Joining of Pipe-Section Components Directly One to Another

test-pieces of the form shown in Fig 2 were prepared. It has been found out that deformation of a transversally welded pipe diminishes, as its angle with the longitudinal pipe decreases; the pertaining figures are given in Tables 3 and 4. It is to be noted that research has been carried out on pipes welded on both sides of transversal pipe. The strut beams used in constructions are normally welded only on one side; however, all the above conclusions remain true, as the joints undergo the same stresses in both cases. There are 4 tables, 4 diagrams and 1 Soviet reference.

ASSOCIATION: 1) Ordena trudovogo krasnogo znameni institut elektrosvarki imeni Ye.O. Patona AN USSR (Order of the Red Banner of Labor Institute of Electric Welding imeni Ye.O. Paton AS Ukr SSR); (Novikov, Kovtunenko) 2)"Proyektstal'konstruktsiya" Ministerstva stroitel'stva USSR (Proyektstal'konstruktsiya of the Ministry of Construction,Ukr SSR) (Shumitskiy).

SOV/125-12-4-1/18

25(1)

AUTHORS: Novikov, V.I., Candidate of Technical Sciences, Kovtunenko, V.A., and Shumitskiy, O.I., Engineers

TITLE: Fastening of Grating Tube Elements to Multiple "Joints"

PERIODICAL: Avtomaticheskaya svarka, 1959, Vol 12, Nr 4, pp 3-13 (USSR)

ABSTRACT: The authors describe the results of investigations on the static strength, at lower temperatures of different constructions, of fastening gratings to coil metal tube constructions. Experiments were made at especially low temperatures, -60^{0}, because the joining should correspond to the climatic conditions in the northern and eastern parts of the country. Five samples of joints were tested for rupture (Figure 2). The result was, that for two samples of which the front plates are thin, the indicated rupture stress is low (thickness 12 mm: 25.6 and 36.0 kg/mm^2) (Figure 9a,b). At samples, which had front-plates of 18 mm thickness, the indicated rupture stress reached the strength limit of the tube metal (50.5 and 53.6 kg/mm^2). At the

Card 1/2

Fastening of Grating Tube Elements to Multiple "Joints"

samples with front-plates of 24 mm thickness, the rupture was within the tube metal. The chemical consistancy of the used tube metal was given as: 0.17% C, 0.49% Mn, 0.27% Si, 0.12% Ni, 0.04% Cu, 0.035% S, 0.026% P. The measurements of the tubes were: diameter 127 mm, thickness 4.5 mm. The authors give as reference, investigations of "Proyektstal' konstruktsiya", [illegible], and the Factory of Metal Constructions imeni Babushkin, [illegible]epropetrovsk ([illegible]epropetrovskiy zavod metal[illegible]konstruktsiy im. Babushkina). There are 6 photographs and 7 diagrams.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye. O. Patona AN USSR (Red Banner of Labor Institute of Electric Welding imeni Ye. O. Paton, AS UkrSSR) (Novikov, Kovtunenko)
"Proyektkonstruktsiya" Ministerstva Stroitel'stva USSR ("Proyektkonstruktsiya" of the UkrSSR Ministry of Construction) (Shumitskiy)

SUBMITTED: February 7, 1959

Card 2/2

NOVIKOV, V.I.

Effect of flange joints on stress distribution and the strength of certain weldments. Avtom. svar. 15 no.12:51-55 D '62. (MIRA 16:2)

1. Ordena Trudovogo Krasnogo Znameni institut elektrosvarki imeni Ye.O. Patona AN UkrSSR.
(Electric welding) (Thermal stresses)

BDS

L 11215-63

ACCESSION NR: AP3000143 S/0125/63/000/005/0069/0074 50 48

AUTHOR: Novikov, V. I.; Kovtunenko, V. A. (see Association 1); Shumitskiy, O. I. (see Association 2)

TITLE: Some problems in designing and constructing an all-welded tower

SOURCE: Avtomaticheskaya svarka, no. 5, 1963, 69-74

TOPIC TAGS: Leningrad tv tower; 15KhSND steel

ABSTRACT: Methods, work, and materials used in construction of a 316.2-m high tv transmitting tower in Leningrad (completed in Dec. 1962) are described. The tower consists of a 200-m high hexagonal lattice trunk with a 60-m base and a 115.3-m high tetrahedral prism, "the antenna supporting section." Two high-speed elevators are provided. Rolled pipes up to 426 mm diameter were used. 15KhSND steel proved to be the most cold-proof and crack-resisting and, therefore, was used for principal members of the structure. All-welded prestressed design with reinforced junction plates between tubular members is claimed to be the most modern, economical, and reliable. The following organizations took part in designing and building the tower: Ukrproyektstal'konstruktsiya, Institute of Electric Welding AN UkrSSR, Lenproyekt, Dnepropetrovskiy zavod im. Babushkina (Dnepropetrovsk plant), Promstal'-konstruktsiya, and Sevzapstal'konstruktsiya. Orig. art. has: 4 figures.

Card 1/2 Inst. of Electric Welding

NOVIKOV, V.I.

Welding angles to junction plates. Avtom.svar. 16 no.2:26-33 F '63. (MIRA 16:4)

1. Institut elektrosvarki imeni Yu.O.Patona AN UkrSSR.
(Structural frames--Welding)

NOVIKOV, V.I., kand. tekhn. nauk; KOVTUNENKO, V.A., inzh.

Pipe butt welds in metal structures. Svar. proizv. no.7:25-28 Jl '64. (MIRA 18:1)

1. Institut elektrosvarki im. Ye.O. Patona.

NOVIKOV, V.I.; KOVTUNENKO, V.A.

Stability of flanged joints strengthened with ribs. Avtom. svar. 17 no.3:50-54 Mr '64. (MIRA 17:11)

1. Institute elektrosvarki im. Ye.O. Patona AN UkrSSR.

L 28471-66 EWP(k)/EWT(m)/T/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) JD/HM/HW

ACC NR: AP6010144 SOURCE CODE: UR/0125/66/000/003/0057/0060

46
44
B

AUTHOR: Novikov, V. I.; Kovtunenko, V. A.

ORG: Institute of Electric Welding im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR)

TITLE: Elimination of root cracks in annular welds

SOURCE: Avtomaticheskaya svarka, no. 3, 1966, 57-60

TOPIC TAGS: crack propagation, weld evaluation, butt welding, metal tube, welding inspection, steel/15KhSND steel

ABSTRACT: To assure strong and reliable tube joints, annular welds usually are performed by hand with the aid of backing rings. In joints of low-carbon and low-alloy steels, however, this leads to the rise of 2-3 mm long cracks (whiskers) in the weld root. They usually originate at the base of weld and propagate through the deposited metal or along the zone of fusion. In the more important structural elements such defects are impermissible. Hence, the authors investigated the origins of such cracks and the means of preventing them, on the basis of nine microsections with cracks formed during the welding of double- and single-vee joints of 15KhSND steel -- a steel which is often used in metal structures performing at low temperature and which is more crack-prone. The microsections were etched in nitric acid and examined at = magnifi-

Card 1/2 UDC: 621.791.053:620.191.32

L 28471-66

ACC NR: AP6010144

2

cation of 1500; in all cases crystals intersected the cracks: this indicates that the cracks are of the cold and not of the hot type, contrary to the usual opinion. This conclusion is also confirmed by the absence of sulfides; as is known, sulfide inclusions and sulfide films are detected only for hot cracks. These findings give reason to believe that whisker-type cracks are occasioned by the angular deformation accompanying multi-pass butt welding. On the basis of a comparative subsequent investigation of the effect of welding techniques and joint geometry, it is established that these whisker-type cold cracks are, as it were, a continuation of the gap between the edges of the joint, due to incomplete penetration of the weld root when the clearance between the edges is smaller than 3 mm and the angle of skew of the edges is too high. These cracks can be avoided by maintaining the clearance between the edges at at least 3 mm, reducing the angle of skew of the edges by 1.5-2.0 mm and keeping the clamps of the backing ring outside rather than inside the tube. These conclusions apply to tubes with diameters of 380 and 430 mm and wall thickness of 20 and 26 mm; for tubes of high-strength steel with wall thickness exceeding 30 mm or with very thin walls these conclusions have yet to be verified. Orig. art. has: 7 figures, 1 table.

SUB CODE: 11, 13/ SUBM DATE: 21Sep65/ ORIG REF: 005

Card 2/2 BC

34391

S/682/61/000/003/005/008
D234/D302

26.2191

AUTHOR: Novikov, V.I.

