KAMAYEV, M.F., prof.; SHAPIRO, Z.A.

Diagnosis and modern treatment of hemophilia. Vrach.delo no.10:41-44
0 '60.   (MIRA 13:11)

1. Kafedra fakul'tetskoy khirurgii II (zav. - prof. M.F.Komayev)
Dnepropetrovskogo meditsinskogo instituta i Devyataya gorodskaya
klinicheskaya bol'nitsa.
       (HEMOPHILIA)

SHAPIRO, Z.A.

Dispensary and clinic card for a hematological patient. Probl.
gemat.i perel.krovi 6 no.4:43-45 Ap '61.   (MIRA 14:6)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. P.N. Stepanov)
Smolenskogo meditsinskogo instituta.
          (HEMATOLOGY)   (MEDICAL RECORDS)

SHAPIRO, Zal'man Berkovich, inzh.; OKUNEVA, A.I., inzh., vedushchiy red.;
    TUCHINSKIY, N.V., inzh., red.; SOROKINA, T.M., tekhn.red.

[Casting iron reinforcements in permanent molds] Lit'e chugunnoi
armatury v postoiannye formy. Moskva, Filial Vses.in-ta nauchnoi
i tekhn.inform., 1956. 9 p. (Informatsiia o nauchno-issledovatel'skikh
rabotakh. Tema 2, no.I-56-218)   (MIRA 10:12)
                        (Die casting)

SHAPIRO, Z.B.; NOVAK, A.G.

Casting iron chain rollers. Lit.proizv. no.8:27-28 N '54.(MLRA 8:1)
(Iron founding)

SHAPIRO, Z B

128-58-5-11/16

AUTHOR: Shapiro, Z.B.; Engineer;

TITLE: New Acid-Resistant High-Strength Cast Iron (Novyy kislotoupor-
            nyy vysokoprochnyy chugun)

PERIODICAL: Liteynoye Proizvodstvo, 1958, Nr 5, pp 24-26 (USSR)

ABSTRACT: Acid-resistant nickel-chrome cast iron, extensively used in
            petroleum processing industry abroad and also by the Gor'kovs-
            kiy autozavod (Gor'kiy Automobile Plant)(for engine cylinder
            bushings), contains laminar graphite, impairing the corrosion
            resistance and the mechanical properties of the metal. Thus
            new cast iron has been developed in experiments with magnesium-
            treating, and decreasing the content of chrome and copper, to
            bring graphite into a globular form. The experiments were
            started with cast iron of the following composition, in %:
            2.6-2.9 C, 2.2-2.5 Si; 1.4-1.7 Mn, 0.8-1.1 Cr; 16-18 Ni;
            3.0-3.5 Cu, up to 0.10 P, up to 0.02 S. The article gives
            detailed information on the technology of the tests. It was
            finally decided to limit the copper content by 4% and the
            chrome content by 1.1%. The composition and the mechanical
            properties of the new cast iron are shown, in comparison with
            two special steels and an acid-resistant cast iron with laminar

Card 1/2

New Acid-Resistant High-Strength Cast Iron

128-58-5-11/16

graphite (table 4). The corrosion resistance of the new cast iron is considerably higher than the resistance of the other tested metals. Test series of stop cocks was cast of the new metal. Their chemical composition, micro-structure, mechanical properties and machinability proved satisfactory. They are now undergoing industrial corrosion fatigue tests. It is expected that the metal will prove reliable material for equipment processing high-corrosive petroleum products at high temperatures and pressures. There are 3 graphs, 4 tables, 5 photographs, and 3 references, 1 of which is Soviet, 1 German, and 1 French.

AVAILABLE: Library of Congress

Card 2/2

SHAPIRO, Z.B.

New acid-resistant high-grade cast iron. Biul.tekh.-ekon.inform.
no.6:9-10 '58.   (MIRA 11:8)
                    (Cast iron)

18(5)

SOV/128-59-8-18/29

AUTHOR: Shapiro, Z.B., Engineer

TITLE: New Fluidity Test Bar

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 8, pp 36 - 37 (USSR)

ABSTRACT: A new fluidity test bar is recommended by the author,
which is called "different walls comb" (Fig 1,2).
The walls of the test bar have thicknesses of 1 to 10mm.
The achieved test results are better than those of
the spiral test. There are 2 graphs, 1 photograph,
1 drawing and 1 Soviet reference.

Card 1/1

ACC NR: AP7006214   SOURCE CODE: UR/0363/67/003/001/0208/0209

AUTHOR: Shapiro, Z. I.; Fedulov, S. A.; Venevtsev, Yu. N.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Determination of the Curie temperature of the ferroelectric LiNbO3

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 3, no. 1, 1967, 208-209

TOPIC TAGS: Curie point, lithium compound, niobate, ferroelectric crystal, dielectric constant

ABSTRACT: In order to refine the Curie point of $LiNbO_3$, temperature measurements of the dielectric constant were made on single crystals of both $LiNbO_3$ and a solid solution of the composition $Li(Nb_{0.9}Ta_{0.1})O_3$. The Curie temperature, determined from dielectric constant maxima, was found to be $1210\pm10\,^\circ C$ for $LiNbO_3$ and $1120\pm10\,^\circ C$ for the solid solution. In $LiNbO_3$, the dielectric constant along the polar axis is much less than in the perpendicular direction, as in the case of barium titanate single crystals. Some anomalies in the dielectric constant were found in the 600-950 °C range. Thermographic measurements showed the melting point of $LiNbO_3$ to be $1245\pm5\,^\circ C$. Of all known ferroelectrics, $LiNbO_3$ has the highest Curie point. The data obtained on the Curie and melting points of $LiNbO_3$ are of major importance for the preparation of single-domain single crystals with higher dielectric, optical and piezoelectric properties.

Card   1/2   UDC: 537.226.33

ACC NR: AP7006214

Authors are grateful to G. P. Kuznetsova, V. L. Farshtendiker and R. M. Tolchinskaya for assistance in the determination of the melting point. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 13Apr66/ ORIG REF: 003/ OTH REF: 004

Card   2/2

VILENKINA, A.Ya.; SHAPIRO, Z.I.; ARIYEVICH, A.M., prof.

Blepharoconjunctivitis and kerato-iritis in discoid lupus
erythematosus. Vest. oft. 76 no.3:71-72 My-Je '63.
                                        (MIRA 17:2)
1. Nauchno-issledovatel'skiy institut glaznykh bolezney
imeni Gel'mgol'tsa TSentral'nyy kozhno-venerologicheskiy
institut.

ABRAMOV, M.A.; ALIVERDIZADE, K.S.; AMIROV, Ye.M.; ARENSON, R.I.; ARSEN'YEV,
S.I.; BAGDASAROV, R.M.; BAGDASAROV, G.A.; BADAMYANTS, A.A.; DANIYE-
LYAN, G.N.; DZHAFAROV, A.A.; KAZAK, A.S.; KERCHENSKIY, M.M.; KONYU-
KHOV, S.I.; KRASNOBAYEV, A.V.; KURKOVSKIY, A.I.; LALAZAROV, G.S.;
LARIONOV, Ye.P.; LISTENGARTEN, M.Ye.; LIVSHITS, B.L.; LISIKYAN,
K.A.; LOGINOVSKIY, V.I.; LYSENKOVSKIY, P.S.; MOLCHANOV, G.V.; MAY-
DEL'MAN, N.M.; OKHON'KO, S.K.; ROMANIKHIN, V.A.; ROSIN, I.I.; RU-
STAMOV, E.M.; SARKISOV, R.T.; SKRYPNIK, P.I.; SOBOLEV, N.A.; TARA-
TUTA, R.N.; TVOROGOVA, L.M.; TER-GRIGORYAN, A.I.; USACHEV, V.I.;
FAYN, B.P.; CHICHEROV, L.G.; SHAPIRO, Z.L.; SHEVCHUK, Yu.I.; TSUDIK,
A.A.; ABUGOV, P.M., red.; MARTYNOVA, M.P., vedushchiy red.; DANIYE-
LYAN, A.A.; TROFIMOV, A.V., tekhn.red.

[Oil field equipment; in six volumes] Neftianoe oborudovanie; v
shesti tomakh. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-
toplivnoi lit-ry. Vol.3. [Petroleum production equipment] Obo-
rudovanie i instrument dlia dobychi nefti. 1960. 183 p.
(MIRA 13:4)

(Oil fields--Equipment and supplies)

TER-GRIGORYAN, A.I.; DANIYELYAN, A.A.; SHAPIRO, Z.L.

Equipment for the hermetic sealing of the well head in deep
drilling. Neft. khoz. 41 no.2:19-25 F '63.   (MIRA 17:8)

SHAPIRO, Z.Sh.

Comparative evaluation of results in studying aniseikonia on eiconometer and by sterephotogrammetric method. Biofizika 10 no.2:337-342 '65.

(MIRA 18:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut glaznykh bolezney imeni Gel'mgol'tsa, Moskva.

SHAFIRO, Z. YA.

O sushchestvovanii kvazikonfcrmny kh otobrazheniy. DAN, 30 (1941), 685-687.

SO: Mathematics in the USSR, 1917-1947
        edited by Kurosh, A.G.,
        Markushevich, A.I.,
        Rashevskiy, P.K.
     Moscow-Leningrad, 1948

SHAPIRO, Z. Ya.

