axis $G\xi$ coincident with the axis of the surface of rotation, (u,v,w) are velocity at the mass center, (u_0, v_0, w_0) = velocity at the contact point, and (p,q,r) = angular velocity of the body. It is concluded that the above solution is stable when the inequality

$$[C + M\rho^2 (1 - l)]^2 r_0^2 + 4Mg\rho l [A + M\rho^2 (1 - l)^2] > 0. \quad (4)$$

is satisfied (C=moment of inertia relative to $G\xi$; M= mass; ρ =radius of spherical surface of the top). The author demonstrates that spinning motion is always stable where the center of mass is at the very bottom. "In conclusion,

the problems encountered in this work. Orig. art. has: [illegible]

ASSOCIATION: None

SUBMITTED: 19May64 ENCL: 00 SUB CODE: ME, NG

NO REF SOV: 006 OTHER: 002

Card 2/2 mb

L 4044-66 EWT(d)/FSS-2/EWT(1)/EWP(m)/FS(v)-3/EEC(k)-2/EWA(d)/EWA(c) GW/BC

ACCESSION NR: AP5021307 UR/0040/65/029/004/0742/0745

AUTHORS: Mindlin, I. M. (Gor'kiy, Moscow); Pozharitskiy, G. K. (Gor'kiy, Moscow)

TITLE: On the stability of steady-state motion of a heavy solid of revolution on an absolutely rough horizontal plane

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 4, 1965, 742-745

TOPIC TAGS: Lyapunov function, motion mechanics, motion stability, body of revolution, navigation, guidance, gyroscope stability

ABSTRACT: A necessary and sufficient condition for the stability of all steady-state motion of a heavy uniform body defined by an arbitrary surface of revolution is found. The body rolls without slipping along a horizontal plane and is bounded by a surface of revolution with axis ζ about which the body is dynamically symmetric. The rotor of a gyroscope is freely mounted about this axis. The authors define two coordinate systems, one fixed and the other moving, with the origin at the center of gravity of the body. The equations of motion are given in the form

$$\frac{d}{dt}(p\zeta - r\xi) + pq(\zeta \operatorname{tg}\alpha - \xi) = \frac{B}{\xi M^2}\frac{dr}{dt}$$

$$A\frac{dp}{dt} + (Br + e + Ap\operatorname{tg}\alpha)q = -\frac{B\xi}{\xi}\frac{dr}{dt} \qquad \left(q = -\frac{d\alpha}{dt}\right)$$

Card 1/2

L 4044-66

ACCESSION NR: AP5021307

proposed by S. A. Chaplygin (O dvizhenii tyazhelogo tela vrashcheniya na gorizontal'noy ploskosti. Gostekhizdat, 1948, Sobr. soch., t. 1, M). Here M is the mass of the system; A is its moment about the axis $G_1\xi$, $G\eta$; B is the moment of inertia of the entire body; and B is that of the gyroscope alone about the axis of symmetry. The variables p, q, and r are angular velocity components about the axes ξ, η, and ζ respectively. The equations of motion are combined with the energy integral to yield a closed system in the given coordinates. Some new parameters are defined by lumping several variables. A partial solution is found and the condition for its existence defined. Special cases are demonstrated along with the proper setting of parameters for each case. The cases discussed are those of: 1) a body supported on the plane at a single point, 2) a body rolling in a straight line, 3) motion with small regular precessions of the gyroscope. Orig. art. has: 12 equations.

ASSOCIATION: none

SUBMITTED: 17Dec64 ENCL: 00 SUB CODE: ME, MM, MA

NO REF SOV: 006 OTHER: 000

Card 2/2 DP

MINDLIN, I.Ye.

For the improvement of planning in the petroleum industry. Neft. khoz. 34 no.5:1-2 My '56. (MLRA 9:8)
(Petroleum industry)

SOV/92-58-6-20/30

AUTHOR: Mindlin, I.E., Staff Member of the Kiyev Branch of Giprotransneft'

TITLE: Mechanical Loading and Unloading in Transporting Containers (Mekhanizatsiya pogruzochno-razgruzochnykh rabot pri tarnykh perevozkakh)

PERIODICAL: Neftyanik, 1958, 3 Nr 6, p 24 (USSR)

ABSTRACT: The author states that the mechanization of loading and unloading operations carried out at petroleum bulk plants and terminals acquires a particular importance in view of the centralization of petroleum product supplies. In bulk plants where auxiliary operations such as moving, loading and unloading containers are not yet mechanized, the normal course of operations cannot be ensured. However, during the last ten years a number of proposals concerning the introduction of mechanical devices for loading and unloading operations were made and implemented. Among these proposals are the barrel loading device built in mechanical shops of the Ukrneftesbyt Trust, and similar devices developed by N.G. Shiyabav. For a number of years the Novorossiysk Fish Product Factory has been using another barrel loading device of the rotary type, developed by their mechanic I.A. Shelest. This device built of steel tubes resting on a frame with wheels is shown in Fig. 1. It is driven by a 1.2 kw. motor with 1,440 rpm and it loads or unloads the barrels. Fig. 2 shows how barrels are loaded on a truck with this device. There are 2 figures.

ASSOCIATION: Kiyevskiy filial Giprotransnefti (The Kiyev Branch of the Giprotransneft')

Card 1/1 1. Petroleum industry—Equipment 2. Containers—Handling

MINDLIN, I.Ye.

Electrically-driven valves are required for automatic control systems. Neftianik 5 no.2:27 F '60. (MIRA 14:10)
(Valves--Electric driving) (Automatic control)

MINDLIN, I.Ye.

Make wider use of thin walled flat folded pipes in tank farms.
Neft. khoz. 38 no.9:61-64 S '60. (MIRA 13:9)
(Pipe, Steel)

MINDLIN, I.Ye.

Reviewing the designs of instruments for bottom discharge of petroleums and petroleum products. Neft. khoz. 42 no. 3: 49-52 Mr '64. (MIRA 17:7)

MINDLIN, L.Ye.

AUTHOR: Feklistov, Ye. M., Engineer SOV/144-58-2-18/22

TITLE: Scientific and Technical Conference of the MIIGA i K (Nauchno-tekhnicheskaya konferentsiya MIIGA i K) III

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 115-116 (USSR)

ABSTRACT: In the section for aerophoto-geodetical and photogrammetrical instruments the following persons gave lectures: Professor M. M. Rusinov on "New Tendencies in the Production of Objectives in Instruments Used for Cartographical Aerial Photography." Professor A. N. Lobanov: "On Three-Dimensional Phototriangulation and the Use of Electronic Computers." Professor A. P. Mashkovich: "On Some Theoretical Statements With Regard to Questions of Photogrammetry in Connection With the Production of Precision Instruments for These Purposes." Engineer N. V. Masov: "The Radio-Synchronizer for Simultaneous Photos From Two Airplanes." Professor K. S. Lyalikov: "Apparatus and Laboratories for Aerial Methods of the AS USSR for the Study of Spectral Intensity." Docent N. P. Zakaznov: "Making the Transformation of Aerial Photographs Automatic." Engineer L. P. Churayev: "Automatic Control of the [illegible] Exposure." Engineer I. G.

Card 1/2

Indichenko: "Stereophotogrammetrical Coupled Cameras." In a joint session of the sections for geodetical and photogrammetrical instruments Engineer L. Ye Mindlin read a paper on "The Method of Heterodyne Phases in Geophysical Photos." Docent D. N. Nadiozov reported on "The Problem of Making Aerial Photography Automatic."
Altogether, there were 32 lectures and reports given. 52 delegates participated in the discussions.

Card 2/2

LOZINSKAYA, A.M.; MINDLIN, L.Ye.

Hyperbolic heterodyne phase method of radiogeodetic referencing in aerial and marine geophysical surveying. Izv.vys.ucheb.zav.; geod. i aerof. no.2:113-126 '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Geofizicheskikh metodov razvedki.
(Surveying) (Radio measurements)

MINDLIN, L. Ye.

PHASE I BOOK EXPLOITATION SOV/3914
SOV/53-M-24

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Prikladnaya geofizika; sbornik statey, vyp. 24 (Applied Geophysics; Collection of Articles, No. 24) Leningrad, Gostoptekhizdat, 1960. 260 p. 3,500 copies printed.

Sponsoring Agency: USSR. Ministerstvo geologii i okhrany nedr.

Scientific Ed.: M.K. Polshkov; Executive Ed.: A.A. Chizhov; Tech. Ed.: I.M. Gennad'yeva

PURPOSE: This book is intended for members of scientific research organizations, engineers and technical personnel engaged in geophysical surveying and research in industrial organizations.

COVERAGE: This is a collection of 11 articles by different authors on new methods of interpreting data and evaluating techniques in seismic, electrical, and gravimagnetic methods of surveying wells. The theory of seismic instrumentation and methods of outlining flat platform structures through seismic surveys are discussed, and theoretical problems of a new electrical survey method developed by the VNIIGeofizika (All-Union Scientific Research Institute of Geophysical Methods of Surveying) are analyzed. Recent developments in the interpretation of gravimetric and gravimagnetic methods and a new method for separating coal beds by gamma logging are also described. No personalities are mentioned. Most of the articles are accompanied by references, a majority of which are Soviet.

TABLE OF CONTENTS:

Zlatkovskiy, A.I. Some Problems of the Efficiency of the Frequency Selection and Resolving Power of Seismic Amplifiers 5

Zav'yalov, V.D. Interpretation of Seismograms in Interference Zones 26

Kroleňko, N.G., and G.D. Tsekov. Theoretical Curves in Electrical Sounding Over an Inclined Contact of Two Media (Inclined Contact Template) 54

Klushin, I.G. Transformation of Gravitational Anomalies 72

Yelanskiy, L.N., and S.V. Pavel'yev. On the Third Vertical Derivatives of the Earth's Physical Field Potential 87

Filippov, Ye.M. Study of the Distribution of Gamma Radiation in Rocks 100

Kalinkovich, A.Ye. Regularities in Resistivity Logging Curves 121

Sokhranov, N.N. Study of the Transition Zone in Productive Beds Using Electrical Logging 159

Borisov, A.A. Methods and Results in the Compilation of Regional Structural Maps of Turkmenia on the Basis of Geophysical Data 190

Lozinskaya, A.M., and L.Ye. Mindlin. Experiment in Radiogeodetic Tie-ins of a Detailed Aeromagnetic Survey 213

Polshkov, M.K. On the Theory and Methods of Making Computations for a Rheostat Amplifier With a Band Filter 222

Bibliographic List of Monographs and Articles Published by the All-Union Scientific Research Institute on Geophysical Methods of

Card 3/4

ACC NR: AT7003292 (N) SOURCE CODE: UR/3152/66/000/014/0087/0090

AUTHOR: Paskhin, Ye. V.; Mindlin, L. Ye.