TITLE: Experimental determination of dynamical properties of a turbo-jet engine as a link in the system of automatic flight control

SOURCE: Avtomaticheskoye regulirovaniye aviadvigateley; sbornik statey. no. 3, Moscow, 1961, 77 - 81

TEXT: The author gives the results of experimental frequency tests of a turbo-jet engine with a centrifugal compressor. Disturbing harmonical oscillations of the required frequencies were introduced with the aid of sinusoidal displacements of the needle of a throttle cock. It is stated that there was a good coincidence of the sinusoid with the oscillogram of actual variation of fuel pressure. Traction force of the engine and fuel consumption were determined. Graphs of phase-amplitude characteristics of the engine are given. The differential equation of the dependence of the number of revolutions on

Card 1/2

S/682/61/000/003/005/008
D234/D302

Experimental determination of ...

the fuel feed is deduced from experimental data. Values of time constants and the simplification coefficient of the characteristic of an aperiodic unit (approximating the characteristics of the engine), computed from the data, are quoted. There are 3 figures and 5 Soviet-bloc references.

Card 2/2

S/682/61/000/003/006/008
D234/D302

26.1915

AUTHOR: Novikov, V.I.

TITLE: Turbo-jet engines as a link in systems of automatic control of an aircraft

SOURCE: Avtomaticheskoye regulirovaniye aviadvigateley; sbornik statey, no. 3, Moscow, 1961, 82 - 101

TEXT: The author considers only single-circuit, single-shaft engines with controlled dilatable nozzle. The purpose of the paper is to determine the transfer function of traction power of the engine according to controlling and disturbing actions, to investigate the effect of the characteristics of the compressor, the operating regime and flight conditions of the dynamical parameters of the engine. The problem is solved by linearization of thermodynamical equations of the engine in its stabilized operating regime. General formulae, numeriacal examples and graphs are given. If the experimental characteristic of the compressor is replaced by a quadratic

Card 1/2

dependence on the number of revolutions, the values of the dynamical parameters are found to be very inaccurate. To avoid the indeterminacy in linearization of a compressor equation given graphically, in the case of a compressor having 'vertical' characteristics, it is proposed to eliminate the air flow from the system of equations. The results obtained by this method are found satisfactory. There are 12 figures and 2 tables.

39053
S/682/62/000/004/003/006
D234/D308

26.2193

AUTHOR: Novikov, V.I.

TITLE: Operation of an air inlet and its control system in turbulent atmosphere

SOURCE: Avtomaticheskoye regulirovaniye aviadvigateley; sbornik statey, no. 4, Moscow, 1962, 33-62

TEXT: The author considers the effect of air gusts in turbulent atmosphere on exhaust reserve and the choice of optimum parameters of the automatic control system of the inlet so that the effect be minimal. Mathematical characteristics of the turbulent atmosphere in the case of random gusts are studied and the equation of connection of the inlet of the jet engine to the afterburner is deduced. The dynamical equation of the inlet, and the equation of the exhaust reserve are obtained. Structural diagram of the control system assumed in the paper, and differential equations of its links, are given. The choice of optimum parameters was made by modelling according to a method proposed by T.S. Mart'yanova. The optimum

Card 1/2

Operation of an air inlet ...

transfer function of a smoothing-out filter is determined as a first step towards the solution of the problem of optimum transfer function of the system. It is concluded that the dispersion of exhaust reserve, in disturbed atmosphere, for an inlet with flow rate coefficient $\varphi < 1$, is more than 10 times larger than with $\varphi = 1$. Complete elimination of disturbances due to turbulent atmosphere can be attained by including two non-linear elements, with an integrating link between them, into the control system. There are 14 figures, 1 table and 6 references.

Card 2/2

28093
S/181/61/003/009/027/039
B104/B102

24,7600 (1043,1160,1537)

AUTHORS: Yefimova, B. A., Korenblit, I. Ya., Novikov, V. I., and Ostroumov, A. G.

TITLE: Anisotropy of galvanomagnetic properties of p-type Bi_2Te_3

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2746-2760

TEXT: The galvanomagnetic effects of p-type bismuth telluride have been studied between 4-290°K. This material is well suited for the production of thermocouples. The results were analyzed using the model suggested by J. R. Drabble et al. (Refs. 1-4, 17, see below). The single crystals were grown by Chokhral'skiy's method and that of G. I. Shmelev and S. V. Ayrapetyants (FTT, II, 4, 1960). Two types of samples have been used; the third-order axis of one sample coincided with its longitudinal axis and the third-order axis of the other was vertical to its longitudinal axis. The electrical conductivity σ_{ij}, the Hall coefficient ϱ_{ijk}, and the reluctance ϱ_{ijkl} were measured by a d-c compensation method in a constant magnetic field. The temperature of the samples was measured with copper-constantan

Card 1/4

Anisotropy of galvanomagnetic ...

thermocouples. Their sensitivity at helium temperature was 4-5 $\mu v/^{o}K$ and at room temperature 40 $\mu v/^{o}K$. Measurements and results are discussed in detail. The galvanomagnetic properties of p-type Bi_2Te_3 indicate that the model suggested by Drabble et al. for the isoenergetic surfaces is correct between 4 and 290°K. In the range where only one scattering mechanism of the carriers predominates (scattering from acoustic phonons or impurities), the tensor of the relaxation time can be written as $\tau_{ij} = a_{ij}\varphi(\mathcal{E})$. The coefficients a_{ij} are functions of temperature. For the whole temperature interval it can be assumed that $\tau_{13} \approx 0$. The anomaly of the Hall effect is caused by the change of a_{ij} when the scattering of the carriers by acoustic phonons changes over to scattering by impurities. The temperature dependences of the carrier mobility μ_o, which have been determined from the "isotropic" electrical conductivity and the "isotropic" magnetic conductivity, are in agreement. At room temperature $u_o \sim T^{-1.7}$; at lower temperatures, the slope of the straight line $\ln u_o = f(\log T)$ decreases considerably. The changes of the anisotropy parameters $w_1 = m_2\tau_{11}/m_1\tau_{22}$ and $w_2 = m_2\tau_{33}/m_3\tau_{22}$ are explained by the transition of scattering from

4

Anisotropy of galvanomagnetic ...

phonons to scattering from impurities. The temperature dependence of the anisotropy parameters confirms that the model is valid for all temperatures. An estimation of the anisotropy of the relaxation time for scattering from impurities shows that it is not very large. This fact is explained by the lack of anisotropy in the thermo-emf for mixed scattering. The galvanomagnetic coefficients of p-type Bi_2Te_3 can be calculated by using empirical parameters and equations published by I. Ya. Korenblit, in FTT, II, 12, 3083, 1960. Two variants of the energy spectrum are determined therefrom. The test results obtained are not sufficient to decide which is the correct variant. The authors thank A. G. Samoylovich, L. S. Stil'bans, and S. S. Shalyt for interest and advice. There are 10 figures, 2 tables, and 22 references: 8 Soviet and 14 non-Soviet. The five most important references to English-language publications read as follows: J. R. Drabble et al., Ref. 1: Proc. Phys. Soc., 69, 1101, 1956; Ref. 2: Proc. Phys. Soc., 71, 3, 1958; Ref. 3: Proc. Phys. Soc., 72, 380, 1958; Ref. 4: J. Phys. Chem. Soc., 8, 428, 1959; Ref. 17: J. Electr. a. Contr., 3, 3, 1957.

Card 3/4

28093
S/181/61/003/009/027/039
B104/B102

Anisotropy of galvanomagnetic ...

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: April 29, 196

Card 4/4

35801

S/120/62/000/001/051/061
E032/E314

24.7100

AUTHORS: Krest'yankin, V.D., Novikov, V.I. and Ostroumov, A.G.

TITLE: A cryostat for the study of the anisotropy of the galvanometric properties of crystals

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1962, 194 - 195

TEXT: The authors describe a cryostat which has been used to investigate the anisotropy of galvanometric properties of Bi_2Te_3 in the temperature range 4.2 - 300 °K. The device is shown in the figure. The specimen under investigation 1 is placed in a cylindrical thick-walled copper container 2, which carries three constantan wire heaters and a thermocouple. The main heater 3 is used to maintain the average temperature of the copper container. The other two heaters are independent of each other and are used to control the vertical temperature gradient. The copper container and the hermetic screen 4 are rigidly attached to the cap 5 by means of two coaxial thin-walled German-silver tubes forming a single hermetically-sealed

Card 1/3

^ cryostat ....

d uble-walled container. The heat-transfer between the copper container and the cooling liquid (liquid He, liquid N) in the dewar 6 is regulated by adjusting the pumping speed in the space between the copper container and the screen. In order to ensure good thermal contact between the specimen and the liquid He, the cryostat is filled with gaseous He through a leak valve. The remaining components in the figure are as follows: 7 - vacuum tube; 8 - current leads; 9 - specimen-raising device; 10 - Wilson seal; 11 - graduated circle used to measure the angle of rotation of the specimen about the vertical axis; 12 - textolite specimen base; 13 - specimen contact block; 14 - lever used to rotate the specimen; 15 and 16 - vacuum seals; 17 - electrical contacts; 18 - siphon for removing liquid nitrogen which is used to precool the dewar prior to introduction of the liquid helium. The device has the following advantages: 1) temperature can be determined to within 0.1 °K; 2) it is possible to measure the angle between the current in a given crystallographic direction and the mutually perpendicular directions of the magnetic field and the temperature gradient;

Card 2/4

A cryostat ....

