V.

BYCHKOV, Dmitriy Vasil'yevich, professor, doktor tekhnicheskikh nauk; MIROV, Mikhail Osipovich, inzhener; YEGOROVA, N.O., redaktor izdatel'stva; PERSON, M.I., tekhnicheskiy redaktor

[Mechanical engineering] Tekhnicheskaia mekhanika. Pod obshchei red. D.V. Bychkova. Izd. 2-oe. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit. Pt. 1. [Theoretical mechanics] Teoreticheskaia mekhanika. 1957. 282 p. (MLRA 10:5)
(Mechanics, Analytic)

1. MIROV, N. I.

2. USSR (600)

4. Karakul Sheep

7. Short lambing [illegible] and the increase [illegible] study by [illegible]. Zar. i zver., No. 5, [illegible].

9. Monthly List of Russian Accessions, Library of Congress, [illegible] 1953. Unclassified.

MIROV, Semen Aronovich

[Urological diseases and their treatment at health resorts] Urologicheskie zabolevaniia i ikh lechenie na kurortakh. Moskva, Medgiz, 1958. 70 p. (MIRA 13:8)
(URINARY ORGANS--DISEASES)

MIROV, Yakov TSodikovich; LIVSHITS, Ya.L.; ISLENT'YEVA, P.G., tekhnicheskiy redaktor.

[Atomic energy for peace] Atomnuiu energiiu-dlia dela mira. Moskva, Izd-vo "Znanie," 1955. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.1. no.37) (MLRA 8:9)

(Atomic power)

GROSHIKOV, M.I., kandidat meditsinskikh nauk; MIROVA, [illegible] klinicheskiy ordinator; TITOVA, N.N., klinicheskiy ordinator; KHADZHI-MER, G.F., klinicheskiy ordinato

Single application of biomycin for treating chronic periodontitis. Stomatologiia 35 no.5:13-15 S-O '56 (MLRA 10:4)

1. Iz kafedry terapevticheskoy stomatologii (zav.-prof. Ye.Ye. Platonov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir.-dotsent G.N. Beletskiy)
(GUMS--DISEASES) (AUREOMYCIN)

SHANGIN, N.I., MIROVALEVA, Z.G. (Omsk)

Assistance of the Omsk Medical Institute to Local public health physicians. Zdrav. Ros. Feder. 2 no.8:36-38 Ag '58 (MIRA 11:9)
(OMSK PROVINCE--PUBLIC HEALTH)

MIROVALEVA, Z.G., dotsent; SHANGIN, N.I.; LEGEN'KIY, I.G., assistent; SLOBODENYUK, N.I.

Public health of the Province and City of Omsk on the 40th anniversary of Soviet power. Trudy OMI no.25:23-48 '59. (MIRA 14:10)

1. Iz kafedry organizatsii zdravookhraneniya Omskogo meditsinskogo instituta imeni Kalinina, zav. kafedroy dotsent Z.G.Mirovaleva.
(OMSK PROVINCE--PUBLIC HEALTH)

MIROVICH, D.Yu. [Myrovych, D.IU.], assistent

Prevention of hemorrhagic collapse in placental and early postnatal hemorrhages by means of intravenous use of novocaine. Ped., akush. i gin. 23 no.1:47-50 '61. (MIRA 14:6)

1. Kafedra akusherstva i ginekologii (zaveduyushchiy - prof. P.P. Sidorov) i kafedra patologicheskoy fiziologii (zaveduyushchiy - prof. M.M.Trankvilitati) Stalinskogo meditsinskogo instituta (direktor - dotsent A.M.Ganichkin [Hanichkin, A.M.]) i oblastnaya bol'nitsa im. N.I.Kalinina (glavnyy vrach - I.N.Golub [Holub, I.N.]).
(HEMORRHAGE, UTERINE) (NOVOCAINE)

MIROVICH, D. Yu., assistent

Prevention of shock and hemorrhagic collapse in obstetrical practice. Akush. i gin. no.4:43-47 '62. (MIRA 15:7)

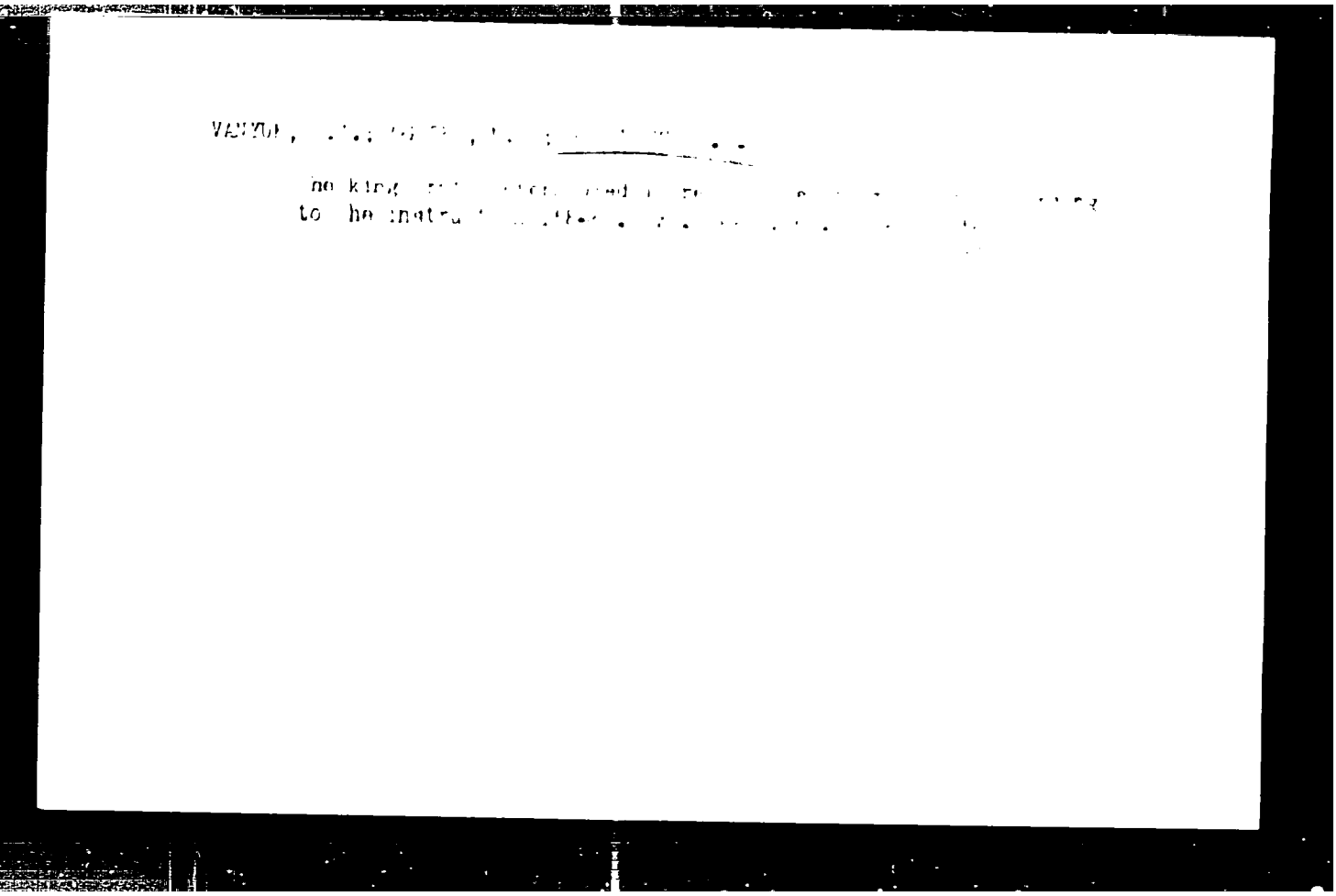
1. Iz kafedry akusherstva i ginekologii (zav. - prof. P. P. Sidorov) i kafedry patologicheskoy fiziologii (zav. - prof. N. N. Trankvilitati) Donetskogo meditsinskogo instituta na baze oblastnoy klinicheskoy bol'nitsy imeni M. I. Kalinina (glavnyy vrach - kandidat meditsinskikh nauk B. A. Shaparenko)

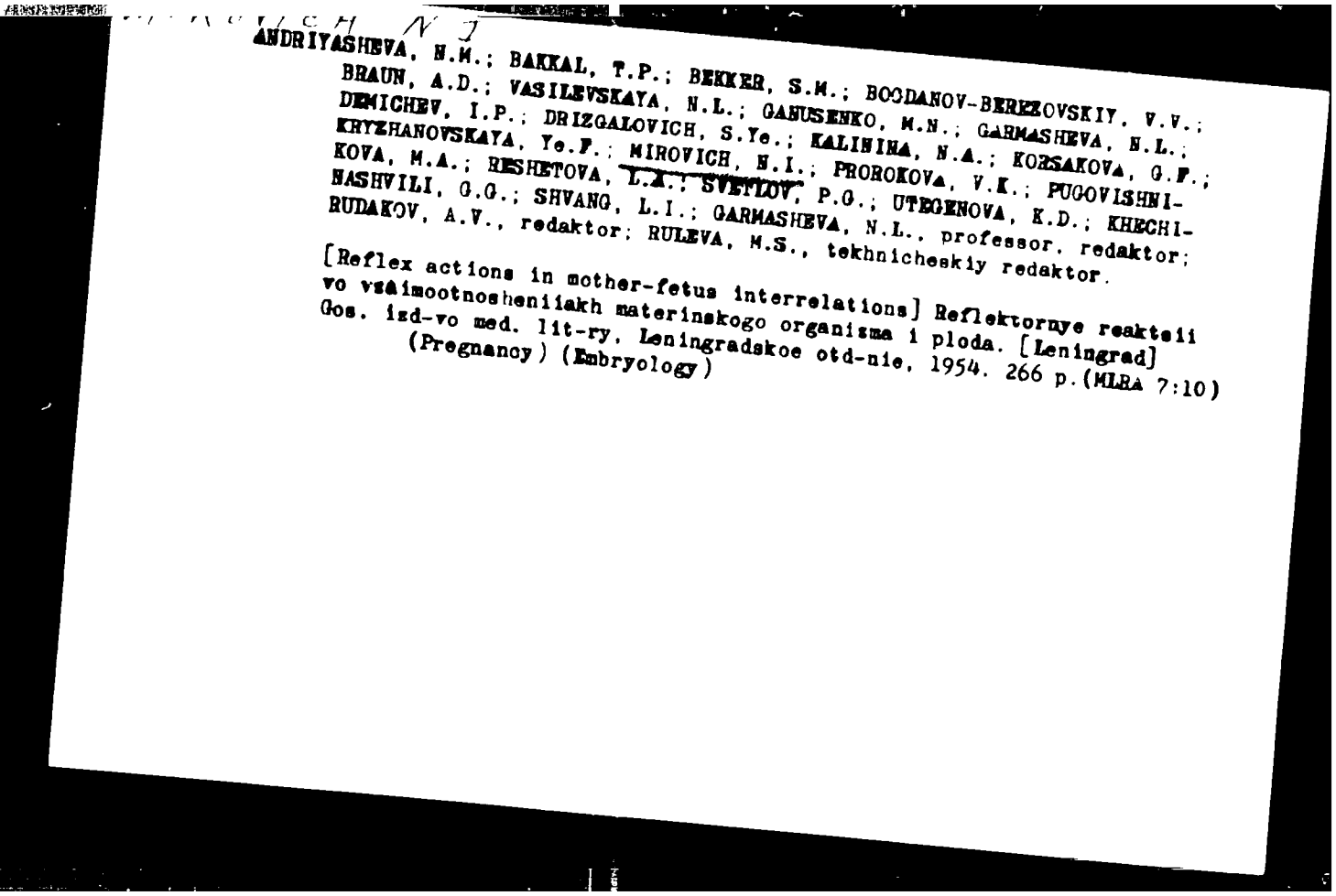
(HEMORRHAGE, UTERINE) (SHOCK) (NOVOCAINE)

MIROVICH, D.Yu., kand. med. nauk

Characteristics of surgical interventions in obstetrical emergencies associated with disorders of the blood coagulation system. Akush. i gin. 40 no.2:65-69 Mr-Ap '64.

1. Kafedra akusherstva i ginekologii No.1 (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent V.P. Miroshnichenko, nauchnyy konsul'tant - prof. P.P. Sidorov) Donetskogo meditsinskogo instituta i Donetskiy oblastnoy akushersko-ginekologicheskiy tsentr po profilaktike i lecheniyu terminal'nykh sostoyaniy (rukovoditel' D.Yu. Mirovich).





ANDRIYASHEVA, N.M.; BAKKAL, T.P.; BEKKER, S.M.; BOGDANOV-BEREZOVSKIY, V.V.; BRAUN, A.D.; VASILEVSKAYA, N.L.; GANUSENKO, M.N.; GARMASHEVA, N.L.; DEMICHEV, I.P.; DRIZGALOVICH, S.Ye.; KALININA, N.A.; KORSAKOVA, G.F.; KRYZHANOVSKAYA, Ye.F.; MIROVICH, N.I.; PROKOFOVA, V.K.; PUGOVISHNIKOVA, M.A.; RESHETOVA, L.A.; SVETLOV, P.G.; UTEGENOVA, K.D.; KHECHINASHVILI, G.G.; SHVANG, L.I.; GARMASHEVA, N.L., professor, redaktor; RUDAKOV, A.V., redaktor; RULEVA, M.S., tekhnicheskiy redaktor.

[Reflex actions in mother-fetus interrelations] Reflektornye reaktsii vo vzaimootnoshenilakh materinskogo organizma i ploda. [Leningrad] Gos. izd-vo med. lit-ry, Leningradskoe otd-nie, 1954. 266 p. (MLRA 7:10)
(Pregnancy) (Embryology)

Mirovich, N. I.

Adenosinetriphosphatase of the uterus. A. D. Bronin and N. I. Mirovich. *Voprosy Med. Khim.* 1, No. 1, 48-53(1953); *Referat. Zhur. Khim., Biol. Khim.* 1953, No. 16237.—The adenosinetriphosphatase (I) of the uterus of rabbits and rats can be extd. nearly 100% with H_2O from ground uterus tissue. This characteristic sharply differentiates the uterus from the skeletal tissue. I activity is the same over a wide range of pH(6.0-10.0). The uterine tissue exts. split off 2 phosphate groups from adenosinetriphosphate. There remains in the muscles of its uterus, even 24 hrs. after death, 80% of the original I activity. Mg^{++} and cysteine enhance the activity of I of the uterus. One full hr. at 55° is required for the complete inactivation of I of the uterus. It is concluded that the amt. of proteins in the muscles of the uterus, which are similar to myosin and actomysin of the skeletal muscles, is not significant. During pregnancy I of the uterus is reduced by 30-40%. I of the uterus varies with different animal species. In rats I of the uterus is higher than in their skeletal muscles, while in rabbits the quant. relation of the I of the uterus and of the skeletal muscles is reversed. B. S. Levine

(2)

MIROVICH, N.I.

Creatinuria in women post-partum. A. D. Braun, T. A. Akimeteli, and N. I. Mirovich (Inst. Obstet. and Gynecol., Acad. Med. Sci. U.S.S.R., Leningrad). *Voprosy Med. Khim.* 2, No. 1, 64–8(1930).—Of 104 women observed post-partum, 70 showed creatinuria; this was tabulated by age, parity, and duration of labor. The authors conclude that it is an indicator of disturbed metabolism.

Cyrus C. Sturgis, Jr.

BRAUN, A.D.; MIROVICH, N.I.