Ob ellipticheskikh sistemakh uravneniy s chastnymi proizvodnymi. DAN, 46 (1945), 146-149.

SO: Mathematics in the USSR, 1917-1947
        edited by Kurosh, A.G.,
        Markushevich, A.I.,
        Rashevskiy, P.K.
     Moscow-Leningrad, 1948

Šapiro, Z. Ya. The first boundary problem for an elliptic system of differential equations. Mat. Sbornik N.S. 28(70), 55-78 (1951). (Russian)

The system considered is of the form

$$\text{(i)} \qquad \sum_{i,k=1}^{3} A_{ik} \frac{\partial^2 u}{\partial x_i \partial x_k} = 0$$

where the A_{ik} are constant $n \times n$ matrices and $u = u(x_1, x_2, x_3)$, an unknown n-vector. It is assumed that the form

$$Q(s^1, s^2, s^3) = \det \left(\sum_{i,k=1}^{3} A_{ik} s^i s^k \right)$$

is definite and irreducible. The author proves that for this system the Dirichlet problem in the half-space $x_3 > 0$ has an (explicitly given) solution for arbitrarily given bounded continuous data $u(x_1, x_2, 0)$. She also reduces the Dirichlet problem for an arbitrary smoothly bounded domain to a system of Fredholm integral equations. This is accomplished by constructing fundamental solutions of (i) and representing the desired solution by an integral analogous to the potential of a double layer. *L. Bers* (New York, N. Y.).

SHAPIRO, Z. Ya.

Gel'fand, I. M., and Šapiro, Z. Ya. Representations of the group of rotations in three-dimensional space and their applications. Uspehi Matem. Nauk (N.S.) 7, no. 1(47), 3-117 (1952). (Russian)

This is a clear, full, and elementary exposition of the representations of the 3-dimensional rotation group and their applications, together with some new material. Particular stress is laid on relations with quantum mechanics and with other parts of mathematics. However, the approach is explicit, computational, and practical, and invariant formulations and questions of general theory are kept correspondingly in the background. On the whole the treatment is distinctly more detailed and comprehensive than any in English and should be particularly valuable for workers in quantum mechanics and for those interested in a highly concrete introduction to the theory of representations of Lie groups. In addition to the usual material, including spherical harmonics, decomposition of product representations, spinors, and tensor representations, there are three sections containing some new material. These consist of: 1) explicit determination of the matrix elements of all the irreducible representations; 2) a study of the decomposition of vector and tensor fields under the action of the rotation group, with application to Maxwell's equations; 3) a study of equations invariant under the rotation group and of the Dirac equation in particular.   *I. E. Segal.*

SHAPIRO, Z. Ya.

Šapiro, Z. Ya. On general boundary problems for equations of elliptic type. Izvestiya Akad. Nauk SSSR. Ser. Mat. 17, 539–562 (1953). (Russian).

Let L be an elliptic differential operator of the second order defined in an open subset D of real 3-space and let A be an arbitrary differential operator defined in a neighborhood of the boundary Γ of D. Assuming that L has constant and A smooth coefficients, the author reduces the problem of finding a solution u of $Lu = 0$ in D with given Au on Γ to a Fredholm equation with a suitable kernel. This kernel is first found when D is a half-space and Γ is a plane and afterwards constructed for a general bounded D with a sufficiently smooth Γ. [Reviewer's remark. This method has been used also by Å. Pleijel, Proc. Oklahoma Symposium on Differential Problems, Okla. Agric. and Mech. Coll., Stillwater, Okla., 1951, pp. 413–437; these Rev. 13, 948.] The results are generalized to certain equations and systems of higher order. They overlap with the more abstract and general results of Višik [Trudy Moskov. Mat. Obšč. 1, 187–246 (1952); Doklady Akad. Nauk SSSR (N.S.) 82, 181–184; 86, 645–648 (1952); these Rev. 14, 473, 279, 652].

L. Gårding (Lund).

ŠHAPIRO, Z. Ya.

Gel'fand, I. M., and Šapiro, Z. Ya. Homogeneous functions and their extensions. Uspehi Mat. Nauk (N.S.) 10 (1955), no. 3(65), 3-70. (Russian)
Cet article utilise la théorie des distributions de L. Schwartz [t. I et II, Hermann, Paris, 1950, 1951; MR 12, 31, 833]. Les résultats essentiels sont relatifs à des parties finies d'intégrales divergentes [cf. Hadamard, Le problème de Cauchy, Hermann, Paris, 1930; Bureau, notamment Comm. Pure Appl. Math. 8 (1955), 143-202; MR 16, 826]; les résultats sont obtenus par la méthode de M. Riesz de prolongement analytique [Acta. Math. 81 (1949), 1-223; MR 10, 713].

§ 1. Soit $(x^\lambda)_{x<0}$ la fonction $= x^\lambda$ si $x>0, = 0$ si $x<0$, Re $\lambda > -1$. L'application $\lambda \to (x^\lambda)_{x>0}$ du demi plan Re $\lambda > -1$ dans l'espace $\mathcal{D}'$ des distributions sur R, est holomorphe et se prolonge analytiquement au plan entier en une fonction méromorphe, avec des poles simples aux points $-1, -2, \cdots$. Le résidu au point $-k$ est

$$(-1)^{k-1}/(k-1)!\,\delta^{(k-1)}$$

($\delta^{(p)}$ = dérivée d'ordre p de la masse de Dirac δ). Résultats analogues pour $(|x|^\lambda)_{x<0}, |x|^\lambda$, etc.

§ 2. Soit dans R^n une fonction continue F, homogène de degré 1, >0 en dehors de l'origine (exemple: $|x|=r$); pour Re $\lambda > -n$, $x \to F^\lambda(x)$ définit une distribution F_λ; $\lambda \to F_\lambda$ est holomorphe dans Re $\lambda > -n$, à valeurs dans $\mathcal{D}'$; elle se prolonge analytiquement en une fonction méromorphe avec poles simples aux points $-n, -n-1, \cdots$. Etude des distributions homogènes de degré λ (i.e. $\langle T_x, \varphi(x/\alpha)\rangle = \alpha^{\lambda+n}\langle T, \varphi\rangle$ pour toute $\varphi \in \mathcal{D} =$ espace des fonctions indéfiniment différentiables à support compact). Exemple: soit Ω_n l'aire de la sphère unité dans R^n, le pole au point $-n$ de $2r^\lambda/\Omega_n\Gamma((\lambda+n)/2)$ est δ.

§ 3. **Applications.** a) Décomposition de δ. On désigne par Ω la sphère unité, $\omega = (\omega_1, \cdots, \omega_n) \in \Omega$, $d\omega =$ élément d'aire superficielle. Si $f \in \mathcal{D}(R)$, soit f^* définie dans R^n par

$$f^*(x) = f(\omega_1 x_1 + \cdots + \omega_n x_n);$$

l'application $f \to f^*$ se prolonge par continuité en une application $T \to T^*$ de $\mathcal{D}'(R)$ dans $\mathcal{D}'(R^n)$. On désigne par $\delta^{(p)}(\omega_1 x_1 + \cdots + \omega_n x_n)$ l'image de $\delta^{(p)}$ dans cette application. Si n est impair on a :

$$\delta = \frac{(-1)^{(n-1)/2}}{2(2\pi)^{n-1}} \int_\Omega \delta^{(n-1)}(\omega_1 x_1 + \cdots + \omega_n x_n)\, d\omega,$$

formule due à A. A. Hačaturov [Uspehi Mat. Nauk (N.S.) 9 (1954), no. 3(61), 205–212; MR 16, 229]. Formule analogue si n est impair. Ces formules découlent facilement des §§ précédents et de la formule

$$(*) \quad \frac{1}{\pi^{(n-1)/2}\Gamma((\lambda+1)/2)} \int_\Omega |\omega_1 x_1 + \cdots + \omega_n x_n|^\lambda d\omega$$

$$= 2r^\lambda \Gamma((\lambda+n)/2).$$

b) Solutions élémentaires d'opérateurs différentiels el...

liptiques L à coefficients constants. On utilise (*); on cherche v_a ne dépendant que de $\omega_1 x_1 + \cdots + \omega_n x_n$, solution de

$$Lv_a = |\omega_1 x_1 + \cdots + \omega_n x_n|^{\lambda} / \pi^{(n-1)/2} \Gamma((\lambda+1)/2)$$

(donc problème à une variable). On fait ensuite tendre λ vers $-n$.

c) Problèmes de Cauchy. Par des méthodes analogues on se ramène à des problèmes à deux variables. Dans le cas où l'opérateur différentiel est homogène, les A. retrouvent les formules de Herglotz-Petrowsky [pour une étude plus générale, cf. Leray, Hyperbolic differential equations, Inst. Advanced Study, Princeton, 1953; MR 16, 139].

§ 4. Une fonction g définie sur R^n ou sur une sphère est dite équivalente à une fonction homogène au voisinage d'un point s'il existe un système de coordonnées locales dans lequel g est homogène. Soit G une fonction indéfiniment différentiable sur R^n. On définit la notion de point réductible M de la variété $G=0$ par récurrence sur la dimension; le point M est dit réductible si 1) G est équivalente à une fonction homogène au voisinage de M, 2) l'intersection de $G=0$ avec une sphère assez petite de centre M est composée de points réductibles sur la sphère (si $n=1$, on garde seulement 1)). Si l'on peut choisir le système de coordonnées locales de façon que G soit homogène de degré m et ne dépende que de k variables, M est dit d'ordre k et de degré m. On considère la distribution G^λ définie par $\int_{G>0} G^\lambda(x)\varphi(x)dx$, Re λ assez grand.