3) the specimens can be easily and rapidly replaced without demounting the apparatus, and 4) the magnitude and sign of the vertical temperature gradient at the specimen can be adjusted. There is 1 figure.

ASSOCIATION: Institut poluprovodnikov AN SSSR
(

SUBMITTED: June 17, 1961

4

Card 3/4

33344
S/181/62/004/001/052/052
B112/B138

24.7600 (1043, 1055, 1164, 1385)

AUTHORS: Yefimova, B. A., Novikov, V. I., and Ostroumov, A. G.

TITLE: Anisotropy of the galvanomagnetic properties of n-type Bi_2Te_3

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 302 - 304

TEXT: Drabble and Wolfe have suggested a six-ellipsoid model to describe the shape of the conduction and valence bands of Bi_2Te_3. The results of the present investigation support this model: The anisotropy of electrical conductivity σ_{11}/σ_{33} measured at 77 and 290°K was almost the same as that resulting from this model. Longitudinal magnetic resistance (ρ_{3333}/ρ_{3311} = 1.1) is nonvanishing only if the axis of revolution of the isoenergetic ellipsoids coincides with a symmetry axis $\theta \neq 0$. The strong dependence of the galvanomagnetic coefficients on magnetic field strength, suggests that in n-type Bi_2Te_3 electron mobility is much greater than hole mobility. This is in agreement with the 6-ellipsoid, b t not with the isotropic, model;

Card 1/3

Anisotropy of the galvanomagnetic...

in the range 77 - 290°K the angles of revolution of the ellipsoids remain constant. The specimens studied were cut parallel and perpendicularly to the third order symmetry axis. The parameters of the energy spectra of the conduction and valence bands (w_1, w_2, $\cos^2\theta$) are similar for n- and p-type specimens of similar carrier concentration. w_1 and w_2 depend both on effective-mass anisotropy and the components of the relaxation time tensor. From the coincidence of these parameters for p- and n-type it may be concluded that the conduction and valence bands not only have very similar isoenergetic surfaces but that anisotropy in electron and hole scattering is almost the same. The dependence of the anisotropy parameters on temperature and carrier concentration can also be taken as similar for both types. It is also probable that the parameters obtained so far for n-type Bi_2Te_3 contain a factor which depends on impurity scattering anisotropy, and the effective mass ratios calculated from them contain some inaccuracy. There are 1 table and 7 references: 3 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: J. B. Drabble et al. Proc. Phys. Soc. B 71, 430, 1958; J. B. Drabble. Proc. Phys. Soc. B 72, 380, 1958; J. B. Drabble, R. Wolfe. Proc. Phys. Soc. B 69, 1101, 1956;

33344
S/181/62/004/001/052/052
B112/B138

Anisotropy of the galvanomagnetic...

J. B. Drabble. J. Phys. a. Chem. Sol. 8, 428, 1959.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

SUBMITTED: October 11, 1961

Card 3/3

NOVIKOV, V. K.

"Bending Vibrations of Propeller Blades." Cand Phys-Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, Moscow, 1955. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions. (16).

ATABEKOV, I.G.; NOVIKOV, V.K.; PEKHTEREV, V.V.

Characteristics of the surface denaturation of phytopathogenic viruses. Vop. virus 8 no.5:600-605 '63 (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii.

ATABEKOV, I.G.; NOVIKOV, V.K.

Adsorption of phytopathogenic viruses on "molecular" sorbents. Vop. virus. 6 no.6:673-678 N-D '61. (MIRA 15:2)

1. Vsesoyuznyy institut fitopatologii.
(VIRUSES) (SORPTION)

ATABEKOV, I.G.; KARPENKO, G.A.; NOVIKOV, V.K.

Some adsorptive properties of calcium phosphate and their use in determining the nucleotide composition of ribonucleic acid. Biokhimiia 28 no.3:517-523 My-Je 63. (MIRA 17:2)

AMABEKOV, I. G.; KASHPANOVA, A. S.; KISELEV, N. A.; NOVIKOV, V. K.; POPOVA, G. A.

"Struktura antigenov i nukleoproteidov nekotorykh virusov zlakov."

report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

NOVIKOV, V.K.

Large-scale tests with a collection of valuable cabbage species.
Biul. Glav. bot. sada no.34:80-82 '59 (MIRA 13:3)

1. Eksperimental'naya baza "Snigiri" Glavnogo botanicheskogo sada Akademii nauk SSSR.
(Cabbage)

PERLOVA, R.L.; NOVIKOV, V.K.

Heterosis in the cabbage plant. Biul.Glav.bot.sada no.37:107-109 '60. (MIRA 13:11)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Cabbage breeding) (Heterosis)

ALEKSEYEV, B.I.; NOVIKOV, V.K.

Formation of fruit around an apple shoot. Priroda 49 no.9:112 S '60. (MIRA 13:10)

1. Nauchno-eksperimental'noye khozyaystvo "Snegiri" Glavnogo botanicheskogo sada AN SSSR.

(Apple)

NOVIKOV, V. K.

24204 NOVIKOV, V. K. Kolibatsillez i paratif soboley. Karakulevodstvo i zverovodstvo, 1949, No. 4, S. 71-72.

SO: Letopis, No. 32, 1949.

NOVIKOV V. K. (& MANTYUSHEV, P. V. & NOVIKOV, V. K.)

Pantovaye olenevodstvo i bolezni pantovykh olenev (Reindeer Raising and Diseases of Reindeer). Moscow, izdvo "Sekhdun rodnaya kniga," 1950, 240 pages with illustrations.

U-4258

NOVIKOV, V. K.

Carnivora

"Control of plague in carnivorae and of infections that complicate it."
Kar. i zver. 5, No. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

NOVIKOV, V. K.

NOVIKOV, V. K. — "Treating Silver-Black Foxes with Pantohematogen in Cases of Alimentary Dystrophy." Min Higher Education. Leningrad, 1955. (Dissertation for the Degree of Doctor in Veterinary Sciences).

So.: Knizhnaya Litopis', No. 7, 1956.

Q-3

USSR/Farm Animals. Rabbits.

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101228

Author : Popov, N.F., Kurilov, N.V., Novikov, V.K., Zusman, N.S.

Inst : -

Title : Effects of Hormones Upon the Productivity of Rabbits.

Orig Pub: Vestn. s.-kh. nauki, 1957, No. 2, 115-117

Abstract: Experiments were carried out on 4 groups of rabbits consisting of 8 male and 7 female rabbits in each group. The first group was the control group. The second group received pregnene with their food, the third group were given pregnene with their food and were subcutaneously injected with progesterone, and the

Card 1/2

63

Q-3

USSR/Farm Animals. Rabbits.

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101230

Author : Popov, N.F., Kurilov, N.V., Novikov, V.K.

Inst : Institute of Rabbit Breeding and Fur Animal Husbandry

Title : Utilizing Diethylstilbestrol for Increasing the Productivity of Rabbits.

Orig Pub: Vestn. s.-kh. nauki, 1957, No. 12, 117-119

Abstract: The Institute of Rabbit Breeding and Fur Animal Husbandry experimented in using diethylstilbestrol (DS) for raising the productivity of rabbits in experiments on 2 groups of young rabbits. For 60 days, 90 g of diethylstilbestrol were given daily with food to each of the animals. After 60 days, test males weighed 31.7 percent

Card 1/2

65

NOVIKOV, Vladimir Korneyevich; CHERKASSKIY, Ye.S., red.; BILENKO, L.S., red. izd-va; FOMICHEV, P.M., tekhn. red.

[Feeding fur-bearing animals] Kormlenie pushnykh zverei. Moskva, Izd-vo TSentrosoiuza, 1962. 69 p. (MIRA 15:7)
(Fur-bearing animals—Feeding and feeds)

VASIL'YEVA, Yevgeniya Gavrilovna, kand. veter. nauk; NOVIKOV, Vladimir Korneyevich, doktor vet. nauk; CHERKASSKIY, Ye.S., doktor ver. nauk, prof., red.; LIFEROVA, B.I., red. izd-va; GRIGOR'YEVA, L.V., tekhn. red.

