)

ABSTRACT: The author discusses aerodynamics as applied to model airplanes and describes certain models and their construction. There are 29 sketches and diagrams.

AVAILABLE: Library of Congress

Card 1/1



[redacted]

[redacted], L.

[redacted]r., Chair Exptl. Physics, Pedagogical Inst. im. M. N. Pokrovskiy, Leningrad, -1941-.
"Determination of Coefficient of Absorption of Slow Neutrons in Water," Zhur. Eksper. i Teoret. Fiz., No. 6, 1936; "The Velocity of Electric Polarization of Rochelle Salt Crystals," ibid., 12, Nos. 1-2, 1942.

SHERASHOV, S.G. (Leningrad)

Certain characterisitics of reflex regulation of blood circulation and respiration in surgical shock. Arkh.pat. 18 no.6:70-76 '56. (MLRA 9:12)

1. Iz kafedry patologicheskoy fiziologii (nachal'nik - chlen-korrespondent AMN SSSR prof. I.R.Petrov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

(SHOCK, experimental,
reflex regulation of blood pressure & resp. in post-evisceration shock (Rus))
(BLOOD PRESSURE, physiology,
reflex regulation in exper. post-evisceration shock (Rus))
(RESPIRATION, physiology,
same)

SHERASHOV, S.G., podpolkovnik med.sluzhby, kand. med. nauk

Mechanical injuries and irritations induced by the intestinal contents in the development of early complications of intestinal wounds. Voen.-med. zhur. no.6:80-81 Je '58. (MIRA 12:7)
(INTESTINES--WOUNDS AND INJURIES)

VASADZE, G.Sh.; SHERASHOV, S.G.

Change in sensitivity to visceral trauma of animals in radiation sickness. Med.rad. 4 no.10:59-66 O '59. (MIRA 13:2)

1. Iz kafedry patologicheskoy fiziologii (nach. - chlen-korrespondent AMN SSSR prof. I.P. Petrov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(RADIATION INJURY exper.)
(WOUNDS AND INJURIES exper.)

SHERASHOV, S.G., kand.med.nauk

Prevention of surgical shock in operations on organs of the abdominal cavity; experimental studies. Khirurgiia 35 no.7:89-93 Jl '59. (MIRA 12:12)

1. Iz kafedry patologicheskoy fiziologii (nacu. - chlen-korrespondent AMN SSSR prof. I.R. Petrov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.
(ABDOMEN, surgery)
(SHOCK, experimental)

CHERKASHOV, G.D., kand. med.nauk, podpolkovnik meditsinskoy sluzhby;
BURENIN, P.I., kand.med.nauk, podpolkovnik meditsinskoy sluzhby;
MOROZOV, V.N., kapitan meditsinskoy sluzhby

Barotrauma of the ear following the action of air percussion wave of nuclear explosions; review of literature. Voen.-med.zhur. no.7:39-44 '64. (MIRA 18:5)

SHERASHOV, S.G., podpolkovnik meditsinskoy sluzhby, kand. med. nauk

"Blinding" and retinal burns caused by nuclear explosions; a review of literature. Voen.-med.zhur. no.10:23-26 '64. (MIRA 18:5)

SHFRAYZIN, S.M.

Use of translator diodes for stabilizing the operation of relaxation oscillators. Elektrosvias' 17 no.12:43-51 D '63. (MIRA 17:2)

L 42162-66

ACC NR: AR6013876 SOURCE CODE: UR/0274/65/000/011/B023/B023

47
B

AUTHOR: Sherayzin, S. M.

TITLE: An analysis of the passage of an index signal through the electrio-sections of a control system

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 11B178

REF SOURCE: Tr. Uchebn. in-tov svyazi, vyp. 25, 1965, 123-130

TOPIC TAGS: communication, signal activity, color TV, color TV tube, electron beam, signal distortion, phase shift analysis, TV receiver

ABSTRACT: Index signals, which determine the position of the electron beam on the screen of a picture tube with color bands, undergo in a television receiver a series of transformations. The phase shift emerging with the transformations may lead to distortions in the color transmission. A mathematical expression of the index signals was derived. The output voltage of a four-terminal network to which the index signals were supplied was calculated. An aperiodic amplifier, low frequency filters of type k and m, a band-pass filter of type m, and single oscillator circuit were chosen as concrete examples of a four-terminal network. A numerical calculation showed that in the latter case the phase shift can exceed 10^{0}, and in the first case it is a fraction of a degree. With the correct selection of the parameters of the low frequency filter the phase shift does not exceed 1^{0}. In all cases special measures must be taken to

UDC: 621.397.62-2

Card 1/2

L 42162-66

ACC NR: AR6013876

eliminate rapid changes of the scanning speed. Bibliography of 3 citations. Ya. E.
/Translation of abstract/

SUB CODE: 17

Card 2/2

SHERBACHEVA, M. A.