Si la variété $G=0$ est bornée, formée de points réductibles d'ordre 1, l'application $\lambda \to G^\lambda$ se prolonge en une fonction méromorphe. A chaque composante connexe de $G=0$ composée de points de degré m correspond la suite de poles simples $-1/m, -2/m, \cdots$. Pour le calcul des résidus les A. utilisent un résultat de Leray [C.R. Acad. Sci. Paris 234 (1952), 1112–1115; MR 14, 477]. Dans le cas général, les composantes de $G=0$ formées de points d'ordre r et de degré m donnent des poles (multiples) aux points $-r/m, -(r+1)/m, \cdots$.

§ 5. Transformation de Fourier de fonctions et distributions homogènes. On se ramène à une intégrale sur Ω par passage en coordonnées polaires. Tableau de formules.

$J. L. Lions$ (Nancy).

FIKS, Boris Abramovich, prof.; BAKHSHIYAN, F.A., prof.; ANDRIYEVSKIY,
    F.P., dotsent; MIROSHKOV, R.K., dotsent; NAGAYEVA, V.M., dotsent;
    SOBOLEV, N.A., dotsent; SOKOLOV, A.M., dotsent; SHAPIRO, Z.Ya.,
    dotsent; SHUSHARA, G.N., dotsent; KAPLAN, I.B., starshiy pre-
    podavatel'; POLOZKOV, A.P., starshiy prepodavatel'; POLOZKOV,
    D.P., starshiy prepodavatel'; TOPAZOV, N.G., starshiy prepoda-
    vatel'; SHCHERBAKOV, S.S., starshiy prepodavatel'; Prinimali
    uchastiye: GOL'DENVEYZER, A.L., prof.; BARANENKOV, G.S., dotsent;
    BERMAN, Ya.R., dotsent; LUNTS, G.L., dotsent; SHESTAKOV, A.A.,
    dotsent; GMURMAN, V.Ye., starshiy prepodavatel'; Rozental', M.I.,
    assistent; SOKOLOVA, L.A., assistent. ROZANOVA, G.K., red.izd-va;
    KUZ'MINA, N.S., tekhn.red.   (Continued on next card)

FUKS, Boris Abramovich--(continued)   Card 2.
   [Higher mathematics; methodological instructions and control
   assignments for the students of correspondence technical
   schools of university level] Vysshaia matematika; metodi-
   cheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaochnykh
   vysshikh tekhnicheskikh uchebnykh zavedenii. Izd.9. Pod red.
   B.A.Fuksa. Moskva, Gos.izd-vo "Sovetskaia nauka," 1958. 179 p.
                                                          (MIRA 12:9)
   1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya.
   Metodicheskoye upravleniye.
         (Mathematics--Study and teaching)

SHAPIRO Z. Ya.

16(1)   PHASE I BOOK EXPLOITATION   SOV/2242

Gel'fand, Izrail' Moiseyevich, Robert Adol'fovich Minlos, and Zorya Yakovlezna
   Shapiro

Predstavleniya gruppy vrashcheniy i gruppy Lorentsa, ikh primeniya (Rotation
   Group and Lorentz Group Representations and Their Applications) Moscow,
   Fizmatgiz, 1958. 368 p. 7,000 copies printed.

Eds.: F. A. Berezin and L. A. Stebakova; Tech. Ed.: S. S. Gavrilov.

PURPOSE: This book is intended for mathematicians and physicists and for
   students of mathematics and physics.

COVERAGE: This book is devoted to a detailed study of the representations
   of rotation groups in 3-dimensional space and to the Lorentz group. For
   the benefit of physicists and physics students the authors have included
   in the book all basic material on representation theory which is applicable
   to quantum mechanics. Mathematicians and mathematics students who are
   studying representation of Lie groups may use the book as an introduction
   to the general theory of representations. In addition the material included

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Rotation Group and Lorentz Group (Cont.)   SOV/2242

in the book renders sufficiently clear the connection between representation
theory and other branches of mathematics, such as spherical functions, tensors,
differential equations, etc., which had not previously been analyzed in the
general case. I. M. Gel'fand and Z. Ya. Shapiro wrote the first part of
the book on rotation groups. K. A. Minlos wrote the second part on
representations of the Lorentz group and relativistic-invariant equations.
This part was based mainly on the work of I. M. Gel'fand and A. M. Yaglom
"General Relativistic-invariant Equations and Infinite Dimensional Repre-
sentations of a Lorentz Group" (Zhurnal eksperimental'noy i teoreticheskoy
fiziki, Vol 18, No 8, 1948). The authors thank F. A. Berezin, editor of
the book, for his assistance. There are 25 references: 23 Soviet, 1 German,
and 1 English.

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Rotation Group and Lorentz Group (Cont.)   SOV/2242

Gordin coefficients for the case when one of the products has
either weight 1 or 1/2 3. Symmetry of the Clebsch - Gordon
coefficients 4. Transfer from a canonical basis in R_1 x R_2
to the basis $\{e_i \ f_k\}$ 5. The Racah coefficients

PART II. REPRESENTATIONS OF THE LORENTZ GROUP

      1. Definition of a Lorentz group 2. Orthogonal systems of
          coordinates 3. Surfaces in 4-dimensional space which are
          transitive with respect to a Lorentz group. The connection
          components of a Lorentz group 4. The relation between a
          Lorentz group and a group of complex matrices of the second
          order with determinant equal to unity 5. The relation between
          a proper Lorentz group and a group of complex matrices of the
          second order with determinant equal to unity (second presentation)
          6. The Lorentz group as a group of motions in Lobachevskiy space
          7. Definition of a Lorentz group and the fundamental concepts of
          the theory of representations 8. The relation between represen-
          tations of a proper Lorentz group and representations of a group

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general Lorentz group 5. Two-valued representations of a general
Lorentz group 6. Bilinear hermitian nondegenerate form invariant
with respect to the representation of a full Lorentz group

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Rotation Group and Lorentz Group (Cont.)

AVAILABLE: Library of Congress

Card 10/10   LK/mg
                                                                                11-9-59

AUTHOR: Shapiro, Z. Ya.   SOV/42-13-3-11/41

TITLE: On a Class of Generalized Functions (Ob odnom klasse obobshchennykh
            funktsiy)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1958, Vol 13, Nr 3, pp 205-212 (USSR)

ABSTRACT: Let the functions $P_i = P_i(x_1,..,x_n)$ $(i=1,...,k \leq n)$ be

            differentiable arbitrarily often, let the surfaces $P_i = 0$ be

            free of singularities, let the family of surfaces $P_i = \zeta_i$

            form regular nets. Let $dV = dx_1...dx_n$ be the element of volume

            in R_n. Let the form ω be defined by the relation

$$dV = dP_1 \cdot dPa \ ... \ dP_k \cdot w;$$

            ω evidently has the order n-k. Let φ be a function of the
            fundamental space of the finite functions with derivatives of
            arbitrarily high order.
            Generalizing the definition of $\delta(P)$ due to Gel'fand and
            Shapiro [Ref 1] the author defines the generalized functions
            $\delta(P_1, P_2, ..., P_k)$ by

$$(\delta(P_1, P_2, ..., P_k), \ \varphi(x_1,...,x_n)) = \int_W \varphi \omega,$$

Card 1/2

On a Class of Generalized Functions   SOV/42-13-3-11/41

where W is the $(n-k)$-dimensional manifold $P_1(x_1,\ldots,x_n) =$
$= 0,\ldots, P_k(x_1,\ldots,x_n) = 0$. Then the derivatives

$$\frac{\partial^m \delta(P_1,\ldots,P_k)}{\partial P_1^{\alpha_1} \ldots \partial P_k^{\alpha_k}}$$ are defined. Some properties of the

functions defined in this way are considered. The application
of these results to the regularization of divergent integrals
is announced.
There are 2 Soviet references.

SUBMITTED: January 23, 1957

Card 2/2

ACCESSION NR: AP4011779   S/0181/64/006/001/0316/0317

AUTHORS: Shapiro, Z. I.; Fedulov, S. A.; Venevtsev, Yu. N.

