"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

Investigation of the Deformations in the Contact Zone of Solids

S/030/60/000/011/012/026
B021/B056

it is possible to determine the actual contact surfaces, which is of considerable importance for calculating the frictional force, the wear, and the electric conductivity. Fig. 1 shows the scheme of a curve of surface contact on the basis of the profileograms of the longitudinal- and transverse roughness. This curve makes it possible to determine the correlation between the volume of the materials and the air in the contact layer. At the Laboratory for Friction and Friction Materials of the Institut mashinovedeniya Akademii nauk SSSR (Institute of the Sciences of Machines of the Academy of Sciences USSR) an optical-mechanical device for experimental measurements of the approach of surfaces when being pressed together was designed (Fig. 2). Fig. 3 shows some dependences of the approach of the load, which were obtained by means of the aforementioned device. Such curves make it possible to judge the influence of the surface roughness of the mechanical properties of the material and other parameters upon the rigidity of contact as well as the actual surface contact. On the basis of these curves, the working technique and the nature of the materials to be used may be selected. There are 3 figures.

Card 2/2

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29112
S/020/61/140/005/008/022
B125/B138

11.9000

AUTHOR: Kragel'skiy, I. V.

TITLE: The binomial law of friction

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 5, 1961, 1048 - 1050

TEXT: The author's molecular-mechanical theory (I. V. Kragel'skiy. Tr. II konf. po treniyu i iznosu v mashinakh, Izd. AN SSSR, 1947) provides a new basis to the Coulomb binomial law of friction. P. A. Rebinder, S. Ya. Veyler, and V. I. Likhtman (DAN, 110, no. 6 (1956)) have shown that suitable lubricants will restrict strain to a thin surface layer. The lubricating effect can also be produced by solid metallic coatings (I. V. Kragel'skiy, Treniye i iznos v mashinakh, Sborn. 5, Izd. AN SSSR, 1950) or it may be the result of the gradient in mechanical properties which follows the temperature gradient in sliding friction (I. V. Kragel'skiy, Ye. M. Shvetsova, Treniye i iznos v mashinakh, Sborn. 10, 1955). In tangential motion the penetrating roughness drives a hemispherical wave of deformed material before it, causing every point on the surface of the gliding solid to oscillate in a plane perpendicular to the contact surface. The total

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B125/B138

The binomial law of friction

frictional force, $T_{\varepsilon} = T_v + T_s$, consists of force T_s dissipated in overcoming the adhesive bonds between surface films and force T_v consumed in deforming the material in the surface layer, i.e. in wave formation. The author studies the special case of a deformed material sliding on an absolutely solid, rough surface. The force consumed in wave formation is conveniently expressed by the work of deformation $W_v = V_v \sigma_\tau$ where V_v is the volume of the deformed material, and σ_τ the mean stress involved in tricing the material back in a tangential direction. Accordingly $T_v = V_v \sigma_\tau / l$ where l is the mean diameter of a unit friction cone. The coefficient of friction $f = (h^* \sigma_\tau / l \sigma_N) + (\sigma_{\tau film} A_{film}/N)$ [illegible], where h^* is the depth of the deformation zone, σ_N the mean compressive stress in the material, $\sigma_{\tau film}$ the shearing resistance of the film, A_{film} the area of actual film contact, and N the load. The second term is usually considerably smaller than the first. The coefficient of friction is thus expressed by a binomial. The first term is conditioned by the volume deformation of the material, the second by the surface structure of the load. 1/4

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B125/B138

The binomial law of friction

Formula (1) is more general than the formulas derived earlier. Thus the coefficients of the binomial law have a simple physical meaning and are related to the geometric properties of the contact (h^*, l, A_{film}), the nature of the stressed state σ_τ/σ_N of the material, and the mechanical properties of the adhesive bond $\sigma_{\tau_{film}}$. The ratio h/l is conditioned by the geometry of the contact and by the adhesive bonds. The ratio between tangential and normal stress will depend on whether the friction contact is in an elastic or plastic state, or already shows microshearing. The friction coefficient is mainly conditioned by the volume deformation of the material (first term of formula (1)). The larger the $\sigma_{\tau_{film}}$ value, the larger will be σ_τ and h. This once again emphasizes the dual nature of friction. For practical purposes it is important to be able to express the parameters of the formula by the geometric properties of the rubbing surfaces and by external factors, particularly the load. There are [illegible] figures and 8 references: 6 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: F. P. Bowden, D. Tabor, Friction and Lubrication of Solids, Oxford, 1954.

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The binomial law of friction

PRESENTED: April 20, 1961, by P. A. Rebinder, Academician

SUBMITTED: April 20, 1961

Card 1/1

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

DEMKIN, Nikolay Borisovich; KRAGEL'SKIY, I.V., doktor tekhn. nauk, prof., otv. red.; KUDASHEVA, I.G., red. izd-va; TIKHOMIROVA, S.G., tekhn. red.

