USSR/Physics
Air Flow - Measurements
Air Resistance - Measurements

Jun 1947

"The Measurements of Friction in Porous Materials under Conditions of a Constant Air Flow and Sound Waves," S. N. Rzhevkin, S. S. Tumanskiy, 11 pp

"Zhur Tekh Fiz", Vol XVII, No 6

PA 34T102

The means of measuring the resistance to an air current is examined from the standpoint of the study of porous materials used as sound absorbers. The simple construction of the apparatus for rapid determination of the resistance is described, which can be recommended for practical measurements. The results of

34T102

USSR/Physics (Contd) Jun 1947

measuring the resistance of small pores in metal foil and for various porous materials are the same as the results of other authors. It is shown that the increase of resistance upon increasing the speed, which was discovered in the experiments, can be explained by an increase in the hydrodynamic pressure drop in the laminar flow.

RZHEVKIN, S. N.

34T102

RZHEVKIN, S. N.

"Progress in Soviet Acoustics," Uspekhi Fiz. Nauk, 34, No.1, pp 1-12, 1948.

USSR/Physics - Radiation, Sonic Dec 49

"Movement of Energy in a Field of Spherical Sonic Radiators," S. N. Rzhevkin, Moscow Hydrophys Inst, Acad Sci USSR, 18 pp

"Zhur Tekh Fiz" Vol XIX, No 12

PA 152T93

Gives generalized expression for the sound field of a composite spherical sonic radiator by means of "spherical Bessel and Neumann functions." Relations are found between usually employed Stokes-Rayleigh functions f(jkr) and F(jkr) and new and more convenient functions G(kr), D(kr), e(kr), and d(kr). Investigates problem of energy flow. Establishes

152T93

USSR/Physics - Radiation, Sonic (Contd) Dec 49

that in a field of simple radiators, tangential energy flows are absent, but in a field of complex radiators, they are always present. Details example of a radiator of the 0 plus 1 order. Gives general expression for combined energy and mass of zonal and sectional radiators of any order. Submitted 7 Sep 49.

152T93

RZHEVKIN, S. N.

RZHEVKIN, S. N.

"Visualization of Spatially Modulated Waves," a report presented at the conference of the Acoustics Commission, AS USSR held in Leningrad 1-3 Feb 51.

W-21610, 25 Feb 52

RZHEVKIN, S. N. PA193T100

USSR/Physics - Sound, Diffraction of Oct 51

"Connection of the Problem of Sound Diffraction by Sphere With the Reciprocity Theorem," S. N. Rzhevkin, Marine Hydrophys Inst, Acad Sci USSR

"Zhur Tekh Fiz" Vol XXI, No 10, pp 1224-1227

Author proves, by solving diffraction problem, that sound pressure at distant point B generated by point source with productivity A located at pole P of rigid immobile sphere equals sound pressure at the same point P on spherical surface, generated by source of same productivity A located at distant point B. Submitted 15 Aug 50.

193T100

USSR/Physics - Sound Waves May 51

"Visualization of Spatial Modulated Sounds Waves,"
S. N. Rzhevkin

"Uspekh Fiz Nauk" Vol XLIV, No 1, pp 70-79

Spatially modulated waves are waves in which amplitude does not remain const over fronts of equal phase. They occur in the most diverse cases. Ordinary method for obtaining such waves is to force wave through surface or syst, certain parts of which are more permeable and other parts less permeable. Surfaces of this type are diffraction lattices, zonal plates, etc. Spatially modulated waves arise

183T90

USSR/Physics - Sound Waves (Contd) May 51

also as result of diffraction against individual obstacles. Essential problem concerns stability of spatially modulated waves during further propagation. Presents graphic method for considering these waves.

183T90

RZHEVKIN, S. N.

USSR/Physics - Sound FD-1198

Card 1/1 Pub. 129-1/19

Author : Rzhevkin, S. N.

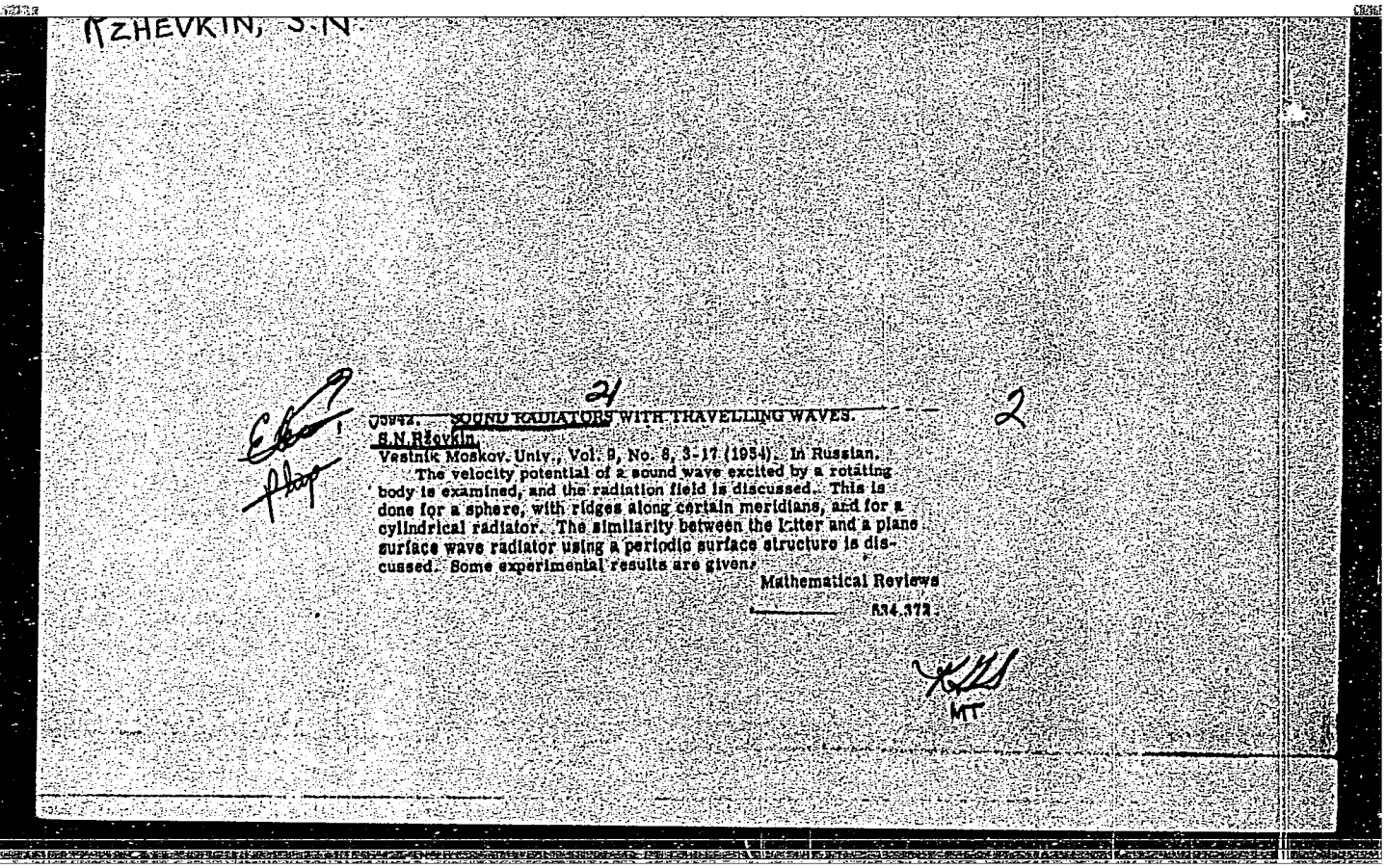
Title : Sound emitters with traveling wave

Periodical : Vest. Mosk un., Ser. fizikomat. i yest. nauk 9, No 5, 3-18 Aug 1954

Abstract : A more general analysis continuing his previous work ("Radiation of sound waves traveling over a sphere", No 2, (1949) of a sonor field of a spherical emitter with traveling wave is presented. Full analogy is established between emitters with traveling wave and rotational emitters producing rotational sound, due to periodic compressions of the medium by the rotating body. Results of experimental study of a cylindrical emitter with traveling wave proved in agreement with theory. Eight references.

Institution :

Submitted : January 14, 1954



RZHEVKIN, S.N.

21

2

Ref. SOUND RADIATORS WITH TRAVELLING WAVES.

S.N.Rzevkin.

Vestnik Moskov. Univ., Vol. 9, No. 8, 3-17 (1954). In Russian.

The velocity potential of a sound wave excited by a rotating body is examined, and the radiation field is discussed. This is done for a sphere, with ridges along certain meridians, and for a cylindrical radiator. The similarity between the latter and a plane surface wave radiator using a periodic surface structure is discussed. Some experimental results are given.

Mathematical Reviews

16,372

MT

RZHEVKIN, S. N.

"Analysis of Singing Voice Formants. Ak. Zh. #2, p 208, 1952.

Rzhevkin, S.N

POLAND/Acoustics. J

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10280

Author : Rzhevkin, S.N.
Inst :
Title : On the Problem of Analysis of the Sound of the Singing Voice.

Orig Pub: Sb. posvyashch. pamyati akad. P.P. Lazarev, M. AN SSSR, 1956, 305-318

Abstract: On the basis of analysis of recorded voice of singers with the aid of high-fidelity electroacoustic apparatus, it was observed that there exists in the voice of an experienced singer two clearly pronounced "singing formants" in narrow frequency regions near 500 and 2500 cycles. These regions are identical for all vowels and at all pitches from the lowest to the highest. Thus, in the singing sound the characteristic features of various vowels are lost.

Comparison with the voice of an unexperiences singer shows that in the latter case the singing formants are not clearly pronounced and stable in frequency; the upper formant is for the most part missing.