TITLE: Curie point of ferroelectric lithium tantalate

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 316-317

TOPIC TAGS: ferroelectric lithium tantalate, Curie point, dielectric property, lithium carbonate, tantalum pentoxide, lattice parameter, hexagonal axis, rhombohedral axis, dielectric permeability, bridge MPP-300, piezoelectric effect

ABSTRACT: An attempt was made to determine the dielectric properties in ceramic specimens of lithium tantalate across a broad temperature range. Experimental specimens were produced from lithium carbonate and tantalum pentoxide. They were purified by two repeated heatings (60 min each), one at 1100C and one at 1350C. X-ray analysis and subsequent calculations proved that the lattice parameters of lithium tantalate were: on hexagonal axes -- $a_H = 5.153$ Å and $c_H = 13.775$ Å; on rhombohedral axes -- $a_{Rh} = 5.470$ Å and $\alpha_{Rh} = 56°12'$. Dielectric permeabilities

Card 1/2

ACCESSION NR: AP4011779

were measured with a bridge MPP-300 at the frequency of 250 kilohertz. The curve of $\varepsilon = f(T)$ showed a sharp maximum at the temperature of about 665C. Dielectric permeability at room temperature was 70, at the maximum it reached 1850. Above the Curie point the change in the dielectric permeability was calculated from the Curie-Weiss law. The specimens showed a weak piezoelectric effect. These results disprove the claim made by H. D. Megave (Acta Cryst., 7, 191, 1954; "Ferroelectricity in crystals," p. 103, London, 1957), to the effect that lithium tantalate forms simple pyroelectrical crystals. At the present time the authors are undertaking a study of properties exhibited by $LiTaO_3$ and $LiNbO_3$ and also of solid solutions based on these substances. Orig. art. has: 1 formula and 1 diagram.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chisty*kh khimicheskikh veshchestv, Moscow (All-Union Scientific Research Institute of Chemical Reactions and of Pure Chemical Materials)

SUBMITTED: 12Aug63   DATE ACQ: 14Feb64   ENCL: 00

SUB CODE: CH, PH   NO REF SOV: 000   OTHER: 002

Card   2/2

L 12102-66   EWT(1)   IJP(c)   LHB/GG

AUTHOR: Shapiro, Z. I.; Fedulov, S. A.; Venevtsev, Yu. N.; Rigerman, L. G.

ORG: All-Union Scientific-Research Institute of Chemical Reagents and Very Pure Chemical Substances (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistikh khimicheskikh veshchestv)

TITLE: The study of phase transitions in $LiNbO_3$ and $LiTaO_3$ compounds

TOPIC TAGS: lithium compound, ferroelectric material, phase transition

ABSTRACT: Although B. T. Mattias and J. P. Remeika (Phys. Rev. 76, 1886, 1949) discovered in 1949 that $LiTaO_3$ and $LiNbO_3$ exhibit unique dielectric properties, these dielectric properties and the nature of polymorphic transitions of the compounds have not yet been thoroughly studied. Consequently, the authors studied within a 0 - 1000C temperature range the structure (using x-ray diffraction) and electrical properties (a. c. bridge) of these compounds. A brief description of the sample preparation and experimental methodology is followed by a presentation (in the form of graphs) of x-ray, dielectric, and conductivity data. The article concludes with a brief discussion of the results. The $LiTaO_3$ compound contains a ferro-electric transition at 630C, whereas $LiNbO_3$ is, apparently, a "frozen" ferroelectric. The authors express their thanks to V. S. Kharitonov for his help during the investigation.

Card 1/2

UDC: 548.736:536.42

L 12102-66

ACC NR: AP6000532

Orig. art. has: 4 figures.

SUB CODE: 11,20 / SUBM DATE: 14Dec64 / ORIG REF: 006 / OTH REF: 006

Card 2/2

ARIYEVICH, A.M., prof.; VILENKINA, A.Ya., doktor med.nauk; SHAPIRO, Z.I.

Conjunctival and corneal lesions in discoid lupus erythematosus.
Vest. derm. i ven. 38 no.6:41-43 Je '64.
(MIRA 18:6)

1. TSentral'nyy kozhno-venerologicheskiy institut (dir. - dotsent
N.M.Turanov) i Institut glaznykh bolezney imeni Gel'mgol'tsa
(dir. - dotsent A.V.Roslavtsev), Moskva.

L 57494-65   EWT(1)/EPA(s)-2/EEC(t) Pt-4/Pl-4   IJP(c)   GG

ACCESSION NR: AP5016152

UR/4800/65/029/006/1047/1050

AUTHOR: Shapiro,Z.I.; Fedulov,S.A.; Venevtsev,Yu.N.; Rigerman,L.G.

TITLE: Investigation of the lithium tantalate-lithium niobate system
/Report, 4th All-Union Conference on Ferroelectricity held in Rostov-
on-the-Don 12-18 Sept 1964/

SOURCE: AN SSSR.Izvestiya.Ser.fizicheskaya, v.29,no.6,1965,1047-1050

TOPIC TAGS: ferroelectricity, lithium compound, tantalum compound,
niobium compound, solid solution, phase transition, dielectric cons-
tant, electric conductivity, x-ray measurement

ABSTRACT: The authors have investigated $LiTaO_3$-$LiNbO_3$ solid solutions
in order to elucidate the dielectric properties of $LiNbO_3$, those of
$LiTaO_3$ being better known. The materials were prepared by the conven-
tional ceramic techniques. The solid solutions were investigated by
x-ray diffraction, apparently at room temperature. Lattice constants
were measured with accuracies of 0.001 and 0.003 Å. The lattice cons-
tants varied smoothly and monotonically with composition over the en-

Card 1/3

L. 57494-65

O

ACCESSION NR: AP5016152

tire range. The distortion and volume of the unit cell increased with increasing LiNbO$_3$ content. Dielectric constants were measured at temperatures up to 1000°C; measurements at higher temperatures were not possible because of the increase of conductivity with temperature. The dielectric constant peak was observed in all samples containing less than 70% LiNbO$_3$. The maximum value of the dielectric constant increased with increasing LiNbO$_3$ content. Extrapolation of the temperature of dielectric constant peak to pure LiNbO$_3$ gave a Curie point for this material roughly equal to or somewhat higher than its 1170°C melting point. The logarithm of the conductivity was for all samples a linear function of the reciprocal temperature, except that in some samples there was a small kink in the curve near the Curie point, such as is characteristic of ferroelectric phase transitions. Such an anomaly occurred near 600°C in the curve for pure LiNbO$_3$; this is ascribed, however, not to a phase transition, but to "some changes in the magnitudes of the electronic dipole moments due to a discontinuous shift of the relative displacements of the separate ions". It is concluded that LiNbO$_3$ is a "frozen" ferroelectric or a pyroelectric. A thorough

Card 2/3

L 57494-65

ACCESSION NR: AP5016152

structural analysis of this system over a wide temperature range is
desirable. Orig.art.has: 4 figures.

ASSOCIATION: VNII IRYeA

SUBMITTED: 00

NR REF SOV: 004

ENCL: 00

OTHER: 006

SUB CODE: SS,IC

Card 3/3

L 49052-65   EEC(b)-2/EPA(s)-2/EEC(k)-2/EWA(c)/EWT(l)/EWT(m)/EWP(b)/T/EWP(t) Pi-4/
Pt-7   IJP(c)   GG, JD/JG

ACCESSION NR: AP5008477   UR/0070/65/010 002/0268/0270   53
                                                                          46
AUTHOR: Fedulov, S. A.; Shapiro, Z. I.; Ladyzhinskiy, P. B.   B

TITLE: Application of the Czochralski technique in growing $LiNbO_3$, $LiTaO_3$, and $NaNbO_3$ single crystals

SOURCE: Kristallografiya, v. 10, no. 2, 1965, 268-270

TOPIC TAGS: crystal, piezoelectric crystal, potassium compound, niobate, tantalum compound, alkoli metal, fenoelectricity, crystallization

ABSTRACT: Previously reported Soviet sources have described research on growing large piezoelectric single crystals of potassium niobate and potassium tantalate using the technique of spontaneous or oriented (seed) crystallization from a fluxed melt.[1]

In the most recent Soviet publication, the subject has been enlarged to include all niobates and tantalates of alkaline metals, using the Czochralski technique to grow single crystals of these compounds. However, the emphasis was put on metaniobate and metatantalate of lithium, the properties of which are relatively unknown as compared to those of corresponding
Card 1/6

L 49052-65

sodium and potassium compounds. The work was motivated by the previously detected ferroelectric property in ceramic samples of $LiTaO_3$ and some preliminary indications that $LiNbO_3$ may be pyroelectric (the "frozen ferroelectric" of Megaw).

Such materials in single crystalline form are known to display an electrooptic effect which makes their application very promising in optical shutters or modulators at uhf (at least 10^4 Mc/sec). The stated purpose of the work was to produce large flawless crystals by the Czochralski technique, which was considered more advantageous than the previously used techniques.

Crystal growth experiments were carried out in universal VTsP crystallization apparatus which was designed by the Special Design Office of the Institute of Crystallography, Academy of Sciences USSR. The powdered charge was induction heated in platinum or platinum-rhodium crucibles to a temperature 50—70° C above the melting point of the corresponding compound. The crystals were grown in air at pulling speeds of 11—25 mm/hr. Crystal orientation was obtained by self-nucleation of the melt on a platinum wire acting as a seed. All crystals were annealed at 1050—1300° C.

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L 49052-65

ACCESSION NR: AP5008477

The single crystals of the following materials were obtained by using the Czochralski technique: $LiNbO_3$ (mp = 1170° C), maximum size of 10 x 50—60 mm, transparent or yellowish (after annealing), oriented in the [0001] direction; $LiTaO_3$ (mp = 1560° C), intensely yellow-green, dimensions unspecified, prepared with some difficulty because of a relatively high melting point; and $NaNbO_3$ (mp = 1350° C), maximum size of 10 x 50 mm, grown with extreme difficulty because of strain which produces cracks. The strain is due to five phase transitions between 640°C and room temperature.