Distr: 4E2c(j)/4E4j

15

✓ Standard media for weight swelling determinations on stocks. M. A. Sherbacheva and S. S. Guseva. *Kauchuk i Rezina* 16, No. 8, 16–18(1957).—The swelling effect of any petroleum oil on a cured SKN-18 (butadiene-nitrile) stock can be duplicated by a mixt. of standard green oil (I) and hexadecane having the same aniline point. Such a mixt. in variable proportions is recommended as a standard swelling medium. The I has 80% high mol. wt. aromatic hydrocarbons, 20% normal paraffins; the aniline point is −10 ± 3°.

Malcolm Anderson

1/1

4 Aug 2

68395

S/051/60/008/02/022/036

E201/E391

AUTHORS: Al'perovich, L.I., Sherbaf, I.D. and Marupov, R.

TITLE: On the Origin of Luminescence of Liquids Under the Action of Hard Radiations

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2, pp 259 - 261 (USSR)

ABSTRACT: The authors compared intensities of luminescence of certain aromatic and non-aromatic solvents and solutions excited with X-rays from a tube across which voltage was varied from 30 to 200 kV (at these voltages Vavilov-Cherenkov radiation is not emitted). The same samples were subjected also to excitation with γ-rays from Co^{60} (10 millicuries), using a technique described by Kallman and Furst (Ref 1). The intensity of luminescence was measured with a photomultiplier FEU-19M. In measurements using X-rays the effect of secondary and scattered radiation was allowed for. The authors measured the concentration dependences of the intensity of luminescence of solutions of anthracene, naphthalene, β-naphthylamine, phenanthrene and stilbene in xylene,

Card1/2

IVANOV, A.P.; SHERBAF, I.D.

Angular distribution of radiation in a medium illuminated by a narrow pencil of rays. Dokl. AN BSSR 7 no.10:673-676 O '63. (MIRA 16:11)

1. Institut fiziki AN BSSR. Predstavleno akademikom AN BSSR B.I. Stepanovym.

L 43083-65 EWT(1)/EPF(c)/EEC(t)—Pi-4 —IJP(c)— WW/GG/GS
ACCESSION NR: AT5011181 UR/0000/64/000/000/0267/0275

28
27
B+1

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

TITLE: Dispersion of a projection in a turbid medium

SOURCE: Mezhvedomstvennoye soveshchaniye po aktinometrii i optike atmosfery. 5th, Moscow, 1963. Aktinometriya i optika atmosfery (Actinometry and atmospheric optics); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 267-275

TOPIC TAGS: light dispersion, atmospheric optics, projector beam, photometric instrument

ABSTRACT: A series of experimental investigations of the dispersion of a narrow beam of light has been conducted under laboratory conditions, in which all optical constants of the medium are known and their effect on the dispersion can be determined. The results of these investigations are presented, particularly the analysis of angular and polarization characteristics of dispersed radiation. The measurements were made in a 50 x 50 x 50-cm container filled with various turbid liquids. The container was illuminated by a narrow, parallel, mono-

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L 43083-65

ACCESSION NR: AT5011181

chromatic beam of light. Thanks to a special attachment to the light guide, the degree of polarization, as well as the brightness of dispersed radiation could be measured at various angles of observation and at various points in space. The following systems were used as turbid media: milk, rosin, silver chloride, stannous chloride, and barium hydroxide. The experimental data obtained are presented graphically with detailed explanation in the text. The investigations analyzed dealt with the field of light which was basically outside the geometric zone of the propagation of the parallel beam of light. It is planned to conduct further investigations dealing with the structure of the field of light in the dispersing medium in the zone of the projector beam. Orig. art. has: 6 figures and 1 formula. [JJ]

ASSOCIATION: Institut fiziki AN BSSR, Minsk (Institute of Physics, AN BSSR)

SUBMITTED: 25Nov64 ENCL: 00 SUB CODE: OP

NO REF SOV: 006 OTHER: 005 ATD PRESS: 3238

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Card 2/2

IVANOV, A.P.; SHERMAF, I.D.

Effect of the angular aperture of an emitter on illuminance in a scattering medium. Dokl. AN BSSR 9 no. 5:301-304 My '65 (MIRA 19:1)

1. Institut fiziki AN BSSR. Submitted April 22, 1964.

ACC NR: AP6011374 SOURCE CODE: UR/0362/66/002/003/0312/0315

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

ORG: Physics Institute, Academy of Sciences BSSR (Akademiya nauk BSSR, Institut fiziki)

TITLE: Effect of the angular dispersion of a light beam on its penetration into a scattering medium

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 3, 1966, 312-315

TOPIC TAGS: optic property, ocean property, oceanography, light dispersion, light scattering, water

ABSTRACT: The problem of the effect of the angular dispersion of a light beam on illumination in a turbid medium was investigated experimentally. The experiments were set up in a small basin filled with turbid water. The method of investigation was such that it was possible to change both the angular aperture of the radiator from 0.5 to 180° at a constant luminous flux entering the water and the optical characteristics of the medium, the probability of photon survival, and the optical depth. The cross sectional area of the light beam entering the water was 3.14 cm^2. The authors examined the region of small optical depth which corresponds to a slightly turbid atmosphere, space, and water to shallow depths; the region of average optical

UDC: 551.593

L 40931-66
ACC NR: AP6011374

depths; and the region of large optical depths. It is concluded that the greater the probability of photon survival, the slower the illumination decreases with an increase of the radiator aperture angle. At large optical depths illumination depends on the angular dimensions of the radiator but not as much as could be expected. Illumination drops not by several orders of magnitude but only by a factor of 2—3 when an acutely directed radiator is replaced by a completely diffusive one. Orig. art. has: 4 figures and 2 formulas.