ORG: none

TITLE: The radiogeodetic method used in regional aerial geophysical survey over the sea

SOURCE: Razvedochnaya geofizika, no. 14, 1966, 87-90

TOPIC TAGS: geophysics, geodetic survey, aerial survey/RGP-1 course indicator

ABSTRACT: The article describes in detail the radiogeodetic method used in 1965 to carry out a regional aerial geophysical survey over the Caspian Sea under conditions when the absence of orientation points on the sea did not permit the use of visual instruments. The area surveyed was supplied with a phase field of the "Koordinator" radiogeodetic system, with which all geophysical surveys in the south and central part of the Caspian Sea have been made during the past ten years. A figure in the original article shows that location of the base stations of the "Koordinator" system and the survey routes planned. An attempt was made to use the RGP-1 course indicator developed in 1963 at the Moscow Institute of Engineers

Card 1/2

ACC NR: AT7003292

of Geodesy, Aerial Photography, and Cartography for the All-Union Scientific Research Institute of Geophysical Exploration Methods. The course indicator was operated from a phase sounding of the radiogeodetic "Poisk" system specially modified for operation in the phase field of the Koordinator system. The accuracy of the navigation of the aircraft using the route indicator was evaluated by comparing the measured coordinates of the points along the route with the projected ones along which the routes were calculated. The divergence was small and due mainly to the lack of practice of the crews and to tape recorder errors. The work confirmed the possibility of using a radiogeodetic course indicator to guide mobile geophysical objectives along direct routes during regional mapping made in areas with no orientation points and with a sparse network of support points. Orig. art. has: 1 figure. [GC]

SUB CODE: 08, 01/SUBM DATE: none/ORIG REF: 002/

Card 2/2

15-57-3-3851

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, pp 193-194 (USSR)

AUTHORS: Mindlin, M. G., Zyablov, M. F.

TITLE: New Constructions of Bits With an Arrangement for Holding Grease in the Bearing (Novyye konstruktsii dolot s ustroystvom dlya uderzhaniya smazki v opore)

PERIODICAL: Novosti neft. tekhniki. Neftepromysl. delo, 1956, Nr 6, pp 6-8

ABSTRACT: A new tri-cone drill bit has been made with the bearing hermetically sealed and the teeth self-cleaning. The grease is contained in the bearing of the bit. Tests have shown that the new type of bit may be used in drilling any kind of rock. In all cases the hermetic sealing of the bearing leads to increased footage of cutting by the bit.

Card 1/1 no initials

IL'SKIY, A.L., kand.tekhn.nauk; MINDLIN, M.G., inzh.; MOKSHIN, A.S., inzh.

New types and designs of bits. Trudy VNIIBT no.1:61-70 '58.
(MIRA 11:12)

(Boring machinery)

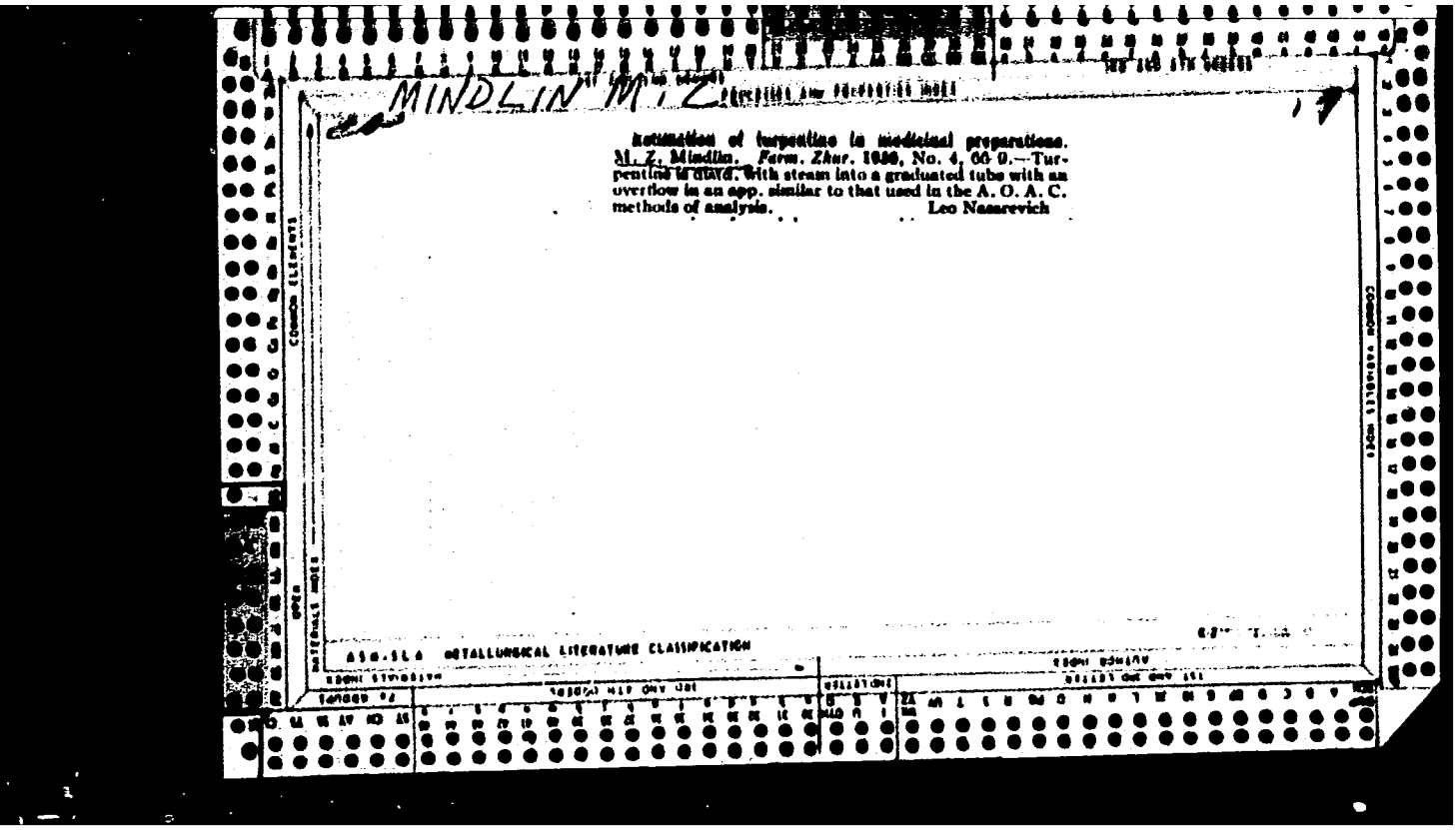
AUTHOR: Antonov, N.V. and Mindlin, M.G. Sov/93-58-4-4/19

TITLE: Prolonging the Service of Roller Bearings in Cone Rock Bits (Ob udlinenii sroka sluzhby rolikovykh opor v sharoshechnykh dolotakh)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 4, pp 20-26 (USSR)

ABSTRACT: The authors refute the idea of certain designers that the skewing of rollers in cone rock bits can be prevented by lengthening the rollers. They prove their point by calculating the possible skew angle of rollers ranging in length from 20 to 24 mm. (Figs. 1-5) produced by the Plant im. Kirov. Furthermore, they prove that the skewing of rollers is related to the clearance between the rollers and to the clearance in the roller bed (Figs. 6-8). The authors suggest that the skewing of rollers can be prevented by decreasing the end play between the face of the rollers and the shoulders of the roller bed at the expense of the roller length and width of the roller bed (Fig. 9), as well as by raising the shoulders on the trunion. There are 9 figures.

Card 1/1 1. Petroleum industry 2. Drilling machines--Equipment 3. Roller beerings--Design



MINDLIN M. Z.

Estimation of turpentine in medicinal preparations. M. Z. Mindlin. *Farm. Zhur.* 1930, No. 4, 66-9.—Turpentine is distd. with steam into a graduated tube with an overflow in an app. similar to that used in the A. O. A. C. methods of analysis. Leo Nasarevich

A59.5L4 METALLURGICAL LITERATURE CLASSIFICATION

MINDLIN, M. Z.

USSR

Anthelmintic effects of watermelon seeds. I. M. Feler, M. Z. Mindlin, and N. N. Prokopovich (Inst. Advance. Pharmacists, Kiev.). *Farmakol. i Toksikol.* 17, No. 5, 50–1(1954).—Tannins and essential oils were found in watermelon seeds, but no alkaloids. The fatty oil, as well as aq. and alc. exts. of hull or of kernels, paralyze tapeworms and roundworms in cats. The anthelmintic activity is higher than that of pumpkin seeds. Julian F. Smith

Chem of Pharmacology

Mindlin, M.Z.

3

Antihelmiathic properties of melon seeds. T. V. Zinchenko, M. Z. Mindlin, and N. N. Prokopovich (Training Inst. Physicians, Kiev). *Farmakol. i Toksikol.* 18, No. 5, 41–2(1955).—Whole melon (*Cucumis melo*) seed contains up to 25.4% fatty oil, with essential oils in traces; kernels contain up to 44.5% fatty oil. The glycerides analysis showed satd. acids 10.11, oleic acid 29.76, and linoleic acid 59.43%. The aq. and alc. exts. from peeled and whole seeds are antihelmiathic (tests with cats); so is the fatty oil. The exts. and the fatty oil are nontoxic to cats in doses up to 8 g. Clinical trials against tapeworm and roundworm have not yet been reported. The oil is suitable for making ointments, liniments, and soaps. Julian F. Smith

Chair of Pharmacology

MINDLIN, M.Z., GERASIMENKO, V.K.

Role of alkaloids in the vital activity of plants. Trudy Perm. farm. inst. no.1:121-130 '59. (MIRA 15:1)

1. Permskiy farmatsevticheskiy institut, kafedra farmakognozii.
(PLANTS, EFFECT OF ALKALOIDS ON)
(ALKALOIDS--PHYSIOLOGICAL EFFECT)

MINDLIN, N., inzh.; VAKULENKO, T., inzh.; YEREMEYEVA, G., inzh.

The 6F4P triode-pentode. Radio no.9:54-55 S '63. (MIRA 16:12)

MINDLIN, N. L.

PA 156T104

USSR/Physics - Discharge, Electrical
Mercury (Vapor) Feb 50

"Glow Discharge in Mercury Vapor," N. L. Mindlin, All-Union Elec Eng Inst imeni Lenin, Moscow, 5 pp

"Zhur Tekh Fiz" No 2

Shows normal cathode drop of glow discharge measured in Hg vapor on cathodes of graphite, iron, and mercury to be slightly dependent on material of cathode and to equal about 230 v, which is greater by 100 v than Koeppen's data ("Zs f. Phy." 75, 654, 1932), obtained on

156T104

USSR/Physics - Discharge, Electrical (Contd) Feb 50

unsoldered tubes, i.e., under conditions where extraneous gases released from glass and electrode could have accumulated in tube. Also shows measured current density of glow discharge to be 10 times less than Koeppen's values. Comparison of values obtained for density of glow current on the cathode with those for densities of counter (reverse) currents in mercury rectifiers permits conclusion that portion of countercurrent arriving at glow discharge constitutes a negligible part of all countercurrent. Submitted 9 Nov 49.

156T104

S/124/62/000/003/048/052
D237/D302

9,2180

AUTHOR: Mindlin, R.D.

TITLE: On the equations of motion of piezoelectric crystals

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 20, abstract 3V114 (Sb. Probl. mekhaniki sploshn. sredy. M., AN SSSR, 1961, 241 - 249)

TEXT: A derivation is given of the linear differential equations of small oscillations of piezoelectric crystals, with the interaction of mechanical, electrical and temperature fields. The use of thermodynamic variables is based on the theory of thermodynamics of irreversible processes in a dense medium, formulated by Biot. Equations of state and motion are derived and their solution illustrating the damping of plane waves, is given, as well as the proof of the uniqueness of the solution of the equations of motion. [Abstractor's note: Complete translation].