[Actual contact area of hard surfaces] Fakticheskaia ploshchad' kasaniia tverdykh poverkhnostei. Moskva, Izd-vo Akad.nauk SSSR, 1962. 108 p. (MIRA 15:1)

(Surfaces (Technology))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

PHASE I BOOK EXPLOITATION SOV/6217

Kragel'skiy, Igor' Viktorovich, Doctor of Technical Sciences, Professor

Treniye i iznos (Friction and Wear). Moscow, Mashgiz, 1962. 382 p. Errata slip inserted. 11,000 copies printed.

Reviewer: D. N. Garkunov, Candidate of Technical Sciences; Ed.: V. I. Kumanin, Engineer; Ed. of Publishing House: V. V. Bystritskaya; Tech. Eds.: A. Ya. Tikhanov and T. F. Sokolova; Managing Ed. for Literature on General Engineering: A. P. Kozlov, Engineer.

PURPOSE: This book is intended for scientific workers and engineers engaged in the development of friction and antifriction materials and for designers and specialists in the operation and repair of machines.

COVERAGE: The book deals with the analysis of various types of friction and wear and with calculations relating to certain processes characterizing them. Methods of testing for friction and wear are

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

reviewed, and basic data on friction and antifriction materials discussed. The author acknowledges the assistance and cooperation of: V. A. Kudinov; G. I. Troyanovskaya, Candidate of Technical Sciences, who participated in writing Ch. III and Ch. X; N. B. Demkin, Candidate of Technical Sciences, who participated in writing Ch. II; Yu. I. Kosterin, Candidate of Technical Sciences, who participated in writing Ch. VII; and V. A. Kudinov, Candidate of Technical Sciences, who wrote Ch. IX. Each chapter is accompanied by references, mostly Soviet.

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Ch. I. General Characteristics of the Process of Friction and Wear 5
Contact of two solid bodies 5
Interaction of surfaces. Dual nature of friction 7

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.

Two-term friction law. Dokl. AN SSSR 140 no.5:1048-1050 O '61.
(MIRA 15:2)

1. Predstavleno akademikom P.A.Rebinderom.
(Friction)
(Deformations(Mechanics))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, Igor' Viktorovich; VINOGRADOVA, Irina Ernestovna; VASIL'YEV, I.V., inzh., retsenzent; YEGORKINA, L.I., inzh., red.; SMIRNOVA, G.V., tekhn. red.

[Friction coefficients; manual] Koeffitsienty treniia; spravochnoe posobie. Izd.2., perer. i dop. Moskva, Mashgiz, 1962. 217 p. (MIRA 15:7)

(Friction)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.; DEMKIN, N.B.

Effect of the roughness and properties of a metarial on the active area of contacts and connections of surfaces. Trudy Sem.po kach.poverkh. no.5:163-169 '61. (MIRA 15:10)
(Surfaces (Technology))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V., doktor tekhn. nauk, prof.; DEMKIN, N.B., kand. tekhn. nauk; SIDORENKO, G.S., inzh.

Formulas for calculating the area of actual contact. Vest. mashinostr. 43 no.10:9-13 O '63. (MIRA 16:11)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.; NEPOMNYASHCHIY, Ye.F. (Moskva)

Fatigue mechanism of the wear in case of an elastic contact. Izv.AN SSSR.Mekh. i mashinostr. no.5:190-195 S-O '63. (MIRA 16:12)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.; MIKHIN, N.M.

Nature of contact preliminary displacement of solid bodies.
Dokl. AN SSSR 153 no.1:78-81 N '63. (MIRA 17:1)

1. Predstavleno akademikom P.A. Rebinderom.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGELSKIY, I. V. [illegible]

[Friction of solids] Trenie tverdykh tel. Moskva, Nauka, 1964. [illegible] p. (MIRA 18:1)

1. Akademiya nauk SSSR. Institut [illegible] i mashin.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V., doktor tekhn. nauk, prof., otv. red.;
SHCHEDROV, V.S., doktor tekhn. nauk prof., otv. red.;
RESHETOV, D.N., doktor tekhn. nauk, prof., otv. red.;
CHICHINADZE, A.V., kand. tekhn. nauk, otv. red.;
KNOROZ, M.M., red.

[Theory of friction and wear] Teoriia treniia i iznosa. Moskva, Nauka, 1965. 364 p. (MIRA 18:7)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.; REZNIKOVSKIY, M.M.; BRODSKIY, G.I.; NEPOMNYASHCHIY, Ye.F.

Friction-contact fatigue of high-elasticity materials. Kauch. i rez. 24 no.9:30-34 '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya.