SUB CODE: 20,08/ SUBM DATE: 05Oct65/ ORIG REF: 001/ OTH REF: 000

Card 2/2 vmb

ACC NR: AP6017594 SOURCE CODE: UR/0250/66/010/001/0018/0021

43
B

AUTHOR: Ivanov, A. P.; Sherbaf, I. D.

ORG: Institute of Physics, AN BSSR (Institut fiziki AN BSSR)

TITLE: Influence of the polarization properties of external radiation on the illumination of different sections of a turbid medium

SOURCE: AN BSSR. Doklady, v. 10, no. 1, 1966, 18-21

TOPIC TAGS: light polarization, radiation intensity, light scattering, light polarization, ILLUMINATION OPTICS

ABSTRACT: To check on a hypothesis that in a strongly turbid medium the orientation of the intensity vector of the external radiation would be less important than in a weakly turbid medium, and to obtain quantitative estimates of this difference, the authors have experimented with the influence of the electric-intensity vector orientation on the illumination produced by radiation in a light-scattering medium. The investigations were carried out with apparatus described earlier (Opt. i spektr. v. 18, no. 4, 1965). The polarization plane was rotated with the aid of a polaroid. The theory of the experiment is briefly described. The tests were made with the optical receiver immersed in the turbid medium to different depths. Plots are presented of the percentage change of electric intensity against the orientation of the electric vector and against the extinction coefficient. The results show that the larger the extinction coefficient, the smaller the influence of the polarization angle on the

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L 37090-66

ACC NR: AP6017594

intensity. The plots of the change of intensity against the polarization angle are symmetrical about the value at 90°, at which their relative change of intensity has a maximum. It is concluded from the results that at large distances from the point of penetration of the light into the medium, or in the case of strong turbidity, differences in the orientation of the electric intensity vector of the incident radiation do not change the illumination noticeably. However, when the turbidity is low and the multiple scattering is small, the illumination may change by a factor of two as the angle of polarization changes from 0 to 90°. This report was presented by AN BSSR Academician B. I. Stepanov. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 28Aug65/ ORIG REF: 003

Card 2/2

ACC NR

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 2, 1966, 195-201

TOPIC TAGS: light scattering, turbidity, [illegible] medium, light absorption, light attenuation, extinction coefficient, absorption coefficient, ILLUMINATION OPTICS, OPTICS

ABSTRACT: The attenuation of a narrow beam of light in a turbid medium consisting of water in a tank, with optical density controlled by addition of milk or rosin, has been investigated. The absorptivity was varied by dissolving premeasured amounts of aniline black. A narrow collimated beam at λ = 546 nm with a 3.4-cm^2 cross section and a divergence of 1° was produced by passing radiation from a [illegible] lamp through a mercury filter. The results of the experiments were summarized in the form of graphs of the dependence of illumination on the optical depth at different values of the extinction coefficients (c) and the dependence of illumination on the square of the extinction coefficient at different values of the optical depth (τ). It was shown that as a result of the negligible contribution of scattering, attenuation of light in slightly turbid media, in which ε < 0.05 cm^{-1} and τ is less than 10, obeys the exponential law of absorption (Bouguer-Lambert

UDC: 535.32/58

Card 1/2

ACC NR: AP6030717

law/. However, in media with larger coefficients of extinction, the exponential law of absorption is not obeyed at any depth, with the illumination at constant r increasing with the increasing coefficient of absorption. As r was increased at constant $A = a/(b + a)$, where k is the turbidity and a is the absorption coefficient, the intensity of the scattered light was observed to increase, reach a peak, and [illegible] illumination value equal to E/E_0, where E and E_0 are the illumination [illegible] the media, respectively. As ε increased the peak [illegible] maximum illumination, which depends only on the [illegible], increased monotonically with ε. The maximum illumination is sharper [illegible] ε, being more [illegible] figures and 1 formula. [CS]

SUB CODE: 20/ SUBM DATE: 30Sep65/ ORIG REF: 005/ ATD PRESS: 5084

Card

L 20309-67 EWT(1)
ACC NR: AT6024336 SOURCE CODE: UR/0428/66/000/001/0121/0127

AUTHOR: Ivanow, A. P.; Sherbaf, I. D.