Card 1/1

V

USSR/Pharmacology. Toxicology. Cardiovascular Drugs

Abs Jour : Ref Zhur - Biol., No II, 1958, No 51993

Author : Mindlin S.S.
Inst : Rostovon-Don Medical Institute
Title : The Action of Cimarin in Cardio-vascular Failure

Orig Pub : Tr. Otchetn. nauchn. konferentsii (Rostovsk. n/D med. in-t) za, 1956 g. Rostov-na-Donu, 1957, 355-356

Abstract : Cimarin in a hypertonic gluscse solution was administered intravenously, 1-2 times daily, to 44 patients with circulatory disorders. The course of the treatment consisted in 8-45 injections, depending upon the condition of the patient. The most successful was the treatment of patients with damaged myocardium (12 out of 14) and defective mitrol valves (11 out of 13). A lesser effect was achieved in cor pulmonale (6 out of 7) and in combined mitrol and aortic valve damage (7 out of 9). After 3-4 injections dyspnea decreased, nocturnal attacks of cardial asthma subsided, sleep improved and dyspeptic manifestations disappeared.

Card : 1/2

MINDLIN, S. S.

USSR/Pharmacology. Toxicology. Cardio-Vascular Drugs U-4

Abs Jour : Ref Zhur-Biol., No 7, 1958, 32898

Author : Mindlin S. S.
Inst : Not given
Title : Cymarinum, a Soviet Preparation for the Treatment of Patients with Circulatory Insufficiency.

Orig Pub : Vrachebn. delo, 1957, No 7, 675-676

Abstract : Cymarin, (1) a cardiac glucoside isolated from Indian hemp (Apocynum cannabinum), was administered intravenously in doses of 1 to 1.5 mg 1 to 2 times in 24 hours to 44 patients suffering from cardiac insufficiency. The course of treatment comprised 8 to 45 injections. The effect of 1 began 2 to 5 minutes after the injection, reaching a maximum in 20 to 40 minutes. Under the influence of 1 there was an improvement in the general

Card 1/2

MINDLIN, S.S., Cand Med Sci -- (diss) " A comparative clinical evaluation of new Soviet preparations (erizid, eryzimin , cymarin , corglycon) in the treatment of cardio-vascular insufficiency." Rostov-on-Don, 1958. 18 pp (Rostov-on-Don State Med Inst), 200 copies (KL,24-58,123)

MINDLIN, S.S., kand.med.nauk; KHOLODNYY, M.D.

Effect of chemical preparations with antiblastic action on the cardiovascular system during the treatment of malignant neoplasms. Sov. med. 26 no.6:60-64 Je '62. (MIRA 15:11)

1. Iz Rostovskogo nauchno-issledovatel'skogo instituta rentgenologii, radiologii i onkologii (dir. P.N.Snegirev).
(CYTOTOXIC DRUGS) (CARDIOVASCULAR SYSTEM) (CANCER)

MINDLIN, S.S.

Effect of ionizing radiation on the cardiovascular system in radiotherapy of tumors. Med. rad. 8 no.3:26-30 Mr '63. (MIRA 17:9)

1. Iz Rostovskogo nauchno-issledovatel'skogo instituta rentgenologii, radiologii i onkologii.

PORTNOY, L.M.; MINDLIN, S.S.

X-ray diagnosis of a tumorlike form of tuberculosis of the small intestine. Vest. rent. i rad. 40 no.2:64-67 Mr-Ap '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy institut rentgenologii, radiologii i onkologii Ministerstva zdravookhraneniya RSFSR, Rostov-na-Donu.

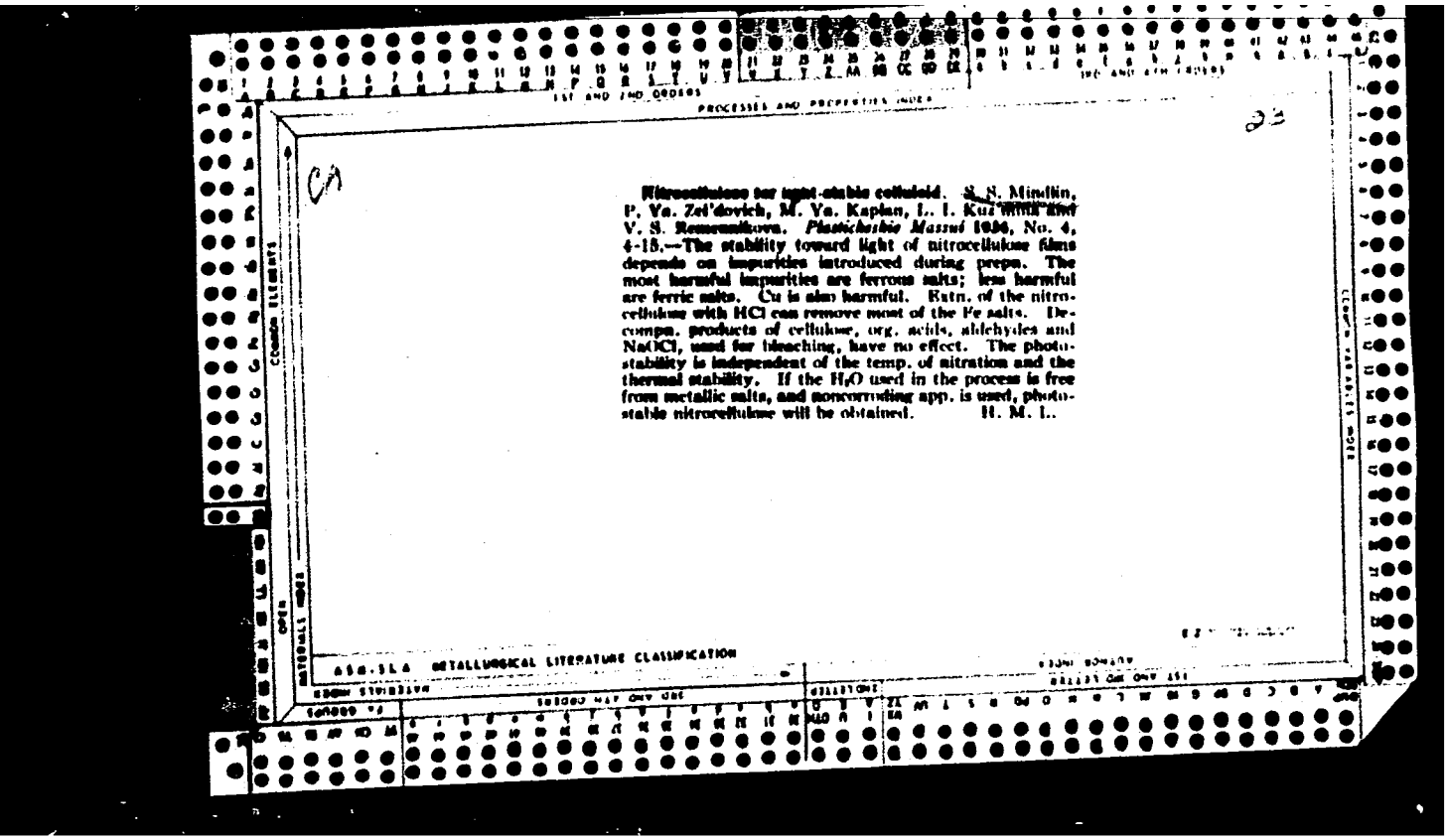
PROCESSES AND PROPERTIES INDEX

CA

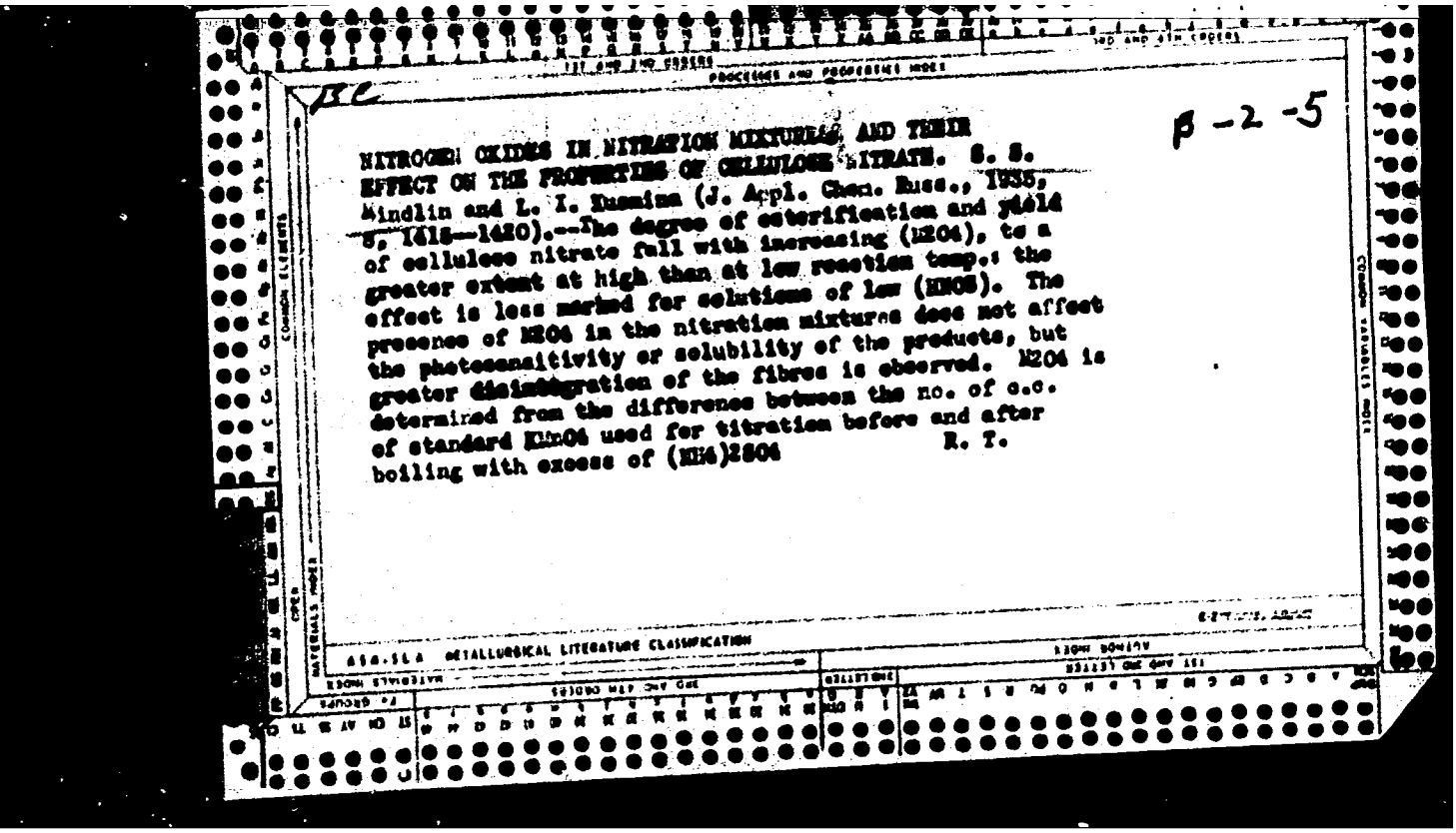
23

Action of lime on the viscosity of nitrocellulose. S. A. Glickman, S. G. Mindlin, V. I. Guseva and P. I. Zeldovich. *Plasticheskie Massy* 1933, No. 4, 11-12; *Chimie & industrie* 31, 1400.—Stabilization of nitrocellulose by treatment with Na_2CO_3 has little or no effect on the viscosity, while hard water contg. 0.006% CaO or $CaSO_4$ increases the viscosity appreciably; this increase is explained by a modification in the colloidal condition of the soln., which is brought nearer the gelling pt. Presence of Na ions reduces the action of the Ca. The greater the CaO content of the stabilizing soln., the higher the viscosity of the nitrocellulose. When nitrocellulose which has been treated with $Ca(OH)_2$ is boiled 3 hrs. in distd. H_2O, the increase in viscosity is destroyed, and analysis of the wash water shows that it has eliminated the Ca adsorbed by the nitrocellulose. Treating with H_2SO_4 considerably decreases the viscosity of nitrocellulose, and subsequent treatment with Ca compds. does not produce the same increase as in non-acid-treated nitrocellulose. Bleaching with NaOCl results in a lower viscosity than that of Ca-bleached nitrocellulose. A. P.-C.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Nitrocellulose for light-stable celluloid. S. N. Minskin, P. Ya. Zel'dovich, M. Ya. Kaplan, L. I. Kuz'minskaya and V. S. Remennikova. *Plasticheskie Massui* 1936, No. 4, 4-15.—The stability toward light of nitrocellulose films depends on impurities introduced during prepn. The most harmful impurities are ferrous salts; less harmful are ferric salts. Cu is also harmful. Extn. of the nitrocellulose with HCl can remove most of the Fe salts. Decompn. products of cellulose, org. acids, aldehydes and NaOCl, used for bleaching, have no effect. The photostability is independent of the temp. of nitration and the thermal stability. If the H_2O used in the process is free from metallic salts, and noncorroding app. is used, photostable nitrocellulose will be obtained. H. M. L.



