"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

10.2000
26-2321

28769
S/057/61/031/010/002/015
B111, B112

AUTHORS: Gel'fand, I. M., Gregev, M. ., [illegible] N. M., Morozov, A. L, and Solov'yev, L. S.

TITLE: Magnetic surfaces of a triply twisted helical magnetic field perturbed by a corrugated field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. [illegible], no. 10, 1961, 1164 - 11[illegible]

TEXT: The authors investigated a magnetic field described in cylindrical coordinates by the scalar potential $\varphi = H_0 z + \sum_{n_3} I_3(\varkappa r) \sin 3(\varphi - \alpha z)$ (1), where H_0 is a "longitudinal" homogeneous field; n_3 is the amplitude of a helical magnetic field; I_3 is a modified third-order Bessel function; $\alpha = (2\pi)/L$; L is the pitch of the helix. This type of field is of great interest for thermonuclear systems. The magnetic equipotential surfaces may be of two types: telescopic tubes or surfaces which do not enclose the axis of the system and are far away from it. The aim of this article was to give a general description of the effect of a corrugated field.

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S/[illegible]/61/031/0[illegible]0/[illegible]
B1[illegible]/B1[illegible]

Magnetic surfaces of a triply twisted ...

i.e., a perturbation of the form $\psi_{corr} = \frac{h_0}{\alpha} I_0 (k\alpha r) \sin k\alpha z$ [illegible] on magnetic surfaces at different h_0 and k. Since the total field ([illegible]) is not symmetric, magnetic surfaces can only be calculated numerically. The dependence of the angle of climb of the lines of force on a certain characteristic radius must usually be investigated separately. Calculations are made for $\psi = z + h_3 I_3 (3r) \sin 3 (\varphi - z) + h_0 I_0 (kr) \sin kz$ [illegible] k = [illegible] and k = 3, h_3 = 3 at different h_0. The interval in which one line of force was considered, was taken as $0 \leq z \leq N\pi$ (N = 25 and 50, [illegible]). Integration was performed by the Runge-Kutta method with the steps $\frac{2\pi}{40}$, $\frac{2\pi}{80}$, and $\frac{2\pi}{160}$. In particular, the following cases were discussed: 1) [illegible] = 1, h_0 = 0.3 and 0.6. The magnetic surfaces approach one another with increasing h_0, and tubes not enclosing the z-axis are formed at h_0 = 0.6. 2) k = 3, h_0 = 0.05, h_0 = 0.1, and h_0 = 0.125. A periodicity in z with the period $2\pi/3$ was found in these cases. For k = 3, h_0 = 0.[illegible] the magnetic surfaces coincide with those obtained at k = 1, h_0 = [illegible].

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28769

S/057/61/031/010/002/015

Magnetic surfaces of a triply twisted ... B111/B112

Inside the fully developed surfaces there occurs a new surface with a three-leafed cross section. This configuration does not rotate but merely vibrates. The magnetic surfaces disappear under the action of strong perturbations, and the points lie on curves with helical cross sections (Fig. 9). The figures indicate the succession of the curve points. There are 10 figures and 5 Soviet references.

SUBMITTED: November 17, 1960

Card 3/4

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

BORCVIKOV, V.A.; GEL'FAND, I.M.; GRASHIN, A.F.; POMERANCHUK, I.Ya.

Phase shift analysis of pp-scattering at 95 Mev. Zhur. eksp. i teor. fiz. 40 no.4:1106-1111 Ap '61. (MIRA 14:7)
(Protons--Scattering)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRASHIN, A.F.; IVANOVA, L.N.

Phase analysis of pp-scattering at an energy level of 150 Mev.
Zhur. eksp. i teor. fiz. 40 no.5:1338-1342 My '61.
(MIRA 14:7)
(Mesons--Scattering)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

20734
S/020/61/137/002/005/020
B104/B212

9.7000
16.9500 (1031, 1013, 1121, 1132)

AUTHORS: Gel'fand, I. M., Corresponding Member of the AS USSR, and Tsetlin, M. L.

TITLE: The principle of the non-local scanning in automatic maximizing systems

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 2, 1961, 295-298

TEXT: Here, an automatic maximizing principle is treated, which has been suggested by I. M. Gel'fand. It is based on a special non-local scanning, and it has proved very efficient in finding the minimum in a number of numerical problems. The output function of the automatic maximizing device in question is given as $F(x_1, \ldots, x_n, y_1 \ldots, y_m)$, where x_i denote the operating arguments. The values of these arguments will change due to automatic scanning. The y_i are called the latent parameters of the system and they are a function of time. Therefore, the output function may also be written as $F(x_1, \ldots, x_n, y_1, \ldots, y_m) =$

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The principle of the non-local ...

$= \phi(x_1, \ldots, x_n, t)$. It is assumed that the maximizing working parameters cannot be expressed analytically but have to be determined experimentally. Since ϕ is a function of time the scanning has to be done with respect to the maximizing value of the arguments. But this time dependence of ϕ is not known and, therefore, the scanning rate is very important. Automatic scanning can be done by various methods. These methods can be divided into three groups: The first group is based on blind scanning, here, the pick-up of the parameter values to be maximized, is done independently of each parameter. The second group uses local scanning. Here, the result is evaluated after each scanning operation and it furnishes initial data for the subsequent scanning operation. A. A. Fel'dbaum has described this method in his papers. The third group uses the so-called non-local scanning. For this method it is characteristic that the operating point in the parameter space is not moving along a continuous curve. This increases the region of the parameter space, which is investigated per unit of time, considerably. It is possible to use singularities for the

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

The principle of the non-local ...

construction of Φ and the maximizing process will be sped up considerably. The simplest non-local method is that, where the local method is combined with the "homeostatic" principle. This method, which is widely used in the computing technique, is described in details. The following disadvantage is mentioned: Φ increases considerably after each trigger action. The description of a non-local method follows which the author calls the "dip" method. This method is suitable for the case where the parameters $x_1, \ldots, x_n$ can be divided into two groups. The first group comprises nearly all parameters and consists of those where any change will lead to a considerable change of Φ. These parameters are called unessential and the adjustment has to take place very fast for these parameters. The smaller part of the parameters (2 to 3 parameters) is formed by that group, where a change leads to a small change of Φ. They are called essential parameters. The automatic scanning is done as follows. Starting from a point X_o the trigger operation is done according to the gradients; it is coarse. If this trigger operation decreases Φ by less than 5-15%, then the coarse scanning is stopped. Now, the system is in a zone where the parameters of both groups are

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

The principle of the non-local ...

equivalent and the local methods have a small effectivity. It is assumed that the first trigger operation has brought the system into a point A_0 (Fig. 1), then, in a distance of X_0, which is larger than that of the first step, a point X_1 is chosen. A new trigger operation is carried out from point X_1, which brings the system into the state A_1. After this, the so-called "dip" step is performed: A_0 and A_1 are connected with a straight line. Point X_2 is chosen on this line and starting from it the gradient A_2 will be found with a trigger operation. In this manner the minimum of Φ is established. The method described is very complicated if there are many variables and the authors suggest a method where the variables x_i are described by initial probabilities p_i. Using those, several directions are selected and calculations are made with partial gradients. N. A. Bernshteyn is mentioned. The authors thank M. A. Yevgrafov, L. N. Ivanova, and I. I. Pyatetskiy-Shapiro for valuable

Card 4/5

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

The principle of the non-local ...

discussions. There are 1 figure and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: December 14, 1960

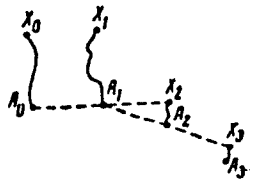

Рис. 1

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Integral transformations connected with straight-line complexes in a complex affine space. Dokl.AN SSSR 138 no.6:1266-1269 Je '61. (MIRA 14:6)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Numbers, Complex) (Spaces, Generalized)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GURFINKEL', V.S.; TSETLIN, M.L.