ORG: none

TITLE: Influence of optical parameters on the scattering of a narrow beam of light in a turbid medium

SOURCE: AN BSSR. Vestsi. Seryya fizika-matematychnykh navuk, no. 1, 1966, 121-127

TOPIC TAGS: light scattering, turbid medium, photon scattering, optic property

ABSTRACT: The authors report the results of optical measurements made by a procedure they developed and described elsewhere (Optika i spektroskopiya v. 18, no. 4, 1965 and earlier) for producing turbid media whose parameters can be varied and which are suitable for optical scattering measurements. The measurements were made in a small cell with a light beam of 3.14 cm^2 area and divergence angle smaller than 1°, using an end-window photomultiplier (FEU-25) capable of measuring the illumination in various sections of the medium, in a radial direction relative to the beam propagation direction. The parameters varied were the photon survival probability (Λ), the extinction coefficient (ϵ), and the longitudinal and radial coordinates of the observation point (τ_h and τ_r). It is shown that for equal values of τ_h, the amount of radially scattered radiation decreases with decreasing Λ. The extinction coefficient has an important influence on the shape of the beam-spreading curve at small τ_h and is of no importance for large τ_h. Diagrams of isophots, characterizing the geometric locus of the points

Card 1/2

L 09309-67

ACC NR: AP6024336

of constant illumination in spece, are presented for different values of Λ and ϵ.
Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 20Oct65/ ORIG REF: 004

Card 2/2

SHERBAK, A., master sporta.

Long range flight in a lightweight glider. Kryl.rod.6 no.12: 9-10 D '55. (MLRA 9:4)
(Gliding (Aeronautics))

SHERBAK, I.D.; IVANOV, A.P. [Ivanou, A.P.]

Design of apparatus for studying various properties of light-diffusing objects. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2: 39-43 '62. (MIRA 18:4)

L 54790-65

ACCESSION NR: AP5015779 UR/0250/65/009/005/0301/0304

AUTHOR: Ivanov, A. P.; Sherbaf, I. D. 7 13

TITLE: The effect of the angular aperture of an emitter on the illumination in a scattering medium

SOURCE: AN BSSR. Doklady, v. 9, no. 5, 1965, 301-304

TOPIC TAGS: turbid medium, scattering medium, illumination

ABSTRACT: Scattering turbid media (milk and rosin) were used to investigate experimentally the dependence of illumination on the angular aperture of the emitter. It was concluded that 1) for small optical thicknesses, the role of the solid angle subtended by the emitter is important since a slight decrease in the angular aperture leads to a sharp increase in the depth of penetration of light into the medium; 2) at given optical depths, depending both on the angular aperture and on the coefficient of scattering and absorption of the turbid medium, the relative change in the illumination, corresponding to different angular apertures, attains a maximum; and 3) for large optical thicknesses at different depths, the role of the angular structure of a narrow light beam incident on a medium remains unchanged—the angular aperture affects the illumination, but the

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L 54790-65
ACCESSION NR: AP5015779

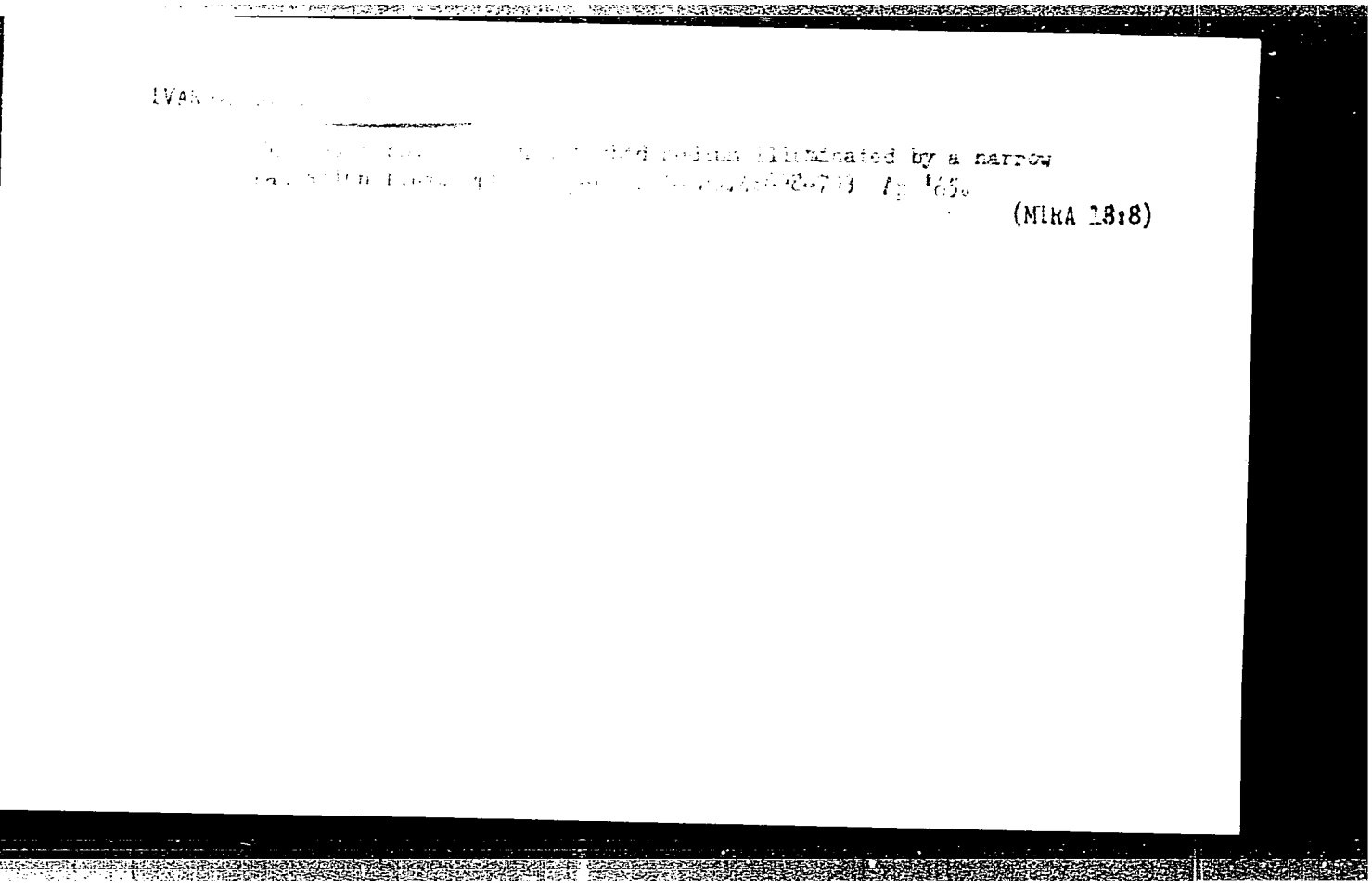
effect is minimal. It was also observed that the dependence of illumination on the angular aperture becomes more appreciable as the absorptive power is increased. Also, in highly absorbent media the illumination at large depths is more dependent on the illuminating conditions than in the weakly absorbent media. Orig. art. has: 1 formula and 2 figures.
[YK]