Contractile proteins of the myometrium. Vop.med. khim. 2 no.3: 188-197 My-Je '56. (MLRA 9:10)

1. Laboratoriya biokhimii Instituta akusherstva i ginekologii AMN SSSR, Leningrad.

(MUSCLE PROTEINS,
hysteromyosin in uterus (Rus))
(UTERUS, metabolism,
hysteromyosin (Rus))

IVANOV, I.I.; PARSHINA, E.A.; MIROVICH, N.I.

Adenosinetriphosphatase activity and contractile properties of myosin. Biokhimiia 24 no.2:248-252 Mr-Ap '59. (MIRA 12:7)

1. Biochemical Laboratory, Institute of obstetrics and gynecology, Academy of Sciences of the U.S.S.R., and Chair of Biochemistry of the Pediatric Medical Institute, Leningrad.
(MUSCLE PROTEINS,
myosin, ATPase activity & contractile properties (Rus))
(ADENYLPYROPHOSPHATASE,
in myosin (Rus))

IVANOV, I.I.; ZHAKHOVA, Z.N.; ZINOV'YEVA, I.P.; MIROVICH, M.I.; MOISEYEVA, V.P.; PARSHINA, E.A.; TUKACHINSKIY, S.Ye.; YUR'YEV, V.A.

Fractional composition of proteins and contractile function of various muscle types. Biokhimiia 24 no.3:451-458 My-Je '59. (MIRA 12:9)

1. Biochemical Laboratory of the Institute of Obstetrics and Gynecology, Academy of Medical Sciences of the U.S.S.R., Chair of Biochemistry of the Pediatric Medical Institute, and the Institute of Blood Transfusion, Leningrad.
(MUSCLE PROTEINS,
fractional composition, eff. on musc. contraction (R_{us}))

IVANOV, I.I.; MIROVICH, N.I.; PARSHINA, E.A.

Effect of high pressure on the adenosintriphosphatase activity of myosin. Biul.eksp.biol. i med. 47 no.6:38-40 Je '59. (MIRA 12:8)

1. Iz biokhimicheskoy laboratorii Instituta akusherstva i ginekologii AMN SSSR kafedry biokhimii Leningradskogo pediatricheskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR S.Ye.Severinym.

(MUSCLE PROTEINS,
myosin, eff. of high pressure on ATPase activity (R_{HS}))
(ADENYLPYROPHOSPHATASE,
in myosin, eff. of high pressures (R_{HS}))
(ATMOSPHERIC PRESSURE, eff.
on myosin ATPase activity (R_{HS}))

IVANOV, I.I.; MIROVICH, N.I.

Actin content of the myometrium. Biul.eksp.biol. i med. 48 no.9: 67-70 S '59. (MIRA 13:1)

1. Iz Biokhimicheskoy laboratorii (zaveduyushchiy - prof. I.I. Ivanov) Instituta akusherstva i ginekologii (direktor - chlen-korrespondent AMN SSSR prof. P.A. Beloshapko) AMN SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR S.R. Mardashevym.

(MUSCLE PROTEINS chem.)
(UTERUS chem.)

IVANOV, I.I.; MIROVICH, N.I.

Protein fractions in the skeletal musculature of the rabbit following section of the spinal cord. Vop.med.khim. 6 no.4: 403-407 Jl-Ag '60. (MIRA 13:8)

1. Biochemical Laboratory of the Institute for Obstetrics and Gynecology, the U.S.S.R.Academy of Medical Sciences, Leningrad.
(MUSCLES) (PROTEINS) (SPINAL CORD—SURGERY)

MIROVICH, N. I., TUKACHINSKIY, S. Y., YURYEV, V. A., ZHARKOVA, Z. N., IVANOV, I. I., BERG, YU. N., LEBEDEVA, N. A., and LOBATINA, N. I. (USSR)

"Proteins of various Muscle Myofibrils and the Problem of Tone."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

MIROVICH, N.I.

Proteins in the myometrium in nonpregnant and pregnant rabbits under normal conditions and in disorders of the uterine. Vop. med. khim. 7 no. 1:42-49 Ja-F '61. (MIRA 14:4)

1. Laboratories of Biochemistry and Pathophysiology, Institute for Obstetrics and Gynecology of the Academy of Medical Sciences of the U.S.S.R., Leningrad.
(UTERUS) (PREGNANCY) (PROTEIN METABOLISM)

IVANOV, I.I.; MEROVICH, N.I.; ZIYAKHOVA, Z.N.; TUKACHINSKIY, S.Ye.

Water-soluble myofibril proteins of the myometrium. Vop. med. khim. 7 no.4:384-390 Jl-Ag '61. (MIRA 15:3)

1. Laboratory of Biochemistry of the Institute of Obstetrics and Gynecology of the Academy of Medical Sciences of the U.S.S.R. and Biophysical Laboratory of the Leningrad Institute of Blood Transfusion.
(MUSCLE) (UTERUS) (PROTEINS)

IVANOV, I.I.; MIKOVICH, N.I., ZHAKHOVA, Z.N.; TUMANOVSKIY, B.Ye.

Fractional composition of myofibril proteins in various types of muscles. Biokhimiia 27 no.1:96-100 Ja-F '62. (MIRA 15:5)

1. Chair of Biochemistry, Pediatric Medical Institute, and Biochemical Laboratory, Institute of Obstetrics and Gynecology, Academy of Medical Sciences of the U.S.S.R., and Biophysical Laboratory, Institute of Blood Transfusion, Leningrad.
(PROTEINS) (MUSCLES)

MIROVICH, O.L.

Electric resistance welding of ..., 144 and 159 mm pipes.
S.roi. truboprov. 8 no.11:17-18 '63 (MIRA ...)

1. Trest Yuzhgazprovodstroy, Rostov-na-Donu.

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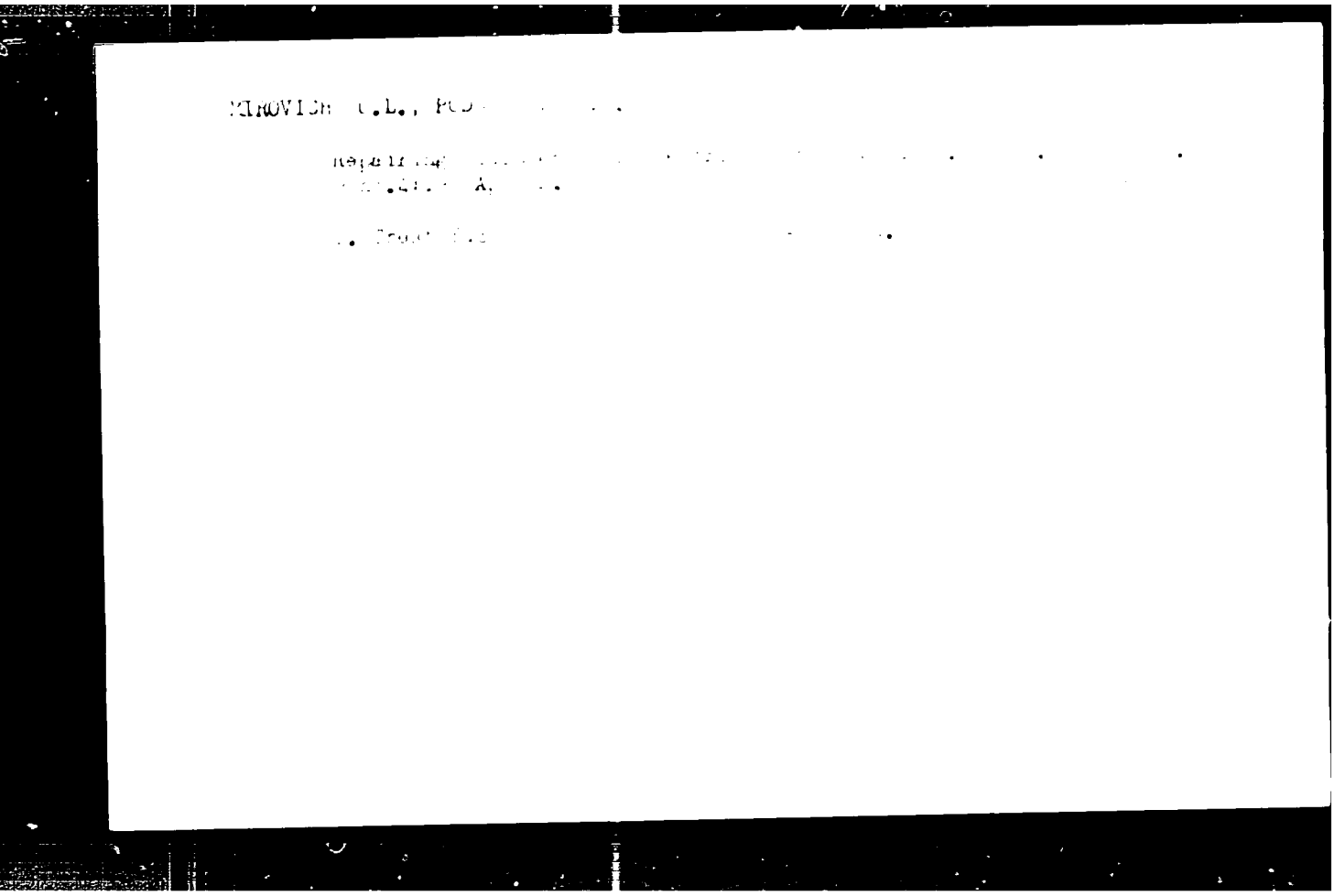

AUTHOR: Mirovitskiy D. I.

TITLE: Measurement of Free-Space Reflection Coefficients for Microwaves

PERIODICAL: Pribory i tekhnika eksperimenta 1959, Nr 4, pp 103-108 (USSR)

ABSTRACT: The paper presents a review of methods, especially in relation to insulators. Fig 1 illustrates the first of the two types of system considered, namely that in which the transmitting and receiving horns are the same. Eq (1) relates to the reflected signal recorded from a flat reflector far from the horn. Fig 2 relates to the other type of system, and Eq (2) gives the reflected signal, again with due allowance for all the various interactions; here Eq (3) relates to effects produced by phase change at the reflector. The next section deals with methods of averaging the received signals in order to eliminate the effects of multiple reflection when the reflector is displaced along the axis of the system. Eq (4) gives the positions at which the signals are maximal and minimal respectively as functions of the reflection coefficients, etc. Fig 3 gives patterns obtained for various values of reflection coefficient as functions of distance for a two-horn system. Fig 5

Measurement of Free-Space Reflection Coefficients for Microwaves

gives similar data for a one-horn system, Eqs (5) and (6) are simplified formulas suitable for practical use (the latter relates to Fig 5 in which a magic-T or other such junction is used in a bridge system. the right half of the figure illustrates the resulting signals). The last section of the paper deals briefly with the derivation of horn radiation curves and with the corrections to be applied for reflection within the horns. An experimental results of good accuracy are presented. The paper contains 6 figures and 5 references, 1 of which is Soviet and 4 are English

SUBMITTED: May 15, 1958

Card 2/2

30518
S/194/61/000/008/077/092
D201/D304

24.2200 (1144, 1147, 1482)

AUTHORS: Kupriyanov, I.K. and Mirovitskiy, D.I.

TITLE: A magnetic analogue of the Southworth magnetic film

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 53, abstract 8 I341 (V sb. Ferrity. Fiz. i fiz.-khim. svoystva, Minsk, AN BSSR, 1960, 451-457)

TEXT: It is shown that it is physically possible to realize a magnetic analogue of the dielectric Southworth film. This possibility results from the symmetry of Maxwell's equations with respect to μ and ε'. The proposed magnetic film has several advantages over the Southworth film. The press-band properties of the Southworth film are not great (± 10%); that of the magnetic film is determined solely by the region where the conditions $\mu_2 = a\lambda$, $\tan \delta\mu \gg 1$ (a - a constant, λ - length of wave, μ_2 - the imaginary term of complex μ) are satisfied. This is so because the

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A magnetic analogue...

maximum of the magnetic field of the standing wave is very well defined for the whole of the frequency range and corresponds to the short circuiting plane. 2 references. [Abstracter's note: Complete translation]

Card 2/2

S/115/6[illegible] / [illegible]
D[illegible] /2004

AUTHOR: Mirovitskiy, D.I.

TITLE: On the Measurement of Repulsion Coefficients [illegible] a Dielectric Specimen in Free Space

PERIODICAL: Izmeritel'naya tekhnika, 1960, Nr [illegible], [illegible] USSR.

ABSTRACT: The author investigates theoretically two characteristic cases referring to Soviet, English A. Bowie and J. Kelleher, K. Norton, I. Wait, I.I. [illegible], T.B. Senior, H.J. Neugebauer, D.J. Jones, and German (H. Severin and W. Baeckman) works: 1) The specimen has such dimensions that the irradiation of its edges can be neglected but the incident wave cannot be considered flat; 2) the specimen is so small that the incident wave can be considered flat, and the edges are irradiated visibly. The case when the curvature of the wave phase front as well as the wave diffraction on the specimen play an important

Card 1/2

S/115/60/[illegible]/014/[illegible]
D002/D003

On the Measurement of Repulsion Coefficients of a Dielectric Speci-
men in Free Space

part, is examined experimentally. There are [illegible] figures
and 13 references, of which 7 are English, 1 German,
and 5 Soviet.

Card 2/2

9,6000

S/120/60/000/03/032/055
E041/E521

AUTHORS: Mirovitskiy, D. I. and Dubrovin, V. F.

TITLE: Free-Space Measurement of Small Samples of Dielectric Materials at Decimetre Wavelengths

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3 pp 109-114

ABSTRACT: At wavelengths of 10 cm and above waveguide methods and conventional free space methods for measuring reflection and transmission coefficients become awkward. By using end-fire radiators instead of lenses and reflectors a significant reduction in size can be effected and samples may be measured whose dimensions are comparable with the wavelength employed. Fig 1 shows a number of rod aerials, covering the range 3 - 50 cm. Their use has led to the following conclusions. 1) with a sufficiently slow surface wave almost all the electromagnetic energy is concentrated near the surface within a sheath whose diameter is comparable with the wavelength; 2) the 'effective aperture' of the aerial depends only on the extent to which the surface wave is slowed down and

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E041/E521

Free-Space Measurement of Small Samples of Dielectric Materials at Decimetre Wavelengths

adjustment of the beam shape is controlled either by altering the material of the rod or fixing a modifying section to it, 3) the phase front at the end of the rod is practically plane and this enables samples to be brought close to it and to reduce sensitivity to external disturbances 4) a dielectric aerial can be matched to free space such that a wave falling on it does so without reflection, 5) an end-fire aerial enables the use of a new device for indicating a reflected signal the surface-wave directional coupler (Ref 4). This last device has low insertion loss ($\leq$ 5 db) and high directivity ($\geq$ 40 db) over a $\pm$ 15% band. Refractometers have been constructed for measuring transmission and reflection over the range 10-30 cm and loss over 20-50 cm In the 10-30 cm range the aerials have been conical 50 mm diameter at the feeder and 600 mm long made of polystyrene loaded with $BaTiO_2$ (ε 14) The surface was coated with graphite (200 ohm cm) in order to stabilize the asymmetric

Card 2/4

S/120/60/000/03/032/055
E041/E521

Free-Space Measurement of Small Samples [illegible] Materials at Decimetre Wavelengths

TE_{11} node, fix the polarization and help decouple the sample from the oscillator. In the 10-50 cm range the shape was similar, 75 mm diameter at the feeder, 750 mm long and the material loaded to give ε = 18. The coating was aluminium-loaded polystyrene (ε = 30) The support for the sample was of expanded polystyrene (s.g 0.04). The apparatus was calibrated by using the reflection from a standard reflector. A small aerial made of $CaTiO_3$ ceramic (ε = 150) was used as a probe for exploring the field. Fig 3 shows how the reflected signal varies with distance (λ = 30 cm) and various reflectors Fig 4 shows the effect of separating the transmitting and receiving aerials to various distances for two samples of different thickness and of placing the samples variously Figs 5 and 6 give the field distribution across and along the measuring area Figs 7 and 8 compare theoretical and experimental results at 30 cm and 20 cm wavelength

Card 3/4 respectively. It is concluded that for samples as small

S/120/60/000/03/032/055
E041/E521

Free-Space Measurement of Small Samples of Dielectric Materials at Decimetre Wavelengths

as the wavelength the measurement accuracy was about 10%. There are 8 figures and 7 Soviet references

SUBMITTED: April 27, 1959

Card 4/4

S/10?/60/005/0?/?0?/0
E1?0/E16?