Some considerations on the tactics of the formation of movements. Dokl. AN SSSR 139 no.5:1250-1253 Ag '61. (MIRA 14:8)

1. Institut biologicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Gel'fand).
(MOVEMENT, PSYCHOLOGY OF)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, Izrail' M.

"Automorphic functions and representation theory"
To be presented at the IMU International Congress
of Mathematicians 1962 - Stockholm, Sweden, 15-22 Aug 62

Corresponding Member, Academy of Sciences USSR;
Mathematics Institute imeni V. A Steklov,
Academy of Sciences USSR (1960 position)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

KUZIN, A.M., glav. red.; GEL'FAND, I.M., red.; LIVANOV, M.N., red.; GERSHUNI, G.V., doktor med. nauk, red.; KHURGIN, Ya.I., doktor fiz.-matem. nauk, red.; KOCHEREZHKIN, V.G., kand. biol. nauk, red.; GURFINKEL', V.S., red. izd-va; POLENOVA, T.P., tekhn.red.

[Biological aspects of cybernetics]Biologicheskie aspekty kibernetiki; sbornik rabot. Moskva, Izd-vo Akad. nauk SSSR, 1962. 237 p. (MIRA 16:1)

1. Akademiya nauk SSSR. Nauchnyy sovet po kompleksnoy probleme "kibernetika." 2. Chlen-korrespondent Akademii nauk SSSR (for Kuzin, Gel'fand, Livanov).

(CYBERNETICS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, Izrail' Moiseyevich; GRAYEV, M.I.; VILENKIN, N.Ya.

[Integral geometry and problems of the theory of representations related to it] Integral'naia geometriia i sviazannye s nei voprosy teorii predstavlenii. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1962. 656 p. (MIRA 16:8)

(Geometry, Differential)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Applying the orispheric method to the spectral analysis of functions in real and imaginary Lobachevskii spaces. Trudy Mosk. mat. ob-va 11:243-308 '62. (MIRA 15:10)
(Spaces, Generalized) (Functions)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

33631
S/042/62/017/001/001/005
B112/B108

16.8000 (1031, 1132, 1329)

AUTHORS: Gel'fand, I. M., and Tsetlin, M. L.

TITLE: Some methods of the control of closed systems

PERIODICAL: Uspekhi matematicheskikh nauk, v. 17, no. 1 (103), 1962, 3-25

TEXT: The authors investigate closed controlling systems which have a certain finality. The analysis of scattering phase shifts (proton-proton scattering) and the construction of physiological motions (human motion) are considered as examples. Such problems are reduced to automatically finding the minimum of a function $F(x_1,\dots,x_n,y_1,\dots,y_n)$, where the "hidden" parameters $y_1,\dots,y_n$ depend on time t and on the "working" parameters $x_1,\dots,x_n$. The function $\phi(x_1,\dots,x_n,t) = F(x_1,\dots,x_n,y_1,\dots,y_n)$ is said to be the appraisable function of the system considered. Essentially, there are three methods of automatically finding such arguments x which correspond to sufficiently small values of ϕ: 1. Blind seeking. 2. Local seeking. 3. Non-local seeking. As a method of non-local seeking, the

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

Some methods of the control...

authors present the so called method of "gorges". This method is schematically described in Fig. 1. The straight lines A_iA_{i+1} indicate the "gorges".

P. K. Anokhin and G. V. Gershun' are mentioned. N. A. Bernshteyn, V. S. Gurfinkel', L. N. Ivanov, and I. I. Shapiro-Pyatetskiy are thanked for assistance. A. A. Fel'dbaum (Avtomatika i telemekhanika 21, No. 9 (1960); No. 11 (1960); Vychislitel'nyye ustroystva v avtomaticheskikh sistemakh - Computational constructions in automatic systems, M., Fizmatgiz, 1959; Avtomatika i telemekhanika 17, No. 9 (1956); 19, No. 8 (1958)), N. A. Bernshteyn, (O postroyenii dvizheniy - On the construction of motions, M., Medgiz, 1947), I. M. Gel'fand, V. S. Gurfinkel', M. L. Tsetlin (DAN 139, No. 5 (1961)), V. S. Gurfinkel' (AMN, 1961; Tret'ya nauchnaya sessiya TsNIIPP - Third scientific session of TsNIIPP, M., 1953; Vtoraya nauchnaya sessiya TsNIIPP - Second scientific session of TsNIIPP, M., 1952) are referred to. There are 8 figures and 35 references: 28 Soviet and 7 non-Soviet. The four most recent references to English-language publications read as follows: E. R. Caianiello, Outline of a theory of thought processes and thinking machines, Naples, 1960, Preprint; S. Ulam, A collection of mathematical problems, New York - London, 1960; R. C. Stabler, E. L. Lomon,

Card 2/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

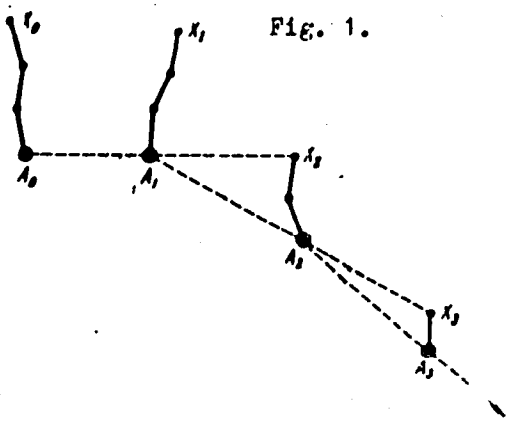
"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

Some methods of the control...

Proton-proton scattering phase shifts at 150 Mev, Nuovo cimento 15, No. 2 (1960); H. P. Stapp, T. I. Ipsilantis, N. Metropolis, Phase-shifts analysis of 310 Mev proton-proton scattering experiments, Phys. Rev. 105, No. 1 (1957).

SUBMITTED: July 20, 1961

Fig. 1.



Card 3/3

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35666

S/020/62/143/001/014/030
B104/B108

24.6150 24.2300

AUTHORS: Cel'fand, I. M., Corresponding Member AS USSR, Grayev, M. I., Zuyeva, N. M., Mikhaylova, M. S., and Morozov, A. I.