BC

B-2-5

NITROGEN OXIDES IN NITRATION MIXTURES, AND THEIR EFFECT ON THE PROPERTIES OF CELLULOSE NITRATE. S. S. Mindlin and L. I. Rusmina (J. Appl. Chem. Russ., 1935, 8, 1415—1420).—The degree of esterification and yield of cellulose nitrate fall with increasing (N_2O_4), to a greater extent at high than at low reaction temp.; the effect is less marked for solutions of low (HNO_3). The presence of N_2O_4 in the nitration mixtures does not affect the photosensitivity or solubility of the products, but greater disintegration of the fibres is observed. N_2O_4 is determined from the difference between the no. of c.c. of standard $KMnO_4$ used for titration before and after boiling with excess of $(NH_4)_2SO_4$ R. T.

PROCESSES AND PROPERTIES INDEX

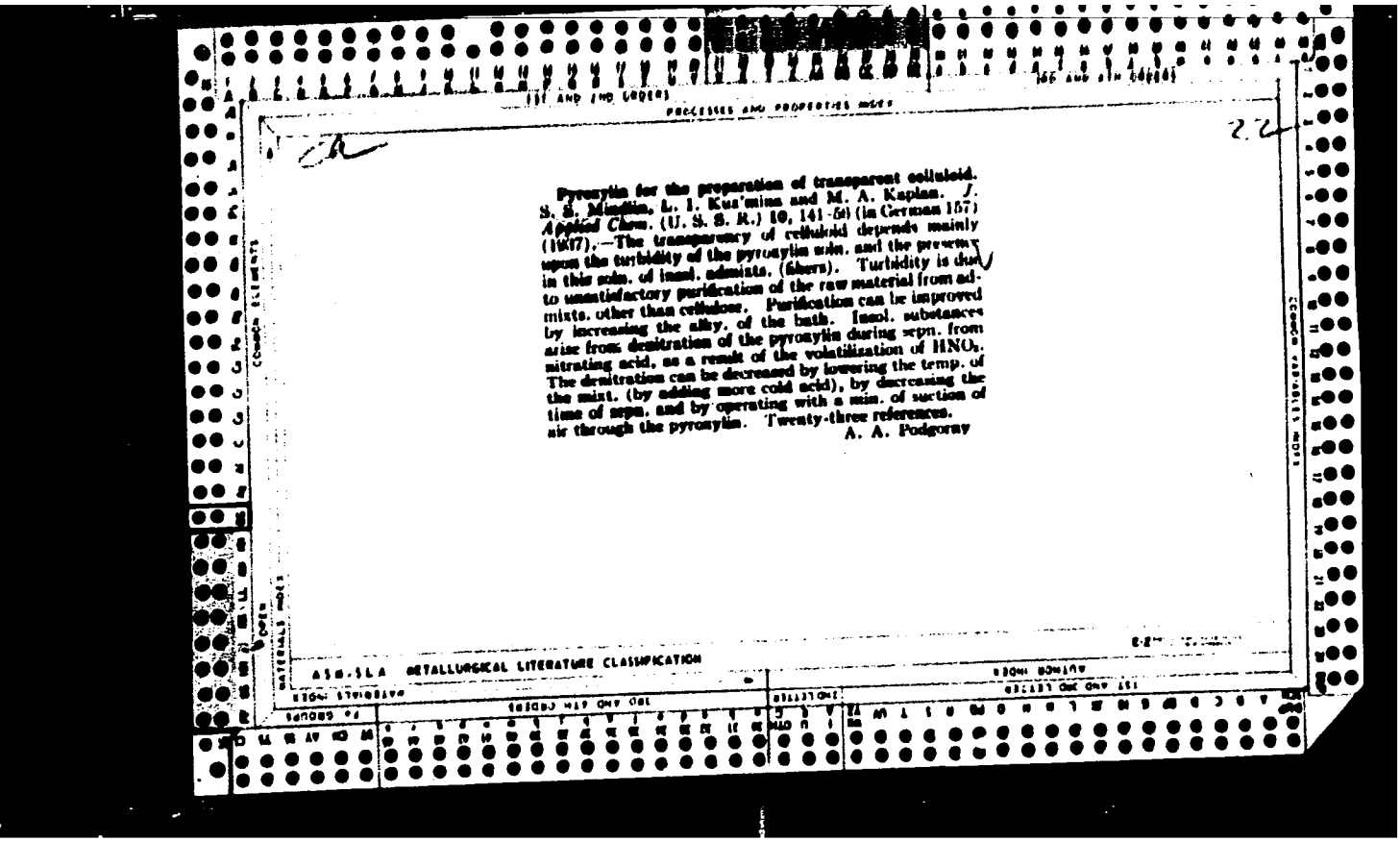
B-III-5

BC

Elimination of iron from water. M. M. MINDLIN and P. J. ZELBOVITSCH (J. Chem. Ind. Russ., 1936, 13, 1347—1349).—Fe is not pptd. at p_H <6. The velocity of sedimentation, V, of $Fe(OH)_3$ (I) is at a max. at p_H 6·0—6·4; at higher p_H the suspended (I) is efficiently removed by filtration through sand. The nature of the alkali used for pptn. is immaterial. At p_H <6·4 the val. of V is unaffected by varying $[Al(OH)_3]$, but at p_H 6·4—7·0 $V \propto [Al(OH)_3]$.

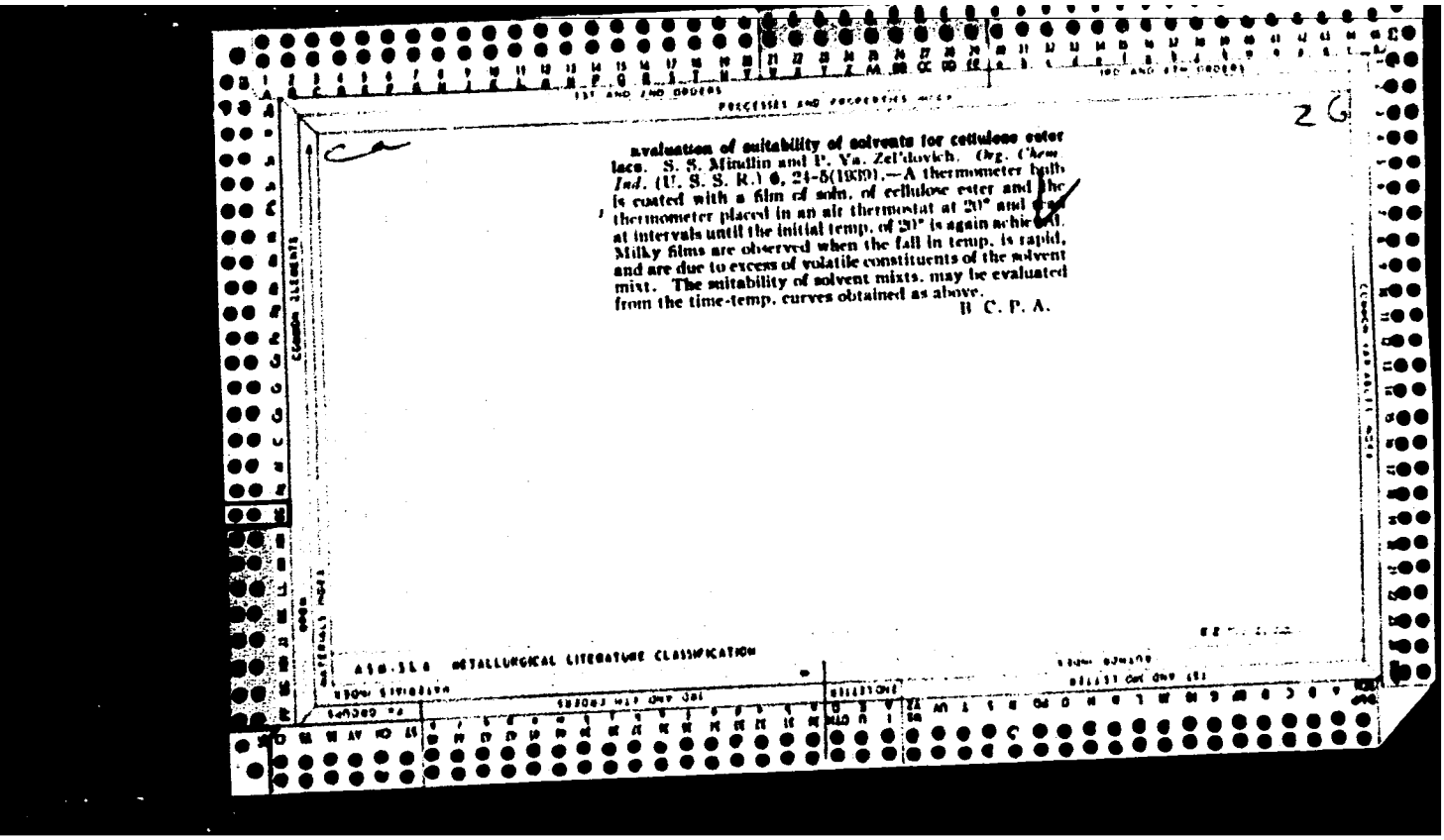
R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Pyroxylin for the preparation of transparent celluloid. S. S. Mindlin, L. I. Kuz'mina and M. A. Kaplan. *J. Applied Chem.* (U. S. S. R.) 10, 141–6) (in German 157) (1937).—The transparency of celluloid depends mainly upon the turbidity of the pyroxylin soln. and the presence in this soln. of insol. admixts. (fibers). Turbidity is due to unsatisfactory purification of the raw material from admixts. other than cellulose. Purification can be improved by increasing the alky. of the bath. Insol. substances arise from denitration of the pyroxylin during sepn. from nitrating acid, as a result of the volatilization of HNO_3. The denitration can be decreased by lowering the temp. of the mist. (by adding more cold acid), by decreasing the time of sepn. and by operating with a min. of suction of air through the pyroxylin. Twenty-three references.