9.1400

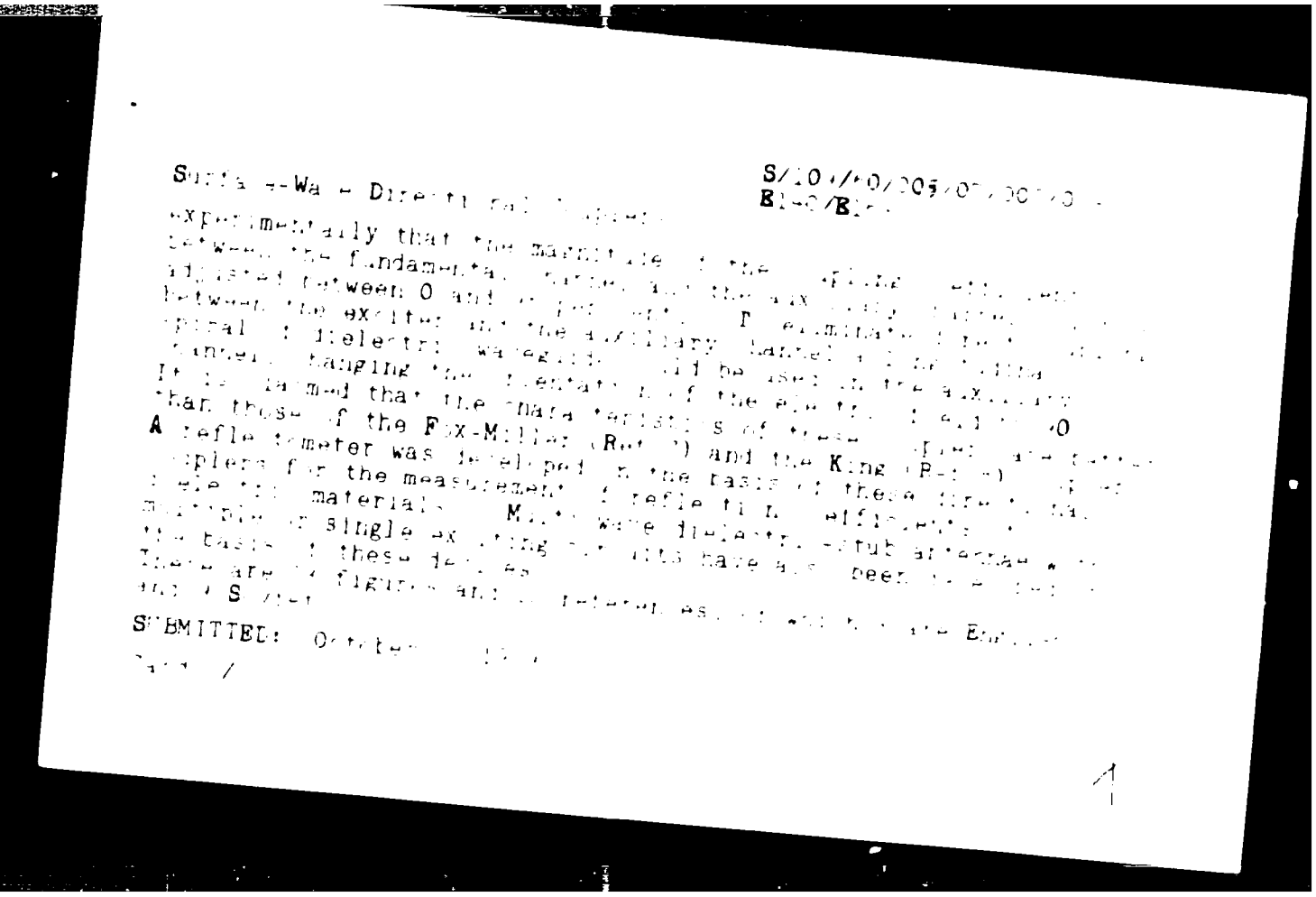
AUTHORS: Mirovitskiy, D.I. and Valeyev, G.G.

TITLE: Surface-Wave Directional Couplers

PERIODICAL: Radiotekhnika i elektronika, Vol. 5, No. ?, 1960, pp 1078-1084 (USSR)

ABSTRACT: An experimental investigation of a new type of directional coupler consisting of two intersecting surface-wave transmission lines is described. The coupler has a high transmission ... over a wide frequency band (greater than ... dB) and ... Three designs are discussed: ... consisting of two intersecting transmission lines; ... coupler, in which the auxiliary channel ... ; and a radial-type coupler. The ... of free space ... The ... waveguides were composed of methylmethacrylate ... The energy ... terminating a metal waveguide. The ... defined by the delay of ... the auxiliary channel ... in the fundamental and auxiliary ... velocity of the surface waves in the ... the distance between ... channel lines, the angle of the lines and the ... coupling region and ... Interference effects in the coupling region and ... the derivation of analytical relations difficult. It was found ...

Card 1/?



9.1400

AUTHORS: Mirovitskiy, D.I., and Valeyev, G.G.

S/109/60/005/07/019/024
E140/E163

TITLE: Hybrid Junction for Surface-Wave Lines

PERIODICAL: Radiotekhnika i elektronika, Vol 5, No 7, 1960, pp 1179-1182 (USSR)

ABSTRACT: Double T-junctions composed of surface-wave directional couplers (see abstract 5 of the present journal) are investigated. The operating principle is based on the fact that in the H-plane coupler there is cophase distribution of the signals in the output arms while in the E-plane coupler, anti-phase distribution. Methylmethacrylate and polystyrene surface-wave lines were employed. Isolations exceeding 54 dB were obtained in a band of 1 : 1.4. The shapes were found by employing paraffin-wax mixtures with barium titanate powder, permitting varying the dielectric constant between 3 and 25 with low electrical losses. A 12-terminal network for signal distribution is shown in Fig 6. There are 6 figures and 5 references, of which 4 are Soviet and 1 is French.

SUBMITTED: November 17, 1959

Card 1/1

4

93529

S/115/60/000/09/009/011
B012/B054

9,1300 1006, 1030, 1144

AUTHORS: Mirovitskiy, D. I., Valeyev, T. G., and Budagyan, I. F.

TITLE: Measurement of the Complex Reflection Factor of Dielectric Material

PERIODICAL: Izmeritel naya tekhnika, 1960, No. 9, pp. 51-53

TEXT: The so-called free-space measuring method is used more and more for measuring the electromagnetic parameters of various materials. Here, it is recommended for measuring the complex reflection factor of the workpiece; the simple formulas from the paper (Ref. 7) should be used for calculating the electromagnetic parameters of the workpiece. An instrument for measuring the complex reflection factor of a plane-parallel sheet metal in the free space is described, and shown in Fig. 1. The instrument is a system of lines for transmitting the surface wave, and consists of a directional coupler (Ref. 9), a balancing device, and a phase shifter. The balancing device compares the controlled reference signal with the unknown signal reflected from the sample measured. The modulus of the reflection factor of the sample is determined from the angle of inclination of the threads of

Card 1/2

Measurement of the Complex Reflection Factor of Dielectric Material

23529
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B012/B054

the standard reflector whereas the phase is determined from the indication on the rough and fine scale of the phase shifter. Fig. 2 shows a variant of the instrument described. This variant uses a controllable balancing device for balancing the amplitudes of the reference signal and of the signal measured. Here the modulus of the reflection factor is determined from the angle of inclination of the dielectric waveguide section of the balancing device whereas the phase is determined in the same way as with the first instrument. It is pointed out that the most progressive optical measuring methods are used with the instruments described. Two causes of the high accuracy of measurement of the instruments are mentioned: 1) The standard reflector in the first and the controllable balancing device in the second instrument make it possible to balance with high accuracy the amplitudes and phases of the reference signal and of the signal measured by means of successive tunings. 2) The interaction between the instrument antenna and the sample, which otherwise leads to errors, is very low in these instruments which makes it unnecessary to use the more complicated measuring method required in other cases. There are 2 figures and 1 references: 8 Soviet

Card 2/2

9.1300 (1006, 1144, 1331)

85254

S/019/60/000/016/029/134
A152/A029

AUTHOR: Mirovitskiy, D.I.

TITLE: A Splitter of Superhigh-Frequency Energy With Weak Coupling Between the Channels

PERIODICAL: Byulleten' izobreteniy, 1960, No. 16, p. 18

TEXT: Class 21a^4, 48$_{68}$. No. 130933 (628843/40 of May 21, 1959). This splitter has the following special feature: in order to increase its band width, it is made in the form of several surface-wave lines, connected with a common feeder and intersecting at an acute angle or else evenly branching out, from smooth or periodical delay systems, e.g., dielectric or ribbed, which are excited by an unsymmetrical surface wave.

Card 1/1

87064

S/019/60/000/020/054/211
A154/0A26

9.1300 (also 1006, 2903)

AUTHORS: Mirovitskiy, D.I., Valeyev, K.G.

TITLE: Hybrid Connections for the Super-High-Frequency Waveband

PERIODICAL: Byulleten' izobreteniy, 1960, No. 20, p. 26

TEXT: Class 21a[4], 48[69]. No. 132687 (638852/40 of Sep 16, 1959). Dependent on Author's Certificate No. 130933.* These hybrid connections for the super-high-frequency waveband, made in the form of interconnected splitters, are distinguished by the fact that, in order to increase the bandwidth of the connections, super-high-frequency-energy splitters on surface-wave lines as inAuthor's Certificate No. 130933 are used as splitters.

Card 1/1 * Doc No. 85254 (S/019/60/000/016/029/134)

20698

S/120/61/000/001/030/062
E192/E382

9.1800 (also 2603, 1127)

AUTHORS: Mirovitskiy, D.I., Budagyan, I.F and Valeyev G.G.

TITLE: Ultrahigh-frequency Refractometer Based on Surface-wave Lines

PERIODICAL: Pribory i tekhnika eksperimenta 1961, No. 1, pp. 116 - 120

TEXT: The device is designed for the measurement of the amplitude and phase of the refraction coefficient of a sample which is situated in the narrow beam of an axial radiating antenna. It is based on the surface-wave devices (Ref. 10) and follows the principle of the Michaelson refractometer (Fig. 1). The operation of the system is as follows: a signal from the generator 1 propagates along a surface-wave line and is radiated towards the sample 4, a portion of the signal is transmitted into a standard-signal section 1 - 2 - 11. The portion 3 of the main section is in the form of a dielectric rod radiating antenna, while 5 is a receiving antenna which captures some of the signal transmitted through the sample. Analogously, the portion 11 of the control section

Card 1/5

S/120/61/000/001/036/062
E192/E382

Ultrahigh-frequency ....

is a rod dielectric radiating antenna and 8 is a receiving antenna which receives the signal passing through the standard 9 . The signals transmitted through the sample and the standard are applied to a balancing device 6 (through the receiving antennae 5 and 8), which is applied to a null indicator 7 . The surface-wave lines in the instrument are in the form of dielectric waveguides these being polystyrol rods having a cross-section of 0.31 x 0.62 λ . A fine metal grid made of filaments having a diameter of 6.1×10^{-4} λ and a winding pitch of 3.9×10^{-3} λ is used as the standard. The refraction coefficient of the sample is measured by a successive adjustment of the amplitude and phase of the signal passing through the standard 9 until it is fully compensated by the signal which passes through the measured sample 4 . The full compensation is shown by the null indicator 7 . The modulus of the refraction index of the sample, at full compensation is equal to the modulus of the refraction index of the standard, which can be

Card 2/5

Ultrahigh-frequency . .

determined from an experimental graph showing T = f(α) where α is the angle of inclination of the standard refraction grating relative to the orientation of the electric field of the wave. The phase of the refraction index is practically constant when the inclination angle of the grating is changed and the results of the measurement are therefore unambiguous. The phase of the sample is determined from the readings of two scales of the phase shifter, which is situated in the standard-signal section, the position of this phase-shifter is such that it corresponds to the full compensation of the main and the standard signals, as observed on the null indicator. The coarse phase control $\mathcal{P}_1$ of the standard signal is effected by changing the length of the path traversed by the surface wave of the standard signal. The fine adjustment of the phase of the standard signal $\mathcal{P}_T$ is done by means of an electrical vernier consisting of a dielectric waveguide which can be displaced along the axis 8 - 11 by means of a micrometer screw 12 . The amplitudes of the standard and the measured signals can also be compared by means of a

Card 3/5 .

S/120/61/000/001/036/062
E192/E382

Ultrahigh-frequency ...

controlled balancing device, the standard refraction grating is then not necessary. A refractometer based on this principle is briefly described. There are 7 figures and 16 references: 12 Soviet and 4 non-Soviet

SUBMITTED: December 3, 1959

Card 4/5

S/120/62/000/003/039/048
E039/E335

AUTHORS: Mirovitskiy, D.I. and Dubrovin, V.F.

TITLE: Stand for measurements on microwave dielectric materials in free space

PERIODICAL: Pribory i tekhnika eksperimenta, no. 3, 1962, 162 - 173

TEXT: Automatic apparatus is described which is intended for measuring the coefficients of reflection and transmission for plane and curved sheets of dielectric materials. One transmitter and two receiver antennae are mounted on mobile carriages on a large metal framework. The receivers are arranged for simultaneous measurement of the reflected and transmitted waves from the sample. The antennae and sample are all mounted on high columns in order to avoid distortion of the high-frequency field by the metallic parts of the apparatus. The limit of rotation of the sample is 0 to 360°, accurate to 0.25°. The limit of vertical and transverse motion of the sample is ± 400 mm, accurate to 0.1 cm. Longitudinal movement of the sample can be up to 1 400 mm. All movements are independent or can be carried out

Card 1/2

Stand for measurements ....

simultaneously. Antennae construction is described in detail together with methods of making measurements and the calibration of the apparatus. There are five wavelength ranges and a nomogram system is described which is used for making a choice of calibration and working standards. There are 14 figures.
SUBMITTED: October 10, 1961

Card 2/2

9 1310

4

Card 1/2

Antenna type directional coupler

three-to-one frequency band. There are 10 figures.

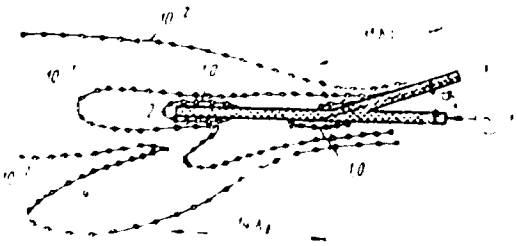


Fig. 3.

Card 2/2

L 26483-65 EWT(1)
ACCESSION NR: AR5004869 S/0058/64/000/011/H034/H034

9
5
8

SOURCE: Ref. zh. Fizika, Abs. 11Zh211

AUTHORS: Mirovitskiy, D. I.