[Principal diseases of furbearers and rabbits] Osnovnye bolezni pushnykh zverei i krolikov. Moskva, Izd-vo TSentrosoiuza, 1962. 82 p. (MIRA 15:6)

(Fur-bearing animals--Diseases)

28(5)
AUTHORS: Demchenko, V. S., Novikov, V. K. SOV/32-25-6-34/53

TITLE: Device for the Determination of the Ability of Corroding of Lubricating Oils With an Inconsiderable Wear of the Material to Be Tested (Pribor dlya opredeleniya korrozionnosti smazochnykh masel s nebol'shim raskhodom ispytuyemogo produkta)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 741-742 (USSR)

ABSTRACT: 160 g of the testing substance are necessary for determining the corroding ability of lubricating oils according to Pinkevich's method (GOST 5162-49), 73 g in the case of the method NAMI (GOST 8245-56). A new device was constructed in the case of which for two parallel tests of this kind only 10 g of the substance are consumed. A standard apparatus DK-2 NAMI (GOST 8245-56) is used in a somewhat modified form. The change consists in a reduction of the size of the L-shaped pistons and lead plates (Fig). From the data mentioned it may be seen (Table) that the test results achieved by means of the standard device are in good agreement with the device for small amounts as suggested here. The data show that various

Card 1/2

Device for the Determination of the Ability of Corroding SOV/32-25-6-54/53
of Lubricating Oils With an Inconsiderable Wear of the Material to Be
Tested

oils were investigated and various additions used in this connection (AzNII-4, TsIATIM-339, VNII NP-360, IP-22). There are 1 figure and 1 table.

Card 2/2

S/065/60/000/004/009/017
E071/E435

AUTHORS: Demchenko, V.S. and Novikov, V.K.

TITLE: The Influence of Resins Contained in Oils on Their Corrosive Activity

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No.4, pp.40-43

TEXT: The role of resinous compounds in oils in the process of corrosion of antifriction alloys by lubricating oils was investigated. Resins were separated from oil MT16 produced from the Emba crudes by the Yaroslavskaya refinery and from sulphurous crudes produced by the Novokuybyshev refinery. The separation was done by adsorption of silica-gel and subsequent extraction with an alcohol-benzene mixture after removing the adsorbed naphthene-paraffinic and aromatic hydrocarbons with iso-octane. The main properties of the isolated resinous compounds are given in the text. Physico-chemical properties of oils before and after the removal of resinous compounds are given in Table 1; the dependence of corrosive activity and acid number of oils on the content of resinous compounds are given in Table 2. It was

Card 1/2

36556

S/081/62/000/006/094/117
B162/B101

11.9100

AUTHORS: Demchenko, V. S., Novikov, V. K.

TITLE: Effect of natural organo-sulfur compounds on the corrosive action of lubricating oils

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 545, abstract 6M290 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikhsya v neftyakh i nefteproduktakh. v. 4". M., Gostoptekhizdat, 1961, 194-198)

TEXT: On the ЛКМ-НАМИ(LKM-NAMI) apparatus, using L-shaped flasks of reduced volume, at 140°C and for a period of 10 hrs, the corrosive properties of the МТ-16 (MT-16) oil from sulfur petroleums were investigated before and after desulfurization. The sulfur compounds were removed from the oil by oxidation with H_2O_2 at about 20°C in a medium of CH_3COOH with subsequent removal of the oxidation products on silica gel. Desulfurization was applied both to the initial oil and to previously deresinated oil. In the first case, the sulfur content dropped by 45%, and in the second, by 80%. The corrosiveness of the previously deresinated oil rises

Card 1/2

Effect of natural organo-sulfur ...

approximately twice as much here as that of the non-deresinated oil. On adding to the oil the resins separated from it by silica gel, its corrosiveness drops slightly, despite the rise in its acid number. The corrosiveness of the desulfurized oils is 7-14 times lower than that of the oil MT-16 from Emba petroleum, which is attributed to the comparatively high aromatic hydrocarbon content in the desulfurized oil, which effectively slows down the oxidation of the naphthene-paraffin hydrocarbons (NPH). On adding desulfurized oils and the initial oil to the NPH separated from the sulfur oil, the corrosiveness of the latter and their acid number dropped considerably. The addition of oils from sulfur petroleum to oils from Emba and Baku petroleum effectively improves the anticorrosive properties of the latter only when their concentration in the mixture exceeds 70%. [Abstracter's note: Complete translation.]

Card 2/2

S/081/62/000/006/093/117
B162/B101

11.9700

AUTHORS: Demchenko, V. S., Novikov, V. K.

TITLE: Effects of temperature and duration of test on the corrosive action of oils from sulfur petroleum

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 545, abstract 6M289 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikhsya v neftyak i nefteproduktakh. v. 4". M., Gostoptekhizdat, 1961, 199-205)

TEXT: The corrosiveness of oils was evaluated on Pinkevich's and the AK-2 (DK-2) apparatus of NAMI in the temperature range of 100-200°C from the variation in weight of plates of lead of grade C -1 (S-1). For the investigation the oils MT-16 (MT-16) and A -11 (D-11) from sulfur petroleum were used, without additives and with various multi-functional additives (for motor oils) in a concentration of 3-3.5%. At temperatures of up to 140°C and test periods (in accordance with NAMI) of 10 hrs, the oils without additives possessed low corrosiveness, but with a further rise in temperature and with an increase in the test period (up to 50 hrs)

Card 1/2

their corrosiveness increased substantially. Therefore, when using the oils MT-16 and D-11 on boosted engines subject to high thermal stress, effectively acting anti-corrosive additives must be added to them. Most of the additives tested greatly reduced the corrosiveness of the oils only at temperatures of up to 140°C and at NAMI test periods of 20-30 hrs. A further rise in temperature or an increase in the test period (up to 50 hrs) reduced the effectiveness of the additives. The additives Циатим-339 (Tsiatim-339) and Азнии-4 (Aznii-4) had inadequate anti-corrosive properties; the additives ТМС 19Я (PMS 19Ya), Вниии НП-360 (Vnii NP-360), ИП-22К (IP-22K), Вниии НП-353 (Vnii NP-353), and especially the additives Азнии-7 (Aznii-7) and Азнии - Циатим-1 (Aznii-Tsiatim-1) effectively reduced the corrosiveness of the oils at temperatures of up to 200°C and at NAMI test periods of up to 50 hrs. [Abstracter's note: Complete translation.]

L 10529-63 EPF(c)/EWT(m)/BDS--AFFTC/APGC/ASD--Pr-4--BW/DJ

ACCESSION NR: AP3000505 S/0065/63/000/005/0062/0065

64
61

AUTHOR: Novikov, V. K.

TITLE: Thermal stability of corrosion-inhibiting constituents and groups of multipurpose additives

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 5, 1963, 62-65

TOPIC TAGS: additive, AzNII-7, TsIATIM-339, corrosion inhibitor, temperature effect, oil-composition effect, additive-property effect, Pinkevich apparatus, stability drop, additive stability, lubricating oil, lubricant

ABSTRACT: The thermal stability of the corrosion-inhibiting constituents and groups of current Soviet multipurpose additives in MT-16, DS-11, and industrial "50" lubricating oils has been studied at 100 to 180C with the use of the Pinkevich apparatus. The corrosion-inhibiting effectiveness of the additives was shown to depend to a high degree on temperature, properties of the additives, and chemical composition of the oil. Most of the additives are thermally stable at 100 to 140C. At higher temperatures the thermal stability and effectiveness of the corrosion-inhibiting

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L 10529-63
ACCESSION NR: AP3000505

3

constituents and groups begin to drop as a result of their oxidation and partial decomposition. The highest thermal stabilities (180 and 160C, respectively) are exhibited by the additive AzNII-7 [bis(hydroxyphenylalykyl) sulfide barium salt] and the corrosion-inhibiting constituent V-354 [zinc O, O, O', O',-tetrakis(alkylphenyl)bis(phosphorodithioate)] of the additive V-360. Additives AzNII-4 and TsIATIM-339 have the lowest thermal stabilities. Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 005 OTHER: 000

ch
Card 2/2

NOVIKOV, V.K., inzhener.

Power economy in industry during the past five years. Prom. energ. 11 no.2:34-35 F '56. (MLRA 9:6)
(Electric power)

NOVIKOV, V.K.

Consumption of electric power in certain types of manufacturing.
Prom.energ. 12 no.2:37-38 F '57. (MLRA 10:3)
(Electric power)

KHAYMOVICH, A.L.; NOVIKOV, V.K., inzh.