TITLE: Example of a toroidal magnetic field having no magnetic surfaces

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 1, 1962, 81-83

TEXT: The existence of magnetic surfaces can be proved and their exact equations derived only if the relevant magnetic field has some symmetry. In unsymmetric magnetic fields, the equations of these surfaces can only be approximated. An unsymmetric magnetic field with the scalar potential

$$\psi = z + h_3 l_3(3r)\sin 3(\varphi - z) + h_0 l_0(3r)\sin 3z.$$

has been calculated numerically in a previous study (ZhTF, 31, no. 10 (1961)). The magnetic surfaces of such a field were shown to decompose at $h_3 = 3$, $h_0 = 0.125$. In the present study, this phenomenon is investigated in detail. The course of the lines of force is calculated

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Example of a toroidal magnetic ...

and it is shown that the lines of force which should form the magnetic surfaces do not lie on a closed curve. Accordingly, no magnetic surface exists in this case. There are 3 figures and 3 references: 2 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: M. Spitser, Proc. of the II. Geneva Conference on the Peaceful Uses of Atomic Energy, 1958.

SUBMITTED: December 11, 1961

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Categories of group representations and the problem of the classification of irreducible representations. Dokl. AN SSSR 146 no.4:757-760 O '62. (MIRA 15:11)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Groups, Theory of)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; PYATETSKIY-SHAPIRO, I.I.

Unitary representations in homogeneous spaces with discrete stationary groups. Dokl. AN SSSR 147 no.1:17-20 N '62. (MIRA 15:11)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Groups, Theory of)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; PYATETSKIY-SHAPIRO, I.I.

Unitary representations in a G/Γ space where G is a group of n-order real matrices and Γ is a subgroup of integer matrices. Dokl. AN SSSR 147 no.2:275-278 N '62. (MIRA 15:11)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Groups, Theory of)
(Matrices)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Construction of irreducible representations of simple algebraic groups over a finite field. Dokl. AN SSSR 147 no.3:529-532 N '62. (MIRA 15:12)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Lie algebras)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; PYATETSKIY-SHAPIRO, I.I.

Automorphic functions and the theory of representations. Trudy Mosk. mat. ob-va 12:389-412 '63. (MIRA 16:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GURFINKEL', V.S.; KOTS, Ya.M.; TSETLIN, M.L.; SHIK, M.L.

Synchronization of motor units and its model representation.
Biofizika 8 no.4:475-487 '63.
(MIRA 17:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; SHILOV, G.Ye.

Categories of finite-dimensional spaces. Vest. Mosk. un. Ser. 1: Mat., mekh. 18 no.4:27-48 Jl-Ag '63. (MIRA 16:8)

1. Kafedra teorii funktsiy i funktsional'nogo analiza Moskovskogo universiteta.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Representations of a group of matrices of the second order from a locally compact field, and special functions over locally compact fields. Usp. mat. nauk 18 no.4:29-99 Jl-Ag '63. (MIRA 16:9)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

FRIDENSHTEYN, A.Ya.; GEL'FAND, I.M. (Moskva)

Possible mechanism of changes in immunological tolerance.
Usp. sovr. biol. 55 no.3:428-439 My-Je'63 (MIRA 17:3)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; KOVALEV, S.A.; CHAYLAKHYAN, L.M

Intracellular stimulation of different parts of a frog's heart. Dokl.AN SSSR 148 no.4:973-976 F '63. (MIRA 16:4)

1. Institut biologicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Gel'fand).
(Electrocardiography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

S/020/63/148/006/009/023
B112/B186

AUTHORS: Gel'fand, I. M., Corresponding Member AS USSR, Grayev, M. I., Zuyeva, N. M., Mikhaylova, M. S., Morozov, A. I.

TITLE: The structure of a magnetic toroidal field having no magnetic surfaces

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 6, 1963, 1286-1289

TEXT: A large number of force lines of the field

$$\psi_3 + \psi_0 = H_0 z + h_3 I_3(3r)\sin 3(\varphi - z) + h_0 I_0(3r)\sin 3z$$

have been calculated numerically for $H_0 = 1$, $h_3 = 3$, $h_0 = 0.120$, 0.125, 0.130. From their plots a series of qualitative and quantitative properties of fields with collapsing magnetic surfaces are derived. There are 3 figures.

SUBMITTED: October 30, 1962

Card 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

S/020/63/149/003/001/028
B112/B180

AUTHORS: Gel'fand, I. M., Corresponding Member AS USSR, Grayev, M. I.

TITLE: Irreducible unitary representations of the group of unimodular second-order matrices with elements from a locally compact field

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 3, 1963, 499 - 501

TEXT: The group $G = SL(2,K)$ of unimodular second-order matrices is considered, with elements from a locally compact non-discrete field K. The representations $T_\pi(g)f(x) = f\left(\frac{\beta + \delta x}{\alpha + \gamma x}\right)\pi(\alpha + \gamma x)\,|\alpha + \gamma x|^{-1}$ which correspond to matrices $g = \begin{pmatrix}\alpha\beta\\ \gamma\delta\end{pmatrix}$. The function $\pi(x)$ is the group character. K is replaced by a quadratic extension $K(\sqrt{\tau})$ and the corresponding representations are obtained by analytic continuation. It is shown that $\operatorname{Tr} T_\pi(g) = \frac{\pi(\lambda) + \pi(\lambda^{-1})}{|\lambda - \lambda^{-1}|}$ if the eigenvalues λ, λ^{-1} of g are from K.

Card 1/2

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B112/B180

irreducible unitary representations ...

Otherwise the relation Tr $T_\chi(g) = 0$ is valid.

SUBMITTED: December 12, 1962

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Plancherel's formula for a group of second-order unimodular matrices with elements from a locally compact field. Dokl. AN SSSR 151 no.2:262-264 Jl '63. (MIRA 16:7)

1. Chlen-korrespondent AN SSSR (for Gel'fand).
(Matrices)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; PYATETSKIY-SHAPIRO, I.I.; TSETLIN, M.L.

Certain classes of games and robot games. Dokl. AN SSSR 152 no.4:845-848 O '63. (MIRA 16:11)

1. Chlen-korrespondent AN SSSR (for Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; PYATETSKIY-SHAPIRO, I.I.; FEDOROV, Yu.G.

Determining the structure of a crystal by the nonlocal search method. Dokl. AN SSSR 152 no.5:1045-1048 O '63. (MIRA 16:12)

1. Chlen-korrespondent AN SSSR (for Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

VAYNSHTEYN, B.K.; GEL'FAND, I.M.; KAYUSHINA, R.L.; FEDOROV, Yu.G.

Use of the R-factor minimalization method in determining crystal structures. Dokl. AN SSSR 153 no.1:93-96 N '63. (MIRA 17:1)

1. Chleny-korrespondenty AN SSSR (for Vaynshteyn, Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GRAYEV, M.I.

Structure of a ring of finite functions on a group of second-order unimodular matrices with elements from a disconnected locally compact field. Dokl. AN SSSR 153 no.3:512-515 N '63.
(MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I. M.; ZETLIN, M. L.:

" On the Mathematical Modelling of the Mechanisms of the Central Nervous System."

Report to be submitted for the Second General Assembly of the International Organization for Pure and Applied Biophysics (IOPAB), Paris, France, 22-27 June 1964.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.M.; GURFINKEL', V.S.; KOTS, Ya.M.; PRIGOZHIN, V.I.; TSETLIN, M.L.; SHIK, M.L.