Attempts to grow $NaTaO_3$, $KTaO_3$, and $KNbO_3$ single crystals by the Czochralski technique failed because of the high melting point (over 1650° C) of $NaTaO_3$ or incongruent melting of the potassium compounds. The most suitable growth techniques for large single crystals of the potassium compounds are believed to be either crystallization from fluxed melts, with seeding as described by C. E. Miller[4] or hydrothermal growth. The $NaTaO_3$ single crystals might be grown by the Czochralski technique but in crucibles made of more refractory metals or alloys.

Card   3/6

L 49052-65

ACCESSION NR: AP5008477

Only samples of rubidium and cesium niobates and tantalates were prepared by the usual ceramic technology to establish their crystal structure. The x-ray study of the samples indicated a structure different from perovskite for these compounds. This finding seems to contradict a previous Soviet source which attributed perovskite structure to $RbNbO_3$ and $RbTaO_3$.

The Karpov Physicochemical Institute and the All-Union Scientific Research Institute of Chemical Reagents and High-purity Substances were given as the authors' affiliation.

In a post-scriptum, the authors pointed out recent American sources, which reported a large electro-optic effect in single crystals of $K(Ta,Nb)O_3$ solid solutions,[4] and in $LiNbO_3$ and $LiTaO_3$[5] crystals grown by the Czochralski technique.[6]

COMMENT: The technique used by the authors to produce single crystals of $LiNbO_3$ and $LiTaO_3$ closely resembles the one more recently described by A. A. Ballman. However, the crystals produced by the Soviet authors, according to the descriptions given, seem to be somewhat inferior in respect to color and dimensions. The authors of the Soviet article erroneously

Card 4/6

L 49052-65

ACCESSION NR: AP5008477   0

quoted American sources as having reported an electro-optic effect in LiTaO_3 single crystals. In fact, both American sources report no significant effect at direct current or 21 Mc/sec in the material produced by the Czochralski technique. Orig. art. has 3 figures and 1 table.

[1] FSB, v. 1, no. 1, 1965, 30-32.

[2] Shapiro, Z. I., S. A. Fedulov, and Yu. N. Venevtsev. Curie point of the ferroelectric LiTaO_3. Fizika tverdogo tela, v. 6, no. 1, 1964, 316-317.

[3] Vaynshteyn, B. K. Present-day problems of crystallography. IN: Akademiya nauk SSSR. Vestnik, no. 6, 1963, 31-38.

[4] Journal of Applied Physics, v. 29, no. 2, 1958, 233-234.

[5] Geusic, J. E., S. K. Kurtz, L. G. Van Uitert, and S. H. Wemple. Applied Physics Letters, v. 4, no. 8, 1964, 141-143.

[6] Peterson, G. E., A. A. Ballman, P. V. Lenzo, and P. M. Bridenbaugh. Applied Physics Letters, v. 5, no. 3, 1964, 62-64.

[7] Ballman, A. A. Journal of the American Ceramic Society, v. 48, no. 2, 1965, 112-113.

Card   5/6

L 49052-65

ACCESSION NR: AP5008477   O

ASSOCIATION: Fiziko-khimicheskiy instutit im. Karpova (Physico-Chemical Institute)

SUBMITTED: 08Jun64   ENCL: 00   SUB CODE: SS, IC

NO REF SOV: 008   OTHER: 008   FSB, v. 1, no. 6

Card 6/6

[illegible], D. A., (Corresponding Member, USSR Academy of Sciences); \
[illegible]

"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

[illegible]: Function, geometry

ABSTRACT: A set of k-dimensional planes of an n-dimensional com-
plex space is examined, assuming that f(x) is an infinitely dif-
ferentiable 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.
[CARD: 39,008]

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

Card 1/1

UDC: 517.948.5

SHAPIRO-PYATETSKIY, I. I.

Šapiro-Pyateckiĭ, I. I. On an asymptotic formula for the number of Abelian groups whose order does not exceed n. (Russian) Mat. Sbornik N.S. 26(68), 479–486 (1950).

Let $A(n)$ be the number of Abelian groups of order n and write

$$S(x) = \sum_{n \le x} A(n), \quad S(x; k, l) = \sum_{n \le x,\, n \equiv l \,(\mathrm{mod}\, k)} A(n).$$

It is shown that, for large x,

(1) $\quad S(x) = \gamma x + O(x^{1+\varepsilon}),$

(2) $\quad S(x; k, l) = \gamma x \dfrac{A(d)}{k} \prod_{p | k} \prod_{n=1}^{?} (1 - \rho^{-n}) + O(k^{1/2}x^{1+\varepsilon}),$

where $\gamma = \prod_{n=2}^{\infty} \zeta(k)$, $k \ge 2$, $d = (l, k) < k$. A similar result is given for $l = 0$. To obtain these results the properties of the Dirichlet series $\sum_n \chi(n) A(n) n^{-s} = \prod_{r=1}^{\infty} L(rs, \chi^r)$ are considered for characters modulo k. The proof of (2) appears to be valid only for $d = 1$, since otherwise it is not necessarily true that $S(x; k, l) = A(d) S(x/d; k/d, l/d)$. Similarly, the treatment of the case $l = 0$ breaks down when k is not prime as it is not then possible to separate out the factors $A(k^n)$ from the sum considered. As mentioned by the author in a note added after submission the result (1) has already been obtained in a sharper form by Kendall and the reviewer [Quart. J. Math., Oxford Ser. (1) 18, 197–208 (1947); these Rev. 9, 226]. (There is an error in the main theorem. Landau's parameter g is 1 and not 0, which means that the error term must be multiplied by $\log x$ giving $S(x) = ax - \beta x^{\frac{1}{2}} + O(x^{\frac{1}{3}} \log^2 x)$.) It should also be mentioned that the result (1) is originally due to Erdős and Szekeres [Acta Litt. Sci. Szeged 7, 95–102 (1934)], a fact unknown also to the reviewer and Kendall until recently.

R. A. Rankin (Cambridge, England).

Šapiro-Pyateckiĭ, I. I. On the laws of distribution of the fractional parts of an exponential function. Izvestiya Akad. Nauk SSSR. Ser. Mat. 15, 47–52 (1951). (Russian)

Let q be an integer greater than unity and α a real number. The fractional parts $\{\alpha q^k\}$ for $k = 0, 1, 2, \cdots$ determine a distribution function $\sigma(x)$. Conversely, if a distribution function $\sigma(x)$, is given it may be possible to find an α such that $\sigma(x)$ is the distribution function for the sequence $\{\alpha q^k\}$. It is proved that a necessary and sufficient condition for a distribution function $\sigma(x)$ to be that of a sequence $\{\alpha q^k\}$ ($k = 0, 1, 2, \cdots$) is that, for every continuous function $f(x)$ of period 1,

$$\int_0^1 f(x)\,d\sigma = \int_0^1 f(qx)\,d\sigma.$$

The necessity of the condition is easily shown. To prove it sufficient use is made of the theory of dynamical systems and work of Krylov and Bogolyubov. A criterion for uniform distribution is also given. R. A. R....

Source: Mathematical Review   Vol 13 No. 3

APPROVED FOR RELEASE: 08/09/2001   CIA-RDP86-00513R001548330001-6"

Mathematical Reviews
Vol. 14 No. 7
July - August 1953
Analysis

Bari, N. K. Supplement to my paper, "The uniqueness problem of the representation of a function by a trigonometric series." Uspehi Matem. Nauk (N.S.) 7, no. 5(51), 193–196 (1952). (Russian)

The author reverts to a few problems discussed in her monograph on the uniqueness of trigonometric series [Uspehi Matem. Nauk (N.S.) 4, no. 3(31), 3–68 (1949); these Rev. 11, 26], corrects a statement and mentions a few new results. (1) It turns out that Verblunsky's generalization of a class of sets U (sets of uniqueness) introduced by N. K. Bary [Fund. Math. 9, 62–115 (1927)] is invalid, not only as a proof but as a result [see also the preceding review]. (2) The old problem whether sets M (sets of multiplicity) in the ordinary sense are the same as sets M in the narrow sense has been solved, negatively, by I. I. Šapiro-Pyateckiĭ [Moskov. Gos. Univ. Učenye Zapiski 155, Matematika 5, 54–72 (1952); unfortunately, at this writing, the paper is not available to the reviewer]; more precisely, there exists a perfect set P of measure zero which is a set M, though for every function $F(x)$ of bounded variation and constant in the intervals contiguous to P we have $\int_0^{2\pi} e^{inx} dF x \neq o(1)$. (3) The problem of Rajchman whether every closed set U is a subset of a set H, [for the definition, see, e.g., the reviewer's "Trigonometrical series", Warszawa-Lwów, 1935, pp. 266, 287] has also been solved, in the negative sense, by I. I. Šapiro-Pyateckiĭ [loc. cit.].

$\qquad\qquad\qquad$ A. Zygmund (Chicago, Ill.).

SHAPIRO-PYATETSKIY, I. I.

USSR/Mathematics - Number Theory   Jan/Feb 52

"Concerning a Variation of the Waring-Goldbach Problem," I. I. Shapiro-Pyatetskiy, Moscow

"Matemat Sbor" Vol XXX (72), No 1, pp 105-120

Demonstrates the theorem that the number of integers less than x and not represented in the form $p_1 + \lfloor p_2^C \rfloor$ is equal to $O(x/\ln^M x)$ for any fixed M, where p_1 and p_2 are primes and C is a certain const. Submitted 21 Jun 51.