ASSOCIATION: Institut fiziki AN BSSR (Physics Institute, AN BSSR)

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: OP

NO REF SOV: 002 OTHER: 000 ATD PRESS: 4029

Card 2/2



(MIRA 18:8)

BYK, S.Sh.; SHERBAK, L.I.; STROITELEVA, R.G.

Phase equilibriums in the system: phenol - water - methylethyl ketone. Part 2. Zhur.fiz. khim. 30 no.2:305-312 F '56. (MLRA 9:7)
(Phase rule and equilibrium) (Ketone) (Phenols)

SHERBAKOV, A.

Bring the experience of production leaders to the masses. Sots. trud no.1:81-88 Ja '56. (MLRA 9:7)
(Efficiency, Industrial)

SHERBAKOV, A.A.; YUR'YEV, Yu.K.

Preparation of furfurole from agricultural wastes and from plant materials. Zhur.prikl.khim. 29 no.1:110-118 Ja '56. (MLRA 9:5)

1. Moskovskiy gosudarstvennyy universitet i Vinnitskiy gosudarstvennyy Meditsinskiy institut.
(Furaldehyde)

SHERBAKOV, A.P.

Population and biome dynamics of certain representatives of the microbenthos of Glubokoye Lake. Trudy Gidrobiol.ob-va no.6:122-132 '55. (MLRA 8:9)

1. Biologicheskaya stantsiya na Glubokom ozere Instituta morfologii zhivotnykh Akademii Nauk SSSR
(Glubokoye Lake--Fresh-water biology)

Cherbakov, Boris Dmitriyevich

Sistema elektropitaniya B SK-2 na vypryamitelyakh tipa B3B-51.
Kalyn, Vts A" BSSR, 1960.
29 (1) p., charts, tables.
At head of title: Akademiya Nauk BSSR. Vychislitel'nyy Tsentr.
Bibliography: p. (30)

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)

25903

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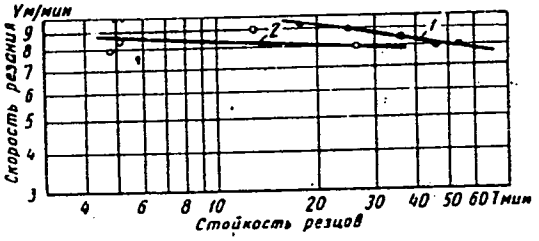
A207/A101

Ultrasonic vibrations in grinding cutting tools

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 ($2A \leqslant 0.01 \div 0.015$ 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

Card 3/4

ACC NR: AP6033911 SOURCE CODE: UR/0220/66/035/005/0796/0804

AUTHOR: Loginova, L. G.; Golovacheva, R. S.; Sherbakov, M. A.

ORG: Institute of Microbiology, AN SSSR, Moscow (Institut mikrobiologii AN SSSR)

TITLE: Thermophilic bacteria forming active cellulolytic enzymes

SOURCE: Mikrobiologiya, v. 35, no. 5, 1966, 796-804

TOPIC TAGS: enzymology, enzyme, cellulolytic enzyme, bacterial enzyme, bacteriology, thermophilic bacteria

ABSTRACT: Thermophilic anerobic cellulose bacteria ferment cellulose more effectively in a mixed culture. Under laboratory conditions it was discovered that cultures of cellulose bacteria developed optimally when grown with *Bac. stearothermophilus, Bac. lentus* var. thermophilus, and thermophilic sulphate-reducing bacteria as symbionts. Maximum cellulolytic activity was observed at 60C and pH 5; extracellular cellulolytic substances were observed by the fourth day, by which time the bacteria have utilized 93—95% of the cellulose in the growth medium. Orig. art. has: 9 figures and 2 tables. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 19Jan66/ ORIG REF: 008/ OTH REF: 006

Card 1/1 UDC: 576.8.095.38:577.154.33

SHERPAKOV, Mikhail Grigor'yevich, FISENKO, Vitaliy Isidorovich, NOVIKOV, Yevgeniy Ivanovich; YURCHENKO, I.F., inzh., red.; MANIN, I.I., retsenzent; KOLTUNOVA, M.P., red.; VOROTNIKOVA, L.F., tekhn. red.