Study of postural activity. Biofizika 9 no.6:713-717 '64. (MIRA 18:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

L 19054-65 EWT(d)/T/EWP(1) Pg-4 IJP(c)/RAEM(d)/ESD(dp)

ACCESSION NR: AP5000150 S/0103/64/025/011/1572/1580

AUTHOR: Bryzgalov, V. I. (Moscow); Gel'fand, I. M. (Moscow); Pyatetskiy-Shapiro, I. I. (Moscow); Tsetlin, M. L. (Moscow)

TITLE: Uniform games of automata and their digital-computer simulation

SOURCE: Avtomatika i telemekhanika, v. 25, no. 11, 1964, 1572-1580

TOPIC TAGS: automaton, automata game

ABSTRACT: Examples of the group behavior of automata are considered: a symmetrical game and a circle game. A uniform game presupposes equal rights for all participants (automata). Payoff functions are, in fact, mathematical expectations of gain by each automaton. Automata have no prior information about the system of payoff functions. In the course of a game, the automaton receives information about its gains and losses and uses this information for selecting its strategies. In the circle game, the principal laws of behavior of

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L 19054-65

ACCESSION NR: AP5000150

automata, depending on the system of payoff functions, number of automata, and their storage capacity, are explored. It is found that with a favorable structure of the payoff function, the automata reach the Mohr point, i.e., their behavior becomes expedient; the expediency of behavior of individual automata has a much stronger effect on the expedience of their joint behavior than any variation of the number of automata. Games of linear-tactics automata were simulated on a digital computer; Mohr's and Nash's plays were studied. "The authors wish to thank M. S. Mikhaylova for her assistance." Orig. art. has: 2 figures, 8 formulas, and 5 tables.

ASSOCIATION: none

SUBMITTED: 01Nov63 ENCL: 00

SUB CODE: DP, MA NO REF SOV: 005 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

VASIL'YEV, Yu. M.; GEL'FAND, I. M.; GEL'SHTEYN, V. I.; MALENKOV, A. G.

Characteristics of cellular complexes of the ascitic mouse hepatoma 22. Dokl. AN SSSR 156 no. 1:168-170 My '64. (MIRA 17:5)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.
2. Chlen-korrespondent AN SSSR (for Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I. M.; GRAYEV, M. I.; PYATETSKIY-SHAPIRO, I.I.

Representations of adele groups. Dokl. AN SSSR 156 no. 3:487-490 '64. (MIRA 17:5)

1. Chlen-korrespondent AN SSSR (for Gel'fand).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GELFAND, I. M. (Corresponding Member, USSR Academy of Sciences); GRAEV, M. I.; SHAPIRO, Z. Ya.

CAS: None

"Integral Geometry on Manifolds of k-Dimensional Planes"

Moscow, Doklady Akademii Nauk SSSR (Proceedings Acad. Sci. USSR), Vol. 168, No. 6, 1966, pp 1236-1238

TOPIC TAGS: function, geometry

Abstract: A set of k-dimensional planes of an n-dimensional complex space is examined, assuming that f(x) is an infinitely differentiable and rapidly decreasing function of the space. The equation

$$\varphi(h) = \int_h f(x)\, d\mu_h \qquad (1)$$

relates a certain function of plane $\varphi(h)$ to each function f(x). The purpose of the paper is to invert equation (1) and to define the class of functions on the set of planes that is determined by equation (1). An inverse equation is derived. Orig. art. has: 2 formulas. [JPRS: 39,008]

SUB CODE: 12 / SUBM DATE: 25Mar66 / ORIG REF: 002

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UDC: 517.948.5

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, Feliks Yul'evich; AL'SHITS, Isaak Yakovlevich, kandidat tekhnicheskikh nauk; GALLAY, Ya.S., redaktor; ARKHANGEL'SKAYA,M.S., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiy redaktor.

[Plastic-coated bearing] Podshipniki, oblitsovannye plastmassoi. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 94 p. (MIRA 10:11)

1.Zavod "Krasnyy Vyborshets."
(Bearings (Machinery))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

Geophysical Division "ining-Geological Inst., UFAN, Acad. Sci., (-1943-)

"The inverse problem of the gravitational potential for the homogeneous ellipsoid generated by rotation."

Iz. Ak. Nauk SSSR, Ser. Geograf. i Geofiz., No. 1-6, 1944

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

[redacted], V. V.

Geophysical Division, Mining-Geological Inst., UFAN, Acad. Sci., (-1943-)

"Direct and inverse problem of the magnetic potential for a spheric segment,"

Iz. Ak. Nauk SSSR, Ser. Geograf. i Geofiz., No. 1-6, 1944

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

112-57-8-16086

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 7 (USSR)

AUTHOR: Gel'fand, I.S.

TITLE: Electromagnetic Field of a Cable in a Stratified Medium (Elektromagnitnoye pole kabelya v sloistoy srede)

PERIODICAL: Sb. statey po geofiz. metodam razvedki Sverdlov. gorn. in-ta, (Collection of articles on geophysical methods of prospecting, the Sverdlovsk Mining Institute). M., Gosgeologtechizdat, 1955, pp 18-25

ABSTRACT: Bibliographic entry.

Card 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GELFAND, I.S.

3(6,10); 9(6)

PHASE I BOOK EXPLOITATION SOV/1924

Akademiya nauk SSSR. Ural'skiy filial. Gorno-geologicheskiy institut.

Geofizicheskiy sbornik, no. 2. (Collected Papers on Geophysics, Nr. 2.) Sverdlovsk, 1957. 207 p. Issued also as Its Trudy, vyp. 30 Errata slip inserted. 2,400 copies printed.

Resp. Ed.: Yu.P. Bulashevich, Doctor of Physical and Mathematical Sciences; Ed.: I.M. Demin; Tech. Ed.: L.A. Izmodenova.

PURPOSE: This collection of articles is intended for field geophysicists and exploration party leaders.

COVERAGE: These articles discuss many new techniques and some theoretical considerations involved in gravitational, magnetic, seismic, electrical and gamma radiation exploration methods. In 4 articles V.N. Ponomarev discusses various aspects of magnetometry; N.I. Khalevin - the study of elastic wave propagation; and G.M. Voskoboynikov - gamma radiation. Extensive bibliographies accompany each articles.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.S.

Electromagnetic field of an inclined network in a layered medium. Trudy Sver. gor. inst. no.30:9-17 '57. (MIRA 11:4)
(Magnetism, Terrestrial)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

SOV/169-59-2-1237

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 2, p 32 (USSR)

AUTHOR: Gel'fand, I.S.

TITLE: The Alternating Field of a Vertical Electrical Dipole in a Stratified Medium

PERIODICAL: Tr. gorno-geol. in-ta Ural'skiy fil. AS USSR, 1957, Nr 30, pp 60 - 71

ABSTRACT: The electromagnetic field of a vertical electric dipole excited by a harmonic current is considered under the condition of neglecting displacement currents in the earth. The integral expression for the components of the vector potential is investigated by the asymptotic methods. The contour integral is computed approximately in the complex range. The author points out that it is most expediently for geophysical prospecting to carry out the measurement of the radial corponentof the vertical antenna as an anomalous factor of the field.