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L 14841-66 EWT(m)/ EWP(w)/ EWP(j)/ T/ EWP(t)/ EWP(b) JD/DJ/RM

ACC NR: AP6005832 (A) SOURCE CODE: UR/0374/65/000/006/0120/0126

68

AUTHOR: Rybalov, S. L. (Moscow); Kragel'skiy, I. V. (Moscow)

ORG: none

B

TITLE: Wear of rubber in the process of friction on a metal surface (in application to packings for machine parts rotating at high speeds)

SOURCE: Mekhanika polimerov, no. 6, 1965, 120-126

TOPIC TAGS: synthetic rubber, ~~ceramic-metal material~~, metal surface, friction coefficient, thermal effect, ~~motion equation~~, packing material, friction, solid mechanical property

ABSTRACT: An investigation of the wear of rubber was carried out on a metal surface at high rates of sliding causing increased contact temperatures of the order of 100 to 1250C. The author offers an equation associating the wear of rubber during friction on a metal surface with its elasticity, strength, and friction properties and the geometrical characteristics of the counterpart surface. The article also discusses the most important constants affecting the wear of rubber under the above conditions. The experimental results were in good agreement with the theoretical findings. Orig. art. has: 4 figures and 14 formulas. [Based on author's abstract]

Card 1/2 UDC: 678.4:539.375

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 14841-66

ACC NR: AP6005832

SUB CODE: 11/ SUBM DATE: 27Feb65/ ORIG REF: 016

Card 2/2

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 15386-66 EWT(m)/EWP(w)/EWP(j)/T/EWP(t)/EWP(b) JD/DJ/RM
ACC NR: AP5026984 (A) SOURCE CODE: UR/0020/65/164/005/1035/1036

43
B

AUTHOR: Kragel'skiy, I. V.; Rybalov, S. L.

ORG: Scientific-Research Institute of the Rubber Industry (Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti)

TITLE: Temperature dependence of the specific wear during the sliding of rubber on metal

SOURCE: AN SSSR. Doklady, v. 164, no. 5, 1965, 1035-1036

TOPIC TAGS: rubber, wear resistance, temperature dependence

ABSTRACT: The authors carried out experimental determinations of the temperature dependence of the specific wear during the sliding of rubber on metal with the aim of checking the theoretical wear equations published earlier (I. V. Kragel'skiy, treniye i iznos, 1962; I. V. Kragel'skiy, Ye. F. Nepomnyashchiy, Izv. AN SSSR, Mekh. i mashinostr., no. 5, 1963). The tests were carried out with SKN18 + SKN26 rubber mixtures and the results are shown in Figure 1.

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CARD: 1/3

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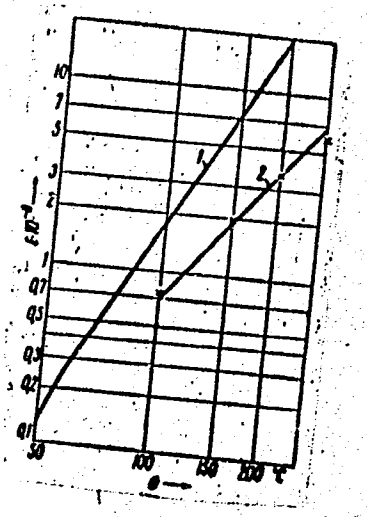
ACC NR: AP5026984



1 - theoretical curve;
2 - experimental data

Figure 1. Specific wear versus temperature.

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L 15386-66

ACC NR: AP5026984

The experimental data differ from the theoretical predictions by only a factor of 3. A small discrepancy is to be expected because the values for the mechanical properties of rubber used for the theoretical predictions depend on the velocity and temperature-time conditions during their determination. The paper was presented by Academician P. A. Rebinder, 20 Feb 65. Orig. art. has: 4 formulas, 1 figure, and 2 tables.

SUB CODE: 11/ SUBM DATE: 17Feb65/ ORIG REF: 005

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CARD: 3/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 39698-66 EWP(j)/EWT(m)/T IJP(c) RM/DJ/GD-2/GS

ACC NR: AT6008944 (A) SOURCE CODE: UR/0000/65/000/000/0049/0056

16
15
B+1

AUTHORS: Kragel'skiy, I. V.; Nepomnyashchiy, Ye. F.

ORG: none

TITLE: The theory of wear of highly elastic materials

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research and experiment in application). Moscow, Izd-vo Nauka, 1965, 49-56 15

TOPIC TAGS: material testing, friction, elastic material, wearability, destructive testing, resin

ABSTRACT: The process of wear of highly elastic resin materials is studied in conditions of friction along a hard, rough surface. Three basic types of wear can occur, depending on the properties of the material, the properties of the counterbody, and other friction conditions. Of particular interest is the appearance of zones of tension in the material in the vicinity of the zone of slip (see Fig. 1). The authors conducted model tests on contact fatigue, in which a spherical indentor slips along a resin surface. After a known number of cycles, the indentor was removed and the resin surface inspected. Fatigue curves were then plotted and compared with curves of ordinary fatigue. This comparison shows that the curves are parallel. Based on this result, it was concluded that the applied contact stress σ is proportional to the

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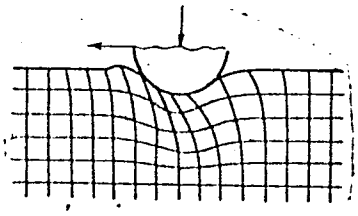

Fig. 1. Diagram of the interaction of a moving rigid spherical indentor with an elastic half space.

unit force of friction, that is, the force of friction F in contact with the area of actual rubbing A_r

$$\langle \sigma \rangle = k \frac{F}{A_r},$$

where k is a coefficient of proportionality. This equation is used in constructing quantitative relationships for fatigue wearing of highly elastic materials. Wearing intensity is given by

$$I_h = i_h \frac{A_r}{A_a},$$

where i_h is the unit wearing intensity and A_a is the normal contact area. The unit intensity is, in turn, related to deformation, geometry, the number of cycles until failure, and to other material parameters. Photographs of surface wearing and plots of test results are shown. Orig. art. has: 7 figures and 6 equations.