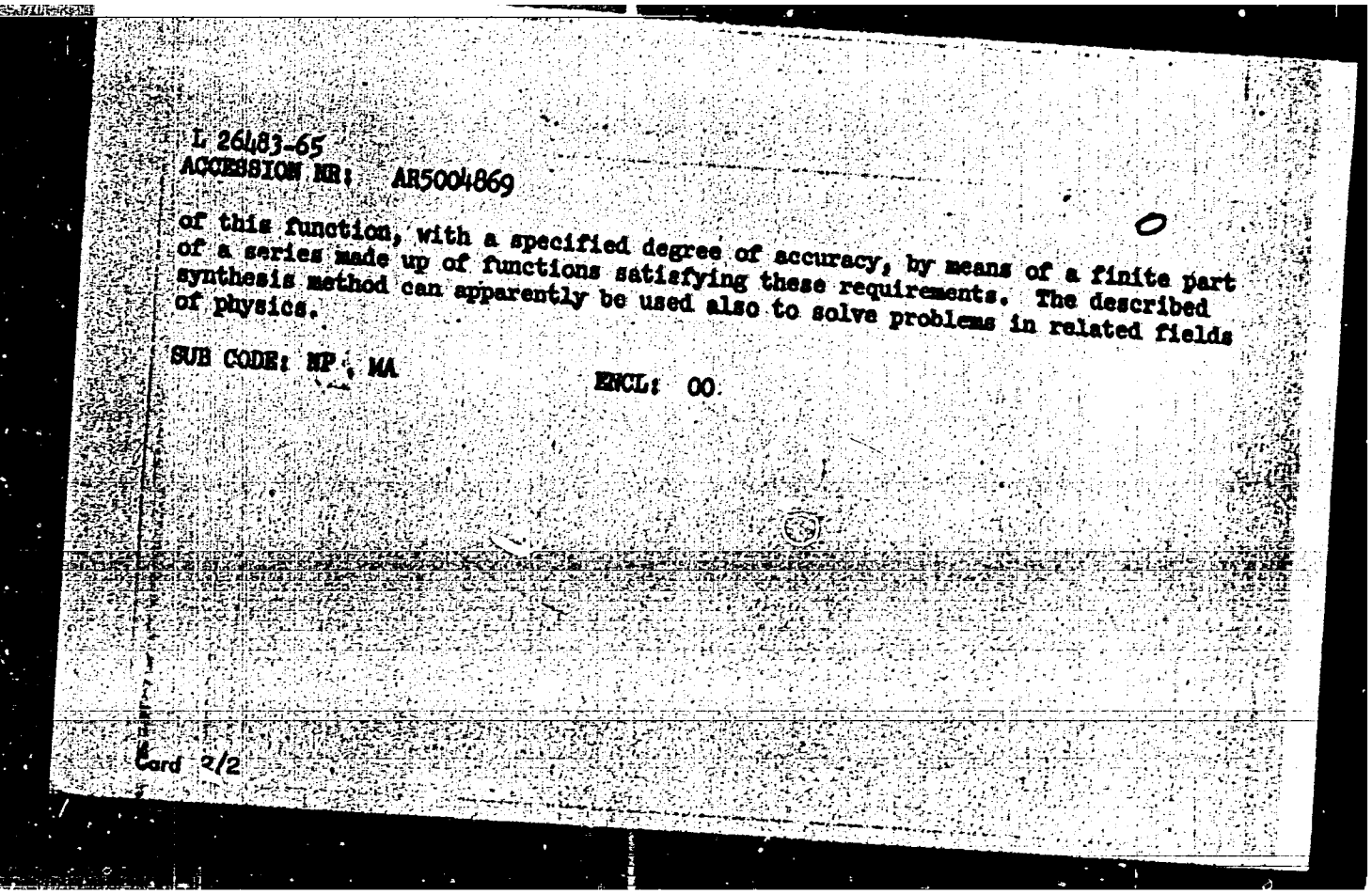
TITLE: Concerning the synthesis of an inhomogeneous layer and of a scattering region

CITED SOURCE: Tr. Vses. zaochn. energ. in-ta, vyp. 26, 1964, 48-60

TOPIC TAGS: inhomogeneous layer, scattering region, reflection coefficient, transmission coefficient, diffraction pattern, directivity pattern, Fourier transformation, function synthesis

TRANSLATION: The author considers the possibility of synthesizing an inhomogeneous layer and a scattering region by using the Fourier integral transformation. It is noted that if a specified function (reflection or transmission coefficient, diffraction pattern, or directivity pattern of the radiator) is not an entire function of the exponential type, it is necessary to resort to a representation

Card 1/2



L 26483-65
ACCESSION NR: AR5004869

of this function, with a specified degree of accuracy, by means of a finite part of a series made up of functions satisfying these requirements. The described synthesis method can apparently be used also to solve problems in related fields of physics.

SUB CODE: MP, MA ENCL: 00

Card 2/2

L 42703-65

ACCESSION NR. AR5008424 UR/0058/65/000/001/H032/H032

SOURCE: Ref. zh. Fizika, Abs. 1Zh205

AUTHOR: Mirovitskiy, D. I.

TITLE: On the connection between the problem of radiator synthesis and the inverse problem of scattering theory

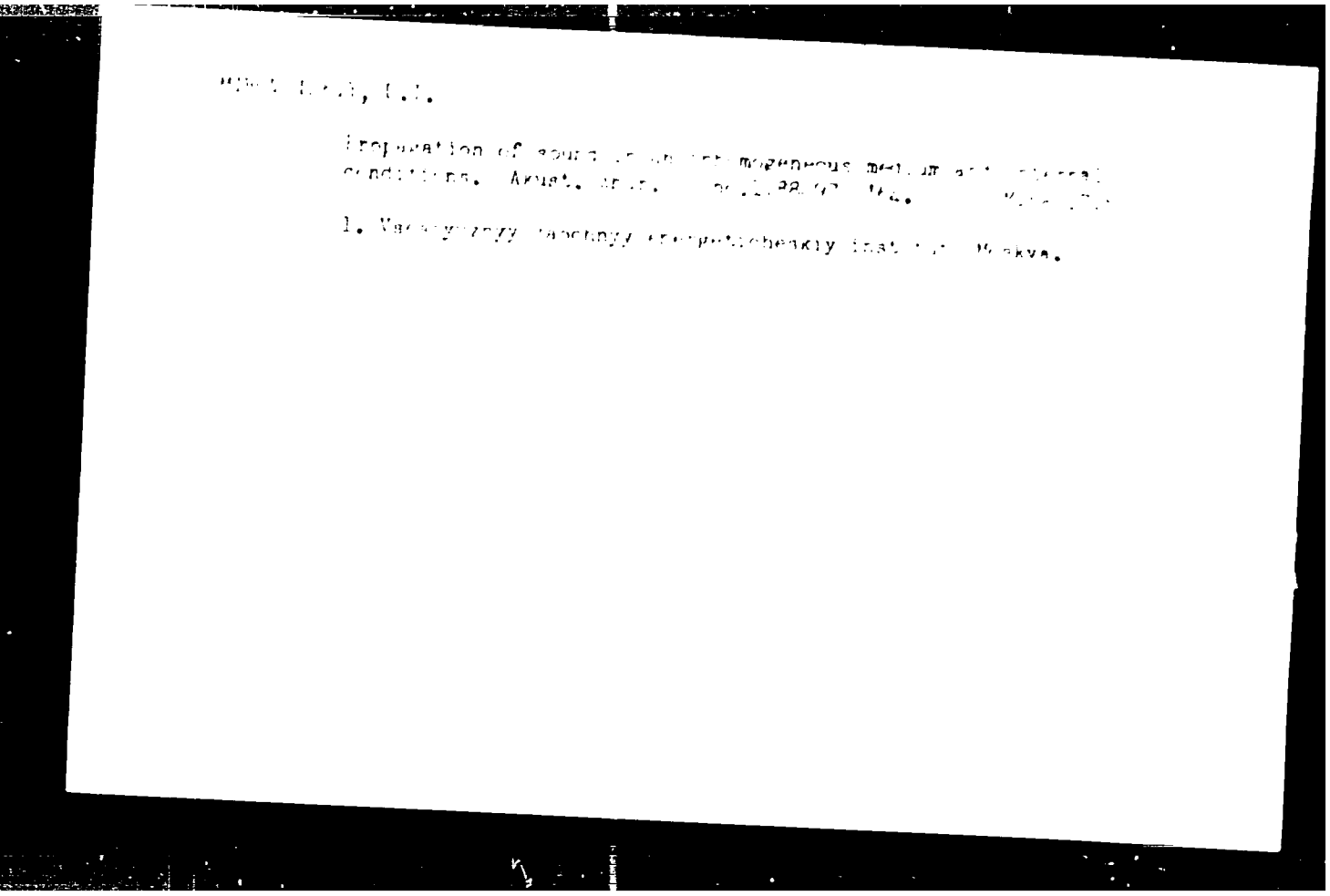
CITED SOURCE: Tr. Vses. zaochn. energ. in-ta, vyp. 26, 1964, 61-75

TOPIC TAGS: antenna synthesis, antenna radiator, scattering theory

TRANSLATION: It is shown that the problem of synthesis of a linear radiator and owing to the fact that the problem of line synthesis of an inhomogeneous line are formally not analogous, Quadrature formulas are written out for the problem of synthesis of a three-dimensional, plane, and linear radiator. It is pointed out that the synthesis problems have a common nature in scattering theory, quantum mechanics, optics, and acoustics. Bibliography, 11titles. A. Chaplin

SUB CODE: MP, EC ENCL: 00

Card 1/1



L 4013-66 EWT(d)/EEC(k)-2 RB/WS-2

ACCESSION NR: AR5008939 S/0274/65/000/002/A042/A042

621.371.165

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Svodnyy tom, Abs. 2A182

AUTHOR: Mirovitskiy, D. I.

TITLE: Synthesizing an inhomogeneous layer and a scattering region

CITED SOURCE: Tr. Vses. zaochn. energ. in-ta, vyp. 26, 1964, 48-60

TOPIC TAGS: inhomogeneous layer, scatter propagation

TRANSLATION: The possibility is considered of synthesizing an inhomogeneous magnetodielectric layer and a scattering region. The fundamental wave equation is set up with an allowance for boundary conditions and for out-of-layer (or region) conditions as a non-Fredholm equation with a continuous spectrum. After the vantage point has been transferred into the front or rear half-space and the scattering spectral characteristics have been reached, the equations become simple enough and solvable by using the integral relations of the internal-condition method. The field inside the inhomogeneous layer is described by the

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L 4013-66
ACCESSION NR: AR5008939

Bernully equation. With the vantage point in a remote zone, the integral equation for the scattering region can be solved by a Fourier transform on the basis of the specified scatter diagram. Bibl. 10.

SUB CODE: EC ENCL: 00

Card 2/2

L 3998-66 EWT(1)/T/FCS(k) RB/WR

ACCESSION NR: AR5014657 UR/0274/65/000/005/A048/A048

621.396.671.8

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz'. Sv. t., Abs. 5A327

AUTHOR: Mirovitskiy, D. I. 44

TITLE: Connection between the problem of synthesizing a radiator and the reverse problem of the theory of dispersion

CITED SOURCE: Tr. Vses. zaochn. energ. in-ta, 44 vyp. 26, 1964, 61-75

TOPIC TAGS: electromagnetic radiation, antenna radiation

TRANSLATION: The connection is considered between the problem of reconstructing a source (a radiator) from a specified field and the problem of determining the characteristics of the dispersing region from a known field. A homogeneous wave equation with a coordinate-dependent wave number is transformed into a nonhomogeneous wave equation with a constant wave number. A formal solution permits, after the Fourier transform has been applied, expressing the disturbance term of the nonhomogeneous wave equation (i.e., the

Card 1/2

L 3998-66
ACCESSION NR: AR5014657

function of secondary sources, which depend on the total field and on the law of variation of the wave number in the dispersing region) through the total field specified in a remote zone. The total field is determined by means of a quadrature formula on the basis of the previously-found function of secondary sources; this determination is necessary for finding the law of wave-number variation within the dispersing region. Principal relations for 3-, 2-, and single-variable scalar problems of the dispersion theory are presented. Adoption of the constant-within-the-dispersion-region wave number results in a radiator-synthesis problem. Bibl. 11, fig. 1.

SUB CODE: EC ENCL: 00

Card 2/2

MIROVITSKIY, D.I.

Finding the source from a given field. Izv. vys. ucheb. zav.; fiz. 8 no.6:18-23 '65.

1. Vsesoyuznyy zaochnyy energeticheskiy institut. Submitted December 1, 1963.

L 61676-65 EWT(l)/T/EEC(b)-2 Pq-4/Pi-4 IJP(c)

ACCESSION NR: AP5011122 UR/0051/65/018/004/0668/0683

34
B

AUTHOR: Mirovitskiy, D. I.

TITLE: Concerning two variants of the problem of synthesis of an optically inhomogeneous layer

SOURCE: Optika i spektroskopiya, v. 18, no. 4, 1965, 668-683

TOPIC TAGS: optical layer, inhomogeneous layer, optical field, coherent light, reflection coefficient, angular distribution, spatial distribution

ABSTRACT: The synthesis problem is defined as the determination of the optical properties of the layer for a prescribed reflection (or transparency) coefficient, and in the two variants studied the prescribed characteristics are the spatial and the angular distribution functions of the reflection coefficient. The author derives the internal conditions that relate the total field inside the inhomogeneous layer with its partial waves at the internal boundaries, and demonstrates the possibility of unambiguous breakdown of the total field into forward and backward waves. The results are compared with some earlier work. It is stated in the con-

Card 1/2

L 61676-65

ACCESSION NR: AP5011122

inclusion that the synthesis method developed in this article can be extended to include a plane-stratified medium, and that the method of resolving the total field into partial waves can provide a new approach to many problems connected with the propagation of coherent light waves in an inhomogeneous structure. Orig. art. has: 52 formulas.

ASSOCIATION: None

SUBMITTED: 17Sep63 ENCL: 00 SUB CODE: OP

NR REF SOV: 014 OTHER: 010

Card 2/2

L 34094-66 EWT(1)/EWT(m)/EWP(w) IJP(c) WW/EM

ACC NR: AP6009053 SOURCE CODE: UR/0207/66/000/001/0093/0101

AUTHOR: Budagyan, I. F. (Moscow); Mirovitskiy, D. I. (Moscow)

ORG: none

TITLE: Application of asymptotic methods of nonlinear oscillation theory to the wave propagation problem

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no 1, 1966, 93-101

TOPIC TAGS: wave propagation, wave equation

ABSTRACT: The solution of the wave propagation problem in a heterogeneous medium is achieved on the basis of the equation for a partial wave in a total field. After substituting A (x) (amplitude factor of a direct partial wave of a total field in a heterogeneous medium) for the independent variable x (the geometric coordinate), use is made of the modification of one of the asymptotic methods in nonlinear oscillation theory. There is still no method developed for finding the relationship between the function of the parameters of the medium and the function of the total field which would have an application general enough to determine the function of the total field with any accuracy at an arbitrary dependence of the function of the medium parameters. The asymptotic procedure presented in the present article for solving the problem of wave propagation makes it possible, on the basis of a selected auxiliary function, to determine simultaneously the two functions discussed with

Card 1/2

prescribed accuracy. At the same time, the method proposed makes it possible to investigate the case of nonpropagating waves when the valid solution is not an oscillating one, but a solution which proceeds similar to real exponentials of a solution which describes bound states belonging to the discrete spectrum. Thus, confirmation is provided for the hypothesis proposed by E. Ch. Titchmarsh (Razlozheniye po sobstvennykh funktsiyam. Izd. inostr. lit., 1961, vol. 2) on the possibility of the presence of a transition between the properties of the function of the discrete spectrum and the properties of quasistationary states. The method was also used to obtain solutions for the problem of wave propagation in a heterogeneous medium in more complex cases, including the periodic dependence of the parameter on the coordinate; the solution, however, is not given in the present paper for lack of space. Orig. art. has: 9 figures and 32 formulas.