L.L. Van'yan

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

SOV/169-59-2-1238

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 2, p 32 (USSR)

AUTHOR: Gel'fand, I.S.

TITLE: The Alternating Field of a Horizontal Frame in a Stratified Medium

PERIODICAL: Tr. Gorno-geol. in-ta. Ural'skiy fil. AS USSR, 1957, Nr 30, pp 72 - 83

ABSTRACT: The electromagnetic field of a horizontal magnetic dipole excited by a harmonic current is considered under the condition of neglecting displacement currents in the earth. The integral expression for the components of the vector potential for a two-layer section is investigated by the asymptotic methods, which consist in the approximate computation of the contour integral in the complex range. The electric and magnetic fields of the horizontal magnetic dipole are analyzed, and particularly it is shown that the relation of the reciprocally perpendicular horizontal components of the electric and magnetic fields does not depend on the distance from the source, when this is sufficiently large.

L.L. Van'yan

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.S.

Electromagnetic field of the coil and cable over a two-layered medium with a base of low conductivity. Trudy Sver.gor.inst. no.34:5-10 '59. (MIRA 13:5)
(Electric prospecting)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.S.

Electromagnetic field o a horizontal electric dipole in a layered medium. Trudy Sver.gor.inst. no.34:11-19 '59. (MIRA 13:5)
(Electric prospceting)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.S.

Electromagnetic field of the vertical electric dipole in a multi-layered medium. Geol. i geofiz. no.11:83-91 '60. (MIRA 14:2)

1. Gornyy institut im.V.V.Vakhrusheva, Sverdlovsk.
(Ore deposits) (Electric prospecting)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

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A060/A000

24 2400

AUTHOR: Gel'fand, I. S.

TITLE: Electromagnetic field of frame and cable in a multilayer medium

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 66, abstract 11B282 (Tr. In-ta geol. i geofiz. Sib. otd. AN SSSR, 1961, no. 11, 3 - 24)

TEXT: The paper considers the problem of the field of an inclined frame and a horizontal cable over a multilayer medium. An exact integral representation is given for the Hertz vector of the vertical magnetic dipole equivalent to a horizontal frame, on the basis of which the approximate expression is given for the Hertz vector in a quasi-static approximation (the wave number in air equal to zero) and the components of the electromagnetic field are determined both for the vertical and the horizontal magnetic dipoles. To the same approximation expressions are obtained for the components of the field of the horizontal electric dipole and the cable located on the surface of the multilayer medium. Formulae are derived convenient for calculations of the electromagnetic field in the case when the inequality $k_1 d_1 < 1$ is satisfied, where k_i and d_i

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Electromagnetic field of frame and...

are the wave number in the top layer and its power, respectively. Results are cited of numerical calculations of the apparent impedance of a three-layer path for various ratios of powers and resistivities of the two top layers (the resistivity of the bedding half-space is taken as equal to infinity).

V. V. Novikov

[Abstracter's note: Complete translation]

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

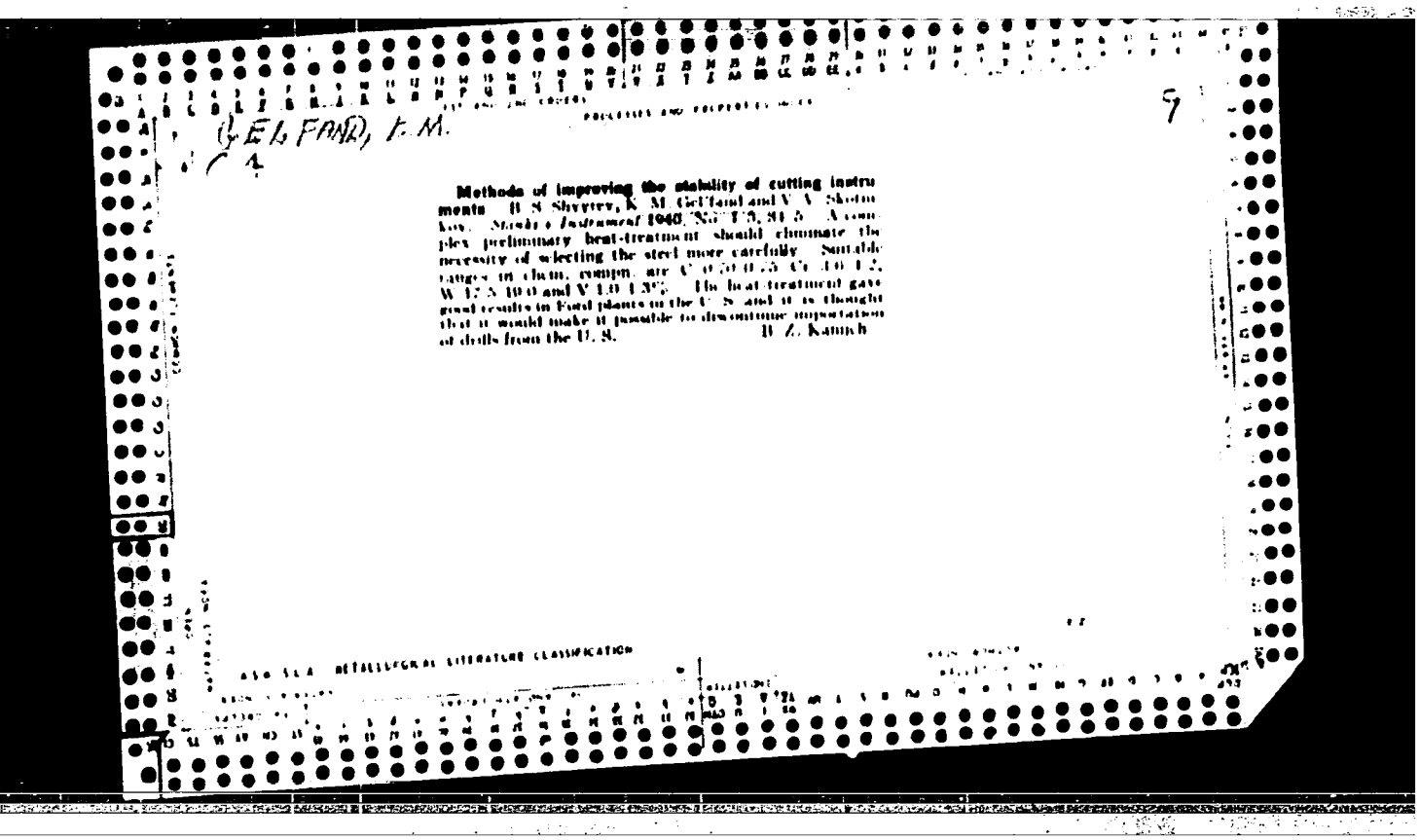
"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, I.S., dots.; PAVLENKO, O., otv. za vypusk

[Methodological manual on the subject "Differential equations of mathematical physics" for geophysics students] Metodicheskoe posobie po spetsial'nomu razdelu "Differentsial'nye uravneniia matematicheskoi fiziki" dlia studentov-geofizikov. Sverdlovsk, Sverdlovskii gornyi in-t im.V.V.Vakhrusheva, 1962. 38 p. (MIRA 16:8)
(Differential equations) (Mathematical physics)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4



GEL'FAND, K.M.