Evaluating the results of power utilization. Prom.energ. 12 no.8:36-37 Ag '57. (MIRA 10:10)

1.Zavod im. Serova (for Khaymovich)
(Electric power)

SOV/94-58-10-8/20

AUTHOR: Novikov, V.K., Engineer

TITLE: Improve the Standardisation of Electric Power Consumption in Industry (Uluchshat' normirovaniye elektroenergii v promyshlennosti)

PERIODICAL: Promyshlennaya Energetika, 1958, Nr 10, pp 20-21 (USSR)

ABSTRACT: In planning electric power development it is important to estimate accurately the industrial and transport load which covers about 85% of all electric power consumption. It is most important to establish correct standards of power consumption for various types of industry. A good deal of work has been done on this subject but in many works and industries the existing power consumption standards do not reflect actual power consumption per unit of production. Very often not all power requirements are included; thus, in coal mining between 60 and 70% of the power consumption is standardised and much the same applies to the manufacture of building materials and to some textile manufactures. In some cases similar factories cannot

Card 1/2

Improve the Standardisation of Electric Power Consumption in Industry

be compared in respect of power consumption because of differences in the method of standardisation. Examples of this are given. Many of the defects in the standardisation of power consumption have arisen because the former ministries did not analyse the subject closely enough. Now that industry is controlled by Councils of National Economy it will be easier to revise power consumption standards.

ASSOCIATION: Gosenergonadzor

Card 2/2

NOVIKOV, V.K.

Power engineering workers fight for technological progress in industry. Prom. energ. 15 no.11:15-17 N '60. (MIRA 14:9)
(Electric power)

LEVITANSKIY, B.A.; NOVIKOV, V.K.; AKULOV, Ye.F., red.; KIREYEV, M.I., red.; SAVEL'YEV, V.I., red.; CHUMAKOV, N.M., red.; MOYZHES, S.M., red.; VORONIN, K.P., tekhn. red.

[Economy and standardization of electric power in rolling mills] Ekonomiia i normirovanie elektroenergii v prokatnom proizvodstve. Moskva, Gos.energ.izd-vo, 1961. 93 p. (MIRA 14:12)
(Rolling mills--Electric driving)

ACC NR: AP6021579 (N) SOURCE CODE: UR/0402/66/000/003/0343/0348

AUTHOR: Kuvshinova, Ye. V.; Atabekov, I. G.; Shaskol'skaya, N. D.; Novikov, V. K.; Popova, G. A.

ORG: Department of Virology, Moscow State University (Kafedra virusologii Moskovskogo universiteta im. M. V. Lomonosova); All-Union Scientific Research Institute for Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)

TITLE: Comparative serological analysis of rod-shaped viruses

SOURCE: Voprosy virusologii, no. 3, 1966, 343-348

TOPIC TAGS: virology, serology, serological analysis, serotyping, virus, rod shaped virus, immunodiffusion method, mosaic virus, tobacco mosaic virus, PLANT DISEASE, WHEAT

ABSTRACT:
Serological relationships between TMV, cucumber mosaic no. 2, barley stripe mosaic, and winter wheat mosaic viruses were established. Winter wheat mosaic virus is unique among them in that it is a "yellow" virus rather than a true "mosaic" type biological [illegible]. Orig. art. has: 2 figures. [W.A. 50; CBE No. 10]

SUB CODE: 06/ SUBM DATE: 25Apr65/ ORIG REF: 006/ OTH REF: 016/

Card 1/1 UDC: 576.858.077.3

NOVIKOV, V. K.

Bee Culture

Further development of bee culture Pchelovodstvo 29, no. 5, May 1952

9. Monthly List of Russian Accessions, Library of Congress, August 1953, Uncl.

COUNTRY : USSR
CATEGORY : Farm Animals
The Honeybee.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 12109

AUTHOR : Kostoglonov, V. F.; Novikov, V. Kh.
INST. : -
TITLE : An Advanced experiment in Apiculture at the All-Union Agricultural Exhibit in 1958.

ORIG. PUB. : Pchelovodstvo, 1959, No 3, 5-11

ABSTRACT : During the years of 1956 and 1957 more than 400,000 persons visited the Apiculture pavilion at the All-Union Agricultural Exhibit. On examples of kolkhozes and sovkhozes it was graphically shown that large honey yields may be obtained when the intensification of the colonies' strength is taken into account in time by temporarily utilizing a shift of auxiliary queens, by multi-frame and horizontal beehive keeping, a sufficient supply of honeycomb frames and feeds,

CARD: 1/4

9

COUNTRY : USSR
CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : Institute, the Departments of Apiculture at the Animal Husbandry and Veterinary Science Institutes of Georgian and Armenian SSR, Institute of Fruit and Vegetable Growing of Byelorussian SSR, Laboratory of Bee Diseases at the Ukranian Institute of Experimental Veterinary Science, the Chair of TAA (Timiryazev Agricultural Academy), the Chairs of Biology at MSU (Moscow State University) and Gorkiy University, the Chairs of Microbiology

CARD: 3/4

Novikov V.L.

3902. Bartenev, G.M., Lepetov, V.A. and Nov'kov, V.L., Static compression of flat, annular rubber gaskets. (in Russian), Doklaki Akad. Nauk SSSR (N.S.) 93, 1, 15-18, Nov, 1953.

Tests on three types of rubber show that previous empirical relations (AMR 6, Rev. 1917; 7, Rev. 2877) hold also for ring shape. At high carbon content, the parameter a(measured with surfaces dry) decreases from 1.0 to 0.5.

William Fuller Brown, Jr., USA

NOVIKOV, V. M.

Semiautomatic die for manufacturing plates for radiator blinds.
Avt. prom. 28 no.9:35-36 S '62. (MIRA 15:10)

1. Ul'yanovskiy avtozavod.

(Dies(Metalworking))

NOVIKOV, V. M.

USSR/Fuel - Gas, Natural Combustion, Flameless Jul 50

"Flameless Combustion of Natural Gas in La rge Burners," V. A. Speysher, Cand Tech Sci, A. Ye. Kucheruk, P. N. Mayevskiy, V. M. Novikov, Engineers

"Elek Stants" No 7, pp 6-11

Describes experiments on various types of large burners leading to conclusion that it is possible to turn over to flameless heating in low-capacity steam boilers operating on gaseous fuel. Editor states further research will be necessary before use of flameless combustion leads to any radical reduction in size of boiler units. One of the experiments was made at L'vov hydroelectric power station under Prof. M. B. Ravich.

PA 162T35

NOVIKOV, V. M.[Novykov, V. M.]

Gas welding burner works on kerosene. Mekh. sil'. hosp. 14 no.2:18-19 F '63. (MIRA 16:4)

1. Upravlyayushchiy Bogodukhovskim otdeleniyem "Sil'gosptekhniki", Khar'kovskoy oblasti.

(Gas welding and cutting) (Kerosene)

ANDRIANOV, K.A.; NOVIKOV, V.M.

Polymethylbutoxyphosphinaluminooxanes. Vysokom. soed. 1 no.9:1390-1395 S '59. (MIRA 13:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus organic compounds) (Aluminum organic compounds)
(Polymerization)

S/062/62/000/012/003/007
B117/B101

AUTHORS: Andrianov, K. A., Pichkhadze, Sh. V., Novikov, V. M., and Lavygin, I. A.

TITLE: Synthesis and some reactions of 8-oxy-quinoline butoxy-titanium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 12, 1962, 2138-2141

TEXT: 8-oxy-quinoline tributoxy titanium was synthesized by the action of 8-hydroxy-quinoline on tetrabutoxy titanium at ~140°C; $C_{21}H_{33}O_4NTi$, light-green crystals which hydrolyze easily, m.p. 55-56°C. At a 1:1 ratio of the two components, approximately equal amounts of 8-oxy-quinoline tributoxy titanium and bis-(8-oxy-quinoline)dibutoxy titanium are formed: $C_{26}H_{30}O_4N_2Ti$, yellow crystals, m.p. 148-150°C. The latter hydrolyzed in a neutral medium with the cleavage of butoxy groups only, yielding a product identified as bis-(8-oxy-quinoline)-dihydroxy titanium: $C_{18}H_{14}O_4N_2Ti$, orange, nonfusible crystals, which disintegrate at 400°C. The condensation

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Synthesis and some reactions of...