Card : 1/2

POLAND/Acoustics. J

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10280

One can assume that the lower formant, corresponding to the reinforcement of the overtones in the 500 cycle region, determines the "massiveness" that characterizes the lower male voice, while the upper, the more important one, determines the "metallicity" or the "sonority" of a voice, necessary for any good voice.

To explain the contradiction between the similarity of the formant regions for the singing voice and all vowels and the clear diction that qualified singers have, an assumption is made that there is a rapid retuning of the voice of an experienced singer from the speech position at the start of the sound (instant of attack) to a singing position in the steady, prolonged portion of the sound. Inexperienced singers, who do not have a rapid mechanism of retuning the voice apparatus, do not have clear diction.

Card : 2/2

Rzhevkin, S. N.

USSR/Acoustics - Physiological Acoustics. Speech and Singing, J-8

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35646

Author: Rzhevkin, S. N.

Institution: ~~None~~ Chair Acoustics, Moscow State U.

Title: Certain Results of Analysis of the Singing Voice

Original Periodical: Akust. zh., 1956, 2, No 2, 205-210

Abstract: In the voice of an experienced singer, one notes the presence of sharply pronounced "singing formants" in the region near 500 and near 2,500 cycles, equal for all vowels and all ranging from the lowest to the highest notes. Comparison with the voice of an inexperienced singer shows that in the latter the singing formants are not clearly pronounced and stable; the upper formant, causing the metallic character of the voice, is absent. A hypothesis is made that the voice of an experienced singer is sharply returned from the speech position at the start of the vowel sound into the singing position, characteristic for a steady-state, prolonged portion of the sound.

Card 1/1

RZHEVKIN, S. N.

1-47

534.26

4080. CERTAIN CONSEQUENCES OF THE THEORY OF SOUND DIFFRACTION ON AN ELASTIC SPHERE. S.N.Rzhevkin. Akust. Zh., Vol. 2, No. 4, 368-71 (1956). In Russian.

Rayleigh gave a solution of the problem of the diffraction of sound by an elastic sphere of dimensions small compared with the wavelength. The present paper gives a more extended analysis of the same problem. It is shown that the amplitude of the pulse oscillations of the surface of the sphere is determined by a complex impedance depending on the concentrated mass, internal elasticity and radiation resistance of the sphere. It is shown how to find the resonant frequency of the sphere. It is also shown that a resonating sphere of gas in a liquid draws in energy from a wavefront equal to λ^2/π. For such a sphere the amplitude of the vibration depends on the density of the internal gas and that of the external medium, and an expression is given for this dependence. The effect of viscosity on the oscillations is also considered. C.R.S.Manders

RZHEVKIN, S. N.

"The Theory of the Ultrasound Interferometer."

report presented at the 6th Sci. Conference on the Application of Ultrasound in the I nvestigation of Matter, 3-7 Feb 1958, organized by Min. of Education RSFSR and Moscow Oblast Pedagogic Inst. im N. K. Krupskaya.

USSR/Acoustics - Ultrasonics, J-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35563

Author: Aver'yanova, V. G., Makarov, V. I., Rzhevkin, S. N.

Institution: Moscow State University, USSR, Chair of Acoustics

Title: Visualization of Shear Ultrasonic Waves in Transparent Solid Bodies

Original Periodical: Akust. zh., 1956, 2, No 2, 224-225

Abstract: Using a sensitive Tepler installation in (flint) glass blocks in nonpolarized light, the standing shear waves, excited by a Y-section quartz plate, was observed. At 805.6 kc the speed of the shear wave was 2,481 m/sec. The running shear waves were observed upon reflection of the longitudinal wave at the boundary between the glass and the air in the form of a light beam against the background of the interference of the reflected longitudinal and shear waves. Mueller (Mueller, H., Physics, 1935, 6, 179-184) has shown theoretically that the elastic stresses produce an

USSR/Acoustics - Ultrasonics, J-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35563

Abstract: anisotropy of the molecular refraction, changing as a result the coefficient of refraction. This leads to the possibility of the diffraction of light by shear waves, although indeed a weaker possibility than in the case of longitudinal waves. The possibility of visualizing shear waves without polarization optics is attributed to the greater sensitivity of the installation.

Card 2/2

MAKAROV, V. I. and RZHEVKIN, S. N.

"Ultrasonic Wave Excitation in Plates and Shells."

paper presented at 4th All-Union Conf. on Acoustics, Moscow, 26 May - 2 Jun 58.

SOV-46-4-3-18/18

AUTHORS: Rzhevkin, S. N. and Rozenberg, L. D.

TITLE: Book Reviews (Bibliografiya)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol 4, Nr 3, pp 295-296 (USSR)

ABSTRACT: There is a factual review of "Technical Aspects of Sound" by E. G. Richardson, and a critical review of J. Matauschek's "Einführung in die Ultraschalltechnik".

1. Literature--USSR 2. Acoustics

Card 1/1

KUDRYAVTSEV, B.B.; RZHEVKIN, S.N.

Fifth seminar on acoustics in Olsztyn. Akust.zhur. 4 no.4: 376 O-D '58. (MIRA 11:12)

(Sound)

SOV/124-59-9-9815

Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 34 (USSR)

AUTHOR: Rzhevkin, S.N.

TITLE: The Paradox of a Near Field of a Piston Diaphragm

PERIODICAL: V sb.: Primeneniye ul'traakust. k issled. veshchestva. Nr 6, Moscow, 1958, pp 47 - 52

ABSTRACT: The author investigates theoretically the radiation of a round piston diaphragm oscillating within an aperture in an infinitely rigid screen. The sonic field has the nature of a standing wave with gradually increasing distance between its nodal points. The field reflected from a reflector has also a complicated structure. The author shows that the generation of regular plane standing waves, having intervals between the minima near the half-wave of sound, can be observed when displacing the reflector in an interferometer. This phenomenon makes it possible to measure the sound velocity with high accuracy. It is caused by automatic averaging

Card 1/2

Card 2/2

SOV/53-66-1-9/11

AUTHOR: Rzhevkin, S. N.

TITLE: Anatoliy Boleslavovich Mlodzeyevskiy (on His 75th Birthday) (Anatoliy Boleslavovich Mlodzeyevskiy (k semidesyatipyatiletiyu so dnya rozhdeniya))

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 66, Nr 1, pp. 145 - 146 (USSR)

ABSTRACT: The present article is dedicated to Anatoliy Boleslavovich Mlodzeyevskiy who on April 11, 1958, celebrated his seventy-fifth birthday. Simultaneously the 55th year of his activity as a scientist and a teacher is commemorated. He started his scientific activity at the laboratory of the famous physicist P.N.Lebedev; his first scientific paper dealt with the velocity of sound in air. During his long activity, he finally was Professor at the Moscow State University. He published a great number of scientific papers, predominantly on thermodynamical and physicochemical problems. He gave courses on general physics, electrodynamics, thermodynamics, metal physics, phase theory, crystal optics, vector analysis, etc. He wrote textbooks for universities entitled: "Molecular Physics", "Thermodynamics",

Card 1/2

REHEVKIN, S. N.

BOP

PHASE I BOOK EXPLOITATION SOV/4342

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniye ul'traakustiki k issledovaniyu veshchestva; trudy konferentsiy, vyp. 9 (Application of Ultrasonics in the Study of Substances, No. 9) Moscow, Izd. MOPI, 1959. 245 p. Errata slip inserted. 1,000 copies printed.

Eds.: V. F. Nozdrev, Professor, and B. B. Kudryavtsev, Professor.

PURPOSE: This collection of articles is intended for scientists specializing in ultrasonics, and for those interested in the application of ultrasonics to the study of the properties of materials, and to the quality control of machined parts and structural elements.

COVERAGE: The collection constitutes the transactions of the All-Russian Conference of Professors and Teachers of Pedagogical Institutes. The articles report on recent theoretical and experimental investigations in the field of ultrasonics and discuss the application of ultrasonics to the study of

Card 1/7

materials and to the quality control of machined parts and structural elements (defectoscopy). No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

Rzhevkin, S. N. [MGU imeni Lomonosova (Moscow State University imeni Lomonosov)]. Contribution to the Theory of the Ultrasonic Interferometer 3

Shakhparonov, M. I. [Moscow State University imeni Lomonosov]. On the Possibility of Investigating the Function of Distribution of Density Fluctuation From the Data on the Speed of Propagation of Hypersonic Waves 9

Amirkhanov, Kh. I., A. M. Kerimov, and B. G. Alibekov [Dagestanskiy filial AN SSSR (Dagestan Branch of the Academy of Sciences USSR)]. Investigation of the Specific Heat C_V of a Liquid by Direct Measurement and Comparison of the Results Obtained With Values of Specific Heat C_V Found by Means of Ultrasonics 23

Rzhevkin, S. N.