SUB CODE: 11, 20/ SUBM DATE: 31Jul65/ ORIG REF: 009

Card 2/2

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L 39768-65 EWT(m)/EWP(w)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) Pf-4
ACCESSION NR: AP5005482 JD/DM S/0032/65/031/002/0220/0223

AUTHORS: Kragel'skiy, I. V.; Orlib, V. V.

TITLE: Evaluation of friction pair materials for frictional heat stability in a high vacuum

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 220-223

TOPIC TAGS: friction, sliding contact, thermal effect, material property/ LM 2 ionization manometer, VIE 1 vacuum meter, M 12 ionization manometer, VI 12 vacuum meter

ABSTRACT: An experimental apparatus I-47-V 2 (see Fig. 1 on the Enclosure) for determining the frictional heat stability of friction pairs under loads of up to 5 kg/cm^2 and speeds to 5 m/sec (10 000 rpm) in a vacuum of 10^{-8}-10^{-9} mm Hg was developed. One side of the ring-shaped friction couple 10 (see Fig. 1 on the Enclosure) is mounted in holder 11 and driven by a magnetic clutch 2, 12 through a thin wall 13. The other side of the couple is mounted in 9 which is free to rotate in bearing 8 until a pin engages a force gauge 14 (beam with strain gauges) which measures the friction torque. The load is applied through the plunger 5 by

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ACCESSION NR: AP5005482

the adjustable spring 6, a chromel-copper thermocouple located 1 mm from the rubbing surface is used to measure the temperature. The high vacuum is achieved by a special installation (see Fig. 2 on the Enclosure), consisting of a vacuum pump 1, a [illegible]-vapor device 2, a nitrogen trap 3, baffle 4, ion pump 5 and a system of valves 6-11. Vacuum to 10^{-1} mm Hg is monitored by ionization manometer LM-2 (b on Fig. 2) with vacuum meter VIT-1 (15) and above 10^{-7} mm by ionization manometer MI-12 (c on Fig. 2) with vacuum meter VI-12 (16). The specific wear (by weighing) and the coefficient of friction can be measured as a function of temperature and load. Orig. art. has: 1 figure and 2 formulas.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya (State Scientific Research Institute of Machine Design)

SUBMITTED: 00 ENCL: 02 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

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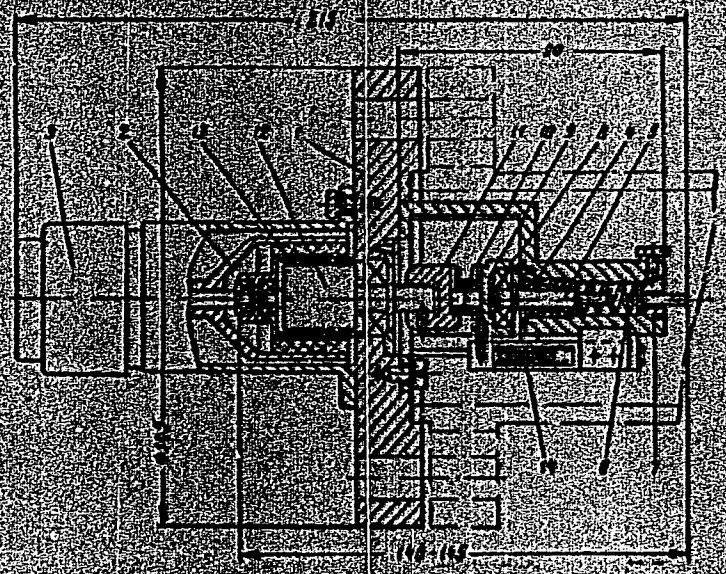

Fig. 1. Schematic of apparatus I-47-V-2

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ACCESSION NR: AP5005432 ENCLOSURE: 02