203T47

SHAPIRO-PYATETSKIY, I. I. , MOSCOW

USSR/Mathematics - Distribution of   May/Jun 52
Fractions, Continuous

"A Generalization of the Concept of Uniform Dis-
tribution of Fractional Parts," I. I. Shapiro-
Pyatetskiy, Moscow

"Matemat Sbor" Vol XXX (72), No 3, pp 669-676

Let there be given an increasing sequence of
integers n_1, n_2, ..,n_k, ..; in a number of
important cases, for example for $n_k = k^m$, it has
been established that for all a the fractional
parts (an_k) are distributed uniformly. The author

demonstrates a general theorem establishing the
familiar uniformity of the distribution of
fractional parts (an_k) for all a if the sequence
n_k is a sequence of pos density or more generally
a basis of a natural series with certain natural
addnl conditions. Submitted 10 Jan 52.

217T80

217T80

SHAPIRO-PYATETSKIY, I. I.

235T74

USSR/Mathematics - Trigonometric   21 Jul 52
                    Series Expansion

"Problem of the Uniqueness of Expansion of a Func-
tion in a Trigonometric Series," I. I. Shapiro-
Pyatetskiy

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 497-500

Constructs an example contradicting S. Verblunsky's
theorem, that is, an example of a complete set
which enters the class considered by Verblunsky and
which, however, is a U-set. See S. Verblunsky,
Acta Math 65, 283, 1935, in which Verblunsky con-
siders a certain class of complete sets and

                                                    235T74

demonstrates that they are M-sets. Acknowledges
the guidance of Prof N. K. Bari during soln of
this problem. Submitted by Acad M. A. Lavrent'yev
28 May 52.

235T74

SHAPIROV, A.I.

Avulsion of the anterior musculus papillaris of the bicuspid valve
of the heart in closed chest injury. Med. zhur. Uzb. no. 1:69-70
Ja '60.   (MIRA 13:8)

1. Iz I kokandskoy gorodskoy bol'nitsy (glavnyy vrach - Kabilov).
                    (HEART--WOUNDS AND INJURIES)

EXCERPTA MEDICA Sec 9 Vol 13/11 Surgery   Nov 59

6910. THE TREATMENT OF PROSTATIC CARCINOMA (Russian text) - Shapi-
    rov I.N. and Roghdestvensky V.I. - VOPR. ONKOL. 1959, 5/5
    (710-716) Tables 2

Report on 141 cases; in 34 the seminal vesicles were already affected, in 4 the
bladder, and in 1 case the rectum. Metastases were present in 45 cases (33.85%),
mainly in the bones and in the lungs. Rectal palpation is as a rule sufficient for the
diagnosis (85%). The determination of the acid phosphatase level in the blood serum
is of relative importance; only radical treatment (prostatectomy) is possible in ear-
ly cases, in which no metastases are present. Hormonal treatment (orchiectomy
plus sinoestrol therapy) was applied in 134 cases, of which 45 had metastases. The
majority showed marked improvement: cessation of dysuria, decrease of pains,
decrease in size and firmness of the prostate. Of the hormone-treated group, 44
patients could be followed up: 5 had a 5-year survival, 2 lived for 4 yr., 6 for 3 yr.,
8 for 2 yr., 10 for 1 yr. and 13 for less than 1 yr. Hormonal treatment of pro-
static cancer should be considered the treatment of choice.   (XVI,9)

BOGDANOV, O.S.; SHAPIROV, R.B.

Basic processes and flowsheets of iron ore dressing.   Trudy Mekhanobr.
no. 122:33-53 '59.   (MIRA 14:4)
                  (Ore dressing)   (Iron ores)

MIRZAYEV, M.M.; KUZNETSOV, V.V.; CHEREVATENKO, A.S.; CHERNOVALOVA,
        V.P.; TOSHMATOV, L.T.; KULIKOV, O.P.; AMINOV, Kh.;
        ZHIVOTINSKAYA, S.M.; SHREDER, A.G.; LEPLINSKAYA, A.A.;
        PAVLOV, A.K.; SHAPIROV, S.K.; KALMYKOV, S.S.;YAGUDINA,
        S.I.; GULYAMOV, Kh.; DZHALALOV, Dzh.[translator];
        SAIDAKHMEDOV, S.[translator]; BONDARENKO,M., red.;
        KADYROVA, R., red.; BAKHTIYAROV, A., tekhn. red.

        [Fruit of Uzbekistan] Frukty Uzbekistana. Tashkent, Gos.
        izd-vo UzSSR, 1960. 6 books in fold. Abrikos, persik,
        sliva. 84 p. Granat, inzhir, khurma. 40 p. IAblonia,
        grusha, aiva. 96 p. Mindal', orekh. 26 p. Vishnia,
        chereshnia. 18 p. Zemlianika, malina, smorodina. 36 p.
                                        (MIRA 16:7)
        (Uzbekistan--Fruit--Varieties)

SOV/127-59-1-18/26

AUTHORS: Bupezhanov, M. K., Director, and Shapirov, V. Sh., and Muzgin, S. S., Candidates of Technical Sciences

TITLE: Rail-less Machines for Mining Faces in the Dzhezkazgan Mine (Bezrel'sovyye zaboynyye mashiny na Dzhezkazganskom rudnike)

PERIODICAL: Gornyy zhurnal 1959, Nr 1, pp 60-63 (USSR)

ABSTRACT: The State Scientific-Technical Committee at the Council of Ministers of the Kazakh SSR, the Karaganda State Council of the National Economy, the Institute of Mining Engineering of the AS Kazakh SSR and the Kazakh Scientific-Technical Society of Non Ferrous Metals organized a conference during 1958. The introduction of new underground technology in the Dzhezkazgan Mines was the object of special attention during this conference. The introduction of the following rail-less mining equipment was recommended: a self-propelled, 2-4 drill drilling rig; a rig for drilling blast holes of 60-70 mm diameter; a straight shovel excavator, provided with telescopic device and a 0.8 - 1.00 cu m bucket; self-propelled griper; 5-10 ton capacity trolley- and diesel

Card 1/2

Rail-less Machines for Mining Faces in the Dzhezkazgan Mine   SOV/127-59-1-18/26

type dump trucks; 10-20 ton capacity self-propelled cars; self-propelled scaffold for checking of the ceilings, prop assemblies. Trial operation of a mining section, furnished with the above mentioned machinery was demonstrated to the members of the conference. Technical data on the described machinery is given. There are 4 photos, 1 diagram and 2 Soviet references.

ASSOCIATION: Dzhezkazganskoye rudoupravleniye (The Dzhezkazgan Mining Management) (IGD AN KazSSR) (The IGD AS Kazakh SSR), Alma-Ata

Card 2/2

YASHCHENKO, F.Yu.; DYNYASHKIN, N.G.; RUBINSHTEYN, V.M.; SHAPIROVICH, S.A.

Synthetic diamonds at the "Dormashina" Plant in Nikolaev.
Mashinostroitel' no.10:39-42 O '64.

(MIRA 17:11)

SHAPIROVSKIY, D. B.; OBERMEYSTER, A.

Development of sea harbors in the last 30 years. Mor.flot
7 no.11:11-16 .N '47.   (MIRA 9:6)
(Harbors)

SHAPIROVSKIY, D. B.

USSR/Engineering   Mar 1948
    Cranes, Lifting
    Loading, Equipment

"Basic Problems of the Mechanization of Transfer Work
in Maritime Ports," D. B. Shapirovskiy, Head of
Development and Reconstruction of Ports Section,
Ministry of Maritime Fleet, 4 pp

"Mekh Trud i Tyazh Rabot" No 3

Refers to achievements of dock workers in second year
of Five-Year Plan. Describes mechanization of
loading and unloading--autotrucks, autocranes, etc.--
and improvements effected by reconstruction of 5-ton

USSR/Engineering (Contd)   Mar 1948

and 25-ton cranes. This should ensure fulfillment of
third year of Five-Year Plan.

77T23

77T23

SHAPIROVSKIY, David Borisovich; OBERMEYSTER, Arkadiy Mikhaylovich;
     POLIKARPOV, A.D., red.; ALEKSANDROV, L.A., red.izd-va; BEGICHEVA,
     M.N., tekhn. red.

[Development of Soviet seaports] Razvitie morskikh portov SSSR.
Pod red. A.D.Polikarpova. Moskva, Izd-vo "Morskoi transport,"
1957. 169 p.   (MIRA 11:4)
          (Harbors)

SHAPIROVSKIY, David Borisovich; SKOBELING, L.V., red.; SARAYEV, B.A.,
tekhn.red.

[Development of sea harbor supply centers for materials and
equipment during the period 1959-1965] Razvitie material'no-
tekhnicheskoi bazy morskikh portov v 1959-1965 gg.; lektsiia.
Moskva, Izd-vo "Morskoi transport," 1959.   55 p.