USSR (cont'd)

MIKHAYLOV, B. B., and BAIDA, S. A., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "The Relationship between Viscosity and Velocity of Sound in a Liquid"

MIREK, V. I., and KUZNETS, S. K., State University of Moscow - "Study of Sound Dispersion in Solid Bodies, Plates, and Rods by Means of an Optical Process in a Dark Field"

MIRYUSHKIN, O. D., Acoustics Institute, USSR Academy of Sciences, Moscow - (1) "The Sommerfeld Integrals and Curve Tasks in Cuneate Areas"; (2) "Development of Curve Phenomena Presentations"

MOSKALEV, L. G., Leningrad Electrical Engineering Institute im. V. I. Ul'yanov-Lenin - "Absorption of Ultrashort Waves with Frequencies of up to 1000 MHz in Crystals"

NATOL'SKIY, K. K., and ROMANENKO, E. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "The Propagation of Spherical and Cylindrical Waves of Finite Amplitude"

NOSKOV, V. F., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "Physical Bases for the Technical Application of Molecular Acoustics of Small Amplitudes"

NOSKOV, V. F., BELENKAYA, L. G., and BELENKIY, B. A. - "Study of Supersonic Wave Absorption in the Esters of Acetic Acid at High Frequencies"

NOSKOV, V. F., KALYAKOV, B. E., and SHTEMKVICH, M. G. - "Studies of Supersonic Wave Absorption in Liquids at High Temperatures and Pressures"

NOSKOV, V. F., ROSHCHIN, M. I., and OSHERNOV, M. A. - "Study of the System of Liquid-proof Bodies by Means of Ultra-acoustical Methods"

NOSKOV, V. F., YAKOVLEV, V. F., PEREVERZEV, Yu. G., and SHCHERVIN, A. A. - "Dispersion of Ultrasonic Sound in Thin Gases"

POLYAKOVA, A. L., Acoustics Institute, USSR Academy of Sciences, Moscow - "Absorption of Ultimate Amplitude Sound Waves in Relaxing Media"

RENYI-RUSNAK, A. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "Statistical Properties of Broad-casting Signals"

RY, E. A., and FRILOV, D. P., Acoustics Institute, USSR Academy of Sciences, Moscow - "

RYZHKIN, L. D., Acoustics Institute, USSR Academy of Sciences, Moscow - "Studies of the Physical Processes in Industrial Applications of Supersonic Sound"

SAMOYLOVA, I. L., Bechanov Institute of Evolutionary Psychology, USSR Academy of Sciences, Leningrad - "Recording-making of Short Tone Signals"

SAVIN, I. I., and IVASHUK, Yu. M., Laboratory for Combating Noise, Institute for Labor Protection, Leningrad - "The Soviet System of Standards for Industrial Noise and the Soviet Union's Experiences with the System"

Hungary

HERCZ, D., Seismic Observer - "Contribution to the Theory of Sound Radiation"

SZILARD, J., Budapest - "Ultrasound Intensity Measurement by Compensated Calorimeter"

Poland

KRYZHA, P., ORYLSKI, A., and SZYMA, S., Chair of Physics, Higher School of Agriculture, Olsztyn - "Concerning a New Acoustic Method of Determining Intermolecular Molecular Forces in Liquids and Liquid Mixtures"

Germany (Democratic Republic)

JACOB, E. F., Institute for Theoretical Physics, University of Rostock - "The Significance of Sound Velocity Measurements for the Physics of Ternary Solutions"

"Generation of Sound by Spark Discharges in Water"

1 - 8 Dec 1959

Excerpts from the Progress and Information Circular, reports to be submitted for the Third Intl. Congress on Acoustics, ICA, Stuttgart, [illegible]

AUTHOR: Velizhanina, K.A. and Kznevkin, S.N.

TITLE: Investigation of the sound-absorbing structure of the Anechoic Chamber of the Faculty of Physics of the Moscow State University. (Issledovaniye zvukopogloshchayushchikh konstruktsiy dlya zvukomernoy kamery fizicheskogo fakulteta Moskovskogo Gosudarstvennogo Universiteta.)

PERIODICAL: "Akusticheskiy Zhurnal" (Journal of Acoustics) 1957, Vol. III, No. 1, pp. 23 - 28 (U.S.S.R.)

ABSTRACT: Project and constructional details of the Anechoic Chamber for the new Faculty of Physics of the Moscow State University are given. It is an irregular parallelogram, 100 m^2 and about 7.5 m in height, the ceiling being inclined at about 10°. Total volume is 650 m^3. The absorption chamber is insulated from the building walls with rubber spacers. The project involved an investigation into the best sound-absorbing types of constructions and of materials. The usually adopted construction methods are those given by E. Meyer, J. Buchman and A. Schoch 1) and by Beranek and Harvey P. Sleeper 2). These were used for the construction of the Anechoic Chamber of the Academy of Communications imeni Budenny (Akademiya Svyazi imeni Budennogo) with the absorbing material based on asbestos yarn. To improve low frequencies absorption the Chamber of the Institute of Radio-communication and of Acoustics (Institut Radioveshchatelnogo Priema i Akustiki) in Leningrad, 3) the lining was changed to "MIPOR" foam plastic with a spec.grav. of

Card 1/2

Investigation of the sound-absorbing structure of the Anechoic Chamber of the Faculty of Physics of the Moscow State University. (Cont.) 46-1-3/20

0.011-0.017 g/cm^3 forming a resonant sound sink, as suggested by Bibishev, Velizhanina and Sokolov, 4). This was achieved by using segments of "MIPOR" with a bad absorption characteristic and experimentally finding the best positioning of them inside resonator cavities in the wall. As expected, this gave good results at one particular frequency only, since for a given resonator the segment should be chosen so as to meet specific requirements as pointed out by Rzhevkin, S.V., 5). It was decided, therefore, to use, in the present chamberm glass wool as absorbing material for segment lining with s.g. = 0.12 g/cm^3. It gave satisfactory results down to 80 c.p.s.

Two drawings of a straight and of a combined resonator systems and 7 graphs relating the coefficient of reflection against frequency for various materials and shapes of the lining segments are included. There are 5 references, of which 3 are Russian.

Card 2/2

1095. K. A. Velikhanina and S. N. Rzhevkin, "Noise analysis of a moving airplane" (in Russian), *J. Tech. Phys.* (*ZA tekh. Fiz.*), Dec. 1947, vol. 17, pp. 1483-1490.

Propeller and exhaust are the principal sources of airplane noise, and both produce sounds of tonal nature. The noise spectrum is, for many reasons, slightly variable. Current sound analyzers are of limited usefulness for studying it since (1) the exposure times are too long; (2) the weaker components are omitted; (3) the frequency discrimination does not exceed one third of an octave. The authors recommend using any type of recording (wire or film is favored), from which an "almost-period" is extracted and recopied a number of times, the copies being later joined into a sound track of about 0.1 sec duration. If no period can be perceived, any sufficiently long interval can be used, and the authors exhibit the corresponding formulas.

For the study of the Messerschmidt 109 the authors made a phonograph recording, transferred it onto a film, recopied 30 cm of the sound track 14 times, ran the combined strip through a reproducer, and fed the amplifier output into a Rodman analyzer. Two spectra are shown in the paper, one for overhead, the other for receding flight.

A. W. Wundheiler, USA

PHASE I BOOK EXPLOITATION SOV/4327

Rzhevkin, Sergey Nikolayevich

Kurs lektsiy po teorii zvuka (Course of Lectures on the Theory of Sound) [Moscow] Izd-vo Mosk. univ., 1960, 334 p. Errata slip inserted. 6,000 copies printed.

Ed.: K. M. Ivanov-Shits; Ed. of Publishing House: S. F. Kondrashkova; Tech. Ed.: M. S. Yermakov.

PURPOSE: This book is intended as an aid for students of the Moscow State University and of other schools of higher learning and for personnel of scientific institutes working in the field of acoustics.

COVERAGE: This book consists of lectures on the theory of sound given by the author at the Radio Physics Department of the Physics Division of the Moscow State University in recent years. The material deals with the derivation of the sound wave equation, the propagation of plane waves and their transmission through interfaces of various media, the propagation of sound waves in tubes and acoustic lines,

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Card 2/3

BENDRIKOV, G.A.; KRASNUSHKIN, P.Ye.; REYKHRUDEL', E.M.; POTEMKIN, V.V.; MUSTEL', Ye.R.; RZHEVKIN, K.S.; IVANOV, I.V.; KHARLAMOV, A.A.; TIKHONOV, Yu.V.; STRELKOVA, L.P.; KAPTSOV, L.N.; ORDANOVICH, A.Ye.; KHOKHLOV, R.V.; VORONIN, E.S.; BERESTOVSKIY, G.N.; KRASNOPEVTSEV, Yu.V.; MINAKOVA, I.I.; YASTREBTSEVA, T.N.; SEMENOV, A.A.; VINOGRADOVA, M.B.; KARPEYEV, G.A.; DRACHEV, L.A.; TROFIMOVA, N.B.; SIZOV, V.P.; RZHEVKIN, S.N.; VELIZHANINA, K.A.; NESTEROV, V.S.; SPIVAK, G.V., red.; NOSYREVA, I.A., red.; GEORGIYEVA, G.I., tekhn. red.

[Special practical manual in physics] Spetsial'nyi fizicheskii praktikum. Moskva, Izd-vo Mosk.univ. Vol.1. [Radiophysics and electronics] Radiofizika i elektronika. 1960. 600 p.
(MIRA 13:7)

1. Professorsko-prepodavatel'skiy sostav otdeleniya radiofiziki fizicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta (for all, except Spivak, Nosyreva, Georgiyeva).
(Radioactivity) (Electronics)

KLYUKIN, Igor' Ivanovich; RZHEVKIN, S.N., doktor fiz.-matem. nauk, prof., retsenzent; KOLESNIKOV, I.Ya., inzh., retsenzent; ANTSYFEROV, M.S., nauchnyy red.; LEYKINA, T.L., red.; TSAL, R.K., tekhn. red.

[Contol of noise and sound vibrations on ships] Bor'ba s shumom i zvukovoi vibratsiei na sudakh. Leningrad, Sudpromgiz, 1961. 355 p. (MIRA 15:3)
(Noise control) (Vibrations (Marine engineering))

BOLOBAN, Nikolay Aleksandrovich, kandidat tekhnicheskikh nauk; RZHECHITSKIY, B.D., redaktor; SOKOLOVA, Ye.I., redaktor; TIKHONOVA, Ye.A., tekhnicheskiy redaktor.

[Work methods of crane operators - innovators] Metody truda kranovshchikov-novatorov. Moskva, Izd-vo "Morskoi transport," 1954. 140 p.
(Electric cranes) (Loading and unloading) (MLRA 8:6)

RZHEUSSKIY, P.S.

Our experience in the treatment of hip fractures in children with a splint of new design. Zdrav. Belor. 6 no. 7:57-61 Je '60. (MIRA 13:8)

1. Iz Molodechnenskoy detskoy bol'nitsy.
(HIP JOINT—FRACTURE)

BOBOKHODZHAYEV, I.Ya., kand. med. nauk; BURMISTROVA, N.F.; RZHEVSKAYA, A.Ya.