SUB CODE: 12, 20 / SUBM DATE: 20May65 / ORIG REF: 008 / OTH REF: 003

SOV/129-58-1-9/14

AUTHORS: Braun, M. P., Doctor of Technical Sciences, Kon., ..I.., Candidate of Technical Sciences, and Mirovskiy, S. I.

TITLE: Increase of the Heating Temperature for Forging of the Engineering Steels 45 and 45N (Povysheniye temperatury nagreva pod kovku konstruktsionnykh staley 45 i 45N)

PERIODICAL: Metallovedeniye i obrabotka metallov, 1958, Nr 10, pp 41-46 (USSR)

ABSTRACT: The work described in this paper was aimed ... the possibilities of extending the temperature ... of forging by increasing the heating temperature. ... investigations were effected on Steel 45 and two heats of the nickel steel 45N (1.27 and 1.10% Ni), the chemical compositions of all of which are entered in Table 1. The experiments were carried out on a pilot plant scale with blanks of 160 x 160 mm cross section. The forging was effected by means of a two-ton steam driven hammer, whereby the blanks were forged three times. For heating the following five temperatures were chosen: 1150, 1200, 1250, 1300 and 1350°C. The forging was so conducted that on attaining ... five cross section (90 x 90 mm) the temperature should be 750°C, this

Card 1/4

Increase of the Heating Temperature for Forging [illegible]
Steels 25 and 43N

ensuring an equal temperature at the [illegible] for the forging process for all the specimens. To elucidate the influence of increasing the heating temperature prior to forging on the mechanical properties in the case of [illegible] forging at temperatures above 750°C, similar tests were carried out with batches of blanks for which the forging end temperature was 800°C. The influence was also studied of various heating temperatures and various annealing times at the respective temperatures on the growth of the austenite grain as well as the influence of the degree of reduction on the refining of the grain. The possibilities of correcting the consequences of overheating were also studied. Data on the change in the mechanical properties of the carbon steel 25 as a function of the heating temperature (4 hours annealing time) prior to forging and the degree of reduction are entered in Table . Table 2 contains data on the mechanical properties of the Steel 25 [illegible] prior to forging to 1,250°C for a duration of 1 hour.

Card 2/4

Increase of the Heating Temperature for Forging of the Engineering Steels 25 and 43N SOV/129-59-10-9/14

The mechanical properties of the steel 43N after [illegible] of the heating temperature prior to forging [illegible] type of heat treatment are listed in Table 4 [illegible]. A number of fractograms and micro-structure photographs are reproduced. On the basis of the obtained [illegible] the following conclusions are arrived at:

1. An increase in the heating temperature prior to forging from 1150 to 1300°C brings about the increase of the grain dimensions both for the Steel 25 and for Steel 43N. However, the coarser grain [illegible] increasing heating temperature prior to forging [illegible] easily destroyed by plastic deformation [illegible] treatment.
2. The plastic deformation and the subsequent heat treatment bring about a fragmentation of the grain to such an extent that the grain size of the [illegible] heated to 1150 and 1300°C as well as the mechanical properties are identical.
3. The temperature of hot deformation blanks [illegible] deformation can be increased for Steel [illegible]

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V/120-[illegible]-9/14

Increase of the Heating Temperature for Forging of the Engineering Steels 25 and 43N

1270-1280°C and for the steel 43N it can be increased to 1250-1260°C.

4. Since the here described experiments were carried out in the free forging, an increase in the heating temperature prior to deformation is recommended in the first instance for forgings produced by this method, provided that the volume of deformation work is sufficiently large in the forging and temperature does not exceed 900°C. The initial temperature can also be increased to the above mentioned limits for other types of plastic deformation provided that the degree of forging will not be less than 3 and that the forging end temperature will not exceed 900°C. There are 4 figures and 3 tables.

ASSOCIATION: Novo-Kramatorskiy mashinostroitel'nyy zavod (Novo-Kramatorskiy Machinery Manufacturing Plant)

1. Steel—Forging 2. Steel—Temperature factors 3. Steel—Test results

Card 4/4

MIROVSKIY, E.I., insh.

Initial temperature of austenite transformation into ferrite during rapid cooling. Izv. vys. ucheb. zav.; chern. met. 2 no.4: 85-87 Ap '59. (MIRA 12:8)

1.Ukrainskaya Akademiya sel'skokhozyaystvennykh nauk. Rekomendovano kafedroy tekhnologii metallov Ukrainskoy Akademii sel'skokhozyaystvennykh nauk.

(Phase rule and equilibrium) (Steel--Cooling)

PHASE I BOOK EXPLOITATION SOV/5457

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Sektsiya metallovedeniya i termicheskoy obrabotki metallov.

Metallovedeniye i termicheskaya obrabotka metallov; trudy Sektsii metallovedeniya i termicheskoy obrabotki metallov (Physical Metallurgy and Heat Treatment of Metals; Transactions of the Section of Physical Metallurgy and Heat Treatment of Metals) no. 2. Moscow, Mashgiz, 1960. 282 p. 6,000 copies printed.

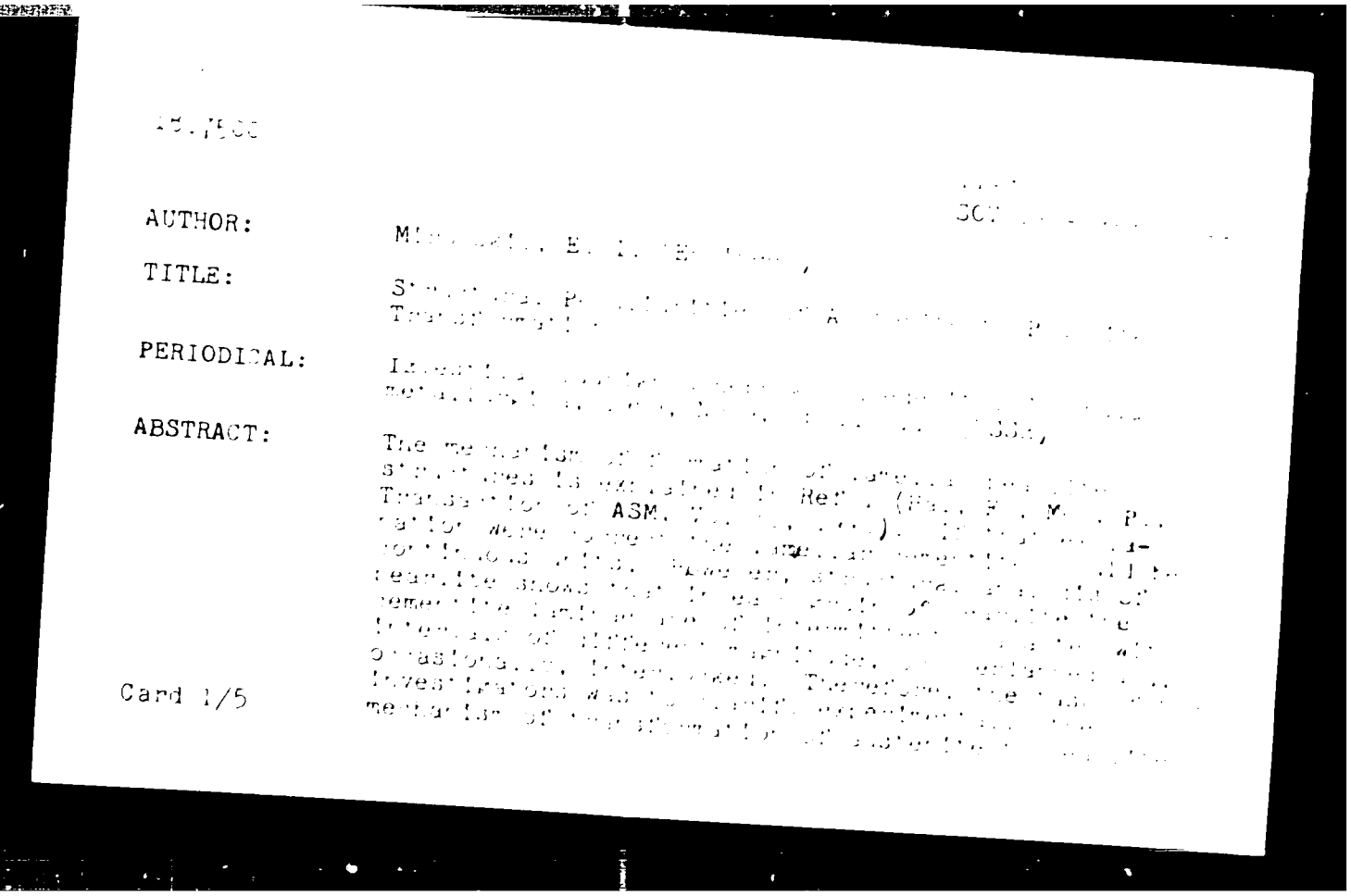
Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Tsentral'noye pravleniye.

Editorial Board: O. I. Pogodin-Alekseyev, Yu. A. Geller, A. G. Rakhshtadt, and O. K. Shreyber; Ed. of Publishing House: I. I. Lesnichenko; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Metalworking and Machine-Tool Making: V. I. Klin.

PURPOSE: This collection of articles is intended for metallurgists, mechanical engineers, and scientific research workers.

COVERAGE: The collection contains articles describing results of research conducted by members of NTO (Scientific Technical Society) of the machine-building industry in the field of physical metallurgy, and in the heat treatment of steel, cast iron, and nonferrous metals and alloys. No personalities are mentioned. Most of articles are accompanied by Soviet and non-Soviet references and contain conclusions from investigations.

TABLE OF CONTENTS:



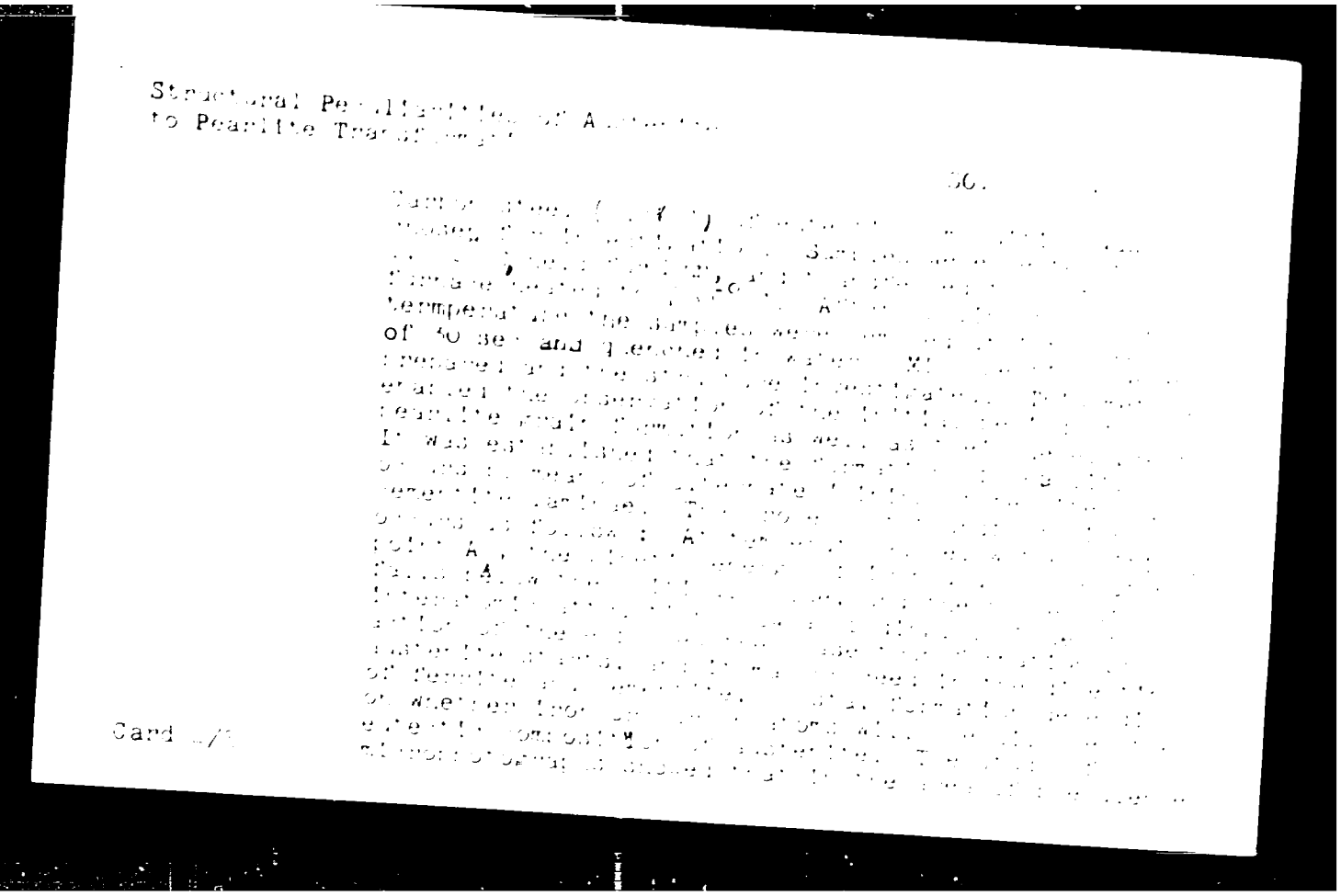
AUTHOR:

TITLE:

PERIODICAL:

ABSTRACT:

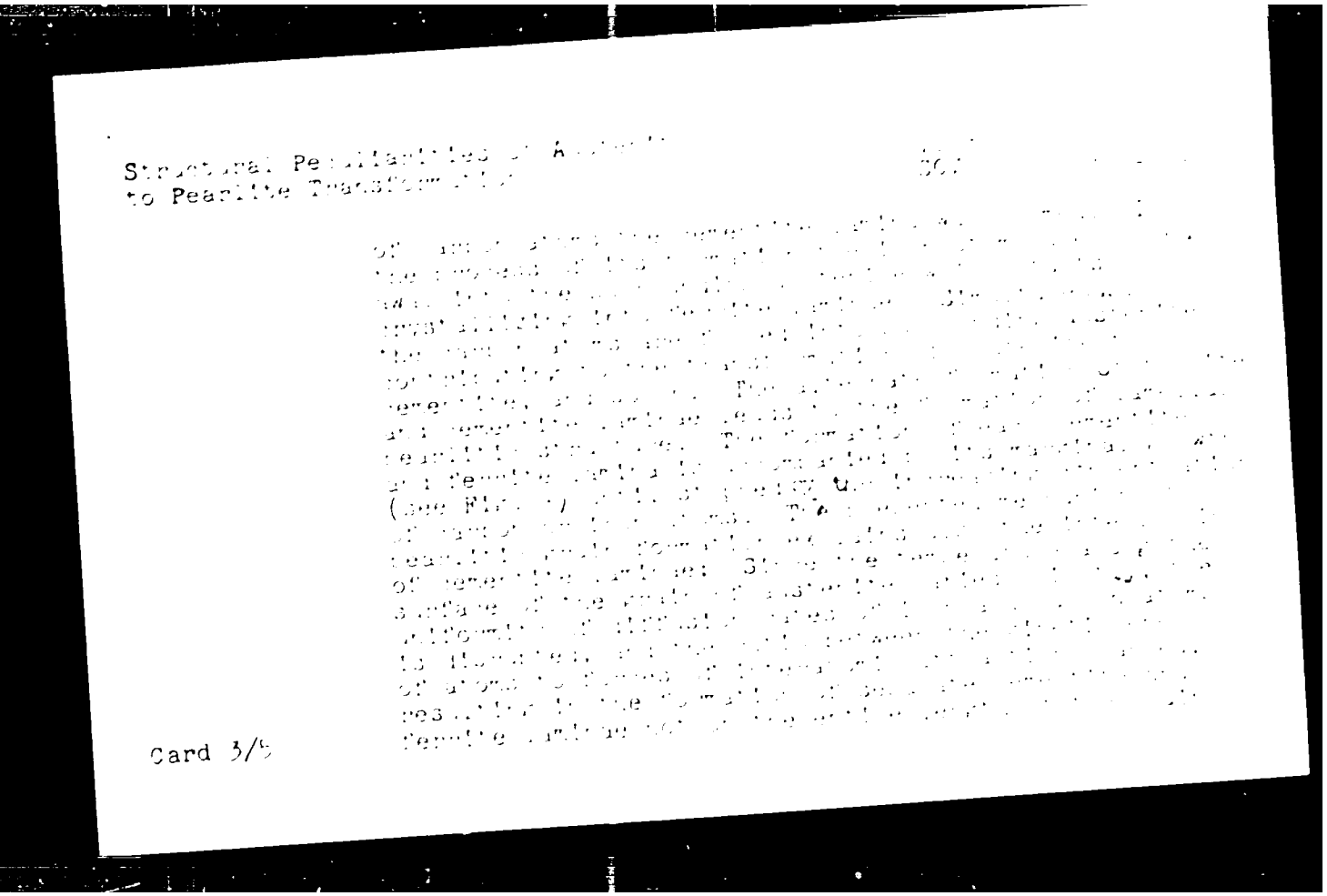
Card 1/5



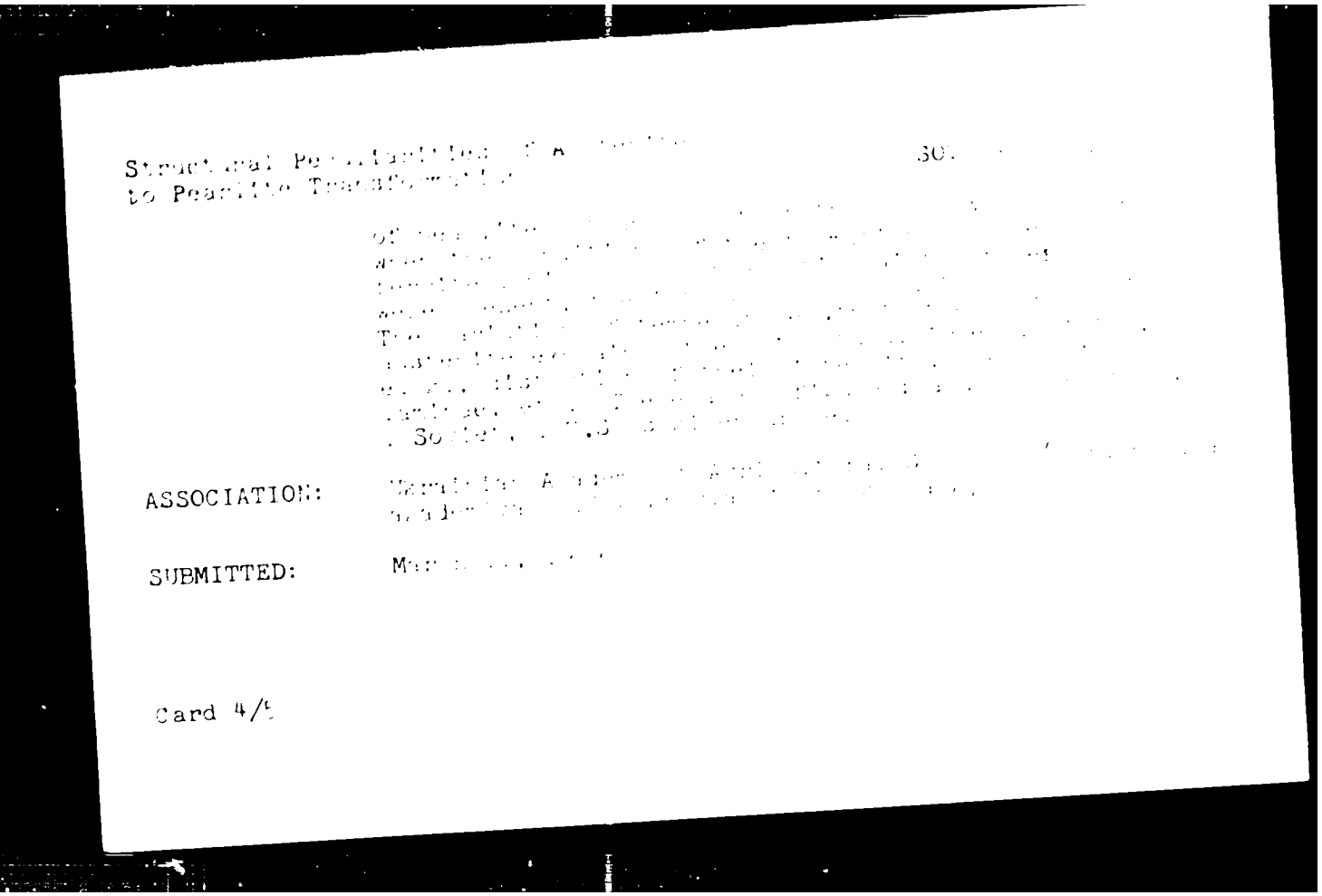
Structural Pe[illegible] of A[illegible]
to Pearlite Tra[illegible]

30.

Card [illegible]/[illegible]



Card 3/5



ASSOCIATION:

SUBMITTED:

Card 4/5

Structural Peculiarities of [illegible]
to Pearlite Transformation

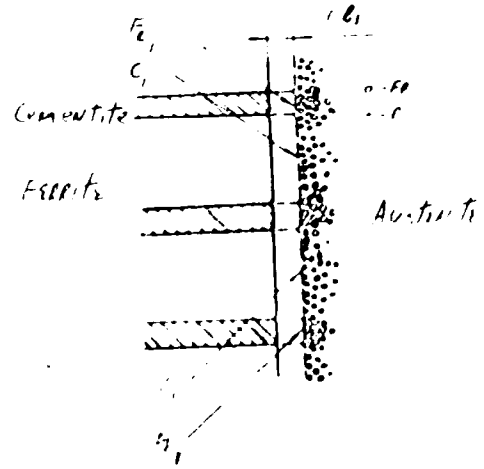
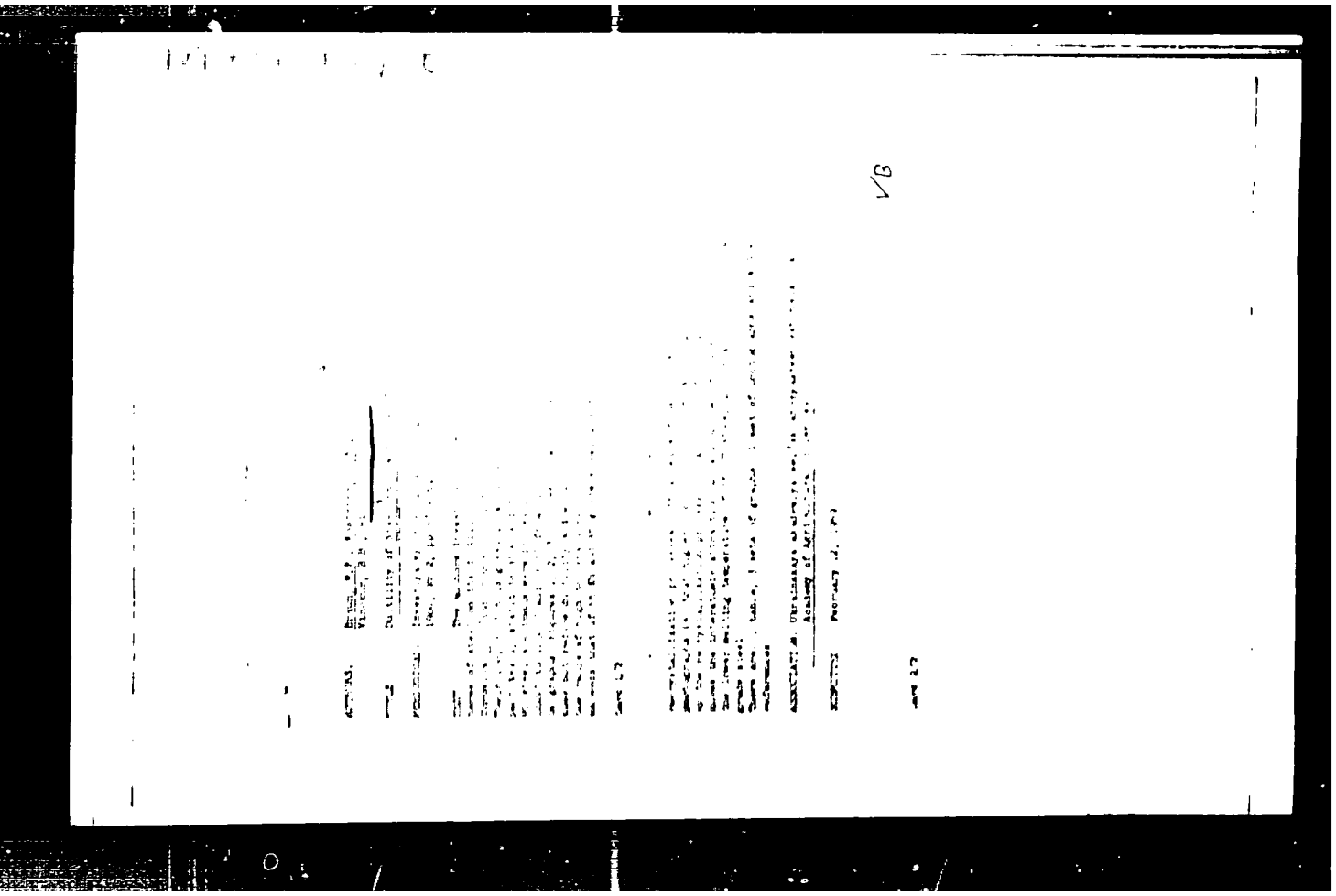


Fig. [illegible] Schematic [illegible]
of pearlite [illegible]
ferrite lamellae; Fe
C = [illegible]

Card 5/6



AUTHORS

TITLE

PERIODICAL

TEXT

MIROVSKIY, E.I.

Transformations in steel during hardening. Izv. vys. ucheb. zav.; chern. met. no.2:118-120 '60. (MIRA 15:7)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
(Steel--Hardening)
(Phase rule and equilibrium)

85130

S/182.60/000 004 00. 00
A161/A029

1.1400

AUTHORS Braun, M.P., Vinokur, B.B., Mirovskiy, E.I., Geller, A.L., Maryushkin, L.G.

TITEL: The Effect of Hot Forging Conditions on the Properties of Large Forgings

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 4, pp. 8-11

TEXT To analize the effect of heating temperature on the properties of large forgings, a statistical analysis of two years shop records and data of previous investigations (Refs. 1-12) were used and experiments with 30 to 40 ton steel ingots were carried out. Ingots of 55X (55Kh), 55XH (55KhN) and 55XHM (55KhNM) steel were heated to higher temperature than usual and forged into stepped pieces with diameters of 960, 670 and 480 mm. Due to the higher temperature forging could be completed with a single heating, whereas in the established shop practice metal has to be heated twice with intermediate reheat. The effect of overheat and holding time at forging temperature was studied. It was stated that the compulsory longer heating time did not spoil the metal properties even when metal was heated to 30 to 40°C above the established limit. Macrostructure

Card 1/3

85130

3/182/60/000/004/004/007
A161/A029

The Effect of Hot Forging Conditions on the Properties of Large Forgings

analysis revealed the same destruction of dendrites as is observed in forging with the accepted lower forging temperature. Microstructure analysis with etching by a heated saturated aqueous solution of picric acid revealed no austenite grain growth. Test results proved that the tensile strength was slightly higher after a 30-hour holding at forging temperature than after a 10 hour holding. The cold brittleness threshold (i.e., the temperature at which impact resistance drops to 50 %) was at -100°C after a 30 hour holding and at 60°C after 10 hours (Fig gram, Figure 1) in 35KhNM steel; about -20°C in 50KhN (Fig 2), and 0°C in 55Kh (Fig 3); which means that the cold brittleness point was the same as usual in 35KhNM and 50KhN steel, and only by 5°C lower than usual in 55 Kh after a 10-hour holding. Increased forging temperature generally resulted in a slight drop of the cold brittleness threshold. The conclusion is drawn that heating to 30-40°C higher temperature than practiced (to 1,250°C for 55Kh, and 1,240°C for 50KhNM steel) did not impair the metal plasticity in deformation as well as the mechanical properties, provided that the entire forging process was completed with a single preheating, and the metal temperature at the end of the forging process was not too high (forging with intermediate reheats in same conditions

Card 2/3

85130
S/182/60/000/004/[illegible]
A161/A029

The Effect of Hot Forging Conditions on the Properties of Large Forgings

has not been studied), and there is no reason for worry if ingots have to be held at forging temperature for a longer time. As to the tensile strength of steel, increased heating temperature and longer holding at this temperature does not impair it, and in separate cases it is even increased. There are 4 figures, 6 tables and 12 Soviet references.

Card 3/3

2-

18 5100

23620
S/[illegible] 000/012/0[illegible]/020
A[illegible] A[illegible]

AUTHORS: Braun, M. P.; [illegible]; [illegible]sky, E. I., and [illegible]
A. L.