(MIRA 13:12)

(Harbors--Equipment and supplies)

VISHNEPOL'SKIY, S.A., kand. ekon. nauk; BAYEV, S.M., inzh. putey soob-
shcheniya; BONDARENKO, V.S.; RODIN, Ye.D.; CHUVLEV, V.P.;
TURETSKIY, L.S.; SMIRNOV, G.S.; SHAPIROVSKIY, D.B.; OBERMEYSTER,
A.M.; SINITSIN, M.T.; KOGAN, N.D.; PETRUCHIK, V.A.; GRUNIN, A.G.;
KOLESNIKOV, V.G.; MARTIROSOV, A.Ye.; KROTKIY, I.B.[deceased];
ZENEVICH,G.B.; MEZENTSEV,G.A.; KOLMOYTSEV,V.P., kand. tekhn. nauk;
ZAMAKHOVSKAYA, A.G., kand. tekhn. nauk; MAKAL'SKIY, I.I., kand.
ekon. nauk; MITROFANOV, V.F., kand. ekon. nauk; CHILIKIN, Ya.A.;
BAKAYEV, V.G., doktor tekhn. nauk, red. Prinimali uchastiye:
DZHAVAD, Yu.Kh., red.; GUBERMAN, R.L., kand. ekon. nauk, red.;
RYABCHIKOV, P.A., red.; YAVLENSKIY, S.D., red.; BAYRASHEVSKIY,
A.M., kand. tekhn. nauk, red.; POLYUSHKIN, V.A., red.; BALANDIN,
G.I., red.; ZOTOV, D.K., red.; RYZHOV, V.Ye., red.; BOL'SHAKOV,A.N.,
red.; VUL'FSON, M.S., kand. ekon. nauk, red.; DMITRIYEV, V.I., kand.
ekon. nauk, red.; ALEKSANDROV, L.A., red.; LAVRENOVA, N.B., tekhn.
red.

[Transportation in the U.S.S.R.; marine transportation] Transport
SSSR; morskoi transport. Moskva, Izd-vo "Morskoi transport,"
1961. 759 p.   (MIRA 15:2)
                    (Merchant marine)

SHAPIROVSKIY, D.B., inzh.; POBEREZHNYY, I.V., inzh.

Sea harbors. Mekh. i avtom. proizv. 17 no.6:22-28 Je '63.

(MIRA 16:7)

(Harbors—Equipment and supplies)
(Loading and unloading)

SHAPIROVSKIY, D.

Research and planning of coastal structures. Mor. flot 21
no.10:20-22 O '61.   (MIRA 14:9)

1. Glavnyy inzhener Gosudarstvennogo proyektno-konstruktorskogo
i nauchno-issledovatel'skogo instituta morskogo transporta.
(Hydraulic engineering--Research)

A method of maintaining a high quality system of automatic control of relay time metallurgical equipment. Izv. vys. ucheb. zav., chern. met. 8 no.1:144-151 '65. (MIRA 18:5)

1. Kafedra avtomatizatsii proizvodstva redkikh i radioaktivnykh metallov Moskovskogo instituta stali i splavov.

VILAS, I.A.; ...; PETROVSKIY, M.F.

Limits for the use of automatic control systems in the operation of rotary kilns for the drying of copper-zinc concentrates. Izv. vys. ucheb. zav.; tsvet. met. 8 no.3:164-167 '65.
(MIRA 18:9)

1. Moskovskiy institut stali i splavov, kafedra avtomatizatsii proizvodstva redkikh i radioaktivnykh metallov.

RUBIN, B.I.; [...]ROVSKIY, N.A.

Determining the process of drying a charge mixture in rotary
drums with the use of a prediction model. Izv. vys. ucheb. zav. ;
tsvet. met. 7 no. 4:150-160 '64.   (MIRA 18:1)

1. Moskovskiy institut stali i splavov, kafedra avtomatizatsii
i [...] listva prokatnii i rudnotermicheskikh pechei.

Shapirovskiy, N.I.   124-1957-10-11851

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 94 (USSR)

AUTHOR: Shapirovskiy, N. I.

TITLE: Electrokinetic Seismic Receiver (Elektrokineticheskiy
            seysmopriyemnik)

PERIODICAL: Tr. Azerb. n.-i. in-ta po dobyche nefti, 1956, Vol 4,
            pp 212-216

ABSTRACT: Bibliographic entry

Card 1/1

RAPOPORT, S. Ya.; SHAPIROVSKIY, N. I.; GANBAROV, Yu.G.

Offshore seismic prospecting in the Azerbaijan S. S. R. Trudy
AzNII DN no.9:11-25 '60   (MIRA 14:5)
                (Azerbaijan—Seismic prospecting)

S/169/62/000/009/027/120
D228/D307

AUTHORS: Limbakh, Yu. I., Ganbarov, Yu. G. and Shapirovskiy,
               N. I.

TITLE: Question of the frequency theory of grouping

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 28, ab-
               stract 9A186 (Collection: Nauchno-tekhn. inform. Azerb.
               n.-i. in-t po dobyche nefti, no. 3 spec., 1961, 3-19)

TEXT: The authors consider some experimental research on the fre-
quency theory of grouping, carried out under conditions of marine
seismic exploration. The equivalence of the grouping of sources and
receivers, located in an aqueous environment, is shown experimen-
tally. The change in the form of the experimental seismic impulse
in a group's output is investigated in relation to the dimension
of the seismograph group's base. A description is given of a no-
mographic method for estimating phase shifts in grouping in confor-
mity with seismic signals of any form. /¯Abstracter's note: Com-
plete translation._7

Card 1/1

S/035/62/000/008/079/090
A001/A101

AUTHORS: Gadzhiyev, R. M., Gasanov, I. S., Shapirovskiy, N. I.

TITLE: New techniques and methods of marine gravimetric investigations

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 25,
             abstract 8G218 ("Novosti neft. i gaz. tekhn. Geologiya", 1961, no. 4,
             30 - 31)

TEXT: The method of marine gravimetric observations without anchoring the
vessel is described. This method became possible as a result of time reduction
necessary for measurements at the expense of eliminating interactions in electric
circuits of the ДГПЕ (DGPYe) gravimeter; this was achieved by separate feeding
the circuits of thermostat and reading device. When the ship moves from one ob-
servational point to the other, the gravimeter is not set on the deck, but is
suspended to a crown beam mounted on the deck in the stern part of the ship.
Lifting and sinking operations are conducted by one technician from the panel
board. A small number of reference-knot points are established, fixed reliably
by beacons on the sea. Drifting of gravimeter zero is taken into account by obser-
vations at the reference-knot points. The employment of the anchorless method of

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New techniques and methods of...   .

S/035/62/000/008/079/090
A001/A101

observations makes it possible to conduct measurements at great sea depths. During one working day, observations at 15 - 20 points can be performed with a rms error of one measurement equalling ±0.3 mgal (at the density of network being 1 point per 9 km^2).

Yu. Yurov·

[Abstracter's note: Complete translation]

Card 2/2

S/169/62/000/001/019/083
D228/D302

AUTHORS: Shapircvskiy, N. I. and Ganbarov, Yu. G.

TITLE: The question of studying by seismic surveying the
                tectonics of Mezozoic deposits in sea areas

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 27, ab-
                stract 1A227 (Azerb. meft. kh-vo no. 1, 1961, 8-11)

TEXT: The results are described of methodical work, carried out
in 1957-1958 by the Azerbaydzhanskiy nauchno-issledovatel'skiy
institut po dobyche nefti (Azerbaydzhan Scientific Research In-
stitute of Oil Extraction), on the development and testing of
highly-sensitive low-frequency seismic-surveying equipment inten-
ded for studying the Caspian Sea's deeply-lying Mezozoic deposits.
A piezocrystalline pressure receiver consisting of 20 - 30 separ-
ate devices with Seignette's salt, joined in parallel and connec-
ted to the secondary winding of the inlet transformer of a $TP-1$
(TR-1) seismic amplifier, was found to be the best seismic detec-
tor. For 30 receivers and a transformer inductance of 800 henries

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The question of studying ...   S/169/62/000/001/019/083
                                D228/D302

the rating maximum lies on the frequencies 6 - 8 c/s. A piezo-
scythe of *KTШ-03*(KTSh-03) wire with a spacing of 100 - 150 m be-
tween the receivers which can be stowed on the bottom, and also a
floating oil-filled scythe with a plastic hose, containing wires
on the inside and receivers on the outside, are recommended for
the reception equipment. Both designs allow the scythe's lowering
and recovery to be mechanized when working at sea. Specially pre-
pared low-frequency amplifiers with right rating cuts on 8, 14,
and 19 c/s and an amplification coefficient of 500,000 - 700,000
were employed in the tests at sea. The apparatus was tested during
correlation refraction method operations on two profiles with a
length of up to 60 km. At distances of up to 10 - 17 km charges
of up to 5 kg were sufficient for procuring reliable recordings;
charges of up to 96 kg are necessary at distances of 40 - 50 km.
The system of counter and overtaking hodographs, obtained on a
profile near the Baku Archipelago, enabled three refracting hori-
zons to be traced here. The deepest of them, lying at 10 - 12 km,
is regarded as the roof of the Mesozoic deposits. In the Sumgait-

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The question of studying ...   S/169/62/000/001/019/083
D228/D302

Kilyazi area Mesozoic deposits were traced at a depth of 5 - 6 km.
The data so obtained gave the first information about the tectonics
of the Mesozoic deposits in the area of the trial operations. /‾Ab-
stractor's note: Complete translation._7

Card 3/3

RAPOPORT, S.Ya.; SHAPIROVSKIY, N.I.; RUDAKOVSKIY, G.I., nauchnyy
red.; BORUSHKO, T.I., red.izd-va; IVANOVA, A.G., tekhn.
red.