A. A. Podgorny



Evaluation of suitability of solvents for cellulose ester lacs. S. S. Minullin and P. Ya. Zel'dovich. *Org. Chem Ind.* (U. S. S. R.) 6, 24-5(1939).—A thermometer bulb is coated with a film of soln. of cellulose ester and the thermometer placed in an air thermostat at 20° and cooled at intervals until the initial temp. of 20° is again achieved. Milky films are observed when the fall in temp. is rapid, and are due to excess of volatile constituents of the solvent mixt. The suitability of solvent mixts. may be evaluated from the time-temp. curves obtained as above.

H. C. P. A.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

23

Properties of benzylcellulose. S. S. Mindlin and A. V. Sbelion. *Uspekhi Khim.* 8, 1050-80(1939).—A review of soly., viscosity of the solns., stability to heat and light, hygroscopicity, adsorption and permeability to water, mech., chem. and dielec. properties and aging of benzylcelluloses in various solvents. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA 13

Phenol resins. S. S. Mindlin and D. V. Khodakova. *Inf.-Tekh. Byull. Glavkhimplast* 1940, No. 1-2, 57-65; *Khim. Referat. Zhur.* 1940, No. 8, 117.—The resins made from carbolic oil instead of synthetic phenol are completely sol. in benzene and oil. Alc.-sol. resin can be obtained by modifying the resin obtained from peat oils and formalin by phthalic anhydride and subsequent esterification with glycerol. The catalysts used are HCl, $C_6H_8O_7$, and $NaHCO_3$. Addn. of over 60% of rosin renders the resin brittle. Resins insol. in alc. and unpolymerizable resins are obtained by condensation of peat phenols with HCHO in the presence of NH_3. Normal resins are obtained if 80% of the refined peat phenols are replaced with synthetic phenols. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

>(5) PHASE I BOOK EXPLOITATION SOV/2552

Mindlin, Semen Solomonovich and Nikolay Nikolayevich Samosatskiy

Proizvodstvo izdeliy iz polietilena metodom ekstruzii (Manufacture of Polyethylene Products by the Extrusion Method) Leningrad, Goskhimizdat, 1959. 94 p. Errata slip inserted. 6,000 copies printed.

Ed.: Ye. I. Shur; Tech. Ed.: T. A. Fomkina.

PURPOSE: The book is intended for foremen, engineers and technicians employed in chemical, food, electrical, radio, communications, machine-building, and other industries where plastic materials are used.

COVERAGE: The book describes the extrusion method (continuous extrusion) widely applied for manufacturing various products from polyethylene (shaped and hollow articles, sheets, tubes, films, etc.). Various uses of polyethylene are mentioned, such as for insulation of high-frequency, submarine and high-voltage cables; for production of thin (20-80 μ) films used for manufacturing balloon envelopes; as waterproof coatings for wrapping materials, such as paper, cellophane, cloth, metal foil, etc.

Card 1/4

No personalities are mentioned. There are 58 references: 3 Soviet, 22 English, 26 German, 4 French, 2 Italian, and 1 Czech.

TABLE OF CONTENTS:

Introduction	3
Extrusion	5
Extrusion machines	5
Heads	19
Granulation	24
Polyethylene tubes and hose	30
Technology of tube production	34
Tests for polyethylene tubes	45

Manufacture of Polyethylene (Cont.) 46

Film 46

Equipment and technology for film production 59

Control of film size and quality 61

Plane films and sheets. Moisture-resistant polyethylene coatings 61

Plane films 63

Moisture-resistant polyethylene coatings 66

Sheets 72

Hollow articles 72

Extrusion method 84

Molding method

Manufacture of Polyethylene (Cont.) SOV/2552

Bibliography 86

Appendixes 89

AVAILABLE: Library of Congress

Card 4/4

TM/fal
11-19-59

15(8)

AUTHORS: Mindlin S.S. and Samosatskiy N.N., Engineers SOV/118-59-9-8/20

TITLE: Manufacturing of Thermoplastic Articles by the Method of Extrusion

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959, Nr. 9, pp 32-36 (USSR)

ABSTRACT: Thermoplastic materials produced on the basis of polychlorvinyl rosin, polyethylene and other polymers, because of their outstanding physical and mechanical properties and chemical stability, became, of late, widely used. As the most efficient method of thermoplastic article production, the author considers the method of extrusion. An assembly used for this purpose is given in Fig. 1. It consists of an extrusion machine with shaping head, and a receiving container. In the machine, solid materials are melted, mixed, homogenized and squeezed out through an outlet provided in the shaping head. The receiver collects the finished product and ensures a uniform cooling of it. Construction of the shaping head depends on the form of the article to be

Card 1/2

manufactured. Several types of shaping devices are described in this article: Fig. 2 shows a nozzle for calibrating polyethylene pipes; Fig. 3 - a device for drawing pipes; Fig. 4 - a slot-head for extrusion of polyethylene sheets, Fig. 5 - a form for hollow articles; Fig. 6 - an assembly for manufacturing polyethylene film by the method of blowing. The functioning of a snake-type extrusion machine, independently of the form of manufactured article and the kind of plastic material used, remains constant; that is why these machines can be rightly called universal. There are 6 diagrams.

MINDLIN, S.Z.

ALIKHAN'YAN, S.I., kandidat biologicheskikh nauk; MINDLIN, S.Z.

Selection of active strains producing antibiotics. Antibiotiki 7 no.6:3-13 '54. (MLRA 8:2)

(ACTINOMYCES,
selection for prod. of antibiotics)
(PENICILLIUM,
selection for prod. of antibiotics)
(ANTIBIOTICS, preparation of,
selection of microorganisms)

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics. F-2

Abs Jour : Ref Zhur - Biol., No 3, 1958, 9842

Author : Alikhanyan, S.I., Borisova, L.N., Klepikova, F.S., Lyubinskaya, S.I., Mindlin, S.Z.

Inst : -

Title : New Active Strains of Penicillin (A"New Hybrid").

Orig Pub : Antibiotiki, 1956, 1, No 3, 3-7

Abstract : A new active atrain of penicillin producer "New hybrid" 369 (beige) was obtained from an "anastomose" colony, grown from 2 conidia of different strains. As initial strains G-31 and Wis-51-20 were taken, related in activity but quite distinct from one another in their physiological properties. The anastomose colony was treated by ethylenimine and UV-rays and the most active variants of the surviving colonies were selected. The strain "New hybrid" 369 markedly differed from the original forms in its physiological and morphological properties

Card 1/2

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics.

Abs Jour : Ref Zhur - Biol., No 3, 1958, 9842 F-2

and considerably surpasses in activity all known native and foreign strains when cultuvated on different media.

Card 2/2

ALIKHANYAN, S.I.; MINDLIN, S.Z.

New active strains of Penicillium; hybrid 31 (beige)
Antibiotiki, Moskva 9 no.2:36-40 Mar-Apr 56 (MLRA 9:3)

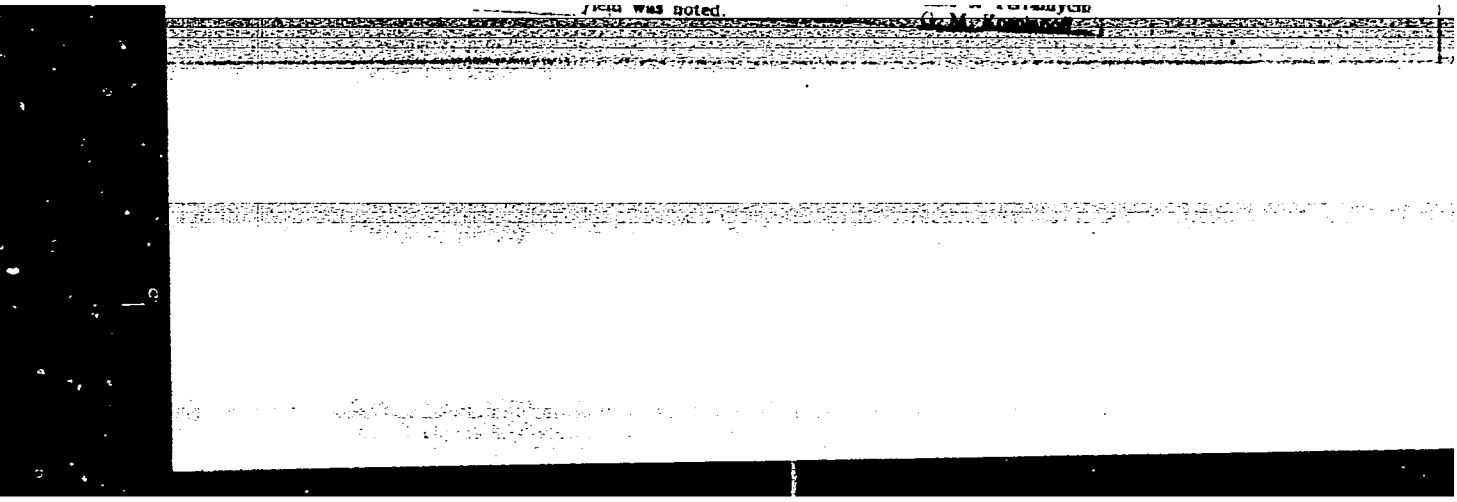
1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIUM
new active strain, hybrid 31 beige)

MINDLIN, S. Z.

ALIKHANYAN, S.I.; MINDLIN, S.Z.

Lethal and mutagenic effect of ultraviolet radiation on microorganisms [with English summary in insert]. Zhur.ob.biol. 17 no.6: 413-435 N-D '56. (MLRA 10:9)
(ULTRAVIOLET RAYS--PHYSIOLOGICAL EFFECT)
(BACTERIA)

Biochemical mutants of Actinomyces rimosus (producer of Terramycin). S. Z. Mindlin and S. A. Alikhanyan. *Doklady Akad. Nauk S.S.S.R.* 111, 864–6(1956).—Irradiation of *A. rimosus* with ultraviolet rays yielded a series of mutants which had special growth requirements; some required methionine for growth and others required nicotinic acid. The amts. of these substances added to the culture that were sufficient for growth were insufficient for satisfactory production of Terramycin, which required larger amts. of the added nutrients. When methionine and nicotinic acid were added to the normal culture medium for the ordinary strain of *A. rimosus*, no increase of Terramycin yield was noted.



ALIKHANYAN, S.I.; GOL'DAT, S.Yu.; KLEPIKOVA, F.S.; MINDLIN, S.Z.

Use of ethylenimine in the selection of penicillin producing strains. Antibiotiki 2 no.1:33-36 Ja-F '57. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ETHYLENE, rel. cpds.
ethylenimine, use in selection of penicillin producing strains)
(PENICILLIUM, culture
selection of penicillin producing strains with use of ethylenimine)

20-5-55/60

AUTHOR: ALIKHANYAN, S.I. and MINDLIN, S.Z.

TITLE: An Attempt to Make Use of Biochemical Mutants of Actinomyces Rimosus in Order to Obtain Hybrid Forms
(Ispol'zovaniye biokhimicheskikh mutantov Actinomyces rimosus dlya polu cheniya gibridnykh form. Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 5, pp 1113 - 1115(U.S.S.