TITLE: The [illegible] of the temperature and duration of heating on the [illegible] steel in large [illegible] billets

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, [illegible]

TEXT: As has already been proven, the deformation temperature can be raised (Ref. 1: M. P. Braun, O. S. Kostyrko et al. Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, [illegible], no. [illegible]; Ref. [illegible]: M. P. [illegible], O. S. Kostyrko et al. "Kovka zagotovok iz stali 45 pri povyshennoy temperature nagreva" (Forging of 45 Grade Steel Blanks at High Heating Temperatures) Mashinostroyeniye i priborostroyeniye, BTI Kiyevskogo sovnarkhoza, [illegible], no. [illegible]), but the data were obtained with small-size forgings, and it is generally believed that the plasticity and ultimate strength of steel are lower in larger pieces (Refs. 4, 5, 6 see English-language publications). The purpose of the investigation described here was to study the

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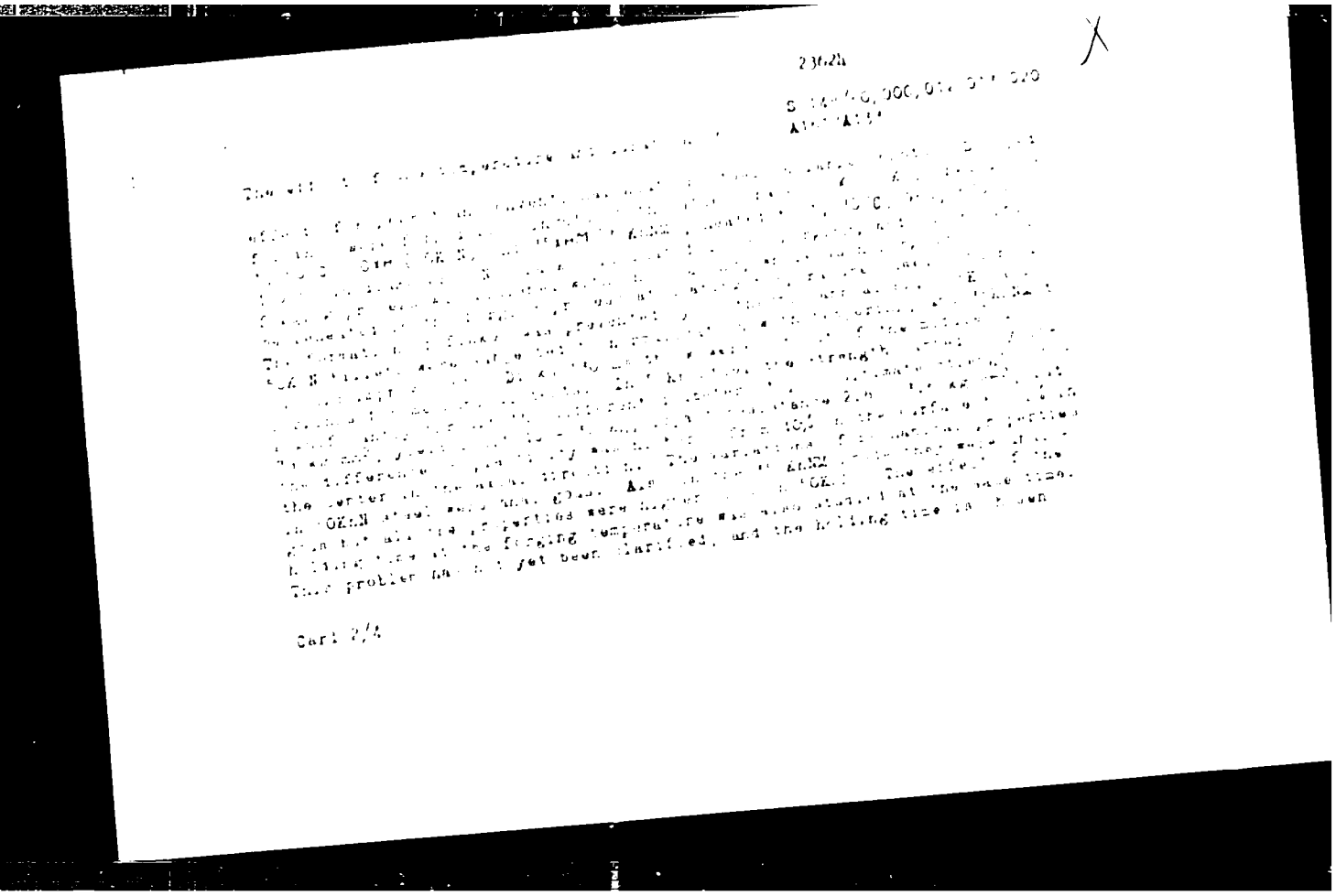

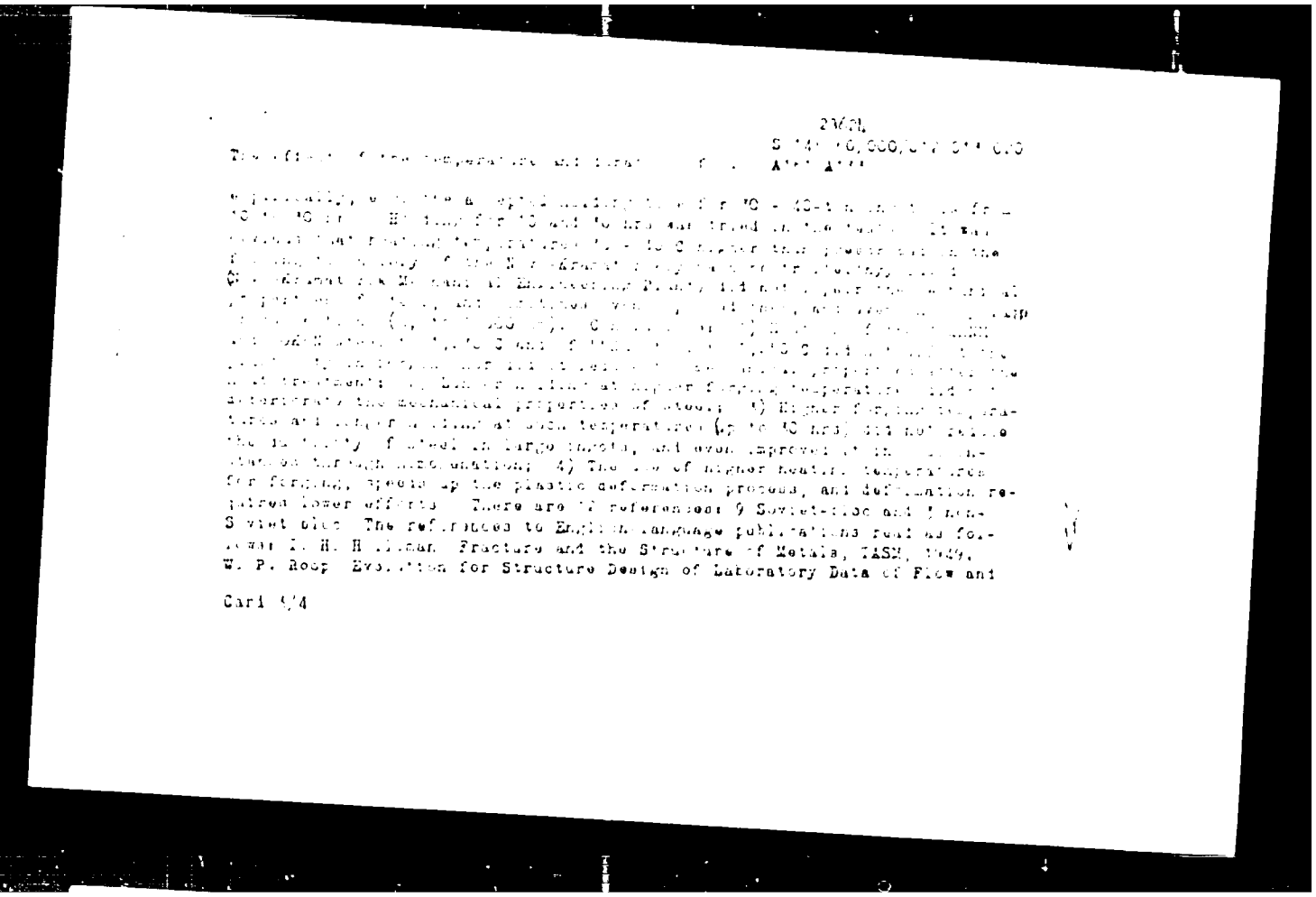

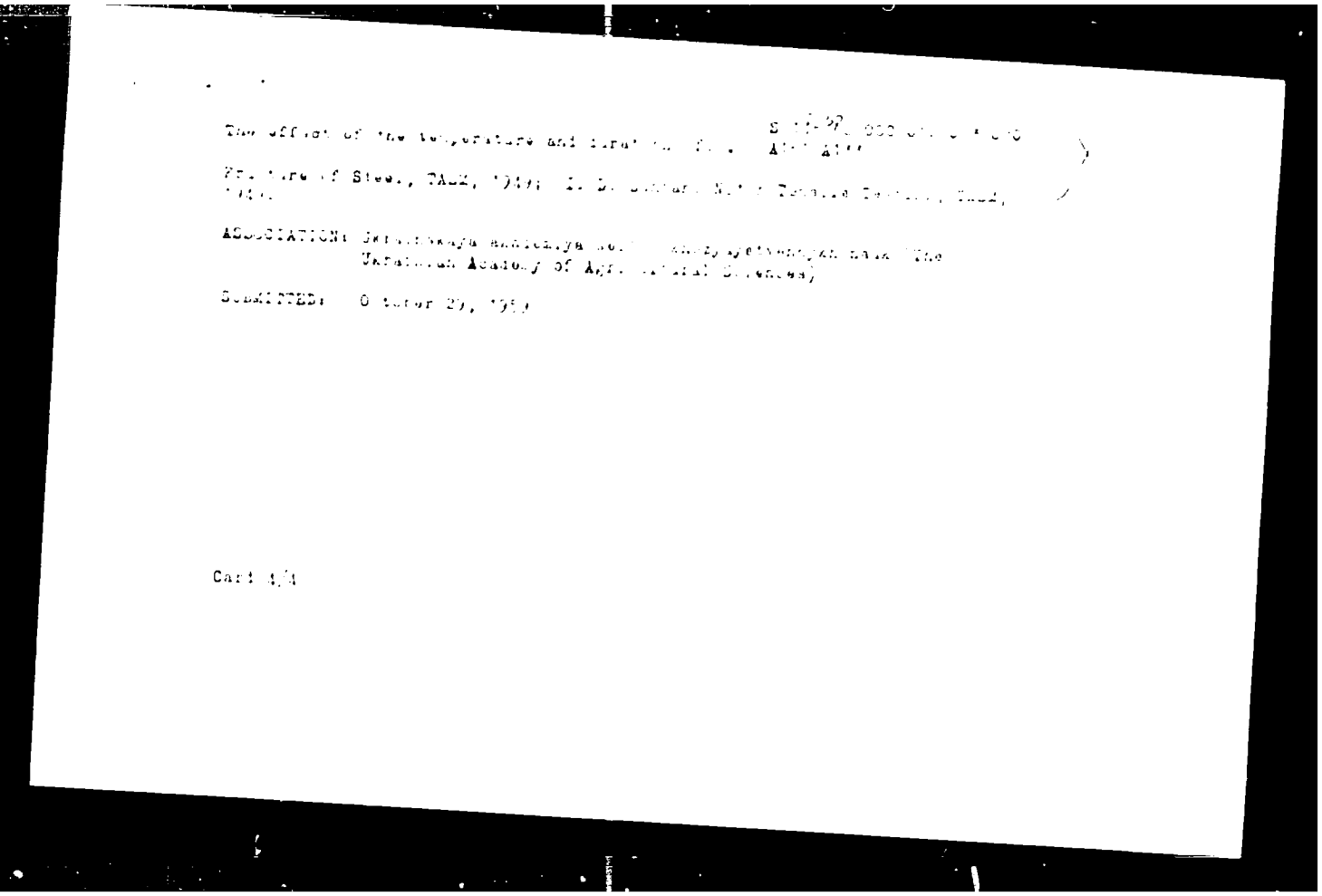

Card 1/1

PHASE I BOOK EXPLOITATION SOV/5681

Braun, Mikhail Petrovich, Bertol'd Bentsionovich Vinokur, Eduard Ippolitovich Mirovskiy, Aleksandr L'vovich Geller, and Lev Grigor'yevich Mar'yushkin

Plasticheskaya deformatsiya i teplovaya obrabotka krupnykh izdeliy iz legirovannykh staley (Plastic Deformation and Heat Treatment of Large Alloy-Steel Products) Moscow, Mashgiz 1961. 216 p. 6,000 copies printed.

Reviewer: N. V. Fiksen, Engineer; Ed.: P. Ya. Furer; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed.: (Southern Division Mashgiz) V. K. Serdyuk, Engineer.

PURPOSE : This book is intended for technical personnel of industrial plants and scientific research institutes.

COVERAGE: The theoretical principles of plastic deformation of steels and the role of manufacturing-process factors in deformation are discussed. Methods of studying metal plasticity

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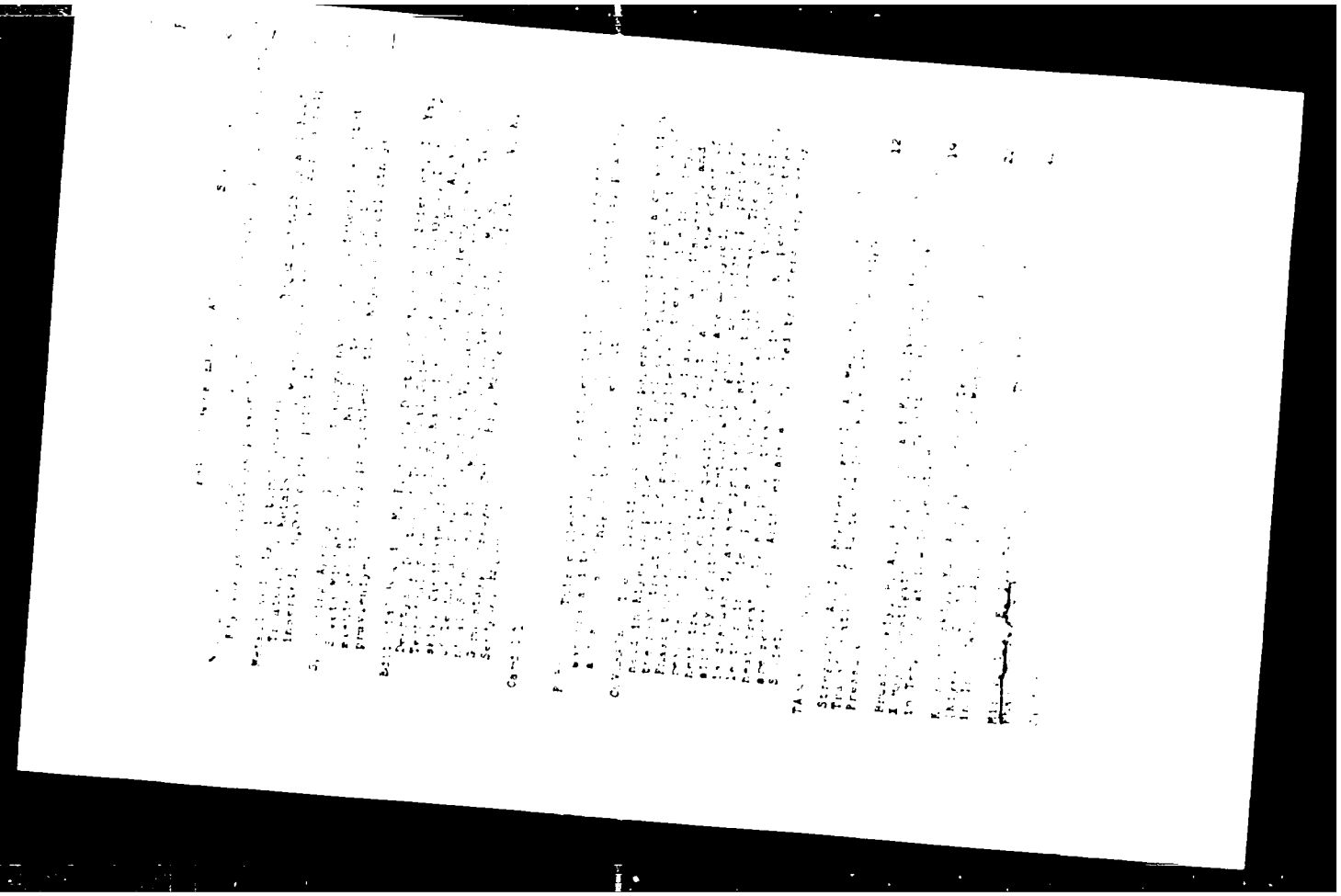
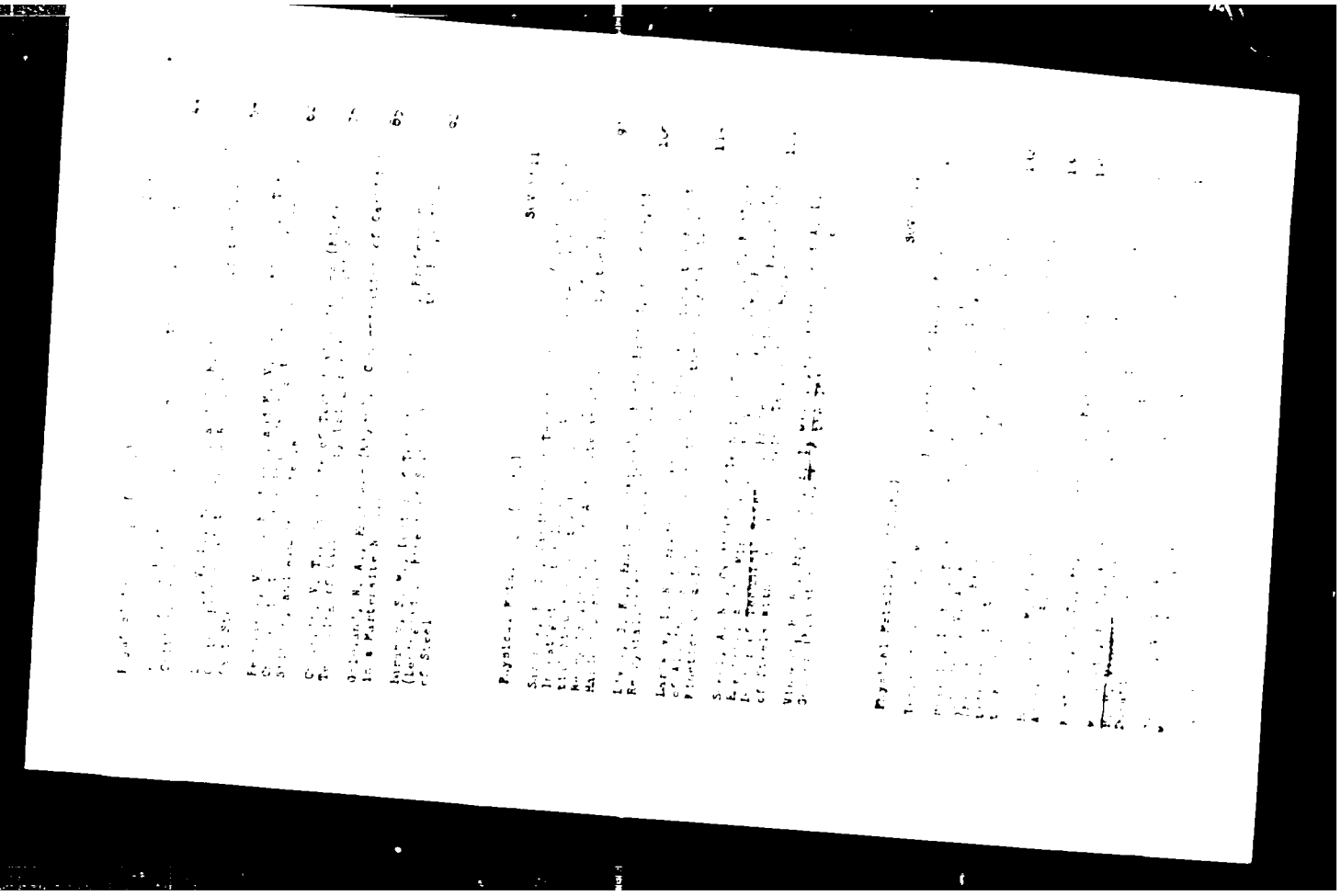
at forging temperatures are described in detail along with results of investigations of the plasticity of various steels conducted by the authors under laboratory and shop conditions. Also described is a method of statistical analysis of processing parameters applied to determine the cause of defects caused by hot plastic deformation. The effect of the temperatures at the beginning and at the end of deformation, the degree of deformation, and test conditions on the structure and properties of medium-weight and heavy forgings is also analyzed. The following took part in the experimental studies: A. N. Sokol, Candidate of Technical Sciences; S. M. Skorodziyevskiy, Senior Scientific Worker; Engineers A. I. Kondrashev, Z. L. Oboznaya, B. D. Matyukhin, and A. A. Ivanova; Aspirants O. S. Kostyrko and N. K. Golubyatnikov; and Technicians L. N. Kovalenko and S. M. Simonova. There are 62 references, all Soviet.