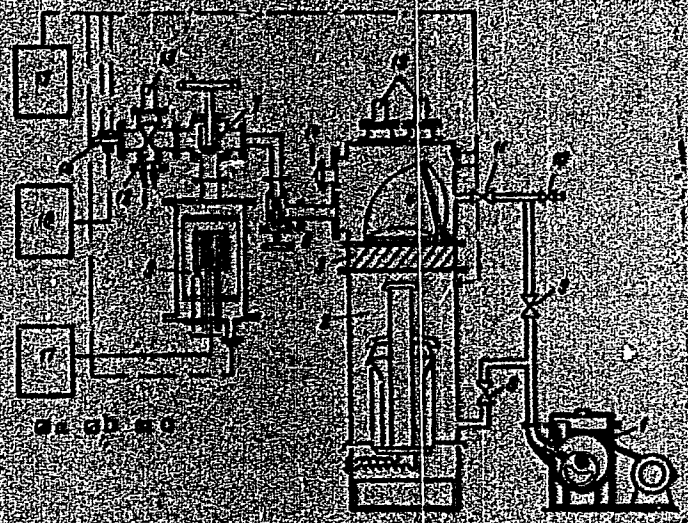

Fig. 2. Schematic of vacuum installation

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L 4283-66 EWT(d)/EWT(m)/EPF(c)/EWP(v)/EWP(j)/EWP(k)/EWP(h)/T/EWP(1) RM/DJ

ACCESSION NR: AP5024107 UR/0138/65/000/009/0030/0034

678.063:539.431

AUTHOR: Kragel'skiy, I. V.; Reznikovskiy, M. M.; Brodskiy, G. I.; Nepomnyashchiy, Ye. F.

TITLE: Friction-contact fatigue of highly elastic materials

SOURCE: Kauchuk i rezina, no. 9, 1965, 30-34

TOPIC TAGS: rubber, fatigue test, mechanical fatigue, friction, test instrumentation

ABSTRACT: An experimental study of the contact fatigue of rubbers was carried out at the IMASh with a "Tsiklometr" instrument and at the NIIShP with a "PUPS" instrument. Both of these instruments and their operation are described. To establish the behavior of the friction-contact fatigue of rubbers, use was made of the elementary model of friction, consisting of a spherical indenter which simulates a projection of a rough surface and repeatedly deforms the rubber surface. Curves of contact fatigue were obtained for tread rubbers based on SKB, NK, Europrene, and an uncompounded NK-base rubber. The contact and volume fatigue were found to behave in similar fashion; in both cases, the fatigue resistance coefficients were similar. A comparison of the curves of the volume

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ACCESSION NR: AP5024107

4

and friction-contact fatigue leads to the conclusion that in friction-contact fatigue, the breaking stress is the tensile stress of the surface layer due to the frictional force. The data obtained confirm the relationship between the wear resistance of rubber and its fatigue resistance. Orig. art. has: 6 figures and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry); Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya (State Scientific Research Institute of Machine Science) 44

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 009 OTHER: 002

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APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL'SKIY, I.V.; RYBALOV, S.L.

Temperature dependence of the specific wear of rubber gliding on metal. Dokl. AN SSSR 164 no.5:1035-1036 O '65.

(MIRA 18:10)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti. Submitted February 20, 1965.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 6286-66 EWP(d)/EWP(e)/EWP(f) EPF(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/
EWP(1)/ETC(m) JD/WW/DJ

ACC NR: AP5026801 SOURCE CODE: UR/0286/65/000/017/0083/0083

INVENTOR: Kaspiyev, S. F.; Balabanov, A. M.; Kragel'skiy, I. V.; Lashchenov, V. A.

ORG: none

TITLE: A stand for testing roller bearings, sliding bearings, and friction couples for wear in high vacuum or in space. Class 42, No. 174410

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 83

TOPIC TAGS: test stand, performance test, space chamber test, bearing, friction, vacuum chamber

ABSTRACT: This Author Certificate presents a stand for testing roller bearings, sliding bearings, and friction couples fo wear in high vacuum or in space. The stand contains several spindles (each consisting of a shaft operating in a vacuum and intended for mounting the tested bearings), units for axial and radial loading of bearings, a mechanism for measuring the friction moment of the tested couples, a drive shaft with a driven gear, an electrical clutch for transmitting the torque from the drive shaft to the shaft with the tested friction couples, and the main drive shaft with a driving gear meshing with the

Card 1/2 UDC: 620.178.16.05:621—233.2(201)

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ACC NR: AP5026801

driven gears on the spindles. To prevent stopping all the spindles of the stand by the jamming of one of the tested couples, the driving gear is connected with the driven gears on the spindles through idler gears. The shafts of the idler gears are set in a casing which turns about the rotation axis of the drive shaft. The casing is provided with a device which permits it to turn in case of jamming and to release the idler gear from the driving gear. To prevent an accidental separation of the idler gear from the driving gear and their subsequent return to meshing position, the rotary casing may be connected to the piston of the damping power cylinder. [04]

SUB CODE: IE/ SUBM DATE: 22Jan64/ ORIG REF: 000/ OTH REF: 000/

ATD PRESS: 4131

Card 2/2

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

09010781

L 4867-66 EWT(m)/EPF(c)/ETC(m) WW/DJ

ACC NR: AP5026825 SOURCE CODE: UR/0286/65/000/017/0104/0104

INVENTOR: Kragel'skiy, I. V.; Silin, A. A.; Ovseyenko, G. R.