of bis-(8-oxy-quinoline)-dihydroxy titanium showed that water (69%) was separated by heating (250°C, 4 hrs). The structure of bis-(8-oxy-quinoline)-dihydroxy titanium was confirmed by its condensation with bis-(8-oxy-quinoline)-dibutoxy titanium. Butyl alcohol was thus separated by heating to 200°C. The reaction of bis-(8-oxy-quinoline)-dibutoxy titanium with organosilicon compounds was smooth; the reaction with trimethyl silanol took place at 50°C yielding bis-(trimethyl siloxy)-bis-(8-oxy-quinoline)-titanium $C_{24}H_{30}O_4N_2Si_2Ti$, light-yellow crystals, m.p. 143-144°C, yield 78%. The reaction with triethyl silanol at 150°C yielded bis-(triethyl siloxy)-bis-(8-oxy-quinoline)-titanium, $C_{30}H_{42}Si_2O_4N_2Ti$, yellow crystals, m.p. 162-164°C, yield 83%. The reaction with triphenyl silanol at 150-170°C yielded bis-(triphenyl siloxy)-bis-(8-oxy-quinoline)-titanium, $C_{54}H_{42}Si_2TiO_4N_2$, a crystalline substance, m.p. 188°C, yield 68%.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: April 11, 1962

Card 2/2

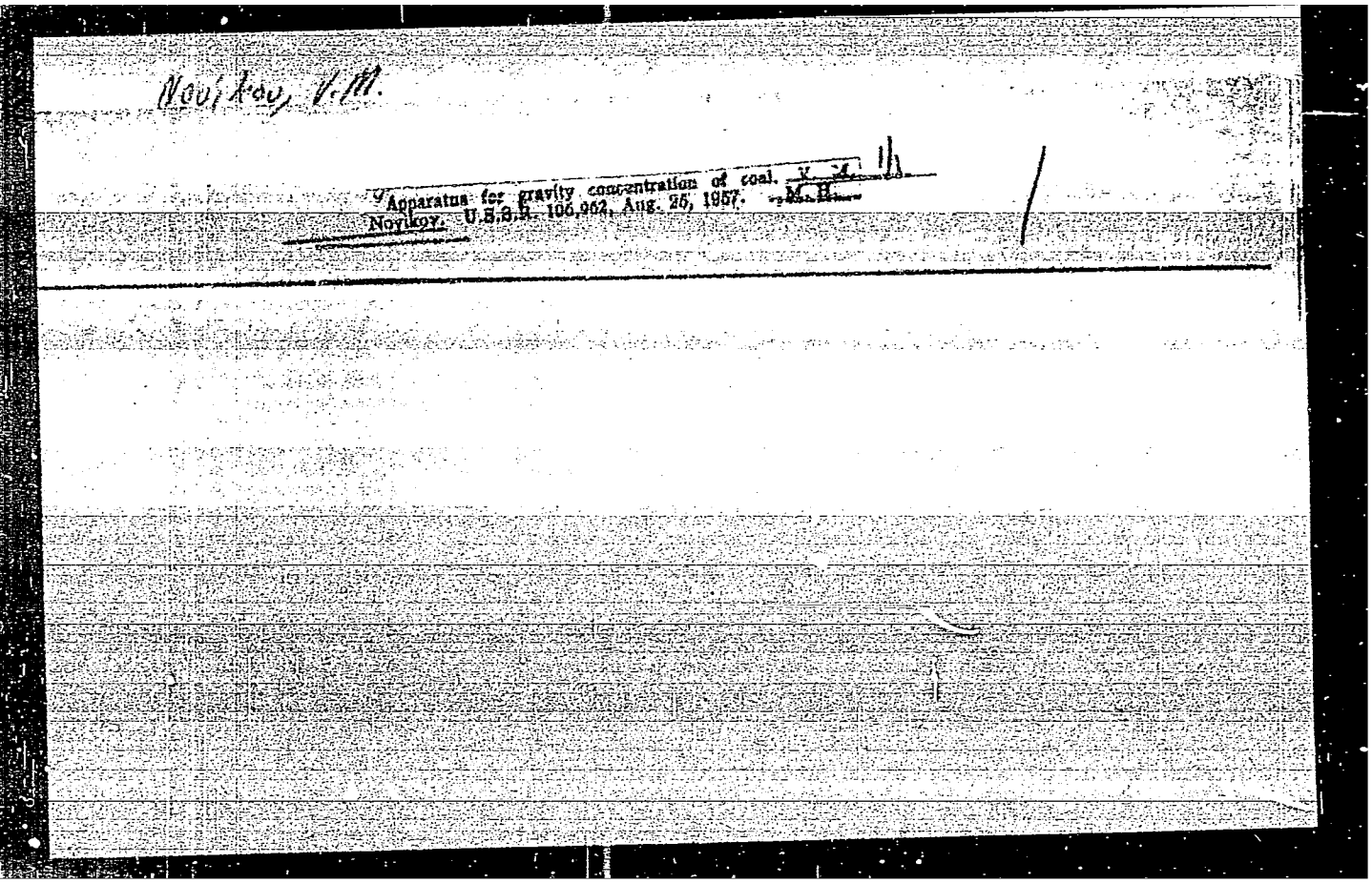
NESMEYANOV, Nik. A.; NOVIKOV, V. M.; REUTOV, O. A.

Addition of mercuric chloride to the Wittig reagents and the synthesis of mercury-containing phosphorylide. Izv AN SSSR Ser Khim no. 4:772-773 Ap '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet.

VLASHCHENKO, L.F.; NOVIKOV, V.M.; ZINOV'YEVA, M.M.; SIDOROVA, A.P.; KARDASHOVA, A.A.; KLEYMENOV, I.Ya.; KRASNOPOL'SKIY, N.M. [deceased]; LUKASH, Ye.G.; SAMOFALOV, P.Ye.; YASHINA, Ye.I.; KULIKOV, P.I., dots., retsenzent; MAKAROVA, T.I., kand. tekhn. nauk, retsenzent; MERENBURG, A.N., spets. red.; KOSSOVA, O.N., red.; SOKOLOVA, I.A., tekhn.red.

[Handbook for the technologist of the fishing industry] Spravochnik tekhnologa rybnoi promyshlennosti. Moskva, Pishchepromizdat. Vol.1. 1963. 589 p. (MIRA 17:3)



Novikov, V.M.

Apparatus for gravity concentration of coal. Novikov. U.S.S.R. 106,962, Aug. 26, 1957.

IVANOVA, Klavdiya Aleksandrovna; NOVIKOV, Vladimir Maksimovich; ZONTOVA, G.F., red.izd-va; SABITOV, A., tekhn.red.

[Cost of mine maintenance operations] Stoimost' podderzhaniia gornykh vyrabotok. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 73 p. (MIRA 15:2)
(Kuznetsk Basin--Coal mines and mining--Costs)
(Mine timbering)

NOVIKOV, V.M., inzh.

Relation between the productive processes and the level of labor productivity in a mine. Izv. vys. ucheb. zav.; gor. zhur. no.8: 90-96 '61. (MIRA 15:5)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut. Rekomendovana Kuznetskim nauchno-issledovatel'skim ugol'nym institutom.
(Kuznetsk Basin--Coal mines and mining--Labor productivity)

NOVIKOV, V.M.

Rheovasography in the examination of patients with obliterating endarteritis. Vest. khir. 93 no.11:96-99 N '64.
(MIRA 18:6)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.A. Ageyenko) Kubanskogo meditsinskogo instituta.

NOVIKOV, V.M.

KANARDOV, I.P., NOVIKOV, V.M.

Sewage Irrigation

Earth settling tanks in irrigation with sewage. Gidr. i mel. 4 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July 1952, Uncl.

NOVIKOV, V. M., Cand of Tech Sci -- (diss) "Year-round agricultural use of waste waters for irrigating sandy loam." Moscow, 1957, 16 pp (All-Union Academy of Agricultural Sciences im V. I. Lenin; All-Union Scientific Research Institute of Hydraulic Engineering and Melioration), 100 copies (KL, 30-57, 111)

Novikov, V. M.

99-1-6/10

AUTHOR: Novikov, V.M., Candidate of Technical Sciences

TITLE: Conducting Sewage Through Pipelines for Winter Irrigation (Transportirovaniye stochnykh vod po truboprovodam na zimnikh polivakh)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1958, # 1, pp 37-42 (USSR)

ABSTRACT: Subsurface pressure pipelines are used to pipe sewage from pumping stations to fields for irrigation. To prevent mechanical damage, the pipes are installed 0.7 m below the surface of the ground. Observations of thermal conditions on sewage systems were made during the winter months on the collective farm imeni Stalin in the Moskovskaya Oblast', by the author who made the following conclusions: 1) Subsurface asbestos-concrete sewage lines operate satisfactorily year round when the pipes are laid 0.7 m below the earth's surface. 2) Sewage can be piped in the Moskovskaya Oblast' as far as 10 km through ground subject to freezing, as long as the discharge amounts to 1,700 cu m in 24 hours.