[Present status of and prospects for the development of
shore seismic prospecting for oil and gas] Sovremennoe-
sostoianie i perspektivy razvitiia seismicheskogo metoda
poiskov neftianykh i gazovykh mestorozhdenii na more. Mo-
skva, Gosgeoltekhizdat, 1962. 43 p.   (MIRA 16:6)
                    (Seismic prospecting)

SHAPIROVSKIY, Natan Il'ich; GADZHIYEV, R.M.; DZHAFAROV, Kh.D., red.;
    RASHEVSKAYA, T.A., red. izd-va; NASIROV, N., tekhn. red.

[Geophysical prospecting at sea]Morskaia geofizicheskaia raz-
vedka. Baku, Azerbaidzhanskoe gos.izd-vo, 1962. 154 p.
                                                (MIRA 15:9)
    (Caspian Sea--Prospecting--Geophysical methods)

ALI-ZADE, A.A.; AKHMEDOV, G.A.; KULIKOV, V.I.; TERESHKO, D.L.; SHAPIROVSKIY, N.I.

Selecting the site for an extradeep hole for studying the crustal
structure of Azerbaijan. Sov.geol. 6 no.2:3-16 F '63. (MIRA 16:4)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche nefti.
(Azerbaijan—Boring) (Azerbaijan—Earth—Surface)

L 55008-65   EWT(1)/EWA(h)   Peb   GW
ACCESSION NR: AR5014449   UR/0169/65/000/005/D018/D018
                                             550.834.5

SOURCE: Ref. zh. Geofizika, Abs. 5D103

AUTHOR: Rapoport, S. Ya.; Shapirovskiy, N. I.

TITLE: Multiple reflected waves in marine seismic exploration

CITED SOURCE: Tr. Azerb. n.-i. in-t po dobyche nefti, vyp. 11, 1964, 27-44

TOPIC TAGS: seismology, seismic wave, water wave, seismic exploration, marine
seismography

TRANSLATION: This paper gives a brief analysis of multiple reflections recorded
during sea and laboratory observations. Certain methods for their identification
and suppression are described. The sea observations were made in the western part
of the central and southern sectors of the Caspian Sea. Single reflections were
recorded for the most part in the regions adjacent to the Bakinskiy and Apsheron-
skiy archipelagos. Within these areas there are relatively small sectors with
clearly expressed multiple water waves, probably associated with out-crops of
bedrock on the sea floor. Closer to the central part of the Caspian Sea the num-

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ACCESSION NR: AR5014449

ber of multiple water reflections increases. Upon emergence into the platform
region there is a dominance on the records of multiple and partially multiple
water waves for times greater than 1-2.5 seconds; these create a complex inter-
ference pattern. It is noted that the formation of multiple reflections is not
related to sea depth. The decisive factor is the presence of a high coefficient
of reflection from the sea floor or the strata beneath the floor. The configura-
tion of the bottom relief plays a definite role in this case. A horizontal
floor creates the most favorable conditions for the appearance of multiple re-
flections. The source for formation of multiple reflections is not only that
part of the energy of the shot held in the water layer, but also the energy re-
turning to the water layer after reflection from the deeper layers. A relation-
ship has been established between the frequency spectrum, duration of multiple
reflections and sea depth (thickness of the water layer). In the case of small
depths, multiple reflections have a high-frequency spectrum and in seismic ex-
ploration at sea are given the name reverberation interference. In the case of
great depths they have a middle-frequency spectrum with frequencies of the same
order of magnitude as deep oscillations. Analysis of effective velocities in

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L 55062-65
AM4046715

SUB CODE: PH

OTHER: 115

SUBMITTED: 12Feb64

NB REF SOV: 180

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Card 3/3

ACC NR: AT6028370   (N)   SOURCE CODE: UR/0000/65/000/000/0124/0141

AUTHOR: Vartanov, S. P.; Gagel'gants, A. A.; Krolenko, I. I.; Levchenko, V. A.; Malovitskiy, Ya. P.; Milashin, A. P.; Rapoport, S. Ya.; Fedynskiy, V. V.; Shapirovskiy, N. I.; Shekinskiy, E. M.

ORG: none

TITLE: Geological results of marine geophysical exploration in the USSR

SOURCE: International Geological Congress. 22d, New Delhi, 1964. Geologicheskiye rezul'taty prikladnoy geofiziki (Geological results of applied geophysics); doklady sovetskikh geologov, problema 2. Moscow, Izd-vo Nedra, 1965, 124-141

TOPIC TAGS: geophysic expedition, earth structure, seismic prospecting, ocean floor topography, tectonics

ABSTRACT: Marine geophysical exploration have been conducted in the Soviet Union for the purpose of investigating the crustal structure, and regional geological investigations have been made in offshore areas which are potential oil- and gas-bearing structures. The seismic method is the most effective and most often used for offshore investigations. Also successful are gravimetric, magnetic, and electric prospecting methods. The technique of offshore seismic shooting has been greatly improved, making it possible to operate from a moving ship. The geophysical investigations conducted on the Caspian Sea made it possible to distinguish the areas of

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ACC NR: AT6028378

the Pre-Cambrian Epihercynian platform and the Alpine geosyncline. Investigations have been made of the regional structure of the south Caspian depression, oil-bearing regions of its folded margins, and gentle structures of the internal depression. The area of the Epihercynian platform has been found to contain Kara-Bugaz and middle Caspian arches and offshore continuation of the South Mangishlack depression, as well as folded zones. The continuations of the South Mangishlack and Karpinsky ridge, the north Caspian zone of marginal uplifts of the Pre-Cambrian platform and the offshore continuation of the Pre-Caspian depression have been thoroughly investigated. A number of structures in the southern part of the Caspian Sea have been prepared for deep drilling. At the Sea of Azov a step-like submergence of the southern slope of the Pre-Cambrian platform has been established, and the Azov rampart, which connects the Epihercynian folded structures of the Northern Caucasus and Crimean steppe has been located. Offshore continuations of the Kerch-Taman dislocations have been studied. At the Black Sea geophysicists have studied the hidden Cretaceous folding and deep-seated faults at the offshore continuation of the Kolkhida depression, submergence of the northwestern Caucasus, buried highs south of the Crimea and the jointing between the Crimean and Dobrudga dislocations. Also the structure of the crust and the structure of the sedimentary strata in the deep-sea areas have been studied. Seismic surveys have been conducted to study the geology of the Paleozoic deposits and the surface of the basement in the eastern Baltic Sea. It has been established that the thickness of the sediments within the offshore continuation of the Polish-Lithuanian syneclise does not exceed 3 km. Interesting results have been obtained from geophysical investigations conducted at

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ACC NR: AT6026378

the Kara Sea near the mouths of the Ob and Yenisey Rivers. The regional structure of the Jamal-Nazim depression and the Taimir foredeep has been defined, major platform structures have been located in the Mesozic strata, and the Taimir has been followed further out into the sea. Deep-seated structure of the Earth's crust has been investigated in the transitional zone between the Asian continent and the Pacific Ocean, and also at the Okhotsk Sea and in the area of the Kamchatka-Kurile ridge. It has been found that the Sakhalin Tertiary folding area extends under the waters of the Okhotsk Sea. Marine geophysical exploration in the USSR will be expanded. Orig. art. has: 7 figures.

SUB CODE: 08/ SUBM DATE: 06Jan65/ OHIO REF: 048

Card 3/3

SHAPIRSHTEYN, Ya.A.; KHINKIS, M.V.

Universal mobile system for adjusting the electrical networks
of secondary commutation in industrial enterprises. Energ.
i elektrotekh. prom. no.3:66-67 Jl-S '62.   (MIRA 18:11)

SHAPIRSHTEYN, Ya.A., inzh.; VOLKANOVA, L.G., inzh.

Distribution of currents between the bus bars of electrolytic cells. Prom. energ. 20 no.11:23-25 N '65.

(MIRA 18:11)

SHAPIRSHTEYN, Ya.A.

Problems concerning the electric power supply to departments
engaged in the production of solid alkalies. Prom. energ. 16
no.4:18-22 Ap '61.   (MIRA 14:9)
          (Alkali industry and trade--Electric equipment)
                    (Electric power distribution)

DAYEN, N.A., inzh.; SHAPIRSHTEYN, Ya.A., inzh.

Electric insulation of bridge cranes used in electrolysis
units. Bezop. truda v prom. 5 no.9:17-19 S '61.   (MIRA 14:10)
(Cranes, derricks, etc.—Safety measures)

CHIZHENKO, I.M.; NEMIROVSKIY, A.Sh.; SHCHERBAK, S.K.; PUSHKAREV, A.R.;
     SHAPIRSHTEYN, Ya.A.

     First compensating mercury rectifier device and its operation.
     Prom. energ. 15 no.8:20-27 Ag '60.   (MIRA 15:1)
                    (Electric current rectifiers)
                        (Electric substations)

SHAPIRSHTEYN, Ya.A.

Stabilization of the electric current of the polarized protection
system of a nickel-lined boiler. Energ.i elektrotekh.prom.
no.4:69-71 O-D '62.   (MIRA 16:2)
        (Boilers)   (Electric protection)

SHAFIRSHTEYN, Ya.A., inzh.; KOTLYAR, I.I., inzh.; KHAZIN, Ye.A., inzh.

Mercury-type shunting disconnecting switch. Energ. i
elektrotekh. prom. no.1:23-24 Ja-Mr'64.   (MIRA 17:5)