ORG: none

TITLE: Device for dry lubrication of the rubbing surface of a slider bearing. Class 47, No. 174477

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 104

TOPIC TAGS: solid lubricated bearing, lubrication equipment, solid lubricant, slider bearing

ABSTRACT: An Author Certificate has been issued for a device for dry lubrication of the rubbing surface of a slider bearing. To simplify the design and improve operating conditions, lubricating inserts are placed in recesses in the shaft journal and are pressed against the rubbing surface by centrifugal force. To improve the lubrication, the lubricating inserts are weighted with a high density material. [SM]

SUB CODE: FP, 12/SUBM DATE: 17Jan64/ ATD PRESS: 4136

Card 1/1 UDC: 621.822.5-72

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 10257-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b) IJP(c) JD/WB/DJ

ACC NR: AP5026733 SOURCE CODE: UR/0286/65/000/017/0005/0005

AUTHOR: Garkunov, D. N.; Kragel'skiy, I. V.
44,55 44,55

ORG: none

49
B

TITLE: Formulation of a discovery [Boundary friction between copper and steel]
18 44,55,27

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 5

TOPIC TAGS: friction, copper, copper alloy, steel, alloy friction, steel friction, friction coefficient, copper transfer

ABSTRACT: It has been discovered that in friction between a copper alloy and steel, under lubricating conditions which exclude copper oxidation there is a selective transfer of copper from the solid solution of the copper alloy onto the steel and a reverse transfer of copper from steel onto the copper alloy. The phenomenon is accompanied by a decrease of the friction coefficient to a value equivalent to that of the fluid friction and an appreciable reduction of the wear of the friction pair. [MS]

SUB CODE: 11/ SUBM DATE: 02Feb63/ ATD PRESS 4161

Card 1/1 hw

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

[redacted], KRAGANESCU, M

RUMANIA/Radio Physics - General I-1

Abs Jour : Ref Zhur - Fizika, No 7, 1958, No 16146

Author : Draganescu Mihai
Inst : Not Given
Title : Generalization of the Barkhausen Formula for Electronic Generators.

Orig Pub : Automat. si electron., 1957, 1, No 3, 112-115

Abstract : The author considers the Barkhausen formula, from which he derives relations for the conditions of self-excitation of the oscillator, the frequency and amplitude of the oscillations. The problem of the stability of the oscillations is considered.

Card : 1/1

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

ZAVODCHIKOV, Aleksandr Georgiyevich; KRAGEL', Aleksandr Timofeyevich; SOROKIN, N.N., redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[Section maintenance by trackmen] Popikatnoe vypolnenie rabot putevymi obkhodchikami. Moskva, Gos. transp. zhel-dor. izd-vo, 1955. 23 p. (MLRA 8:6)
(Railroads--Maintenance and repair)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL', Aleksandr Timofeyevich, inzhener; SOROKIN, N.N., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Straightening railroad switches] Vypravka strelochnykh soedinenii. Izd. 2-oe, dop. Moskva, Gos. transp. zhel-dor. izd-vo, 1956. 226 p. (MLRA 9:12)
(Railroads--Curves and turnouts)
(Railroads--Switches)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGEL', Aleksandr Timofeyevich, inzh.; IVASHCHENKO, G.I., kand.tekhn. nauk, retsenzent; SURODEYEV, V.P., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Alignment of switch connections] Vypravka strelochnykh soedinenii. Izd.3. Moskva, Izdatel'sko-poligr.ob"edinenie M-va putei sooshcheniia, 1961. 222 p. (MIRA 14:6)
(Railroads—Switches)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGELJ, J.

Some remarks on Cimrage Savic's article "Something on Chestnut Wood and Felling It for Tannin." p. 55. (NOVA PROIZVODNJA, Vol. 5, no. 1, May 1954 Ljubljana, Yugoslavia)

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, no. 1 Jan. 1955, Uncl.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGIC, Branko, zipl. inz. (Zagreb)

Feeding of low-curent apparatus from electric-power networks. Energija Hrv 12 no. 9/10:285-287 '63.

1. Elektroprenos, Zagreb, Proleterskih birgada 37.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

AKERMAN, R., Dr.; JELIC, R., dr.; KRAGIC, L., dr.

Modern aspects of sterility. Lijec. vjes. 77 no.10-12: 485-497 Oct-Dec 55.

1. Iz Ginekolosko-porodajnog i Rentgenoloskog odjela Opce bolnice u Zadru.
(STERILITY,
etiol. & ther. (Ser))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

NIKOLIC, Paskal; DORDEVIC, Slobodan; KRAGUJEVIC, Danica

Some observations on clinical and bacteriological aspects of chronic tonsillitis in children. Srpski arh. celok. lek. 89 no.2: 175-178 F '61.

1. Pedijatrijska klinika Medicinskog fakulteta Univerziteta u Beogradu. Upravnik: prof. dr Borivoje Tasovac. Otorino laringoloska klinika Medicinskog fakulteta Univerziteta u Beogradu. Upravnik: prof. dr Srecko Podvinec. 2. Clan Uredivackog odbora, "Srpski arhiv za celokupno lekarstvo", (for Dordevic).