There are 3 figures and 4 tables.

AVAILABLE: Library of Congress

Card 1/1

L'VOVICH, A.I.; KANARDOV, I.P.; NOVIKOV, V.M.

Sewage irrigation fields and crop yields. Priroda 50 no.5:95-97 My '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii (Moskva).
(Sewage irrigation) (Vegetable crops—Irrigation)

NOVIKOV, V.M., kand. tekhn. nauk

Methods of thermal calculations of pressure pipes in irrigating with runoff waters in winter. Trudy VNIIGiM 42:20-30 '63. (MIRA 17:6)

NOVIKOV, V.M.

Year-round irrigation of farmlands with sewage waters. Zesz probl post nauk roln 47:43-57 '64

NOVIKOV, V.M., aspirant (Krasnodar, ul. Kirova, d.55, kv.5)

Rheovasography for the evaluation of a lumbar novocaine block applied with A.V. Vishnevskii's method in endarteritis obliterans. Klin. khir. no.2:11-13 '65. (MIRA 18:10)

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - prof. I.A. Areyenko) Kubanskogo meditsinskogo instituta.

16.8100,24.6720,24.6800,24.6810

77009
SOV/56-37-6-49/55

AUTHORS: Zaretskiy, D. F., and Novikov, V. M.

TITLE: Letter to the Editor. Depolarization of Muons in μ-Mesoatoms with Deformed Nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1824-1825 (USSR)

ABSTRACT: An analysis was made of the additional depolarization caused by the interaction of muon with nuclear deformation in μ-mesoatoms. The effect was considered for even-even nuclei. The Hamiltonian of the muon-nucleus system was taken in the following form:

$$H = H_0 + H_R + H_q$$

Here, H_0 is the Hamiltonian of the muon in the monopole field; H_R is operator of rotational energy of the

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Letter to the Editor. Depolarization of Muons in μ-Mesoatoms with Deformed Nuclei

77009
SOV/56-37-6-49/55

nucleus; H_q is operator of quadrupole interaction of muon with nucleus. The diagonalization of the Hamiltonian shows that the quadrupole interaction considerably changes the eigen functions of the system with corresponding muon in the 2p-states (cf., L. Wilets, Kong. Dansk. Vidensk. Selsk. Mat.-fys. Medd., 29, 3, 1954). The changes of the eigen functions of other states can be neglected. In such an approximation the polarization of muon in 1s-states becomes:

$$P = A_q W_{1/2} \langle \sigma_{2p_{1/2}} \rangle_0 + B_q W_{1/2} \langle \sigma_{2p_{1/2}} \rangle_0$$

Here $W_{\frac{1}{2}}$ and $W_{3/2}$ are probabilities of the passing of muon through states $2p_{\frac{1}{2}}$ and $2p_{3/2}$; $\langle \sigma_{2p_{\frac{1}{2}}} \rangle_0$ and

Card 2/4

$\langle \sigma_{2p_{3/2}} \rangle_0$ are polarization of muon in the above states in the absence of quadrupole interaction; A_q and B_q are factors compensative of the additional depolarization. The factor B_q was determined from muon transition from the upper levels into the 1s--state through the states that can be described by the eigen function of the above given Hamiltonian:

$$B_q = 0{,}8 \sum_{k=1}^{3} C_k^2 \left[\left(\frac{E_{f.s.} - 3E_k}{3E_q} \right)^2 + 2 \right] - 0{,}6,$$

where

$$C_k^2 = \frac{E_q^2 (E_R + E_q - \frac{2}{3} E_{f.s.} - E_k)^2}{E_q^2 (E_R + E_q - \frac{2}{3} E_{f.s.} - E_k)^2 + E_q^2 (E_q + \frac{1}{3} E_{f.s.} - E_k)^2 + [(\frac{1}{3} E_{f.s.} - E_k)(E_R - \frac{2}{3} E_{f.s.} - E_k) - E_q^2]^2}.$$

Card 3/4

Here, E_k is eigen values of the Hamiltonian which correspond to muon in 2p-states and to the whole momentum of the system 3/2; $E_{f.s.}$ is splitting of fine structure of the 2p-level; E_R is energy of the first rotational level of the nucleus; $E_q = \langle 2p | H_q | 2p \rangle$. The following values of B_q and D_q were calculated for Gd^{158}, W^{184}, Th^{232}, and U^{238}, respectively: 0.63, 0.64, 0.38, 0.38 and 0.61, 0.64, 0.6, 0.59. Thus, the interaction of muon with nuclear quadrupole deformation can lead to a considerable additional depolarization of the muon. There are 4 references; 2 Soviet, 1 Dutch, 1 U.S. The U.S. reference is: G. W. Ford, C. J. Mullin, Phys. Rev., 108, 477, 1957.

SUBMITTED: August 21, 1959

22151

S/056/61/040/003/031/031
B112/B214

24.6900

AUTHORS: Zaretskiy, D. F., Novikov, V. M.

TITLE: Nuclear fission by μ-mesons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 3, 1961, 982-983

TEXT: The effect of a meson on nuclear fission can be calculated for the case of rigidly oriented nuclear axes. The energy E_μ of a bound meson depends on the deformation parameters of the nucleus. A solution of Schrödinger's equation for a meson in the Coulomb field of the deformed nucleus is required for the determination of E_μ. It is assumed in the present paper that the nucleus has the form of an ellipsoid of rotation up to its saddle point. The Coulomb potential of a homogeneously charged ellipsoid of rotation with the semiaxes a and b has the form:

Card 1/3

Nuclear fission by...

$$\varphi(a,\beta)=\frac{Ze}{c}\left\{[1-P_2(\operatorname{ch}\alpha)P_2(\cos\beta)]\ln\operatorname{cth}\frac{\alpha_0}{2}+\frac{3}{2}\frac{\operatorname{ch}^2\alpha}{\operatorname{ch}\alpha_0}P_2(\cos\beta)+\right.$$

$$\left.+\frac{3}{4}\left(1-\frac{\operatorname{sh}^2\alpha}{\operatorname{sh}^2\alpha_0}\right)\frac{\sin^2\beta}{\operatorname{ch}\alpha_0}\right\}\quad\left\{\text{for }\operatorname{ch}\alpha\leqslant\operatorname{ch}\alpha_0=\frac{a}{c},\right.$$

(1)

$$\varphi(a,\beta)=\frac{Ze}{c}\left\{[1-P_2(\operatorname{ch}\alpha)P_2(\cos\beta)]\ln\operatorname{cth}\frac{\alpha}{2}+\frac{3}{2}\operatorname{ch}\alpha P_2(\cos\beta)\right\}$$

$$\text{for }\operatorname{ch}\alpha\geqslant\frac{a}{c},$$

Here, Ze is the nuclear charge, $c^2 = a^2 - b^2$, P is the Legendre polynomial, and α,β are the degenerate elliptical coordinates. The Schrödinger equation for a bound meson in a nuclear field with such a potential was solved numerically with the help of an electronic computer. The value of $E_{thresh.}$ for different values of a/b is given in the following table (U^{238} nucleus):

a/b	=	1.2	1.4	1.6	1.8	2	2.2	2.5
E_μ (Mev)	=	11.89	11.78	11.66	11.53	11.36	11.21	11.01

The increase ΔE of the fission barrier for some nuclei is given in another table:

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Nuclear fission by...

Nucleus	a/b statistical	a/b saddle point	$E_{threshold}$, Mev	ΔE, Mev
U^{238}	1.30	2.24	5.8	0.6
U^{235}	1.25	2.2	5.75	0.6
Pu^{239}	1.30	2.17	5.48	0.5

D. P. Grechukhin is thanked for his advice and V. K. Saul'yev for setting up the program and calculation with the electronic computer.
There are 2 tables and 7 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

SUBMITTED: January 11, 1961

Card 3/3

ZARETSKIY, D.F.; NOVIKOV, V.M.

Excitation of nuclei in heavy μ-mesic atoms. Zhur.eksp.i teor.fiz. 41 no.1:214-221 Jl '61. (MIRA 14:7)
(Nuclei, Atomic)

NOVIKOV, V.M.

Excitation of nuclei by muons in heavy mesonic atoms. Zhur.eksp.i teor.fiz. 41 no.1:276-280 Jl '61. (MIRA 14:7)
(Mesons) (Nuclear reactions)

S/056/62/042/002/032/055
B108/B104

AUTHORS: Zaretskiy, D. F., Novikov, V. M.