[Wages of track maintenance workers, manual]Oplata truda v putevom khoziaistve; spravochnik. Pod obshchei red. I.F. IUrchenko. Moskva, Transzheldorizdat, 1962. 185 p. (MIRA 16:2)

(Wages--Railroads)

SHERBAKOV, M.I., kandidat sel'skokhozyaystvennykh nauk.

Studying drills and planting machines; treating seeds before sowing.
Est. v shkole no.2:36-41 Mr-Ap '56. (MLRA 9:7)

1.Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR.
(Agriculture--Study and teaching)

KUREK, N.M., red.; SHERBAKOV, S.N., red.; ARSEN'YEV, L.B., red.; BOBORYKIN, Ye.P., red.; VISHNEVSKIY, A.V., red.; GORCHAKOV, A.V., red. GUSHCHIN, V.M., red.; DRUZHININ, B.N., red.; LEPILIN, G.M., red.; PEREL'SHTEYN, N.L., red.; TESLYA-TESLENKO, V.P., red.; AGRANATOV, Yu.O., tekhn.red.

[Precast reinforced concrete members; planning and using] Sbornye zhelezobetonnye konstruktsii; opyt proektirovaniia i primeneniia. Moskva, TSentr. biuro tekhn.inform., 1958. 422 p. (MORA 11:5)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye upravleniye.
(Precast concrete construction)

KOPEYKOVSKIY, V.M.; SHERBAKOV, V.G.; GARBUZOVA, G.I.; IGOL'CHENKO, M.I.; RYAZANTSEVA, M.I.; TROYANOVA, N.L.

Problem of the forced ventilation of sunflower seeds. Izv.vys. ucheb.zav.; pishch.tekh. no.1:20-23 '59. (MIRA 12:6)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra tekhnologii zhirodobyvaniya.
(Sunflower seed--Storage)

LOMOV, Boris Fedorovich; SHERBAKOVA, G.A., red.; ZHUKOVA, Ye.G., tekhn. red.

[Man and tehcnology; essays on engineering psychology] Chelovek i tekhnika;ocherki inzhenernoi psikhologii. Leningrad, Izd-vo Leningr. univ., 1963. 264 p. (MIRA 16:5)
(Human engineering)

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 866

Author: Krasovitskiy, B. M., Pereyaslova, D. G., Kovalenko, O. D., and Sherbakova, L. I.

Institution: None

Title: Effect of Steric Factors on the Properties of Dyes Containing the Biphenyl Nucleus. III. Investigation of Disazo Dyes -- Derivatives of Biphenol, Phenanthrene, Phenazone, and Phenanthridone

Original Periodical: Ukr. khim. zh., 1955, Vol 21, No 5, 614-618

Abstract: A comparative study has been made of the properties of disazo dyes (DAD) obtained from 2,7-diaminophenanthrene (I), 2,7-diaminophenazone (II), and 2,7-diaminophenanthridone (III) as the disazo constituent. The products obtained were compared with previously investigated DAD produced from benzidine (IV), 2,7-diaminofluorene (V), 2,7-diaminophenanthraquinone (VI), 2,7-diaminodiphenyl ketone, and other 2,7-diamines (see Communication II, Referat Zhur - Khimiya, 1956, 61502).

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 866

Abstract: I was prepared in 61% yield by the heating (5 hours at 225-230°) of 2,7-dibromophenanthreme with concentrated HNO_3 in the presence of Cu_2Cl_2 and powdered Cu in a sealed tube. II was prepared by the reduction of 2,2'-dinitrobenzidine with Na-Hg, while III was prepared by the saponification of the diacetyl derivative with 0.5 N KOH (refluxing 4 hours). The DAD were obtained by coupling the disazotized I-III with H-acid (VII), 1-naphthol-4-sulfonic acid (VIII), or 1-amino-8-naphthol-2,4-disulfonic acid (IX) in alkaline medium. DAD obtained from I or II with VII (I → VII, λ_{max} 565 mμ, directness 55%) are close in color to DAD obtained from VI → VII and are considerably more intense than those from IV or V with VII; this is apparently due to the electron-acceptor properties of the ethylenic bridge in I and of the azo-group in II. In directness the dyes from I and II occupy an intermediate position between those from IV and VI with VII. The transition from the DAD from II to those from 3,3'-diaminoazobenzene (X) is characterized by the absence of diphenyl bonds, a sharp decrease in directness, and an intensification in the color (the composition of the dye, λ_{max} in mμ, ε_{max}, and directness in percent are indicated in that order): II → VII, 560, 40,000,

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OVES, Il'ya Semenovich, kand. tekhn. nauk; SAPOZHNIKOV, Il'ya Zinov'yevich; MARTSINSKIY, A.F., inzh., retsenzent; KONDRASHOV, A.V., inzh., retsenzent; SHERBAKOV, S.N., nauchn. red.; MORSKOY, L.K., red. izd-va; RODIONOVA, V.M., tekhn. red.