C 4

9

Methods of improving the stability of cutting instruments. B. S. Shvyrev, K. M. Gel'fand and V. V. Skotnikov. *Stanki i Instrument* 1940, No. 1/3, 81-5. A complex preliminary heat-treatment should eliminate the necessity of selecting the steel more carefully. Suitable ranges in chem. compn. are C 0.70-0.75, Cr 3.0-4.2, W 17.5-19.0 and V 1.0-1.3%. The heat-treatment gave good results in Ford plants in the U. S. and it is thought that it would make it possible to discontinue importation of drills from the U. S. B. Z. Kanich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

SHMYREV, [illegible]. S. and GUL'FAND, K. [illegible].,
Engineers.

"Solder for Welding Blades to Cutters Made of Low-Alloy High-Speed Steel", Stanki I Instrument, 14, No. 3, 1943.

BR-52059019.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

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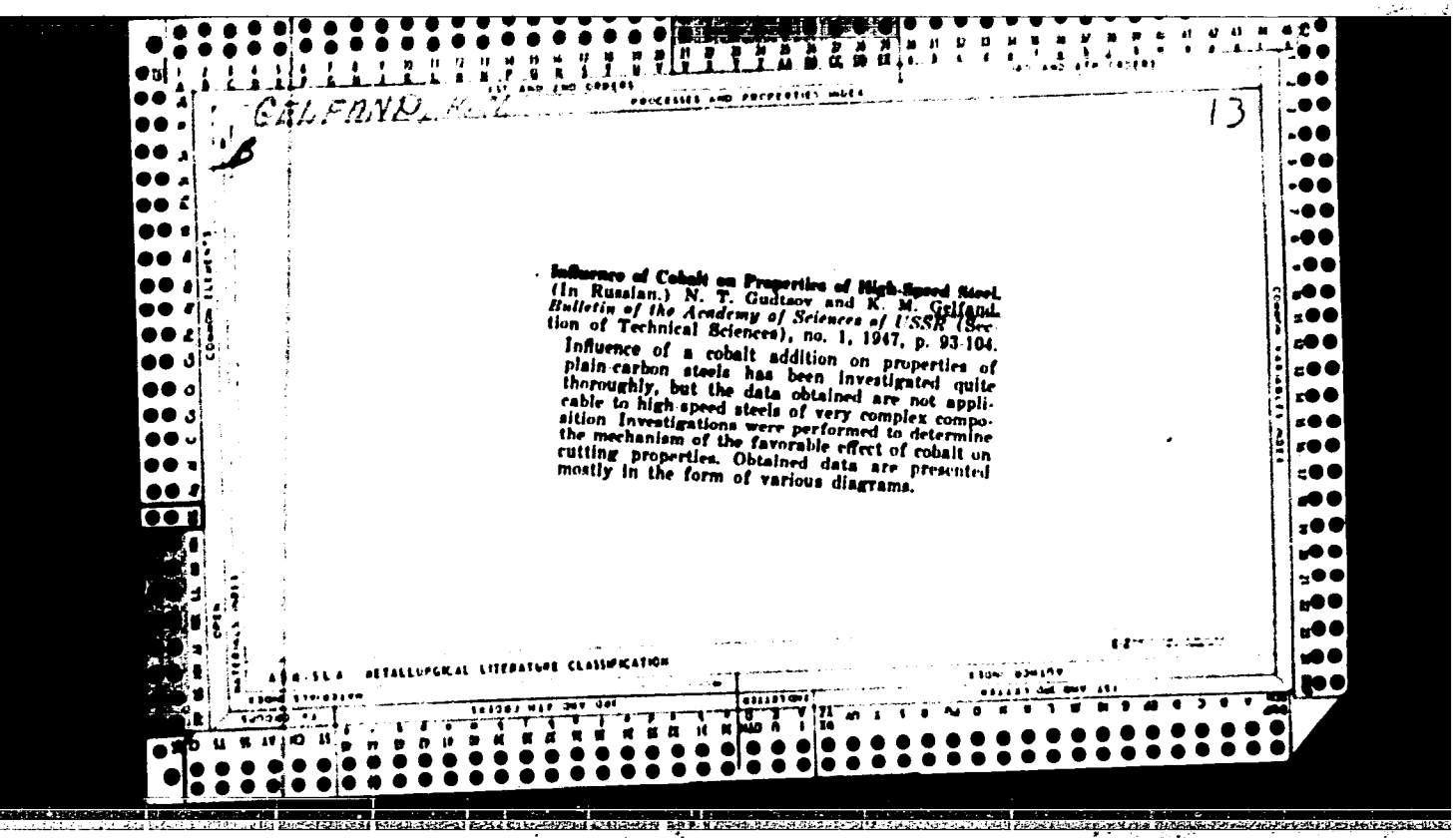

13

Influence of Cobalt on Properties of High-Speed Steel. (In Russian.) N. T. Gudtsov and K. M. Gelfand. *Bulletin of the Academy of Sciences of USSR* (Section of Technical Sciences), no. 1, 1947, p. 93-104.

Influence of a cobalt addition on properties of plain-carbon steels has been investigated quite thoroughly, but the data obtained are not applicable to high-speed steels of very complex composition. Investigations were performed to determine the mechanism of the favorable effect of cobalt on cutting properties. Obtained data are presented mostly in the form of various diagrams.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

S/129/61/000/002/011/014
E193/E483

AUTHORS: Gel'fand, K.M. and Markov, V.S.

TITLE: Mechanical Properties of Constructional Steels in the Direction Normal to the Direction of Rolling

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No.2, pp.53-55

TEXT: The object of a statistical study of the mechanical properties of several types of constructional steel, (30KhN2MFA), (30KhN3A), (30KhGSA), (40KhNMA) and "50") described in the present paper was to show that the ГОСТ (GOST) specification for these steels should cover also their properties in the direction normal to the direction of rolling. Having collected, tabulated and studied data on U.T.S. (σ_b), reduction in area (ψ), elongation (δ), impact strength (a_k), grain size of the non-metallic inclusions and type of fracture of 8 to 15 melts of each of the types of steel listed above, the present authors have reached the following conclusions.
(1) The mechanical properties, characterizing plasticity and toughness of steel in the transverse direction, are low and may be widely different in the specimens of the same composition and

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Mechanical Properties of Constructional Steels in the Direction Normal to the Direction of Rolling

subjected to the same heat treatment. Thus, for instance, a_k of steel 30KhGSA varied between 0.8 and 3.6 kgm/cm^2, the $a_{k(transverse)}/a_{k(longitudinal)}$ ratio amounting to 10 to 12%; the magnitude of ψ and δ (in the transverse direction) of the same steel varied between 10 and 42% for the former and 2.3 and 12% for the latter property. The proportion of melts displaying low mechanical properties in the transverse direction varied from steel to steel; in the case of steels 30KhGSA, 40KhNMA and "50", about 70% of melts have rough appearance of the surface of fracture and low mechanical properties in the transverse direction ($a_k \leqslant 2$ kgm/cm^2 $\psi < 15\%$. $\delta < 5\%$). In the case of steels 30KhN2MFA and 30KhN3A, the proportion of melts with so low mechanical properties in the transverse direction amounts only to 30%. At the same time, all the steels studied meet the GOST specifications in respect to their mechanical properties in the longitudinal direction. Steels displaying low strength and plasticity in the transverse direction have typical rough, laminated, "woody" fracture.