TITLE: Excitation of collective nuclear levels in heavy μ-mesic atoms

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 511 - 519

TEXT: The excitation probability of low collective levels with spin 2^+ which depends on the magnitude of the nuclear quadrupole moment and on the quadrupole transition probability for the level in question is discussed for heavy mesic atoms. Not only a passing 2p muon but also a 3d muon may excite the rotational levels of heavy Th or U type nuclei. The interaction part of the Hamiltonian of the nucleus-muon system is ascribed to quadrupole interaction of the levels $2p_{1/2}$ and $2p_{3/2}$ only. Results of the calculations given in Table 1 indicate that the excitation probability W_{2^+} depends on the nature of the collective level. W_{2^+} is increased, however, by some 20% owing to $3d_{3/2}$ and $3d_{5/2}$ muon states. The latter can

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also lead to the excitation of the 4^+ level. The excitation probability W_{4^+}, however, is much more sensitive to the sign of the quadrupole moment than is W_{2^+}. The hyperfine splitting of the excited nuclear levels owing to the interaction between the magnetic moments of the muon and of the excited nucleus is calculated. The finite size of the nucleus has to be considered. For Th^{232} and U^{238}, $\Delta E \approx 840$ ev. The additional depolarization of muons owing to the transfer of polarity to a nucleus with excited collective levels is also discussed. However, this effect may be masked by the effect of the electron shell. The circular polarization of gammas from the 2p - 1s transition may give information about the additional depolarization of the muons. The effects of quadrupole interaction may also have an effect upon the shape of the muon transition lines. In general, the effect of quadrupole excitation of collective levels in heavy mesic atoms may be masked by radiationless excitation. The latter effect may be estimated by studying the nuclear transitions $4^+ \rightarrow 2^+$ and $2^+ \rightarrow 0^+$ with respect to the occurring gamma quanta from the muon transition. There are 1 figure, 4 tables, and 13 references: 8 Soviet and 5 non-Soviet.

Card 2/3

The four references to English-language publications read as follows: Jacobson. Phys. Rev., 96, 1637, 1954; D. M. Van Patter. Nucl. Phys., 14, 42, 1959; I. M. Shmushkevich. Nucl. Phys., 11, 419, 1959; A. Z. Dolginov. Nucl. Phys., 7, 569, 1958.

SUBMITTED: August 8, 1961

Table 1. Results.

Legend: (1) nucleus; (2) parameter of axial symmetry; (3) spin-orbital splitting; (4) energy of the 2^+ level; (5) excitation probability.

Ядро (1)	$B(E2)_{0\to2} \cdot 10^{4}$ см	(2) γ, град	$\frac{\|Q_{0}\|^2}{B(E2)_{0\to2}}$	(3) ΔE, MeV	(4) E_{2^+}, MeV	(5) W_{2^+}
W^{186}	356	15,8	3,86	0,134	0,123	0,40*
Os^{190}	255	22,3	2,68	0,147	0,187	0,30
Hg^{196}	113	24,3	1,90	0,162	0,411	0,025

L 28839-66 EWP(j)/EWT(m) RM

ACC NR: AP6018655 SOURCE CODE: UR/0020/65/162/002/0350/0353

AUTHOR: Nesmeyanov, N. A.; Novikov, V. M.

21 B

ORG: none

TITLE: Mercurized phosphonium salts, a new type of quasicomplex compound 1

SOURCE: AN SSSR. Doklady, v. 162, no. 2, 1965, 350-353

TOPIC TAGS: mercury compound, chloride, solubility, complex molecule, phosphorous compound

ABSTRACT: By treating mercuric chloride with Wittig reagents, the authors prepared mercurized phosphonium salts, which are colorless crystalline substances, insoluble in water or slightly polar organic solvents. The salts show three types of reactivity. When acted upon by bases they are capable of giving off a proton, forming mercurized phosphorylides, i.e., they behave like ordinary phosphonium salts. They can react with a shift in the reaction site like α-mercurized ketones. Finally, in a number of cases, they react with elimination of mercuric chloride, exhibiting quasicomplex properties. This paper was presented by Academician O. A. Reutov on 10 November 1964. Orig. art. has: 2 formulas and 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 230ct64 / ORIG REF: 008 / OTH REF: 003

Card 1/1 cc

L 32721-66 EWT(m)/ETC(f)

ACC NR: AP6021531 SOURCE CODE: UR/0089/66/020/006/0520/0522

29
25
B

AUTHOR: Novikov, V. M.

ORG: none

TITLE: Calculation of a reactor 19 with a circulating fuel of variable density

SOURCE: Atomnaya energiya, v. 20, no. 6, 1966, 520-522

TOPIC TAGS: circulating fuel reactor, nuclear reactor fuel, nuclear reactor core, uranium hexaflouride

ABSTRACT: The use of fuel in the gas or liquid phase in a nuclear reactor has several advantages over solid fuels. Uranium hexaflouride (UF_6) is the only uranium compound which is in the liquid state at the temperature of ~50C. The density of UF_6 strongly depends on temperature. In this connection, the problem of calculating a reactor with a variable-density circulating fuel is basically nonlinear and its solution is complex. The critical reactor dimensions can be calculated approximately using conventional formulas with the fuel density being averaged in respect to the reactor core. The reactor criticality conditions are described by the expression:

Card 1/2 UDC: 621.039.542.4

L 32721-66

ACC NR: AP6021531 4/

$$\int_{\omega_0}^{\omega_1} (\omega-\omega_0)\,\varkappa^2(\omega)\,d\omega > 0,$$

where $\varkappa^2(\omega)$ is the Laplacian, corresponding to the fuel density with the specific enthalpy ω. The error in calculating the critical reactor dimensions using averaged density does not exceed 1% if the following condition is satisfied:

$$3\frac{\rho_0-\rho_1}{2\rho_1}\cdot\frac{2-k_0}{k_0-1}\leqslant 1.$$

where ρ_0 is the initial density of the fuel, and ρ_1 is the final density of the fuel. Since the variation in the density of UF_6 with an increase in the enthalpy is less pronounced than in case of an ideal gas, the above conditions can be regarded as a general criterion for using the approximation of the average fuel density. The author thanks G. A. Batya, B. A. Dmitriyevskiy, A. A. Sazykin, and Ya. B. Shevelev for discussing the results of the work. Orig. art. has: 1 figure and 9 formulas. [AS]

SUB CODE: 18/ SUBM DATE: 03Jan66/ ORIG REF: 002/ OTH REF: 001/
ATD PRESS: 5124

Card 2/2 JS

ACC NR: AI6034094 (N) SOURCE CODE: UR/0089/66/021/004/0272/0276

AUTHOR: Novikov, V. M.

ORG: none

TITLE: Tensor of neutron diffusion in a heterogeneous periodic system for an arbitrary scattering law

SOURCE: Atomnaya energiya, v. 21, no. 4, 1966, 272-276

TOPIC TAGS: neutron diffusion, heterogeneous nuclear reactor, neutron scattering, kinetic equation

ABSTRACT: The author points out that, unlike a homogeneous system, where the anisotropy of the scattering is reflected in the diffusion length only via the average cosine of the scattering angle, in the heterogeneous medium the diffusion length is determined also by higher angular moments of the scattering indicatrix, so that merely replacing all the scattering cross sections by their transport cross sections in the expression for the diffusion tensor is not enough. He then calculates the diffusion tensor, using an integral form of the kinetic equation, and obtains the result in terms of quadratures. The formula obtained for the diffusion coefficients takes into account the contribution from the average angular correlations between two successive passages of the neutron in the heterogeneous medium, for an arbitrary scattering law. The derived formula is then used to describe the distribution of neutrons in a homogeneous medium with empty channels of round cross section. The results show that al-

Card 1/2 UDC: 621.039.512.4

ACC NR: AR6034094

lowance for the anisotropy of the scattering leads to expressions for the diffusion length, which differ from the standard formulas by as much as 20%. The possibility of experimentally testing the results by measuring the age of neutrons in water with empty channels, using sources of neutrons whose energy does not exceed several hundred kev, is discussed. The author thanks I. S. Grigor'yev for help with the numerical calculations. Orig. art. has: 1 figure, 19 formulas, and 1 table.

SUB CODE: 18,20/ SUBM DATE: 23May66/ ORIG REF: 003/ OTH REF: 003

Card 2/2

NOVIKOV, V.M.

Increase in the phagocytic reaction in vitro and its relation to microbial sensitization to antibiotics. Antibiotiki 4 no.3:113-114 My-Je '59. (MIRA 12:9)

1. Kafedra mikrobiologii (zav. - prof.M.V.Revo) Khar'kovskogo veterinarnogo instituta.
(ANTIBIOTICS, eff.
on phagocytosis in vitro (Rus))
(PHAGOCYTOSIS, eff. of drugs on,
antibiotics, in vitro (Rus))