[Organization of the supply and replenishment of materials and equipment for construction] Organizatsiia material'no-tekhnicheskogo snabzheniia i komplektatsii stroitel'stva; opyt raboty Glavmosstroiia. Moskva, Gosstroiizdat, 1963. 213 p. (MIRA 16:12)
(Construction industry--Management)

SHERBAKOVA, M.Ya.

Resolving power calculation and cycle selection for a three stage radio-frequency mass-spectrometer. Zhur.tekh.fiz. 27 no.3:599-605 Mr '57. (MLRA 10:5)

1.Gorno-geologicheskiy institit, Novosibirsk.
(Mass spectrometry)

FEDOTOVA, T.I.; SHEBAKOVA, N.M.

Use of the serological method in the work of eliminating diseases in seed potatoes. Trudy VIZR no.21:51-56 pt.2 '64. (MIRA 18:12)

RUMANIA/Organic Chemistry - Synthetic Organic Chemistry. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 53947

Author : Almashi, Sherban, Koloshi, Iliesh

Inst : Academy RPR

Title : Elemento-Organic Compounds. I. o,o-diethyl Esters of Arylsulfamidothiophosphoric Acids.

Orig Pub : Studii si cercetari chim. Acad. RPR Fil. Cluj. 1957, 8, No 1-2, 159-168.

Abstract : The reaction of (S) $P(OC_2H_5)_2Cl$ with $p\text{-}RC_6H_4SO_2NHNa$ in polar solvents (pyridine, acetone, dioxane) yielded $(S)P(OC_2H_5)_2NHSO_2C_6H_4R$ (I); (given: R, m. p. in °C,) Cl, 95; f, 72; Br, 112; I, 135; CN, 117; H, 56; OCH_3, 113; CH_3, 84.

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12

BOLOGA, Emil' I.; SHERBAN, M.; Sembota, A.; NEDELKU, A. [Nedelcu, A.]

Psoriasis localized on [illegible] plaques. Vest. derm. i ven. no.3: 73-75 '65. (MIRA 18:11)

1. Dermato-venerologicheskaya otdeleniya [illegible]nitsy No. 1, Brashov, Rumynskaya Narodnaya Respublika.

L 52790-65 EWT(1)/EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb
IJP(c) RDW/JD/AT

ACCESSION NR: AP5010747 UR/0181/65/007/004/1244/1245

AUTHOR: Kot, M. V.; Panasyuk, L. M.; Simashkevich, A. V.; Tsurkan, A. Ye.; Sherban, D. A.

TITLE: On the intrinsic recombination radiation of ZnSe--ZnTe heterojunctions

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1244-1245

TOPIC TAGS: heterojunction, pn junction, recombination radiation, intrinsic radiation, voltage current characteristic, spectral distribution

ABSTRACT: The authors report the first successful attempt to produce n-p heterojunctions ZnSe--ZnTe in crystal-layer form, to obtain effective injection of minority carriers, and to observe intrinsic recombination radiation. The voltage-current characteristic of such junctions has the usual diode character. The forward current was several milliamperes at 2 V, and the inverse current up to 20 μA at 5 V. The dependence of the short-circuit current on the illumination, the lux-ampere characteristics, and the spectral distribution of the photo emf were investigated. In all the samples the short-circuit current depends linearly on the illumination. The no-load voltage was 0.6--0.7 V. The samples were sensitive to

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L 52790-65

ACCESSION NR: AP5010747

2

light in the wavelength interval 0.4--0.65 μ. Recombination radiation was observed when current flowed in the transmission direction of such a junction. The radiation became visible at current densities on the order of 0.2 A/cm^2. The recombination radiation occupies the wavelength band in the interval 0.44--0.75 μ, and the intensity of the radiation increased with increasing current density. The corresponding quantum energy is 2.6 and 1.82 eV, which agrees with the respective widths of the forbidden bands of ZnSe and ZnTe at room temperature (2.6 and 2.1 eV). The integral radiation intensity is practically linear with the current, and at room temperature the glow brightness was approximately 50 nit, increasing to 150 nit at liquid-hydrogen temperature for a 1 mm^2 junction area. "The authors are deeply grateful to Professor D. N. Nasledov for continuous interest in the work and valuable advice." Orig. art. has: 2 figures.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University)

SUBMITTED: 24Apr64 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 000 OTHER: 000

BAB

Card 2/2

SHERBAN, Mikhay

SHERBAN, Mikhay [Serban, Mihai]; FIMAN, Iosif; KOMAN, Dan [Coman, Dan]

[Caves of Rumania] Peshchery Rumynii. Bucharest, Izd-vo "Meridiany," 1961. xxxvi p. illus. (MIRA 15:1)
(Rumani--Caves)

SHERBAN, M., FINAN, E.