Economic evaluation of the care of patients by the "hospital in the home" method. Zdrav. Ros. Feder. 7 no.9:6-12 S '63. (MIRA 16:10)

1. Otdel organizatsii zdravookhraneniya (rukovoditel'- doktor med. nauk I.D. Bogatyrev) Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny imeni F.F. Erismana (dir. A.P. Shitskova).

RZHEVSKAYA, F.Yu.

Influence of storage time on the nucleic acid content in cottonseed tissues. Fiziol. rast. 11 no.1:112-119 Ja-F '64.
(MIRA 17:2)

1. Kafedra fiziologii rasteniy Tashkentskogo sel'skokhozyaystvennogo instituta.

L 29965-66 EWT(1)/T JK

ACC NR: AR6004358 SOURCE CODE: UR/0299/65/000/019/B042/B042

AUTHOR: Berim, M. G.; Brudnaya, K. B.; Rzhevskaya, G. F.; Tuktarova, Sh. Z.

51
50
B

TITLE: Problem of the antibacterial action of amidophosphonoformic ester, phosphorilated acetals and hydrazones

SOURCE: Ref. zh. Biologiya, Abs. 19B272

REF SOURCE: Nauchn. tr. Kazansk. med. in-t, v. 14, 1964, 99-100

TOPIC TAGS: ~~organic chemistry~~, bactericide, organic phosphorus compound, ester, acetal

ABSTRACT: The antibacterial effect of amidophosphonoformic ester, phosphorilated hydrazones and phosphorilated acetals are studied. Some serotype (O-111, O-26, O-55) intestinal bacteria, proteus vulfaricus, stimulants of typhoid fever, dysentery, murine typhus, staphylococcus, streptococcus, and also diphtheria stimulators as test bacteria were used. The latter microorganism was shown to be the most sensitive to the compounds in question. The addition of chlorine atom to the alkyl radical, or an increase in the carbon atom number in it does not

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L 29965-66
ACC NR: AR6004358

increase the antibacterial action of amidophosphonoformic esters. The presence of a double bond in the alkyl radical increases the antibacterial action. The same is true regarding the introduction of a metoxy-group into phenyl radical. Preparation No.16: 3,3dimetoxy-phenyl-4,4-bis-amidophosphonoformic dimethyl ester proved to be the most active of all the investigated phosphoro-organic compounds. Phosphorilayed hydrazones showed a slight antibacterial action, whereas the acetals are not active at all.

N. Blinov

SUB CODE: 06,07/ SUBM DATE: none

Card 2/2 CC

BERIM, M.G.; BRUDNAYA, K.B.; RZHEVSKAYA, G.F.; TUKTAROVA, Sh.Z.

Antimicrobial effect of the esters of amidophosphonoformic acid, phosphorylated acetals and hydrazones. Nauch. trudy Kaz. gos. med. inst. 14:99-100 '64. (MIRA 18:9)

1. Kafedra mikrobiologii (zav. - dotsent Z.Kh.Karimova) i kafedra farmakologii (zav. - dotsent T.V.Raspopova) Kazanskogo meditsinskogo instituta.

KONOVALOVA, N.G.; NAUMOVA, Ye.K.; RZHEVSKAYA, G.F.; TIMEYEVA, S.M.

Bactericidal effect of organophosphorus preparations and antibiotics on staphylococci of the genitals. Nauch. trudy Kaz. gos. med. inst. 14:207-208 '64. (MIRA 18:9)

1. Kafedra mikrobiologii (zav. - dotsent Z.Kh.Karimova) i kafedra farmakologii (zav. - dotsent T.V.Rasspopova) Kazanskogo meditsinskogo instituta.

RZHEVSKAYA, G.F.

Some data concerning the biological activity of new organophosphorus compounds. Nauch. trudy Kaz. gos. med. inst. 14:273-274 '64. (MIRA 18:9)

1. Kafedra farmakologii (zav. - dotsent T.V.Raspopova) Kazanskogo meditsinskogo instituta.

GEMADUTDINOVA, K.A.; RZHEVSKAYA, G.F.; SHISHKINA, K.A.

Inhibitive effect of some organophosphorus compounds on the foot-and-mouth disease virus. Nauch. trudy Kaz. gos. med. inst. 14:141-142 '64. (MIRA 18:9)

1. Virusologicheskaya laboratoriya (zav. - prof. F.Z.Amfiteatrov) Kazanskogo veterinarnogo instituta i kafedra farmakologii (zav. - dotsent T.V.Raspopova) Kazanskogo meditsinskogo instituta.

R2HEVSKAYA, G.F.

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Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and Application of Organophosphorus Compounds) A. Ye. Arbuzov, Ed. publ. by Knizn' Affil, Acad. Sci. USSR, Moscow, 1962 630pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

L 38628-65 EWT(1)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5011377 UR/0016/64/000/008/0133/0134

AUTHOR: Berim, M. G.; Brudnaya, K. B.; Tuktarova, Sh. Z.; Rzhevskaya, G. F. 17 16 B

TITLE: Action of certain organophosphorus compounds during experimental intestinal infections 6

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 8, 1964, 133-134

TOPIC TAGS: bacterial disease, intestinal disease, ester, experiment animal, drug treatment, organic phosphorus compound

Abstract: Certain mixed esters of ethylphosphinic, synthesized at the Kazan Chemicotechnological Institute under the direction of Professor A. I. Razumov, show antimicrobial action on a series of pathogenic microorganisms in vivo tests. The most active compounds in relation to the intestinal infections were the mixed ethyl esopropenyl ester of ethylphosphinic acid (preparation 607) and the mixed methyl isopropenyl ester of ethylphosphinic acid (preparation 606).

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Since these preparations are low in toxicity, show weak anticholinesterase activity, and are active in relation to intestinal infections, their action during experimental infection caused by S. typhi (strain No. 4446), S. typhimurium, Sh. dysenteriae Flexneri and E. coli (type 0111), was investigated. Tests were made on 18-20 g mice. A total of 125 mice were used. Treatment was conducted with a 1% aqueous solution of the preparations, which were administered per os in a dosage of 100 mg/kg. Treatment began at different intervals (simultaneously with infection, after 2-3 and 20-24 hours after infection). The preparations were given once, or in some cases in a one-time equivalent over 5, 8 or 10 days. Additionally the multiple subcutaneous injection of the preparations (in experiments with S. typhimurium) was tested. The chemotherapeutic activity of the preparations was evaluated according to the longevity of the treated animals in comparison with the control animals, by extracting the infectious agents, and sometimes by the value of the "bacteriological index" of the spleen.

As a result, the preparations 606 and 607 in the dosages used did not exhibit sterilization activity during the experimental infections caused by various intestinal infectious agents. The results also indicated that the complex esters of ethylphosphinic acid had a certain therapeutic effect under the conditions mentioned. In experimental typhoid fever in mice, 607

L 38622-65
ACCESSION NR: AP5011377

was more active than 606 but less active than biomycin. In paratyphoid in mice, 607 rendered a therapeutic effect only when used simultaneously with the infection; 607 had a chemotherapeutic effect within the first days after infection in experimental dysentery in mice; 606 had an effect against E coli, strain 0111, both when administered simultaneously with infection and after 2 and 24 hours.

Inasmuch as the preparations exhibited some degree of chemotherapeutic effect against intestinal infections, the author concludes that in the biomechanism of these microbes there is a common ring which is the point of application of the action of organophosphorus compounds. Further study is recommended.

ASSOCIATION: Kazanskiy meditsinskiy institut (Kazan Medical Institute)

SUBMITTED: 10Oct63 ENCL: 00 SUB CODE: LS, OC

NO REF SOV: 000 OTHER: 000 JPRS

Card 3/3

AFONSKAYA, L.S.; ZAIKONNIKOVA, I.V.; RZHEVSKAYA, G.F.; STUDENTSOVA, I.A.

Mechanism of the action of armin and nibufin. Farm. i toks. 26 no.2:184-189 Mr-Ap '63. (MIRA 17:8)

1. Kafedra farmakologii (zav. - dotsent T.V. Raspopova) Kazanskogo gosudarstvennogo meditsinskogo instituta.

RZHEVSKAYA, G.F.

Comparative pharmacological properties of certain ethylideneglyceric esters of diethylphosphoric acid. Farm. i toks. 22 no.4:357-361 Jl-Ag '59. (MIRA 13:1)
(GLYCEROPHOSPHATES pharmacol.)

GORBACHEVA, A.P.; RZHEVSKAYA, T.K.

Methods of studying cow urine. Doklady Vsesoyuz. Akad. Sel'skokhoz. Nauk im. V.I.Lenina 18, No.3, 23-30 '53. (MLRA 6:4)
(CA 47 no.22:12483 '53)

STEPANCHUK, K.F., inzh.; PZHEVSKAYA, S.P.

Gas emission in transformer oil during the vibration of solid particles. Izv.vys.ucheb.zav.; energ. 8 no.9:87-90 S '65. (MIRA 18:10)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy tekhniki vysokikh napryazheniy.

L 04186-67 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/GD

ACC NR: AT6026903 SOURCE CODE: UR/0000/66/000/000/0018/0021

AUTHOR: Piguzov, Yu. V.; Verner, V. D.; Shulepov, V. I.; Rzhevskaya, I. Ya.