(TONSILLITIS)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

JAKOVLJEVIC, Vladimir, prim. dr.; KRAGUJEVIC, Milodar, dr.; PLAVEC, Vladimir, dr.

The problem of etiology of cholecystitis; experimental surgery. Med. pregl., Novi Sad 7 no.5:357-360 1954.

1. Hirurško odeljenje Glavne pokrajinske bolnice - Novi Sad. Sef prim. dr V.Jakovljevic.
(CHOLECYSTITIS, exper.
etiol. & surg. in dogs)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

ARNERI, Vinko, pukovnik doc.dr.; KRAGULJAC, Vladimir, major dr.

First experiences with local application of antibiotics in therapy of infected wounds. Voj. san. pregl., Beogr. 11 no.11-12:633-635 Nov-Dec 54.

1. Klinika za plasticnu hirurgiju VMA.
(WOUNDS AND INJURIES, ther.
antibiotics, local admin.)
(ANTIBIOTICS, ther.
infected wds., local admin.)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGULJAC, Vladimir, Major dr.

Primary plastic surgery in the treatment of open wounds.
Voj. san. pregl., Beogr. 13 no.3-4:147-156 Mar-Apr 56.

1. Klinika za plasticku hirurgiju VMA.
(WOUNDS AND INJURIES,
open, primary plastic surg. (Ser))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGULJAC, VLADIMIR

KRAGULJAC, Vladimir, Major dr.

Rehabilitation with plastic surgery of various cases of severe burn sequels. Voj. san. preg., Beogr. 13 no.5-6:256-269 May-June 56.

1. Klinika za plasticku hirurgiju VMA.
(BURNS, surg.
grafting (Ser))
(SKIN TRANSPLANTATION, in various dis.
burns (Ser))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KRAGULJAC, Vladimir, sanitetski potpukovnik d-r

Certain problems of plastic reconstruction of facial defects after noma. Voj.san.pregl., Beogr. 17 no.4:461-466 Ap '60.

1. Klinika za plasticnu hirurgiju.
(NOMA surg.)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

ARNERI, Vinko, sanitetski pukovnik, prof.; KRAGULJAC, Vladimir, sanitetski potpukovnik, dr.

Our experiences with the treatment of hemangiomas. Voj.san.pregl. 18 no.2:148-151 F '61.

1. Vojnomedicinska akademija u Beogradu, Klinika za plasticnu hirurgiju.

(HEMANGIOMA ther)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

ARNERI, Vinko, sanitetski pukovnik, profesor, dr.; KRAGULJAC, Vladimir, sanitetski pukovnik, docent, dr.

Significance of plastic surgery in the treatment of combined injuries to the lower extremities. Vojnosanit. pregl. 22 no.2: 67-74 F'65.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

ARNERI, Vinko, sanitetski pukovnik profesor dr.; KRAGULJAC, Vladimir, sanitetski pukovnik docent dr.

Consequences of radiotherapy of benign tumors and their treatment. Vojnosanit. pregl. 22 no.5:287-294 My '65.

1. Vojnomedicinska akademija u Beogradu, Klinika za plasticnu hirurgiju.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, A.A.

Method of solid inclusion mineral thermometry in connection with the problem of the origin of diamonds. Uch. zap. NIIGA. Reg. geol. no.2:140-156 '64. (MIRA 19:1)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

DOZYREV, A. A.

27981. DOZYREV, A. A. i MELENT'EVA, A. I. -- Karotiennye anevrizmy. Neposredstvennyye rezul'taty posle operatsii i otdalennyye nablyudeniya. Yubileynyy sbornik khirurg. Rabot. Posvyashch. Prof. Shilov'evu. Kuybyshev, 1949, S. 1[illegible]-1[illegible].

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

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, A.A., prof.; MARTOCHKINA, G.A.

Ovarian hemorrhage combined with acute appendicitis. Khirurgiia Supplement:38 '57. (MIRA 11:4)

1. Iz fakul'tetskoy khirurgicheskoy kliniki Kubanskogo meditsinskogo instituta.
(APPENDICITIS) (OVARIES--DISEASES) (HEMORRHAGE)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

MARMORSHTEYN, L.M.; KOZYREV, A.A.

Effect of pressure on measurements of the electric conductivity of sandstones. Inform. biul. NIIGA no.17:63-65 '59.(MIRA 13:11)
(Sandstone--Electric properties)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

5(3) SOV/71-59-3-3/23

AUTHOR: Kozyrev, A.G.

TITLE: Socialist Competition and Tasks of the Collective of the Gadovo Alcohol Plant. (Sotsialisticheskoye sorevnovaniye i zadachi kollektiva Gadovskogo spirtovogo zavoda)

PERIODICAL: Spirtovaya promyshlennost', 1959, Nr 3, p 5 (USSR)

ABSTRACT: Among the achievements of the Gadovskiy spirtovyy zavod (Gadovskiy Alcohol Plant) the article mentions the cultivation of mold fungi and their application in the production of alcohol, also the installation of a power transmission line and electric substation for mechanized transportation, loading and unloading of raw material and for alcohol filling into RR tank cars. The article mentions a number of improvements to be made in the next few years.