BRAUN, M.P., doktor tekhn.nauk; VINOKUR, B.B., inzh.; SHVRUK, B.A., inzh.; EL'KINA, T.P., inzh.; SOKOL, A.N., kand.tekhn.nauk; ZALETSKIY, G.I., kand.tekhn.nauk; MIROVSKIY, E.I., inzh.

Replacing the chrome-nickel steel 20KhNZA with the carburizing steel 20KhGSVT. Mashinostroenie no.3:58-62 My-Je '62. (MIRA 15:7)
(Steel alloys—Testing)

2C

L 34557-65 EWT(m)/EWT(w)/EWA(d)/T/EWT(t)/EWP(b) MJW/JD

ACCESSION NR: AR5004785 S/0137/64/000/010/I046/I046

SOURCE: Ref. zh. Metallurgiya, Abs. 10I299

AUTHOR: Braun, M. P.; Vinokur, B. B.; Sovruk, B. A.; El'kina, T. P.; Sokol, A. M.; Zolotakiy, O. I.; Mirovskiy, E. I.

TITLE: Properties of 20KhGSVT non-nickel steel

CITED SOURCE: Sb. Legirovaniye staley. Kiyev, Gostekhizdat USSR, 1963, 32-40

TOPIC TAGS: metal mechanical property, steel hardening, temperature dependence, nickel economy, cementation, heat treatment, 20KhGSVT steel, 20KhN2A steel

TRANSLATION: A study of the effect of hardening temperature (880, 930, and 980°) on the mechanical properties of 20KhGSVT cemented steel (containing in %: 0.2 carbon, 1.26 manganese, 1.09 chromium, 0.87 silicon, 0.82 tungsten, 0.09 titanium) showed that with an increase in this temperature the strength properties increase while ductility decreases. Tempering of normalized samples up to 300°

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L 34667-65

ACCESSION NR: AR5004785

7

leads to practically no change in sigma$_b$, while tempering up to 400° /Translator's note: Word apparently missing here./ sigma$_s$. After tempering at temperatures above 400° the strength properties decrease while malleability and ductility increase. After hardening from 900° and tempering at 500 and 600° a slight tendency towards tempor brittleness develops. Tempering at 650° leads to a 35% decrease in a_k as a result of slow cooling. However, even in the brittle state the steel has an a_k equal to 8-9 kgm/cm^2. After hardening from 900° and tempering at 600°, a_k is greater than 4 kgm/cm^2 at -115°. A study of the tendency of 20KhGSVT steel toward cementation under various conditions showed that it has more of a tendency toward cementation than 20KhNZA steel. It is recommended that 20KhGSVT steel be substituted for 20KhNZA steel. I. Tulupova.

SUB CODE: MM

ENCL: 00

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L 11009-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) AFTC(p) MJW/JD

ACCESSION NR: AR4045892 S/0137/64/000/007/I057/I057

SOURCE: Ref. zh. Metallurgiya, Abs. 7I361

AUTHOR: Sokol, A. N.; Mirovskiy, E. I.; Braun, M. P.; Vinokur, B. B.; Popov, N. V.; Kalinichev, M. A.

TITLE: Non-nickel alloy steels for heavily loaded parts

CITED SOURCE: Sb. Legirovaniye staley. Kiyev, Gostekhizdat USSR, 1963, 41-46

TOPIC TAGS: alloy steel, load, steel bolt, connecting rod bolt, bolt

TRANSLATION: The structure and properties of 40KhN, 40Kh, 45G2, and 30KhGSA steels were investigated for the purpose of choosing the correct material for connecting rod bolts. Practical tests were also carried out of connecting rod bolts under elongation and with cyclic elongation-compression loads at a frequency of 1,000 cycles/min under a stress on a minimum cross section area of the bolt of 20-24 kg/mm^2. Elongation tests showed that 45Kh, 45G2, and 30 KhGSA steels guarantee the required strength of the bolt. In fatigue tests, the largest

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L 11009-65

ACCESSION NR: AR4045892

number of cycles up to destruction was registered for 30KhGSA steel, which also showed the minimum sensitivity to a concentration of stresses. The series of tests showed that the use of 40KhN steel for connecting rod bolts is not recommended. Based on data for strength, hardenability, and structure, the use of 30KhGSA steel is recommended.

SUB CODE: MM, AS ENCL: 00

Card 2/2

MIROVSKIY, E.I.; MALISHEVSKIY, Yu.S., red.

[Transformations in steel during heat treatment] Prevrashcheniia v stalikh pri termicheskoi obrabotke. Kiev, ITI, 1964. 42 p. (MIRA 17:10)

BRAUN, M.P., doktor tekhn. nauk; MIROVSKIY, F.I., inzh.; LEVITANUS, A.D., kand. tekhn. nauk; KARAMZIN, E.I., inzh.; SLAVIN, B.A., inzh.

Using low-nickel and nickelless steels for pinions of tractor transmissions. Mashinostroenie no.2:85-87 Mr-Ap '65. (MIRA 18:6)

L 29380-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6019795 SOURCE CODE: UR/0286/65/000/004/0032/0032

INVENTOR: Braun, M. P.; Mirovskiy, E. I.; Sevruk, B. A.; Samchenko, V. G.; El'kina, T. P.

ORG: none

TITLE: Non-nickel structural steel / Class 18, No 168321

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 32

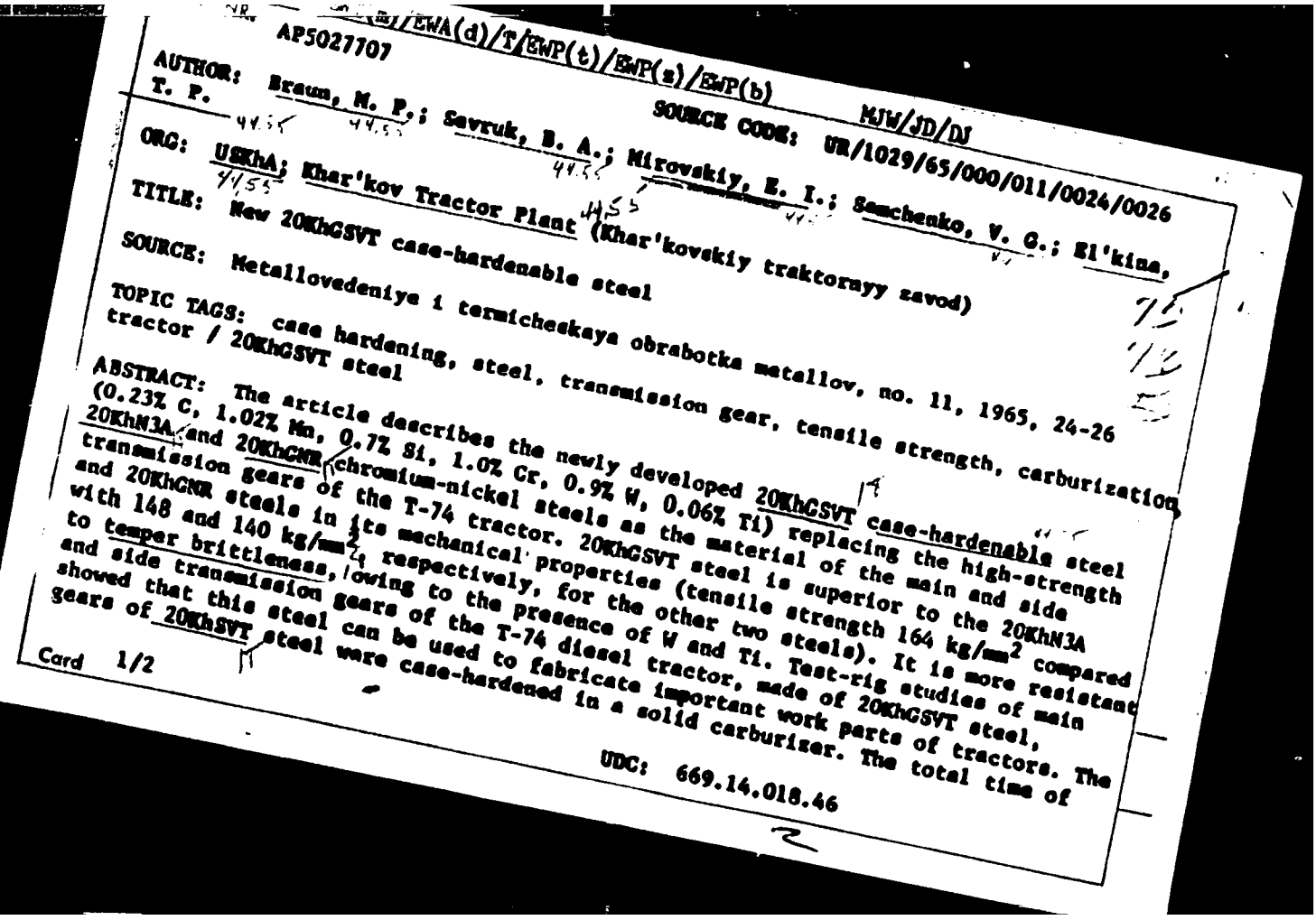
TOPIC TAGS: structural steel, metal property

ABSTRACT: A non-nickel structural steel with increased physical and mechanical properties is proposed which contains: 0.18-0.24% C, 0.8-1.0% Si, 0.8-1.2% Mn, 0.04% (max) P, 0.04% (max) S, 0.8-1.2% Cr, 0.04-0.06% Ti, and 0.6-0.8% W. Orig. art. has: 1 table. [JPRS]

SUB CODE: 11 / SUBM DATE: none

Card 1/1 CC

UDC: 669.14.018.29



EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) MJW/JD/DJ

AP5027707 SOURCE CODE: UR/1029/65/000/011/0024/0026

AUTHOR: Braun, M. P.; Savruk, B. A.; Mirovskiy, E. I.; Semchenko, V. G.; El'kina, T. P.

ORG: UKhA; Khar'kov Tractor Plant (Khar'kovskiy traktornyy zavod)

TITLE: New 20KhGSVT case-hardenable steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 11, 1965, 24-26

TOPIC TAGS: case hardening, steel, transmission gear, tensile strength, carburization, tractor / 20KhGSVT steel

ABSTRACT: The article describes the newly developed 20KhGSVT case-hardenable steel (0.23% C, 1.02% Mn, 0.7% Si, 1.0% Cr, 0.9% W, 0.06% Ti) replacing the high-strength 20KhN3A and 20KhGNR chromium-nickel steels as the material of the main and side transmission gears of the T-74 tractor. 20KhGSVT steel is superior to the 20KhN3A and 20KhGNR steels in its mechanical properties (tensile strength 164 kg/mm^2 compared to temper brittleness, owing to the presence of W and Ti. Test-rig studies of main and side transmission gears of the T-74 diesel tractor, made of 20KhGSVT steel, showed that this steel can be used to fabricate important work parts of tractors. The gears of 20KhSVT steel were case-hardened in a solid carburizer. The total time of

with 148 and 140 kg/mm^2, respectively, for the other two steels). It is more resistant

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UDC: 669.14.018.46

L 9632-66

ACC NR: AP5027707

case-hardening and subsequent cooling of both gear wheels was 24 hours. Following their case-hardening the gears were oil-quenched from 860°C and tempered at 220°C. On the basis of the results of laboratory and test-rig studies, 750 T-74 tractors were experimentally equipped with side-transmission gears of 20KhGSVT steel. All these tractors have been in operation for more than two years now, without a single instance of breakdown of a tractor owing to poor performance of the side-transmission gears of 20KhGSVT steel. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 2/2

MIROVSKY, J.

Treatment of whooping cough with antibiotics and hyperimmune human serum. Pediat. listy, Praha 7 no.5:286-291 Sept-Oct 1952. (CLML 23:4)

1. Of the Infectious Department (Head--Prof. J. Prochazka, M.D.) of State District Hospital, Bulovka.