ORG: none

TITLE: A study of the behavior of interstitial atoms in molybdenum by means of internal friction

SOURCE: AN SSSR. Institut metallurgii. Vnutrenneye treniye v metallakh i splavakh (Internal friction in metals and alloys). Moscow, Izd-vo Nauka, 1966, 18-21

TOPIC TAGS: internal friction, molybdenum, carbon, nitrogen, oxygen, activation energy, temperature dependence, solid solution, quenching, tempering, plastic deformation

ABSTRACT: An internal friction study was made of the effects of C, O_2 and N_2 additions in molybdenum. The temperature dependence of internal friction was measured in a vacuum on samples of 1 mm width and 0.35 mm thickness. Oscillation frequencies ranged from 0.5 to 2.1 cps. Quenched samples exhibited a wide internal friction peak, spread over the range 60-400°C, the height of which increased linearly as a function of quenching temperature due to the higher solubilities of the interstitial atoms. The concentration ratio C/C_{max} for C, N_2 and O_2 corresponded with the internal friction ratio Q^{-1}/Q^{-1}_{max}. The peak itself consisted of three components--I, II, III--a high central por-

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L 04186-67

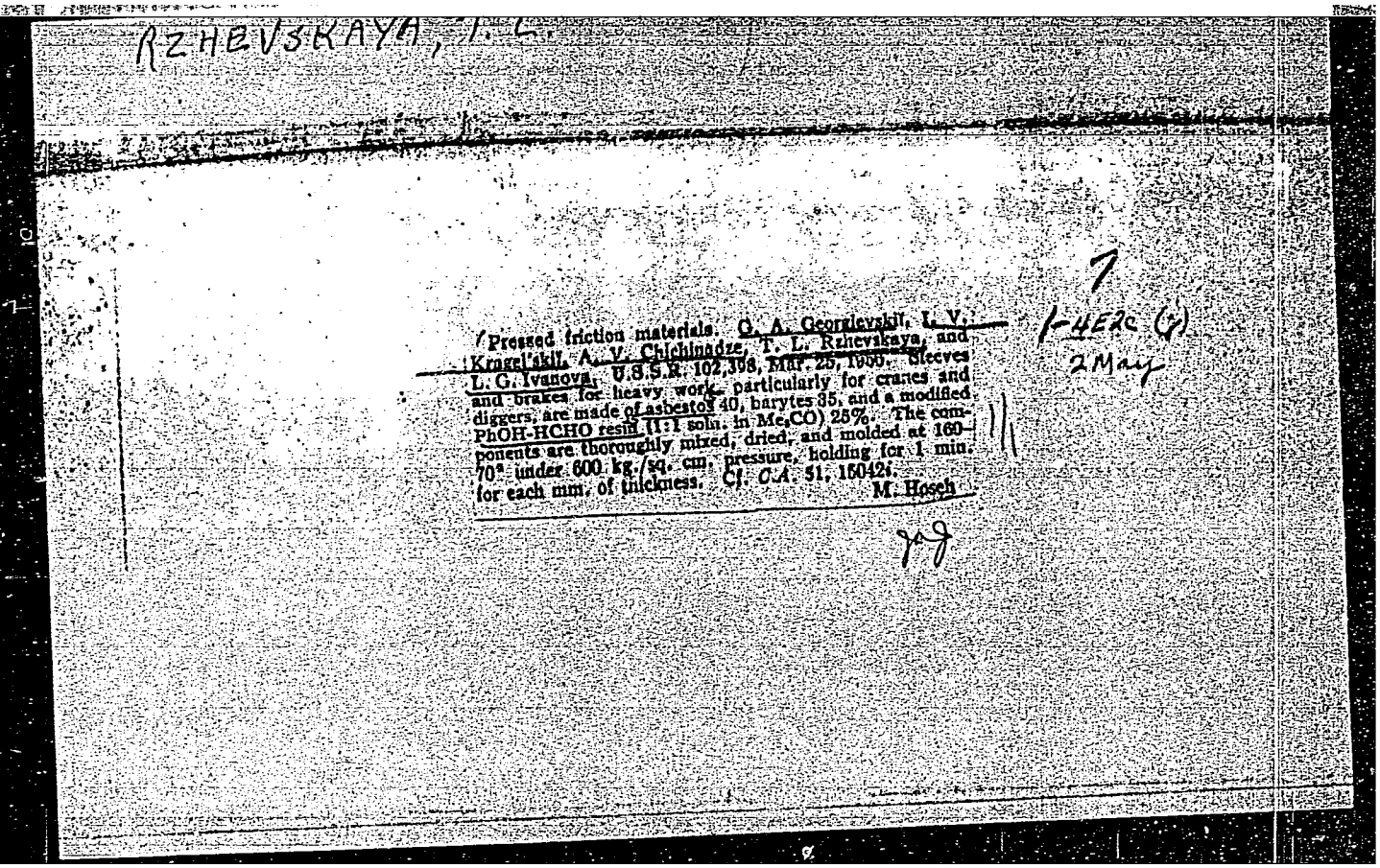
ACC NR: AT6026903

tion (II) and two neighboring plateaus (I, III). The related activation energies as determined by the Wert-Marx method were 26, 32, and 39 Kcal/mol for I, II and III respectively. Component III was associated with carbon since it vanished after quenching from 1000°C, and the concentration of carbon in solid solution is negligible below 1200°C. The central component II may have been caused by oxygen since oxygen is the most soluble interstitial in molybdenum; also Q^{-1}/Q^{-1}_{max} correlated best with O_2/O_2 max.

Component I was probably caused by nitrogen. The activation energy for nitrogen diffusion in molybdenum was previously determined by Hartley and Wilson to be 25.1 ± 2.7 Kcal/mol. The peaks and the low temperature background decreased in magnitude after tempering at 600°C for 30 min, or in quenched samples after annealing in hydrogen at 1600°C. Deformation of vacuum annealed samples pushed the high temperature side toward the left, either as a result of the breakaway of dislocations from Cottrell atmospheres or because of localized differences in deformation conditions. Orig. art. has: 6 figures.

SUB CODE: 11,20/ SUBM DATE: 02Apr66/ ORIG REF: 001/ OTH REF: 004

Card 2/2 LC



RZHEVSKAYA, T. L.

Pressed friction materials. G. A. Georgievskii, L. V. Krugl'skii, A. V. Chichinadze, T. L. Rzhevskaya, and L. G. Ivanova. U.S.S.R. 102,398, Mar. 25, 1956. Sleeves and brakes for heavy work, particularly for cranes and diggers, are made of asbestos 40, barytes 35, and a modified PhOH-HCHO resin (1:1 soln. in Me_2CO) 25%. The components are thoroughly mixed, dried, and molded at 160–70° under 600 kg./sq. cm. pressure, holding for 1 min. for each mm. of thickness. Cf. *CA*. 51, 15042i.

M. Hoseh

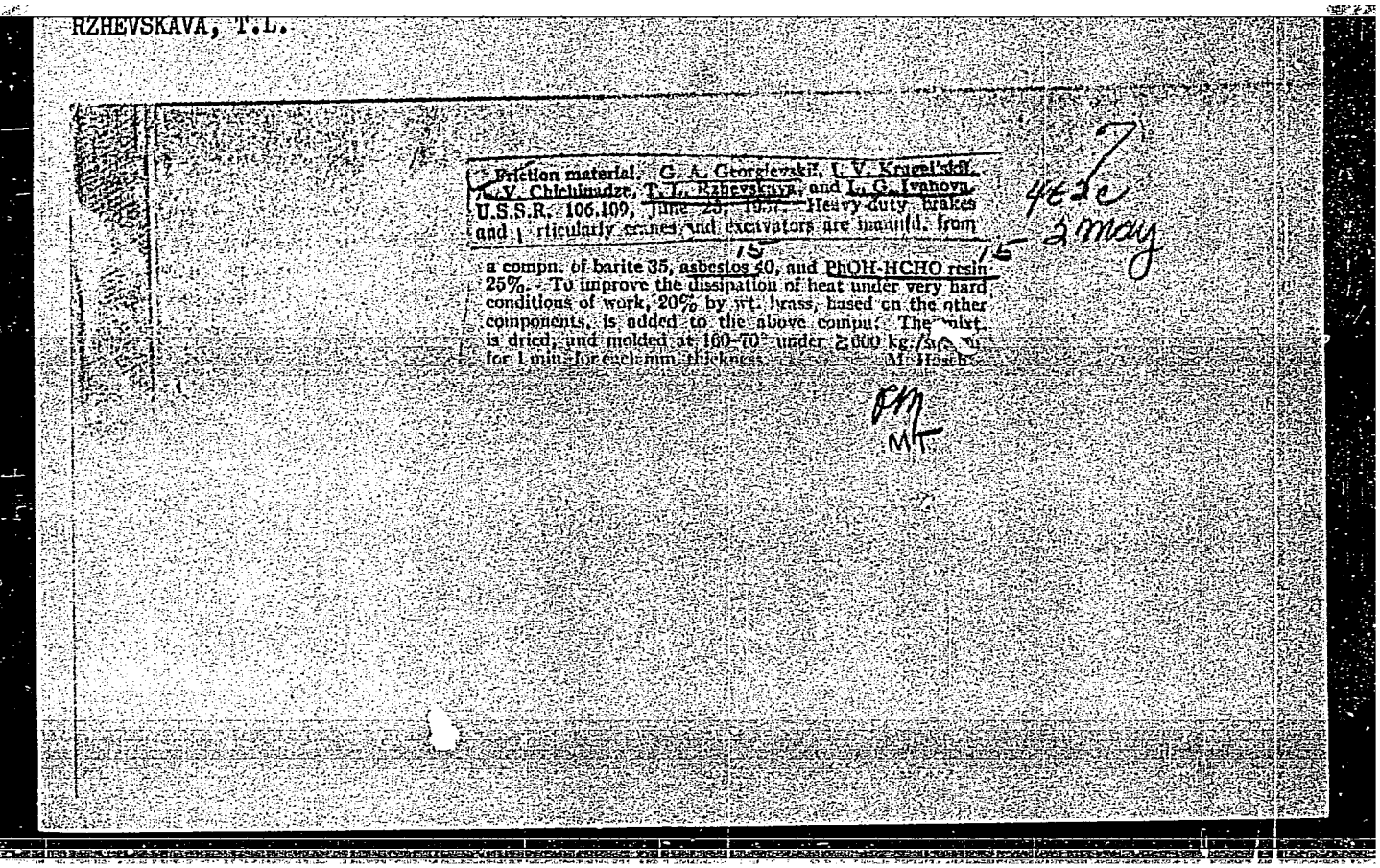
1
1-4ERC (Y)
2 May

BEZBORODOV, M.A. [Bezbarodau, M.A.], akademik; RZHEVSKAYA, T.L. [Rzhevuskaia, T.L.], inzh.