Similarity between underground and surficial river streams.
Nov.kar.i spel., no.3:80-81 '63. (MIRA 16:10)

SHERBAN', O. N. Cand Med Sci -- "Study of the mineral and protein metabolism in bone regeneration in affections of the tubular bones." Kiev, 1961 (Kiev Order of Labor Red Banner Med Inst im Academician A. Ä. Bogomolets). (KL, 4-61, 212)

SHERBAN, Ye.

New and little-known species of black flies of the group Eusimulium aureum Fires (Diptera, Simuliidae) from Rumania. Ent. oboz. 40 no.3:677-685 '61. (MIRA 15:3)

1. Institut speleologii, Bukharest.
(Rumania—Black flies)

SHERBANOV, V. A. (Kherson)

Calculating heat cycles in the hard facing of cylindrically-shaped machine parts along the generatrix. Avtom. svar. 14 no.12:40-44 D '61. (MIRA 14:11)

(Hard facing)
(Heat--Transmission)

SHERBAUM, L.

Standard planning and introduction of new technology. Stroi. mat., izd.i konstr. 2 no.9:4-7 S '56. (MLRA 9:11)

1. Zamestitel' predsedatelya Tekhnicheskogo soveta Ministerstva promyshlennosti stroitel'nykh materialov SSSR.
(Cement industries)

PAGE I BOOK EXPLOITATION SOV/5573

Akademiya nauk SSSR. Astronomicheskiy sovet

Byulleten' stantsiy opticheskogo nablyudeniya iskusstvennykh sputnikov Zemli. no. 5 (15) (Academy of Sciences of the USSR. Astronomic Council. Bulletin of the Stations for Optical Observation of Artificial Earth Satellites. No. 5 (15)) Moscow, 1960. 17 p. 500 copies printed.

Sponsoring Agency: Astronomicheskiy sovet Akademii nauk SSSR.

Resp. Ed.: Ye. Z. Gindin; Ed.: D. Ye. Shchegolev; Secretary: O. A. Severnaya.

PURPOSE: This bulletin is intended for scientists and engineers concerned with optical tracking of artificial satellites.

COVERAGE: The bulletin contains six articles, two of which deal with the construction and operating principles of two new semiautomatic telescopes for tracking satellites. Two other articles are concerned with the reduction of data from photographs and the determination of satellite orbital parameters.

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The remaining articles discuss visual satellite observations and the results of photographic observations of the satellites 1958 δ_1 and 1958 δ_2. No personalities are mentioned. There are 2 references: 1 Soviet and 1 English.

TABLE OF CONTENTS:

Observers: O. I. Babich, P. N. Polupan, Ye. V. Sandakova, A. P. Stefanov, Zh. M. Shcherban'. Calculations: L. M. Sherbaum. Measurements made on KIM-3 instrument

TURCHANINOVA, E.V., nauchnyy sotrudnik; SHERBAUM, L.M., nauchnyy sotrudnik

Results of photographic observations of artificial earth satellites. Biul.sta.opt.nabl.isk.sput.Zem. no.5:16-17 '60.
(MIRA 13:11)

1. Astronomicheskaya observatoriya Kiyevskogo gosuniversiteta.
(Artificial satellites--Tracking)

SHERBAUM, L.M.

Results of photographic observations of the Ekho-1, 1960, artificial satellite at the Astronomical Observatory of Kiev University. Biul.sta.opt.nabl.isk.sput.Zem. no.26:21-23 '62. (MIRA 15:7)

1. Astronomicheskaya observatoriya Kiyevskogo universiteta.
(Artificial satellites--Tracking)

CHERVYAKOVA, A.F.; PLUZHNIKOV, V.Kh.; GORELOV, Ya.P.; SHERBAUM, L.M.; KRYLOV, A.G.; SENTSOVA, Yu.Ye.; KHARIN, B.T.

Results of photographic observations of artificial satellites. Biul.sta.opt.nabl. isk.sput.Zem. no.25:23-28 '62. (MIRA 15:7)

1. Nachal'nik stantsii nablyudeniya iskusstvennykh sputnikov Zemli Instituta astrofiziki AN Turkmenskoy SSR (for Chervyakova). 2. Nachal'nik Khar'kovskoy stantsii nablyudeniya iskusstvennykh sputnikov Zemli (for Pluzhnikov). 3. Nachal'nik stantsii nablyudeniy iskusstvennykh sputnikov Zemli Gosudarstvennogo astronomicheskogo instituta im. P.K.Shternberga (for Gorelov). 4. Astronomicheskaya observatoriya Kiyevskogo universiteta (for Sherbaum). 5. Stantsiya Astronomicheskogo soveta AN SSSR (for Krylov, Sentsova). 6. Nachal'nik Tomskoy stantsii opticheskikh nablyudeniy iskusstvennykh sputnikov Zemli (for Kharin).
(Artificial satellites—Tracking)