Card 2/3

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S/129/61/000/002/011/014
E193/E483

Mechanical Properties of Constructional Steels in the Direction Normal to the Direction of Rolling

(2) Statistical analysis of the results of a large number of tests, service conditions and causes of failure of various components indicate clearly that the useful life of many items of industrial application could be increased by tightening up the GOST specification in respect to the mechanical properties (in the transverse direction) of several types of steel. There is 1 table.

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GELLFAND, I.A. (Kiyev)

Activities of Ukrainian therapeutists. Vrach.delo no.11:1221 N '56.
(MLRA 10:3)

1. Otdel istorii meditsiny Ukrainskogo instituta klinicheskoy meditsiny im. akademika N.D.Strazhesko.
(UKRAINE--THERAPEUTICS--HISTORY)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

DUPLENKO, K.F.; GEL'FAND, L.A.

Course, methods, and first results of a study of the history of therapy in the Ukraine. Sov.zdrav. 16 no.5:31-34 My '57. (MLRA 10:7)

1. Iz Ukrainskogo instituta klinicheskoy meditsiny imeni akademika N.D.Strazhesko (dir. - prof. A.L.Mikhnev)

(THERAPEUTICS, history, in Russia (Rus))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, L.A.

From the history of N.D. Strashenko's school 1917-1936. Mat.po obm.nauch.inform. no.2:17-21 '58. (MIRA 13:6)

1. Iz otdela istorii meditsiny (zav. - K.F. Duplenko) Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny, Kiyev.

(STRAZHESKO, NIKOLAI DMITRIEVICH, 1876-1952)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

DUPLENKO, K.F., GEL'FAND, L.A.

Methods in studying the history of medicine. Sov.zdrav. 17 no.7:53-57 Jl '58 (MIRA 11:8)

1. Iz Otdela istorii meditsiny Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny imeni N.D. Strazhesko (dir. prof. A.L. Mikhnev).
(HISTORY, MEDICAL
research, methods (Rus))

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

DUPLENKO, K.F.; GEL'FAND, L.A. (Kiyev)

Studies in the history of medical sciences and public health in the Ukrainian S.S.R. Sov.zdrav. 20 no.4:9-15 '61. (MIRA 14:5)
(UKRAINE--PUBLIC HEALTH)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, L.L. (Kazan')

Content of sialic acid in the blood serum in Botkin's disease and cancer. Kaz. med. zhur. no.5:84 S-O'63 (MIRA 16:12)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, L.L.

Balance of ascorbic acid in Botkin's disease. Nauch. trudy Kaz. gos. med. inst. 14:407-408 '64. (MIRA 18:9)

1. Kafedra infektsionnykh bolezney (zav. - doktor med. nauk A.Ye.Reznik) Kazanskogo meditsinskogo instituta.

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GEL'FAND, M.B. (Kiyev).

State "Pedagogical lectures" in the Ukrainian S.S.R. Mat.v shkole no.6: 79-80 N-D '53. (MLRA 6:12)
(Mathematics--Study and teaching) (Ukraine--Mathematics)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Republic "Pedagogical Lectures" devoted to practical application. Mat.v shkole no.3:83-85 My-Je '56. (MLRA 9:8)
(Ukraine--Mathematics--Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Solution of problems in the construction of cross sections of polyhedra. (MLRA 9:9)
Mat. v shkole no.4:42-47 Jl-Ag '56.
(Geometrical drawing)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Ukrainian "education conferences" dedicated to the 40th anniversary of the Great October Socialist Revolution. Mat.v shkole no.6:89-92 N-D '57. (MIRA 10:11)
(Kharkov--Mathematics--Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B.; PAVLOVICH, V.S. (Kiyev)

Experience in explaining the addition theorem according to the new trigonometry textbook. Mat. v shkole no. 4:33-35 Jl-Ag '58. (MIRA 11:7)

(Trigonometry--Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Discussion of mathematics curricula. Mat. v shkole no.2: 82-84 Mr-Ap '59. (MIRA 12:6)
(Mathematics--Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Contact between teaching mathematics and life, manual training and production instruction. Mat.v shkole no.5:82-83 S-O '62. (MIRA 15:12)
(Mathematics—Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.B. (Kiyev)

Studying the subject "Power functions." Mat. v shkole no.5:30-37 S-O '63. (MIRA 16:11)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

TRISVYATSKIY, A.Ya.; TSUKANOVA, Yu.A.; GEL'FAND, M.R.; MYTNIK, A.I.; PASHNIKOVA, Yu.A.; FRANTSEVA, Ye.N.; TOLKUYEVA, F.A.; FOMIN, M.I.; STARKOV, N.Ye., red.; KOLOMIYETS, K.A., tekhn. red.

[Economy of Kursk Province; a statistical manual] Narodnoe khoziaistvo Kurskoi oblast; statisticheskii sbornik. Orel, Gosstatizdat, 1958. 198 p. (MIRA 11:12)

1. Kursk(Province). Oblastnoye statisticheskoye upravleniye.
2. Nachal'nik Statisticheskogo upravleniya Kurskoy oblasti(for Starkov).
3. Rabotniki Statisticheskogo upravleniya Kurskoy oblasti(for all except Fomin, Starkov, Kolomiyets)
(Kursk Province--Economic conditions--Statistics)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

Gel'fand, M. S.

1

Gel'fand, M. S. Seminormed lattices and metric spaces. Akad. Nauk Azerbaidžan. SSR. Trudy Inst. Fiz. Mat. 4-5 (1952), 174–178. (Russian. Azerbaijanian summary) 1-F/W

The author continues investigations of Wilcox and Smiley [Ann. of Math. (2) (1939), 309–327] and Glivenko [Amer. J. Math. 8 (1936), 799–828] into metrics on lattices. Let S be a lattice and Φ a non-negative, strictly increasing function on S such that $\Phi(a)+\Phi(b)\geq \Phi(a\vee b)+\Phi(a\wedge b)$. ($\Phi$ is called an upper seminorm on S.) The function $\varrho(a,b)=2\Phi(a\vee b)-\Phi(a)-\Phi(b)$ is a metric on S. For a space X with metric ϱ and $x, y, z \in X$, write xyz if $\varrho(x,z)=\varrho(x,y)+\varrho(y,z)$. Sample theorem: A metric space X becomes a lattice under the definition $a\leq b$ if and only if uab (u a fixed element of X) and with an upper seminorm that defines the metric if and only if the following conditions are satisfied. 1) For all $a, b, x, c \in X$, the conditions uax, ubx, and acb imply ucx. 2) For all $a, b \in X$ there exist $s, d \in X$ such that sad, sbd, uds, and asb. 3) For all $x \in X$, uxa and uxb imply uxd (a, b, and d as in 2). Similar results are given for lower seminorms, in which the inequality defining Φ is reversed.