Studying some types of LiNaPbSiO glass as a base for enamel on aluminum. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.1:57-61 '60. (MIRA 13:6)

1. AN BSSR (for Bezborodov).
(Enamels and enameling) (Glass)

RZHEVSKAYA, T.L.



Friction material. G. A. Georgievskii, L. V. Kruzel'stdt, V. V. Chichinadze, T. L. Rzhevskaya, and L. G. Ivanova. U.S.S.R. 106,109, June 25, 1957. Heavy-duty brakes and clutches, particularly cranes and excavators are manufd. from a compn. of barite 35, asbestos 40, and PhOH-HCHO resin 25%. To improve the dissipation of heat under very hard conditions of work, 20% by wt. brass, based on the other components, is added to the above compn. The mixt. is dried, and molded at 160–70° under 2000 kg./sq. cm. for 1 min. for each mm. thickness. M. Hosch

BARATOV, K.B.; YUSUPOV, A.M.; CHIZH, I.M.; RZHEVSKAYA, V.I.; BURMAKINA, V.F.

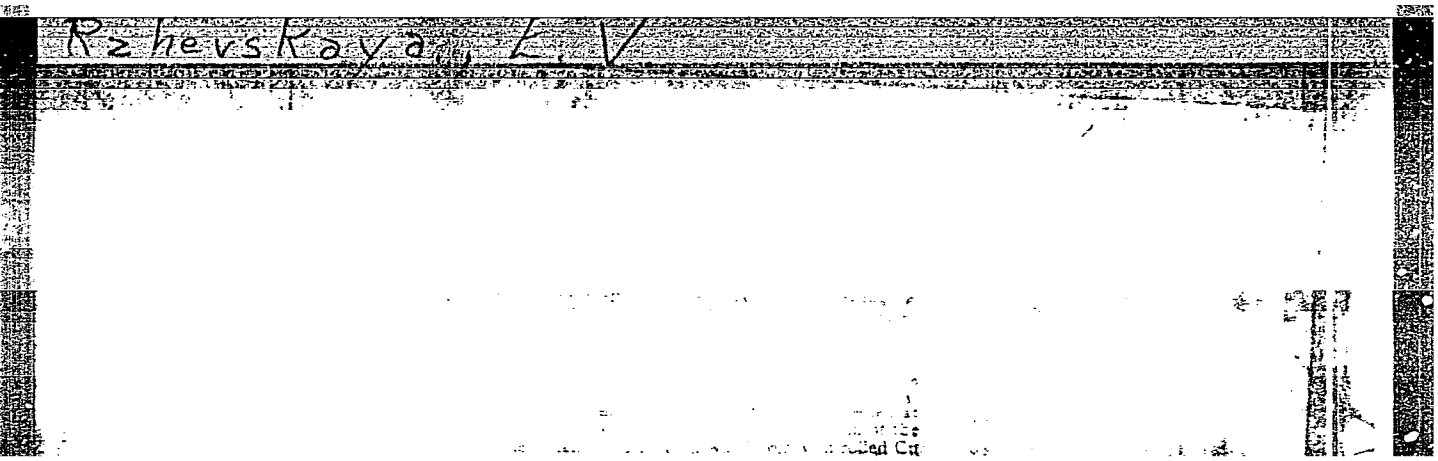
Experimental study of a method for composting wastes in Stalinabad District; results of physical and chemical, bacteriological, and helminthological investigations. Zdrav. Tadzh. 7 no.4:26-29 Jl-Ag '60. (MIRA 13:9)

1. Iz Stalinabadskogo instituta epidemiologii i gigiyeny.
(STALINABAD DISTRICT--REFUSE AND REFUSE DISPOSAL) (COMPOST)

RZHEVSKAYA, V.I.

Adequacy of vitamins C, B_2, PP intake in the natives of southern Tajikistan according to data from blood and urine studies. Zdrav. Tadzh. 8 no.5:7-9 S-O '61. (MIRA 15:1)

1. Iz Instituta kraevoy meditsiny AN Tadzhikskoy SSR.
(TAJIKISTAN--NUTRITION SURVEYS) (VITAMINS)



RZHEVSKAYA, Ye. V.

Satisfactory electrolytic coating on products from zinc alloys. G. S. Vozdvizhenskii, V. A. Dmitriev, A. G. Mozhanova, Ye. V. Rzhevskaya, and D. E. Chasov. *J. Appl. Chem. U.S.S.R.* 28, 461–8(1955) (Engl. translation).—See *C.A.* 49, 16564f. D. M. R.

AID P - 3421

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 6/18

Authors : Vozdvizhenskiy, G. S., V. A. Dmitriyev, A. G. Mozhanova, Ye. V. Rzhevskaya, and D. Ye. Chasov

Title : Preparation of good-quality electrolytic coatings on articles from zinc alloys

Periodical : Zhur. prikl. khim., 28, 5, 484-489, 1955

Abstract : Various compositions and reaction conditions are described. Best results were obtained by using an electrolyte containing 20-25 g./l. copper, 8-12 g./l. free cyanide, 15-30 g./l. sodium cabonate; current density, 1 amp./sq.dm.; temp., 50-55°C; pH, 11-12; reaction time, 10 min. Three tables, 3 photos, 6 ref., 4 Russian (1943-1951).

Institution : None

Submitted : S 25, 1953

RZHEVSKAYA, YE. V.

USSR/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61169

Author: Vozdvizhenskiy, G. S., Dmitriyev, V. A., Rzhevskaya, Ye. V.

Institution: ~~None~~ Kazan' Affil' Acad Sci USSR, Chem Inst im Arbuzov

Title: Electrode Potentials of Copper Monocrystals in Phosphoric Acid

Original Periodical: Zh. fiz. khimii, 1955, 29, No 2, 280-286

Abstract: Investigated were the electrode potentials of Cu monocrystals (M) in H_3PO_4 (sp. gravity 1.53). M were grown by the method of crystallization from a melt. It is shown that static and especially dynamic potentials (the latter were measured with anodic [redacted]-zation at current densities of 0.5-50 a/dm^2) of the facets of cube, octahedron and rhombododecahedron differ substantially from one another and the most positive potential is that of the facet of a rhombododecahedron (Vozdvizhenskiy, G. S., Dmitriyev, V. A., Dokl. AN SSSR, 1949, 66, 227). With increasing duration of the stay of M in the solution differences in static potentials gradually

Card 1/2

Rzhevskaya, V. V.

Composition, properties, and the role of the preanodic layer of the electrolyte during electrolytic polishing of copper in phosphoric acid. G. S. Vozdvizhenskii, V. A. Dmitriev, A. G. Mozhanova, and B. V. Rzhevskaya. *Zhur. Prikład. Khim.* 29, 83–8(1956); cf. *C.A.* 46, 8338; 49, 10101e.—The compn. of the electrolyte during anodic polishing of Cu in H_3PO_4, d. 1.55, was detd. by the method of Batashev, *et al.* (*C.A.* 44, 7674*i*). With a c.d. of 50 amp./sq. dm. and an area ratio of anode/cathode of 1/25, Cu content in the electrolyte, d., and the viscosity increased from 0 to 4.44 g./l., 1.549 to 1.571, and from 19.19 to 22.80 centipoises, resp., and the cond. decreased as the current increased from 0 to 335.5 amp./hr./l. With an increase in the area ratio from 1/25 to 2/1, the Cu content in the electrolyte increased to 10.68 g./l. The electropolishing effectiveness of the electrolyte remained practically const. and the ratio Cu/PO_4 in all cases was less than unity. This indicated that the electrolyte contained mixts. of mono and diphosphates of Cu. The same was true when the potential was increased from 0.5 to 1.6 v. and it was further corroborated by analyses of the anolyte in cells with diaphragms of unglazed, slightly burnt clay. The formation of an anode film, though important, was not the controlling factor. The accumulation of the products of soly. assisted in establishing a greater uniformity of surface, diminishing the active areas. I. Bencowitz

Dmitriyev, V. A.

137-1957-12-24560

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 230 (USSR)

AUTHORS: Dmitriyev, V. A., Rzhevskaya, Ye. V.

TITLE: On the Problem of the Mechanism of Electrolytic Polishing of Copper (K voprosu o mekhanizme elektroliticheskoy polirovki medi)

PERIODICAL: Izv. Kazansk. fil. AN SSSR. Ser. Khim. n., 1957, Nr 3, pp 105-109

ABSTRACT: The anodic yield of metal by the electric current was determined in the process of the anodic corrosion of specimens of tempered Cu in various concentrations of H_3PO_4. The yield of metal increased with decreasing concentration of the acid. When the D_a is 40 amp/dm^2 and the specific gravity of the H_3PO_4 is reduced from 1.62 to 1.21, the yield of metal increases from 25 to 97 percent. The Cu concentration in the electrolyte influences the yield of metal considerably. When D_a is 50 amp/dm^2, the yield of metal is almost 50 percent larger in an electrolyte containing 30 g/l of Cu, than it is in an electrolyte containing 87 g/l of Cu. At D_a = 50 amp/dm^2 the

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137-1957-12-24560

To the Problem of the Mechanism of Electrolytic Polishing of Copper

rate of corrosion (RC) is 2.3 times greater in H_3PO_4 with a specific gravity of 1.32 than it is in H_3PO_4 with a specific gravity of 1.53. The results obtained show that in the process of electropolishing, conditions must be created which favor the dissolving of the micro-projections, and at the same time ensure an identical RC for the various structural microconstituents; to achieve this it is imperative to ensure sufficient local inertness of the metal in order to suppress the action of the microelements. An electropolishing mechanism is examined which would provide identical RC for the various microconstituents of the surface of the metal.