ABSTRACT: It is known that in the case of some bacteria and fungi which have no process of sexual generation there were produced during recent years, hybrid forms which combined the characteristics of both initial forms. The mechanism of this phenomenon has not been completely clarified and apparently varies in individual cases. In the case of fungi it is base on the phenomenon of heterokaryosis brought about by anastomoses. Acco ing to some authors the fusion of the germ tubes of the actinomycetes takes place during spore germination. According to other opinions the problem of the generation process of the actinomycetes is not yet solv It was hoped, however, to obtain hybrid forms from these fungi. This latter problem, beside being of theoretical interest, would also, if solved, be of great practical advantage, namely in the selection of producers of antibiotics originating from actinomyces. In the present work the attempt was made to produce combined forms between two bioche mical mutants of Actinomyces rimosus (producer of terramycin). For thi purpose the authors employed the somewhat modified method of combined

Card 1/4

An Attempt to Make Use of Biochemical Mutants of Actinomyces Rimosus in Order to Obtain Hybrid Forms

sowing by Roper and Sermonti. Starting material were stems 101 and 8229 of the fungus. The biochemical mutants were obtained by irradiation with ultraviolet rays of a bactericidal lamp BUF-30, which emits 60% rays 2537 Å of length. Test tubes with insufficient growth were used for further cultivation by the addition of some drops of liquid maize--culture medium. Biochemically defective forms isolated in this manner were then examined for amino acids and vitamins. Among them were forms which needed various vitamins and amino acids. The obtained biochemical mutants were sown by pairs. On a culture medium of maize some peculiar phenomena could at once be observed. Growth and sporulation along the limit between the colonies of different mutants were much more intensiv than in the other parts of the colonies. The zones of this abundant growth formed small mounds, the air- mycelium in them being of a differ color than that in the two colonies of mutants. The transmission of tho resulted in poor growth and rough colonies. Mixed sowing of spores in thick suspensions afforded colonies as described above. The nature of the interaction is still obscure. Two explanations may be suggested:

20-5-55/60

An Attempt to Make Use of Biochemical Mutants of Actinomyces Rimosus in Order to Obtain Hybrid Forms

1.) A peculiar type of synchronism becomes evident on this occasion. No new formations develop. This is indicated by the parallel growth noticed in the case of actinomycetes. It is possible that bundles of different hyphae develop in common culture of biochemical mutants. The hyphae lying close to each other supply each other with the lacki foodstuffs. This leads to a more powerful common growth than in the case of separate cultivation. 2.) Between the mycelia occurs the form tion of heterokaryons which contain the nuclei of both mutant types. Their interaction in the heterokaryon mycelium explains the more powe ful development. In both cases the sowing must lead to the cleavage the initial types, as it actually happens. Future experiments will show which of the two explanations is true. The problem of hybrids o ray fungi is by no means solved.

Note during correction. After the paper had been delivered for print the authors succeeded in obtaining combined forms of Actinomyces ri- mosus in a number of combinations of biochemical mutants.

(2 figures, 2 tables, 2 Slavic references.

Card 3/4

20-5-55/60

An Attempt to Make Use of Biochemical Mutants of Actinomyces Rimosus in Order to Obtain Hybrid Forms

ASSOCIATION Allunion Scientific Research Institute for Antibiotics (Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov)
PRESENTED BY SHMAL'GAUZEN. I.I., Member of the Academy
SUBMITTED 15.3.1957
AVAILABLE Library of Congress

Card 4/4

MINDLIN, S. Z., ALIKHANYAN, S. I.

"Recombinations in Streptomyces rimosus," Nature, vol 180, no. 4596, 30 Nov 1957, GreatBritain pp.1209

USSR Antibiotics Research Institute, Moscow

MINDLIN, S.Z.; ALIKHANYAN, S.I.

Studies on ultraviolet-induced variability and on selection in Act. rimosus (oxytetracycline-producing organism). Antibiotiki 3 no.2: 18-21 Mr-Ap '58. (MIRA 12:11)

1. Laboratoriya selektsii Vsesoyuznogo nauchno-issledovatel'skogo instituta antibiotikov.

(ULTRAVIOLET RAYS, effects,
on Actinomyces rimosus, variability in oxytetracycline-producing strains (Rus))
(ACTINOMYCES, effect of radiations,
rimosus, ultraviolet rays-induced variability in oxytetracycline-producing strains (Rus))
(OXYTETRACYCLINE, metabolism,
Actinomyces rimosus synthesis, ultraviolet rays-induced variability (Rus))

ALIKHANYAN, S.I., MINDLIN, S.Z.

Hybridization of actinomycetes [with summary in English]. Izv.AN SSSR. Ser.biol. no.4:416-421 Jl-Ag '58 (MIRA 11:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ACTINOMYCES)
(HYBRIDIZATION)

MINDLIN, S. Z., Cand of Bio Sci -- (diss) "Variability and Selection of Act. Rimosus, Producent of Oxytetracycline," Mos, 1959, 17 pp (Institute of Microbiology, Acad Sci USSR) (KL, 1-60, 121)

MINDLIN, S.Z.

21(4); 17(0) PHASE I BOOK EXPLOITATION SOV/2808

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958

Doklady sovetskikh uchenykh; radiobiologiya i radiatsionnaya meditsina (Reports of Soviet Scientists; Radiobiology and Radiation Medicine) Moscow, Izd-vo Glav. upr. po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR, 1959. 429 p. 8,000 copies printed. (Series: Vtoraya Mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Trudy, tom 5)

General Ed.: A.V. Lebedinskiy, Corresponding Member, USSR Academy of Medical Sciences; Ed.: Z.S. Shirokova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This book is intended for physicians, scientists, and engineers as well as for professors and students at vtuzes where radiobiology and radiation medicineare taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains 32 reports edited by Candidates of Medical Sciences S.V. Levinskiy and V.V. Sedov. The reports cover problems of the biological effects of ionizing radiation, future consequences of radiation in small doses, genetic effects of radiation, treatment of radiation sickness, uses of radioactive isotopes in medical and biological research, uses of atomic energy for diagnostic and therapeutic purposes, soil absorption of uranium fission products, their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

Reports of Soviet Scientists (Cont.) SOV/2808

Gulyakin, I.V., and Ye.V. Yudintseva. The Plant Intake of Strontium, Cesium, and Other Fission Products and Their Storage in the Crops (Report No. 2311) 357

Dubinin, N.P. Mechanism of the Radiation Effect on Heredity and the Problem of Radiosensitivity (Report No. 2074) 372

[illegible], G.G., and N.A. Arsen'yeva. Cytogenetic Effect of Ionizing Radiation in Nuclei of Monkey Germ Cells (Report No. 2476) 385

Alikhanyan, S.I., K.P. Gerina, S.Yu. Gol'dat, L.I. Yerokhina, V.G. Zhdanov, R.I. Zhdanova, O.B. Kapitonova, F.S. Klepikova, S.Z. Mindlin, A.A. Prokof'yeva-Bel'govskaya, and A.P. Tetaryatnik. Genetic Effect of Radiation and the Selection of Microorganisms Producing Antibiotics (Report No. 2493) 396

AVAILABLE: Library of Congress (QC770.I53)

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Card 7/7

17(4,10)

AUTHORS: Alikhanyan, S. I., Klepikova, F. S., Mindlin, S. Z., Garina, K. P., Zhdanova, N. I.

SOV/20-125-3-51/63

TITLE: Characteristics of the Induced Mutation Process in Actinomycetes - the Producers of Antibiotics (Osobennosti indutsirovannogo mutatsionnogo protsessa u aktinomitsetov - produtsentov antibiotikov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3, pp 643-645 (USSR)

ABSTRACT: Not only different species but also closely related strains of the same microbe species may differ with respect to their sensitivity and the frequency of the induced mutation (Refs 2-5). As a result of their investigations of actinomycetes the authors were able to provide a comparative analysis of the variability with respect to the production of antibiotics in strains of the same and of different species. The producer of streptomycin, albomycin, oxytetracycline and vitamin B_{12} was concerned. The strains of the albomycin producer were irradiated with X-rays with an intensity of 399 r/sec and a dose of

20 to 640 kr. A bactericidal lamp BUV-30 served for the ultraviolet irradiation (wave length 2537 Å). of the producer of oxytetracycline. The irradiation intensity amounted to 100 erg/mm^2. sec at a distance of 15 cm. The spores of the producer of vitamin B_{12} were treated with ethylenimine (dilution 1:7000). Figure 1 shows data concerning the frequency of formation of the plus and minus variants of Act. subtropicus (albomycin producer). An already earlier described regularity (Ref 6) can be seen therefrom: to begin with the number of both plus and minus variants increases with an intensification of the dose. As soon as the curves have reached a certain level, a decrease occurs. In both cases (strains Nr 39 and 738) the highest amount of plus variants is achieved at lower doses than the maximum of the minus variants. Both strains vary considerably with respect to the ratio between plus and minus variants. It was proved that the type of variability differs between the highly active "cultivated" strains and those of the wild type (with low activity). Figure 2 shows the curves of variability with respect to the frequency of plus and minus variants in highly

active strains of the producers of streptomycin and oxytetracycline (Act. globisporus streptomycini, strain Nr 66 and Act. rimosus, strain Nr 293 respectively). The former was preserved alone by several times selecting it under the effect of X-rays and ultraviolet rays, the latter under ultraviolet irradiation. Figure 2 shows that the results are similar to those obtained for the active strain Act. subtropicus Nr 738, i.e. the frequency of the minus variants increases that of the plus variants considerably. In the case of the little active, not several times selected strain H-6 of Act. olivaceus (the producer of vitamin B_{12}) the frequency of the plus variants was much higher than that of the minus variants under the effect of ethylenimine, just like with the little active strain Nr 39 of Act. subtropicus (Fig 3). Thus, it was proved that in strains of various species in many cases a similarity is possible with respect to the type of induced variability of the characteristic feature of the formation of an antibiotic, whereas strains of one and the same species may highly differ in this respect. This regularity appears also in the case when

Characteristics of the Induced Mutation Process in Actinomycetes - the Producers of Antibiotics SOV/20-125-3-51/63

different strains are subjected to the effect of completely different mutageneous factors (see above). Finally, the authors endeavor to explain these facts. There are 3 figures and 9 references, 3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics)

PRESENTED: November 19, 1958, by I. I. Shmal'gauzen, Academician

SUBMITTED: November 19, 1958

Card 4/4

MINDLIN, S.Z.

Radiation selection of micro-organisms. Itogi nauki: Biol. nauki no. 3:259-291 '60. (MIRA 13:10)
(RADIATION—PHYSIOLOGICAL EFFECT) (MICRO-ORGANISMS)

MINDLIN, S. Z., CHERKES, B. Z., KLEYNER, E. M., KHOKHLOV, A. S., ORLOVA, N. V., ZAYTSEVA, Z. M., and ALIKHANYAN, S. I. (USSR)

"Synthesis of Oxtetracycline in Inactive Mutants of Actinomyces rimosus."

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

MINDLIN, S.Z.; KUBYSHKINA, T.A.; ALIKHANYAN, S.I.

Use of Act. rimosus mutants for the study of oxytetracycline biosynthesis. Antibiotiki 6 no.7:623-629 Jl '61. (MIRA 15:6)

1. Institut atomnoy energii AN SSSR imeni I.V. Kurchatova.
(OXYTETRACYCLINE) (ACTINOMYCES)

MINDLIN, S.Z.; VLADIMIROV, A.V.; BORISOVA, L.N.; MIKHAYLOVA, G.R.

Obtaining actinomycetes hybrids producing tetracyclines (Actinomyces rimosus and Actinomyces aureofaciens) and their use in the selection of active strains. Trudy Inst. mikrobiol. no.10:187-196 '61. (MIRA 14:7)

(ACTINOMYCES) (TETRACYCLINE)
(HYBRIDIZATION, VEGETABLE)

ALIKHANYAN, S.I.; MINDLIN, S.Z.; ZAYTSEVA, Z.M.; ORLOVA, N.V.