E. Hewitt (Seattle, Wash.).

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.S.

Math 1

Gel'fand, M. S. ... Segments in a Dedekind lattice. Moskov. Gos. Ped. Inst. Uč. Zap. 71 (1953), 199–204. (Russian)

In a lattice, say that c lies between a and b (written acb) if and only if

$$ac+bc=c=(a+c)(b+c);$$

[cf. Pitcher and Smiley, Trans. Amer. Math. Soc. 52 (1942), 95–114; MR 4, 87; Sholander, Proc. Amer. Math. Soc. 3 (1952), 369–381; MR 14, 9]. Various equivalent conditions are obtained in the case of a modular or distributive lattice; some of these are in terms of union and intersection, some in terms of distributive elements, and some are in terms of segments, where the segment $[a, b]$ is defined as the set of all c with acb. Principal theorems: In a modular lattice, a distributive element u which has a complement satisfies the condition, which Glivenko [Amer. J. Math. 59 (1937), 941–956] found for distributive lattices, that uxa, uxb and acb together imply uxc, while uay, uby, and acb together imply ucy. Any segment $[a, b]$ in a modular lattice is a sublattice with 0 and I. *P. M. Whitman* (Silver Spring, Md.).

RB

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, Mark Samsonovich; GUS'KOV, G.G., red.; SOKOLOVA, R.Ya., tekhn. red.

[Teaching algebra in the eighth grade of schools for working youth] Prepodavanie algebry v vos'mom klasse shkoly rabochei molodezhi. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1957. 131 p. (MIRA 14:7)

(Algebra--Study and teaching)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, Mark Samsonovich; GUS'KOV, G.G., red.; LAUT, V., tekhn. red.

[Teaching the subject "Derivative function" in grade 10 schools for working youth] Prepodavanie temy "Proizvodnaia funktsiia" v X klasse shkoly rabochei molodezhi. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1958. 111 p. (MIRA 14:7)
(Mathematics--Study and teaching) (Functions)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, M.S.; GLEYZER, G.D.; PETRAKOV, I.S.; PROSTOSERDOV, V.P.; SAAKYAN, S.M. (Moskva)

Structure and content of the mathematics course in grades 9-11 of the evening (staggered) secondary general schools. Mat. v shkole no.3:46-47 My-Je '62. (MIRA 15:7)
(Mathematics--Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

AVRUKH, Abram Yakovlevich; GEL'FAND, M.E., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor.

[The cost of electric and steam power] Sebestoimost' elektricheskoi i teplovoi energii. Moskva, Gos.energ.izd-vo, 1957. 182 p. (MIRA 10-11)

(Electric power) (Steam power plants)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, N.I.

Determining the depth of occurrence of magnetized bodies when the normal field level is unknown. Geol. i geofiz. no.8:115-119 '60.
(MIRA 14:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
(Magnetic prospecting)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, N.I.

Interpretation of geophysical anomalies by the method of tangents. Trudy Inst.geol. i geofiz. Sib.otd. AN SSSR no.1:31-44 '60. (MIRA 15:2)

(Prospecting—Geophysical methods)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, N.I.

Interpretation of magnetic anomalies by means of higher derivatives of the magnetic potential. Trudy Inst.geol. i geofiz. Sib.otd. AN SSSR no.1:45-54 '60. (MIRA 15:2)
(Magnetic prospecting)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4

GEL'FAND, N.I.

Defining the elements determining the location of an elongated ellipsoid of revolution form gravity and magnetic observations. Trudy Inst. geol. i geofiz. Sib. otd. AN SSSR no.11:119-125 '61. (MIRA 15:2)

(Magnetic prospecting)(Gravity prospecting)

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GEL'FAND, O.E.

122-4-10/29

AUTHOR: Gel'fand, O.E., Engineer and Futoryan, S.B. Candidate of Technical Sciences.

TITLE: Introduction of ceramic cutting tools (Vnedrenie mineral-okeramicheskogo instrumenta.)

PERIODICAL: "Vestnik Mashinostroeniya" (Engineering Journal), 1957, No.4, pp. 50 - 56 (U.S.S.R.)

ABSTRACT: Technical information reported at an engineering science session of a Moscow Regional conference in 1956 is reported. Between 1951 and 1956, the mean bending strength of ceramic cutting tips increased from 21 kg/mm^2 to 37 kg/mm^2. The fixing strength both by mechanical clamping and soldering has been considerably increased from the original values of 150 kg/cm^2 in mechanical fixing and up to 200 kg/cm^2 in soldering with a M68 solder. In the plant "imeni Kalinin", a mechanical fixing is used in the cutting of steel 5" tubes with a cutting speed of 235 m/min, depth of cut of 6 mm, rate of feed of 0.45 mm/rev. The tool life was 120 min. Metallised ceramic tips have been soldered, giving a bonding strength of 750 kg/cm^2 at the Kharkov "Mintransmash" plant. For the sharpening of ceramic tools, bakelite bonded green carborundum wheels of 175 grit are recommended at a grinding speed of 10 to 15 m/sec. Lapping with boron carbide of about 270 grit is necessary. A

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Introduction of ceramic cutting tools. (Cont.) 122-4-10/29

full page chart states recommendations on every item of tool geometry for a variety of machining operations. Ceramic tools are claimed to increase cutting performance twice or more. High-alloy heat-treated steels benefit especially. On each count of performance in cutting, ceramic tools exceed the best carbide tools. A number of detailed examples from the transport equipment, aviation and other industries were given. Built-up face cutters are illustrated for milling alloy steel surfaces. Round ceramic cutting plates are clamped around the periphery to produce 12 staggered cutting edges. A step arrangement is recommended for finish milling. Three full page tables give feeds, speeds, and depths of cut as well as other standards for various materials in turning and face milling as compiled by the Scientific Research Office for production standards (MS i IP).

2/2 There are 7 figures, including 1 graph and 1 photograph, and 5 tables.

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S/118/62/000/012/002/002
D201/D308

AUTHORS: Gel'fand, P.I. and Polishchuk, V.P., Engineers

TITLE: An automatic electromagnetic-device for pouring metal in pressure casting machines

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 12, 1962, 37-38

TEXT: A short description of a pressure casting machine type 515, now undergoing development at the institut liteynogo proizvodstva AN USSR (Institute of Casting Production of the AS Ukr SSR) and at the TsKB Gosplana USSR. The machine consists of a single phase induction pump (a transformer whose secondary winding is a short-circuited ring of the molten metal) and of a heated crucible storing the amount of molten metal at a given temperature, required for continuous operation of the pump. A spout connects the device to the pressure chamber of the machine. The advantage of this device is that the metal to be poured is taken from lower layers of the

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GEL'FAND, P.I., inzh.; POLISHCHUK, V.P., inzh.

Automatic electromagnetic unit for metal pouring on die-casting machines. Mekh.i avtom.proizv. 16 no.12:37-38 D '62. (MIRA 16:1)

(Die casting--Equipment and supplies)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000514620009-4"