Ya. L.

1. Electrolytic polishing Test results
2. Copper-Electrolytic polishing-

Card 2/2

RZHEVSKAYA, Ye. V.

137-1957-12-24611

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 237 (USSR)

AUTHORS: Dmitriyev, V. A. Rzhevskaya, Ye.V.

TITLE: Some Problems of the Mechanism of Electrolytic and Chemical Polishing of Zinc (Nekotoryye voprosy mekhanisma elektroliticheskoy i khimicheskoy polirovki tsinka)

PERIODICAL: Izv. Kazansk. fil. AN SSSR, ser. khim. n., 1957, Nr 3, pp 111-118

ABSTRACT: By employing the electrolytic polishing of Zn as an illustration, it is demonstrated that the mechanism of the process is the same for metals with different properties, and that the mechanism of the process of chemical polishing of Zn does not differ from that of the electrolytic process. The anode potential was studied at various D_A's as a function of the concentration of the acid and the content of Zn in the electrolyte in the process of electrolytic polishing of Zn in H_3PO_4 (specific gravity 1.1 - 1.15). In another series of experiments the quality of an electropolished surface was studied as a function of the D_A and the concentration of acid and Zn in the electrolyte by observing the value of its reflective properties. A 500 ml electrolyzer was employed for the

Card 1/2

Some Problems of the Mechanism of Electrolytic and Chemical (cont.)

polishing of 20x10x10 mm specimens of cast Zn; one side of the specimen having an area of 1 cm^2, was subjected to electropolishing, while the remainder was protected. The surface of the anode was 20 times greater than the surface of the cathode. The polarization curves show a strong similarity to the curves of the electrolytic polishing of Cu in H_3PO_4. The discrepancy at small D_A's is caused by high chemical activity of Zn in the given electrolyte as compared with Cu. As in the case of the polishing of Cu, the maximum possible suppression of microelectrochemical corrosion of metal is a basic condition for the realization of the process. It was established that Zn can be polished chemically in concentrated HNO_3.

Ya. L.

1. Zinc-Electrolytic polishing-Test results 2. Zinc-Chemical polishing-Test results 3. Electrolytic polishing 4. Chemical polishing

Card 2/2

KOSTERIN, V.A.; RZHEVSKIY, Ye.V.

Calculating trajectories and the range of fan and twin plane jets in a restricted lateral flow. Izv.vys.ucheb.zav.; av.tekh. 7 no. 1:112-121 '64. (MIRA 17:5)

DMITRIYEV, V.A.; RZHEVSKAYA, Ye.V.

Oscillatory process and mechanism of electrolytic polishing. Izv.-Kazan.fil. AN SSSR. Ser.khim.nauk no.6:163-170 '61. (MIRA 16:5)
(Electrolytic polishing)

L 19386-63 EWP(q)/EWT(m)/EWP(B)/BDS AFFTC/ASD JD

ACCESSION NR: AT3001932 S/2912/62/000/000/0326/0332

AUTHORS: Dmitriyev, V.A.; Rzhevskaya, Ye.V.; Khristoforov, V.A.

TITLE: The surface structure of metals and oxides after electrolytic and chemical polishing

SOURCE: Kristallizatsiya i fazovyye perekhody. Minsk, Izd-vo AN BSSR, 1962, 326-332

TOPIC TAGS: crystal, crystallization, crystallography, surface, structure, polishing, electrolytic, electrochemical, chemical, mechanical, electropolishing, anode, anodic, polarization, limiting current, potential, acceptor, activity, exhaustion, submicrostructure, oxide film, cuprous oxide, Cu

ABSTRACT: The paper describes the results of an experimental investigation of the surface structure created by electrolytic and chemical polishing of metals. A new approach to the problem is required, because the surface characteristics and the nonuniformities arising in the process of chemical polishing are basically at variance with the nonuniformities obtained in mechanical polishing. The surface structure of annealed Cu at various stages of anodic polarization in 70% phosphoric acid, performed in potentiostatic conditions, was employed. Specimens dissolved

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within 3 hrs. Ordinary etching and development of the microstructure in the 0.4-0.6-v potential interval. At 0.65-1.85 v, the so-called "plateau," a shining, visually smooth, surface is formed. 500x microscopic investigation, however, indicated far-reaching changes in the structure. Below the "oscillation potential," each grain has a smooth, polished, surface, but with pronounced grain boundaries. In the oscillation-potential interval 0.65-0.90 v a new-type structure with dissolution strata is formed. This structure depends on the orientation of the grains. At 1.2-1.6 v the grain-boundary development ceases, and at 1.65-1.75 v not only the intergrain boundaries but the dissolution strata themselves vanish. It is concluded that, contrary to prevailing opinion (Edwards, J., J. Electrochem. Soc., v. 100, no. 7, 1953, 189; no. 8, 1953, 223), the attainment of the limiting current, founded on the exhaustion of the activity of the acceptor H_3PO_4, is not a sufficient condition for the accomplishment of high-quality polishing, and the shape of the polarization curve is not adequate to characterize the polishing process. The reason for the inception of the manifold structure at various values of the potential, but at a constant limiting current, is evidently attributable to another process. It is postulated that an extremely thin layer of cuprous oxide forms on the surface of the Cu electrode. With increasing polarization potential, the character of the distribution of the cuprous oxide on the various crystallographic elements of the surface and its electrochemical nature changes. This, then, is the reason for the formation of

L 19386-63

ACCESSION NR: AT3001932

variously shaped structures at the limiting current. Only at elevated potential (1.65 to 1.75 v) will the cuprous-oxide film attain an elevated electrochemical uniformity, thereby forming a surface with a fine submicrorelief. In such conditions, the preferential dissolution of separate submicroregions of the surface will be determined fundamentally not by their electrochemical activity, but by the condition of the sufficiency of the acceptor. The experiments (numerous photos are shown) were performed on sheet-Cu specimens, on the surface of which a 0.2-mm thick cuprous-oxide film had been formed. It was found that electropolishing of cuprous oxide can be performed in the following electrolyte (in milliliters): H_3PO_4 (1.5 sp. gr.) 250; glycerol 150; T 40°C; current density 10-20 ma/cm^2. The cuprous oxide could be polished even more effectively by chemical dissolution in an electrolyte consisting of 135 ml H_3PO_4 (1.7 sp. gr.) and 15 ml HNO_3 (1.5 sp. gr.) at T 40-60°C. Orig. art. has 6 figs.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 16Apr63 ENCL: 00

SUB CODE: CH, PH, MA, EL NO REF SOV: 007 OTHER: 004

Card 3/3

DMITRIYEV, V.A.; RZHEVSKAYA, Ye.V. (Kazan')

Periodic effects in the anodic dissolution of copper in phosphoric acid. Zhur. fiz. khim. 35 no. 4:871-878 Ap '61. (MIRA 14:5)

1. Kazanskiy filial AN SSSR, Khimicheskiy institut.
(Copper) (Phosphoric acid) (Electrolysis)

DMITRIYEV, V.A.; RZHEVSKAYA, Ye.V.; KHRISTOFOROV, V.A.

Structure of an electrolytically polished copper surface. Izv. Kazan.fil.AN SSSR.Ser.khim.nauk no.4:115-126 '57.
(MIRA 12:5)

(Copper) (Electrolytic polishing)

RZHEVSKAYA, Ye. V.

137-58-5-10838

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 278 (USSR)

AUTHOR: Dmitriyev, V.A., Rzhevskaya, Ye.V., Khristoforov, V.A.

TITLE: The Structure of Electrolytically Polished Copper (Struktura elektropolirovannoy medi)

PERIODICAL: Izv. Kazansk. fil. AN SSSR. Ser. khim. n., 1957, Nr 4, pp 115-126

ABSTRACT: A study is made of the surface of Cu in the process of anodic dissolution in an electrolytic polishing bath in accordance with the process procedure and the crystallographic orientation. The experiments were run on annealed polycrystalline specimens of Cu and on single crystals of Cu obtained by crystallization from the melt. X-ray was used to determine the position of the crystallographic planes in the single crystals. Microscopic investigation of surfaces was performed with the optical portion of the PMT-3 instrument, at a magnification of 480 times. Investigation of the surface by the electron microscope was done with an EM-3 model, employing chrome-tinted celluloid replicas. The electrolyte used was H_3PO_4, of 1.535 sp. gr. The first stage process of electrolytic polishing of polycrystalline Cu at a

Card 1/2

137-58-5-10838

The Structure of Electrolytically Polished Copper

current density of 1 amp/dm^2 and 0.12 v effects an etching of the surface to reveal the microstructure. An increase in the current density, voltage, and duration of anodic dissolution is accompanied by a selective dissolution of various portions of the crystallite, confirming the concept of the electrical decrystallization mechanism of dissolution. As dissolution time is further increased, all signs of microstructure disappear, and the surface becomes microscopically smooth. Dissolution of individual planes of single crystals of Cu under a regime corresponding to the first segment of the polarization curve is accompanied by the appearance of etch figures appropriate to the given plane. Higher current densities result in a microscopically smooth, electrolytically polished surface similar to the surface of polycrystalline Cu. The use of electron microscope investigations with magnifications of the order of 2000 makes it possible to distinguish submicroscopic roughnesses on the "smooth" surface of the Cu. This roughness is due to the selective nature of the dissolution of sub-microscopic parts of the metal surface and is not related to crystallographic orientation.

1. Copper--Surfaces 2. Electrolytic polishing--Effectiveness E. K.

Card 2/2

RZHEVKIN, Sergey Nikolayevich; IVANOV-SHITS, K.M., red.; KONDRASHKOVA, S.F., red.izd-va; YERMAKOV, M.S., tekhn.red.

[Lecture course on the theory of sound] Kurs lektsii po teorii zvuka. Moskva, Izd-vo Mosk.univ., 1960. 334 p.