Production of inactive mutants of Actinomyces rimosus and formation of the antibiotic during their joint cultivation. Dokl. AN SSSR 136 no.2:468-471 '61. (MIRA 14:1)

1.Predstavleno akademikom M.M.Shemyakinym.
(ACTINOMYCES) (TERRAMYCIN)

ZAOTSEVA, Z.M.; MINDLIN, S.Z.; ALIKHANYAN, S.I.

Terramycin synthesis in joint cultures of inactive mutants of Actinomyces rimosus. Dokl. AN SSSR 136 no. 3:714-717 Ja '61. (MIRA 14:2)

1. Predstavleno akademikom V.N. Shaposhnikovym.
(TERRAMYCIN) (ACTINEMYCES)

ALIKHANYAN, S.I.; MINDLIN, S.Z.; SUKHODOLETS, V.V.; KRYLOV, V.N.

Some current problems in the genetics of micro-organisms. (MIRA 15:12)
Antibiotiki 7 no.9:841-852 S '62.

1. Institut atomnoy energii imeni Kurchatova AN SSSR.
(GENETICS) (MICROBIOLOGY)

HUNGARY

ALIKHANIAN, Gh. I., [illegible], SZUCHOVOLEC, V. V., KRILOV, V.N.; Soviet Academy of Medicine, Atomic Energy Institute Named After Kurchatov [Russian version not given].

"Some Recent Problems of Microbial Genetics."

Budapest, Biologiai Kozlemenyek, Vol 10, No 2, 62, pp 87-95.

Abstract: The article is a translation from the Russian of a lecture presented at a congress on microbial genetics held in Moscow in January 1962. It represents a brief review of recent advances in the genetics of microorganisms, dealing mostly with work of Western European and United States scientists. Of 89 references, almost all are Western.

1/3

MINDLIN, S.Z.; ALIKHANYAN, S.I.; MURAV'YEVA, L.I.

Studying the mechansim of recombination in Actinomyces rimosus. Mikrobiologiia 31 no.3:443-448 My-Je '62. (MIRA 15:12)

1. Institut atomnoy energii imeni I.V.Kurchatova AN SSSR.
(ACTINOMYCES) (BOTANY—VARIATION)

MINDLIN, S.Z., kand.biolog.nauk; SUKHODOLETS, V.V.

Recombination of genetic systems in micro-organisms. Zhur.VKHO 8 no.1:56-68 '63. (MIRA 16:4)
(Micro-organisms) (Genetics)

MINDLIN, S. Z.; ZAYTSEVA, Z. M.; GERMANOV, A. B.; SHISHKINA, T. A.

"Genetic analysis of 'non-active' mutants of streptomyces rimosus."

report submitted for Antibiotics Cong, Prague, 15-19 Jun 64.

Atomic Energy Inst im I. V. Kurchatov, Moscow.

VALEVA, S.A.; MINDLIN, S.Z.

All-Union Symposium on Experimental Mutagenesis in Animals, Plants, and Microorganisms. Genetika no.1:198-200 '65. (MIRA 18:10)

ZAYTSEVA, Z.M.; MINDLIN, S.Z.

Production and properties of Act. aureofaciens mutants synthesizing 6-demethylchlortetracycline. Mikrobiologiia 34 no.1: 91-100 Ja-F '65. (MIRA 18:7)

1. Institut atomnoy energii imeni N.V. Kurchatova.

YEROKHINA, L.I.; IL'INA, T.S.; KAMENEVA, S.V.; KRYLOV, V.N.; LOMOVSKAYA, N.D.; MINDLIN, S.Z.; NIKIFOROV, V.N.; SOKOLOVA, Ye.V.; SUKHODOLETS, I.V.; ZAKHAROV, I.A.; INGE-VECHTOMOV, S.G.; KVITKO, K.V.; KRIVISSKIY, A.S.; KARASEVICH, Yu.N.; ENGEL'GARDT, V.A., akademik, glav. red.; ALIKHANYAN, S.I., prof., red.; IL'INA, T.S., red.

[Genetics and variation of micro-organisms] Genetika i selektsiia mikro-organizmov. Moskva, Nauka, 1964. 304 p. (MIRA 17:9)

1. Institut atomnoy energii imeni I.V.Kurchatova (for Yerokhina, Il'ina, Kameneva, Krylov, Lomovskaya, Mindlin, Nikiforov, Sokolova, Sukhodolets). 2. Kafedra genetiki Leningradskogo gosudarstvennogo universiteta (for Zakharov, Inge-Vechtomov, Kvitko). 3. Institut radiatsionnoy i fiziko-khimicheskoy biologii (for Krivisskiy). 4. Institut mikrobiologii AN SSSR (for Karasevich).

MINDLIN, Ya. A.

"Propagation of Elastic Waves in Two Dimensions," Dok.AN 25, No. 4, 1939.

Mbr., Acad. Sci., Inst. for Mechanics.

MINDLIN, Ya. A.

"The Diffraction of a Flat Wave With Respect to a Circle," Dok. AN 26, No. 6, 1940.

Inst. of Mech., Acad. Sci., c1940-.

MINDLIN, Ya. A.

"Concerning the Distribution of Waves in a Space of Three Dimensions," Dok.AN 26, No. 6, 1940.

Inst. of Mech., Acad. Sci., c1940-.

MINDLIN, Ya. A.

"The Solution of the Exterior Problem of Cauchy-Dirichlet for an Undulatory Equation in the Case of a Sphere," Dok.AN 26, No. 6, 1940.

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"Propagation of Waves on the Surface of an Infinitely Long Circular Cylinder Conceived as a Cut-out Portion of an Infinitely Elastic Space," Dok. AN 42, No. 4, 1943.

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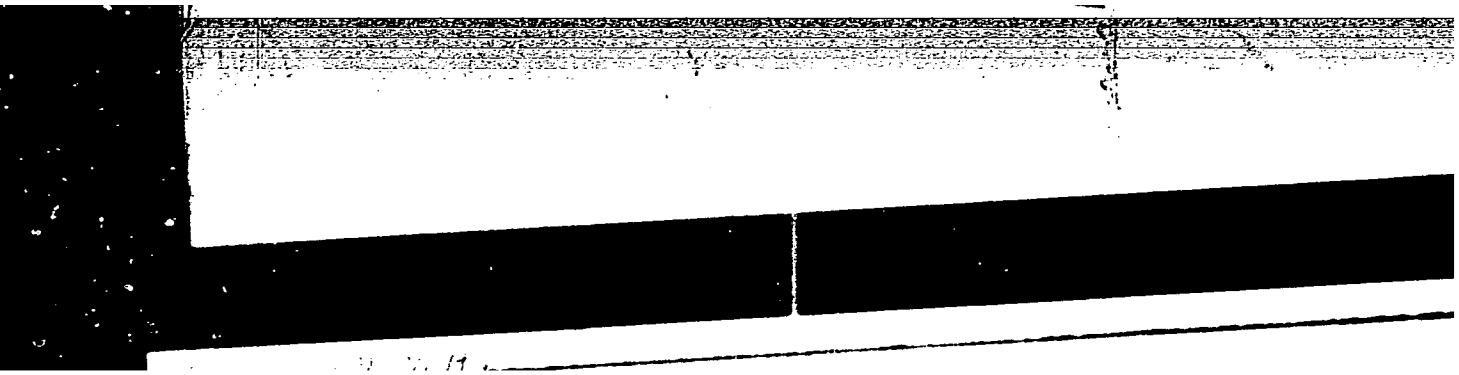


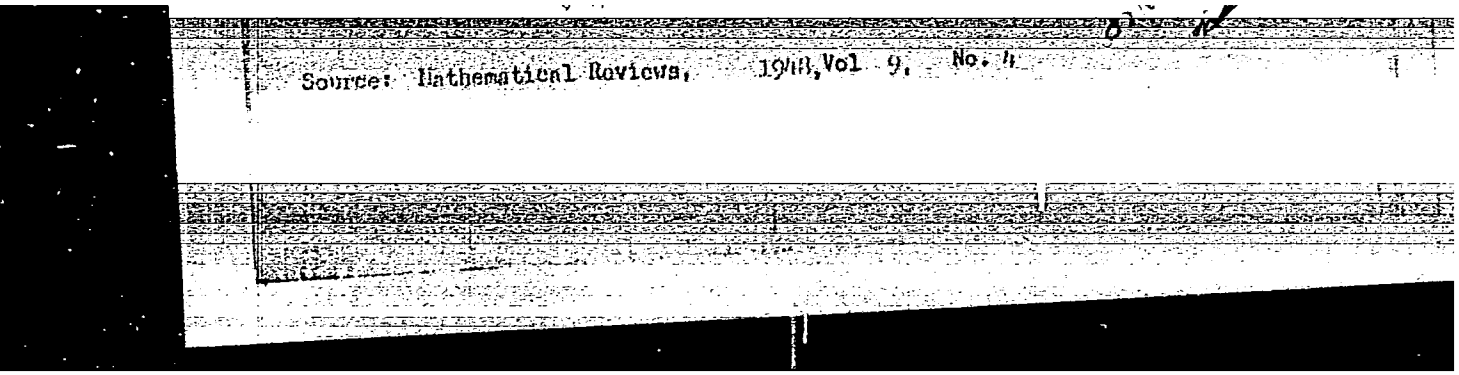
Mindlin, Y. 6. Problème mixte pour l'équation des ondes dans le cas d'un cercle et d'une sphère. (R. (Doklady) Acad. Sci. URSS (N. S.) 56, 111-114 (1947)

the "mixed" conditions (1) $u = u(r, \theta, t) \ldots = h(r, \theta)$ for $r < 1$, $t = 0$, (2) $u = v(\theta, t)$ for $r = 1$, $t > 0$, in polar coordinates r, θ.
The solution u is written in the form

[illegible]

The case of a sphe[illegible]

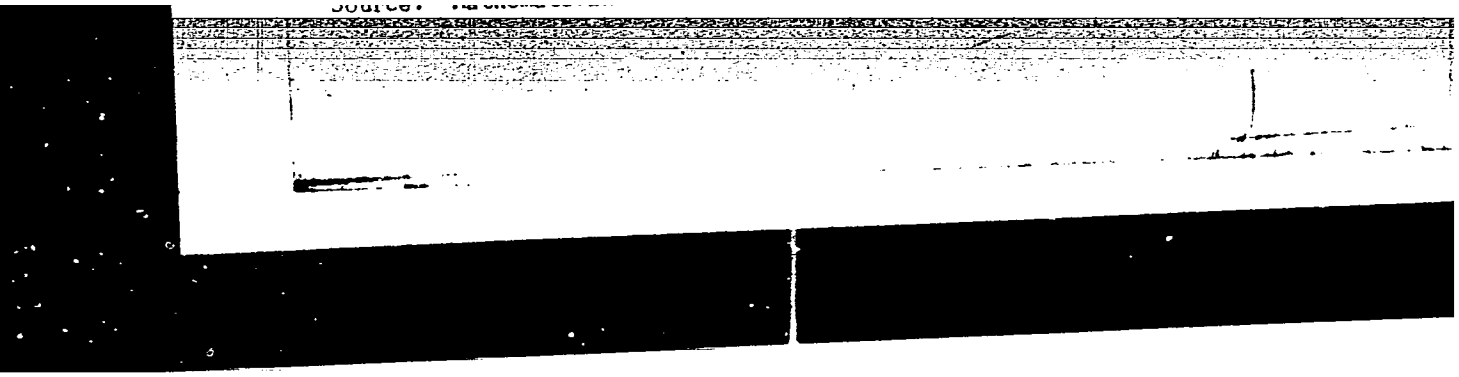
Source: Mathematical Reviews [illegible]



Mindlin, Ya. A. **A general representation of solutions of [redacted] wave equation.** Doklady Akad. Nauk SSSR (N.S.) 58, 17–20 (1947). (Russian)

The author shows that solutions of the equation $a^2\sum_{i=1}^{n}\partial^2u/\partial x_i^2 = \partial^2u/\partial t^2$ which are zero at infinity can be put in the form

$$u = \sum^{\infty} \int^{\infty} Y_s(r\cosh\xi, t, \theta_1, \cdots, \theta_n, \varphi)\sinh^s\xi \cdot C_s^n(\cosh\xi)d\xi.$$



APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134410015-1"

[illegible], Ya.A. (Moskva)

General representations of the solutions of a wave equation in two and three-dimensional space. Mat. sbor. [illegible] 208 S '[illegible]. (MIRA 14:10)

(Wave mechanics)
(Differential equations)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134410015-1"

29022
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9.9000 (1103)

AUTHOR: Mindlin, Ya.A. (Moscow)

TITLE: General representations of the solutions of the wave equation in the two and three-dimensional space

PERIODICAL: Matematicheskiy sbornik, v. 55, no. 2, 1961, 175-208

TEXT: The present results were already announced in DAN SSSR, v. 25,4 (1936) ; v. 26, no. 6 (1940) ; v. 27, no. 9 (1940). The author gives representations of the solutions of

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} = \frac{1}{a^2}\frac{\partial^2 u}{\partial t^2} \qquad (1.0)$$

being more general than the usual ones.
In chapter I the author at first considers the equation

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = \frac{1}{a^2}\frac{\partial^2 u}{\partial t^2} \qquad (1.1)$$

Card 1/8

General representations of the ...

and shows :
Theorem : Every solution

$$u(r,\theta,t) = \sum_{n=0}^{\infty} a_n^{(1)}(r,t)\cos n\theta + a_n^{(2)}(r,t)\sin n\theta$$

of the equation (1.1) the Fourier coefficients $a_n^{(i)}(r,t)$ of which satisfy the condition

$$\lim_{r\to\infty} r^{n+1+\varepsilon}\frac{\partial^l a_n^{(i)}(r,t)}{\partial r^l} = 0 \quad (l = 0,1,2 ;\ i = 1,2)$$

can be represented in the form

$$u(r,\theta,t) = \sum_{n=0}^{\infty}\left\{\int_0^{\infty}\left[A_n^{(1)}(at - r\,\mathrm{ch}\,\xi) + A_n^{(2)}(at + r\,\mathrm{ch}\,\xi)\right]\mathrm{ch}\,n\xi\,d\xi\cdot\cos n\theta\right\} +$$
$$+\sum_{n=1}^{\infty}\left\{\int_0^{\infty}\left[B_n^{(1)}(at - r\,\mathrm{ch}\,\xi) + B_n^{(2)}(at + r\,\mathrm{ch}\,\xi)\right]\mathrm{ch}\,n\xi\,d\xi\cdot\sin n\theta\right\}. \qquad (43.1)$$

Card 2/8

General representations of the ...

The representation (43.1) generalizes the representation

$$u = \int_0^{\infty} \left[f\left(t - \frac{r}{a} \operatorname{ch}\xi\right) + F\left(t + \frac{r}{a} \operatorname{ch}\xi\right) \right] d\xi \qquad (2.0)$$

given by Levi-Civita and Lamb.
With the aid of the representation (43.1) the author solves the Cauchy problem

$$\left.\begin{aligned} u\big|_{t=0} &= u_0(r, \theta) = \sum_{n=0}^{\infty} a_n^{(1)}(r) \cos n\theta + b_n^{(1)}(r) \sin n\theta , \\ \frac{\partial u}{\partial t}\Big|_{t=0} &= u_0^{(1)}(r,\theta) = \sum_{n=0}^{\infty} a_n^{(2)}(r) \cos n\theta + b_n^{(2)}(r) \sin n\theta , \end{aligned}\right\} \qquad (44.1)$$

where

Card 3/8

General representations of the ...

$$\left.\begin{aligned} &\lim_{r\to\infty} r^{n+\varepsilon}\, a_n^{(1)}(r) = 0 , \qquad \lim_{r\to\infty} r^{n+1+\varepsilon}\, a_n^{(1)\prime}(r) = 0 , \\ &\lim_{r\to\infty} r^{n+1+\varepsilon}\, a_n^{(2)}(r) = 0 , \qquad \lim_{r\to\infty} r^{n+2+\varepsilon}\, a_n^{(2)\prime}(r) = 0 , \end{aligned}\right\} \qquad (45.1)$$

and $\varepsilon > 0$, for the equation (1.1). For the determination of the arbitrary functions $A_n^{(1)}$, $A_n^{(2)}$, $B_n^{(1)}$, $B_n^{(2)}$ in this case there result the equations

$$A_n^{(1)}(-r) + A_n^{(2)}(r) =$$

$$= -\frac{2}{\pi} \int_0^\infty \left[n a_n^{(1)}(r \operatorname{ch}\xi) + r \operatorname{ch}\xi\, a_n^{(1)\prime}(r \operatorname{ch}\xi) \right] T_{n-1}(\operatorname{sch}\xi)\, d\xi \qquad (47.1)$$

Card 4/8

General representations of the ...

$$A_n^{(1)}(-r) - A_n^{(2)}(r) = \tag{49.1}$$

$$= \frac{2}{\pi a} \int_{\infty}^{r} d\mu \int_{0}^{\infty} \left[n a_n^{(2)}(\mu \operatorname{ch}\xi) + \mu \operatorname{ch}\xi \, a_n^{(2)'}(\mu \operatorname{ch}\xi) \right] T_{n-1}(\operatorname{sch}\xi) d\xi$$

and

$$A_n^{(1)}(at) + A_n^{(2)}(at) = 0 \tag{50.1}$$

where $T_n(\mu) = \cos(n \arccos\mu)$ is the Chebyshev polynomial.
In chapter II the author considers the equation (1.0) and states :
Theorem : Every solution $u(r,\theta,\varphi,t)$ of (1.0)

$$u(r,\theta,\varphi,t) = \sum_{n=0}^{\infty} \sum_{m=0}^{\infty} \left[a_{n,m}^{(i)}(r,t)\cos m\varphi + a_{n,m}^{(2)}(r,t)\sin m\varphi \right] P_n^m(\cos\theta)$$

where the $a_{n,m}^{(i)}(r,t)$ satisfy the condition

Card 5/8

General representations of the ...

$$\lim_{r\to\infty} r^{n+1+l+\varepsilon} \frac{\partial^l a^{(i)}_{n,m}(r,t)}{\partial r^l} = 0 \qquad (l = 0,1,2;\ i = 1,2)$$

is representable in the form

$$u(r,\theta,\varphi,t) = \sum_{n=0}^{\infty} \sum_{m=0}^{n} \int_0^{\infty} \left\{ \left[A^{(1)}_{n,m}(at - r\,ch\xi) + A^{(2)}_{n,m}(at + r\,ch\xi) \right] \cos m\varphi + \right.$$

$$\left. + \left[B^{(1)}_{n,m}(at - r\,ch\xi) + B^{(2)}_{n,m}(at + r\,ch\xi) \right] \sin m\varphi \right\} P_n(ch\xi) \cdot sh\xi\, d\xi\, P^m_n(\cos\theta) \qquad (48.2)$$

The representation (48.2) is used for the solution of the Cauchy problem

$$u\big|_{t=0} = u_0(r,\theta,\varphi) = \sum_{n=0}^{\infty} \sum_{m=0}^{n} \left[a^{(1)}_{n,m}(r)\cos m\varphi + b^{(1)}_{n,m}(r) \sin m\varphi \right] P^m_n(\cos\theta) \qquad (49.2)$$

$$\frac{\partial u}{\partial t}\Big|_{t=0} = u^{(1)}_0(r,\theta,\varphi) = \sum_{n=0}^{\infty} \sum_{m=0}^{n} \left[a^{(2)}_{n,m}(r)\cos m\varphi + b^{(2)}_{n,m}(r) \sin m\varphi \right] P^m_n(\cos\theta)$$

Card 6/8

General representations of the ...

where

$$\left.\begin{aligned} &\lim_{r\to\infty} r^{n+1+\varepsilon} a^{(1)}_{n,m}(r) = 0 , \quad \lim_{r\to\infty} r^{n+2+\varepsilon} a^{(1)'}_{n,m}(r) = 0 , \\ &\lim_{r\to\infty} r^{n+2+\varepsilon} a^{(2)}_{n,m}(r) = 0 , \quad \lim_{r\to\infty} r^{n+3+\varepsilon} a^{(2)'}_{n,m}(r) = 0 . \end{aligned}\right\} \qquad (50.2)$$

The functions A and B of the solution of the Cauchy problem can be determined from

$$A^{(1)}_{n,m}(-r) + A^{(2)}_{n,m}(r) = -(n+1)\, a^{(1)}_{n,m}(r) - r a^{(1)'}_{n,m}(r) +$$

$$+ \int_0^\infty \left[(n+1)\operatorname{th}\xi\, a^{(1)}_{n,m}(r\operatorname{ch}\xi) + r\operatorname{sh}\xi\, a^{(1)'}_{n,m}(r\operatorname{ch}\xi)\right] P'_{n-1}(\operatorname{sch}\xi)\, d\xi, \qquad (52.2)$$

$$A^{(1)}_{n,m}(-r) - A^{(2)}_{n,m}(r) = \frac{1}{a}\int_\infty^r \left[(n+1)a^{(2)}_{n,m}(\mu) + \mu a^{(2)'}_{n,m}(\mu)\right] d\mu - \qquad (54.2)$$

Card 7/8

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General representations of the ...

$$- \frac{1}{a} \int_{\infty}^{r} d\mu \int_{0}^{\infty} \left[(n+1) \operatorname{th} \xi \, a_{n,m}^{(2)}(\mu \operatorname{ch} \xi) + \mu \operatorname{sh} \xi \, a_{n,m}^{(2)'}(\mu \operatorname{ch} \xi) \right] P'_{n-1}(\operatorname{sch} \xi) d\xi,$$

$$A_{n,m}^{(1)}(at) + A_{n,m}^{(2)}(at) = 0 \quad . \tag{50.1}$$

The author mentions S.L. Sobolev. There are 3 Soviet-bloc and 12 non-Soviet-bloc references. The references to the three English-language publications read as follows: H. Lamb, On wave-propagation in two dimensions, Proc.London Math.Soc. (1), 35 (1902), 141-161 ; D.V. Releigh, Teoriya zvuka [Theory of sound] v.2, Moscow, Gostekizdat, 1955 ; E.T. Whitaker, G.N. Watson, Kurs sovremennogo analiza, [Modern analysis]. Moscow-Leningrad, ONTI, 1934.

SUBMITTED: December 3, 1959

Card 8/8

MINDLIN, Ya. A. (Moskva)

Free elastic waves on the surface of a tube of infinite thickness. Prikl. mat. i mekh. 27 no.3:551-554 My-Je '63. (MIRA 16:6)

(Elastic waves)