(MIRA 13:7)

(Sound)

BENDRIKOV, G.A.; KRASNUSHKIN, P.Ye.; REYKHRUDEL', E.M.; POTEMKIN, V.V.; MUSTEL', Ye.R.; RZHEVKIN, K.S.; IVANOV, I.V.; KHAMLAMOV, A.A.; TIKHONOV, Yu.V.; STRELKOVA, L.P.; KAPTSOV, L.N.; ORDANOVICH, A.Ye.; KHOKHLOV, R.V.; VORONIN, E.S.; BERESTOVSKIY, G.N.; KRASNOPEVTSEV, Yu.V.; MINAKOVA, I.I.; YASTREBTSEVA, T.N.; SEMENOV, A.A.; VINOGRADOVA, M.B.; KARPEYEV, G.A.; DRACHEV, L.A.; TROFIMOVA, N.B.; SIZOV, V.P.; RZHEVKIN, S.N.; VELIZHANINA, K.A.; NESTEROV, V.S.; SPIVAK, G.V., red.; NOSYREVA, I.A., red.; GEORGIYEVA, G.I., tekhn. red.

[Special physics practicum] Spetsial'nyi fizicheskii praktikum. Moskva, Izd-vo Mosk.univ. Vol.1. [Radio physics and electronics] Radiofizika i elektronika. Sost. pod red. G.V.Spivaka. 1960. 600 p.

(MIRA 13:6)

1. Professorsko-prepodavatel'skiy kollektiv fizicheskogo fakul'teta Moskovskogo universiteta im. M.V.Lomonosova (for all except Spivak, Nosyreva, Georgiyeva).

(Radio) (Electronics)

RZHEVSKIY, Aver'yan Frolovich, [Rzhevs'kyi, A.F.]

Whaling with helicopters. Znan. ta pratsia no.8:6-8 Ag '60.
(MIRA 13:9)

(Antarctic regions--Whaling)
(Helicopters)

VASILEVSKIY, M.E., prof.; RZHEVSKIY, A.V. (Yaroslavl')

Reiter's syndrome (asteromycosis). Klin. med. 37 no.5:142-143 My '59.
(MIRA 12:8)
1. Iz kafedry gospital'noy terapii (zav. - prof. M.E. Vasilevskiy) Yaroslavskogo meditsinskogo instituta.
(REITER'S DISEASE, case reports
(Rus))

RZHEVSKIY, B

4-5-10/17

SUBJECT: West GERMANY/Zoology

AUTHOR: Rzhevskiy, B.

TITLE: A New Breed of Fur-Bearing Animals (Novyy Zverek)

PERIODICAL: Znaniye - sila, May 1957, # 5, p 33 (USSR)

ABSTRACT: Mura is the name of a new furred animal raised in West Germany by Mr. Josef Krings by interbreeding all kinds of exotic rodents from Alaska, Asia, Africa and South America. The breeder keeps the name of Mura's forbears secret. The fur is of different colors: blue, satin-black, sapphire, white, golden, chinchilla or brown, and can be well used for clothing.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 1/1

RZHEVSKIY, B.

New little animal. Znan. sila 32 no.5:33 My '57. (MLRA 10:9)
(Rodentia)

RZHEVSKIY, B.

Balm, the wonderful plant. IUn. nat. no.7:24 Jl '58. (MIRA 11:9)
(Mint (Botany))

RZHEVSKIY, B.

How they sleep. Znan.sila 32 no.8:46 Ag '57. (MIRA 10:10)
(Animals, Habits and behavior of)

RZHEVSKIY, B.

Antagonism among plants. Nauka i zhizn' 27 no.6:77-78 Je '60. (MIRA 13:7)
(Plants)

RZHEVSKIY, B.

Traveling trees. Nauka i zhizn' 28 no.11:27 N '61.
(MIRA 14:12)
(Florida--Mangrove)

RZHEVSKIY, B.

Radio as a brooding hen. IUn. nat. no.8:28 Ag '62. (MIRA 15:9)
(Poultry houses and equipment)

RZHEVSKIY, B.

In the Kap caverns. Znan. sila 36 no. 5:26-28 My '61.
(MIRA 14:5)

(Ural Mountains--Cave drawings)

RZHEVSKIY, B.M.

Chinchilla farming. Priroda 51 no.7:102 Jl '62. (MIRA 15:9)

1. Vserossiyskoye obshchestvo okhrany prirody, Moskva.
(Chinchillas)

BUKSHPUN, I.D., kand.tekhn.nauk (Kiyev); ROBAKIDZE, S.M. (Tbilisi); KOMLEV, A.M. (Novosibirsk); MILUSHINA, R.Ye. (Novosibirsk); RZHEVSKIY, B.M. (Moskva)

News, events, facts. Priroda 51 no.9:116-123 S '62. (MIRA 15:9)

(Science news)

RZHEVSKIY, B.M.

Underground journey. Priroda 50 no.8:69-72 Ag '61. (MIRA 14:7)

1. Vserossiyskoye obshchestvo sodeystviya okhrane prirody i ozeleneniyu naselennykh punktov (Moskva).
(Shulgan Valley--Cave drawings)

RZHEVSKIY, B.

Reserve. Nauka i zhizn' 28 no.7:26 Jl '61. (MIRA 14:8)
(Uman'--National parks and reserves)

RZHEVSKIY, B.

White-blooded fishes. Nauka i zhizn' 28 no.6:77 Je '6 .
(MIRA 14:7)

(Chaenichthyidae)

LERNER, M.; RZHEVSKIY, B.

Flying bicycle. IUn.tekh. 6 no.12:71-72 D '61. (MIRA 14:12)
(Flying machines)

RZHEVSKIY, B.

The day before the day off. Sots.trud. no.5:76-78 My '56. (MLRA 9:8)

(Hours of labor)

RZHEVSKIY, B.M.; GLADKOV, N.A., prof., red.

[Traveling nests]Puteshestvuiushchie gnezda. Moskva, 1961. 15 p. (MIRA 15:12)

(Birds--Eggs and nests)

SOLOMATIN, A.O. (s.Vsevolodo-Blagodatskoye, Sverdlovskaya obl.); GRIGOR'YEV, G.V.; FREYDZON, A.I.; KUZNETSOV, N.T.; POLOV, A. (Barnaul); RZHEVSKIY, B.M. (Moskva); DAVYDOV, V.D.

Calendar of nature. Priroda 51 no.3:125-128 Mr '62.
(MIRA 15:3)

1. Karagandinskiy botanicheskiy sad AN Kazakhskoy SSR (for Grigor'yev). 2. Severo-Zapadnoye upravleniye gidrometsluzhby, Leningrad (for Freydzon). 3. Institut geografii AN SSSR, Moskva (for Kuznetsov). 4. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga, Moskva (for Davydov).
(Nature study)

RZHEVSKIY, B.M.

How long can a grass snake go without breathing? Priroda no.6:81-82 Je '60. (MIRA 13:6)

1. Moskovskoye oblastnoye obshchestvo okhrany prirody. (Snakes)

RZHEVSKIY, Boris Moiseyevich; STROKOV, V.V., kand.biol.nauk, red.

[Beavers; conservation, keeping, feeding, and transportation] Rechnye bobry; sokhranenie, soderzhanie, kormlenie i transportirovanie. Pod red. V.V.Strokova. Moskva, Mosk.obl.otd-nie Vserossiiskogo ob-va sodeistviia okhrane prirody i ozeleneniiu naselennykh punktov, 1958. 74 p. (MIRA 11:5)
(Beavers)

RZHEVSKIY, G. K.

27827. Rzhevskiy, G. K. Vysokokachestvennaya mezhduryadnaya obrabotka --- Zalog vysokogo vrozhaya khlopka. sots. Sel. Khoz-vo Uzbekistana, 1949, No. 2, s. 11-17

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

MUKHAMEDZHANOV, M.; FERSHTAT, N.; RZHEVSKIY, G.; ZHURAVLEV, B.S., redaktor; SOLYANOVA, N.M., redaktor; [illegible] F., tekhnicheskiy redaktor

[Checkrow cultivation of cotton] Kvadratno-gnezdovaia kul'tura khlopchatnika. Tashkent, Go.s izd-vo UzSSR, 1955. 112 p. (MLRA 9:8)
(Cotton growing)

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29888

Author : Molchanov, D.M., Lysenko, F.F., Rodimtsev, I.A., Rzhevskiy, G.K., Shafrin, A.N.

Inst : -

Title : Cotton Sowing Times in Uzbekistan.

Orig Pub : Sots. s. kh. Uzbekistana, 1957, No 3, 7-10

Abstract : No abstract.

Card 1/1

M

USSR/Technical Crops. Oil Plants.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77769.

Author : Rzhevskiy, G.K.

Inst :

Title : Experiment on Square-Nest Distribution of Cotton in Uzbek SSR.

Orig Pub: V sb.: materialy Ob"yedin. nauchn. sessii po khlopkovodstvu, T.I. Tashkent, Gosizdat UzSSR, 1958, 481-485.

Abstract: No abstract.

Card : 1/1

Abstract: This is a brief analysis of climatic and agricultural soil conditions during 1957 in Central Asia. The huge significance of methods of long [illegible] tilling to increase cotton productivity

GLINYANYY, Valeriy Georgiyevich; RZHEVSKIY, Georgiy Konstantinovich; GABRIYEL'YANTS, G.A., red.; BONDARENKO, M., red.; SALAKHUTDINOVA, A., tekhn. red.

[Producing inexpensive cotton with a high yield]Poluchenie vysokogo i deshevogo urozhaia khlopka; iz opyta raboty brigad kompleksnoi mekhanizatsii v kolkhozakh i sovkhozakh Uzbekistana. Pod red. G.A. Gabriel'iantsa. Tashkent, Gos. izd-vo Uzbekskoi SSR, 1961. 104 p. (MIRA 14:11)

(Uzbekistan--Cotton growing)