Card 1/1

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43351

S/170/62/005/012/001/008
B104/B186

26.5400

AUTHORS: Borishanskiy, V. M., Kozyrev, A. P.

TITLE: Generalization of experimental data on heat transfer in nucleate boiling on the basis of thermodynamic similarity

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 12, 1962, 3 - 8

TEXT: In a previous paper (V. M. Borishanskiy, Voprosy teplootdachi i gidravliki dvukhfaznykh sred - Problems of heat transfer and hydraulics of two-phase media, Gosenergoizdat, 1961, p. 18) the formula $\alpha^*_p = \alpha^*_{p*} F_1(p/p_{cr})$ was derived for the case of nucleate boiling where $\alpha^* = \alpha/q^n$, α is the heat transfer coefficient, q the thermal load of the heating surface. This formula makes it possible to allow for the pressure effect on the heat transfer of a medium over strongly varying physical properties in a wide range of pressures. Formula

$$\alpha = B\left(\frac{g}{M}R\right)^{1/6}\frac{p_{кр}^{1/3}}{T_{кр}^{5/6}}q^{2/3}F_2\left(\frac{p}{p_{кр}}\right). \quad (5)$$

Card 1/3

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(p_{kp} - critical pressure, T_{kp} - critical temperature) is derived with the aid of thermodynamic similarity (I. I. Novikov, Voprosy teplootdachi i gidravliki dvukhfaznykh sred - Problems of heat transfer and hydraulics of two-phase media, Gosenergoizdat, 1961, p. 7 and 14), allowing for the experimentally proved fact that the heat transfer coefficient α is a function of the thermal load q and of the physical parameters of the medium when a nucleate boiling occurs with free convection. The function $F_3(p/p_{kp})$ is universal for thermodynamically similar substances and characterizes the effect of reduced pressure on the heat transfer. The shape of this curve is determined graphically by a method due to Borishanskiy. Formulas

$$\alpha = 600 \frac{p_{кр}^{1/3}}{T_{кр}^{2/3} M^{1/3}} q^{2/3} \left(0{,}37 + 3{,}15 \frac{p}{p_{кр}}\right) \text{ при } \frac{p}{p_{кр}} < 0{,}2; \qquad (6)$$

$$\alpha = 600 \frac{p_{кр}^{1/3}}{T_{кр}^{2/3} M^{1/3}} q^{2/3} \exp\left[1{,}85 \left(\frac{p}{p_{кр}} - 0{,}2\right)\right] \text{ при } \frac{p}{p_{кр}} > 0{,}2.$$

are given for practical application. Only p_{cr}, T_{cr} and M of the medium

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need to be known in order to calculate the heat transfer coefficient at increased pressure and with free convection. The results obtained with these formulas agree with the experimental data given in a large number of papers within ± 30 %. There are 2 figures and 2 tables.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut imeni I. I. Polzunova, g. Leningrad (Central Boiler and Turbine Institute imeni I. I. Polzunov, Leningrad)

SUBMITTED: February 26, 1962

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, A.P.

Quantitative evaluation of the similiarity and standartization of the fields of hydrometeorological elements. Probl.Arkt.i Antarkt. no.15:63-68 '64. (MIRA 17:4)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

BORISHANSKIY, V.M.; KOZYREV, A.P.; SVETLOVA, L.S.

Heat transfer in boiling water with wide variations in pressure and saturation. Teplofiz. vys. temp. 2 no.1:119-121 Ja-F '64. (MIRA 17:3)

1. TSentral'nyy kotloturbinnyy institut im. I.I.Polzunova.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

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L 3929-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(b) IJP(c)
ACCESSION NR: AP5022643 JD/WW/JG UR/0089/65/019/002/0191/0193
621.039.553.3

AUTHOR: Borishanskiy, V. M.; Zhokhov, K. A.; Andreyevskiy, A. A.; Putilin, M. A.; Kozyrev, A. P.; Shneyderman, L. L.

TITLE: Heat transfer from boiling alkaline metals

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 191-193

TOPIC TAGS: sodium, potassium, heat transfer, convective heat transfer, heat transfer coefficient, liquid metal cooled reactor

ABSTRACT: The authors summarize the results of a large research program, dating back to 1956, on boiling sodium and potassium under a variety of conditions. The experiments on boiling sodium were made at heat loads of (14—125) x 10^3 kcal/m^2·h, with the pressure and saturation temperatures in the ranges 0.15—1.25 atm and 697—905°C. The experiments with potassium were made at absolute pressures 0.04, 0.4, 0.75, and 1.5 atm at heat loads 150,000—140,000 kcal/m^2·h. The effect of pressure on the heat transfer was not investigated in great detail in the case of sodium, but the results show a slight tendency for the heat transfer coefficient to increase with increasing pressure (proportional to the pressure

Card 1/2

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ACCESSION NR: AP5022643

raised to the 0.1—0.2 power in the case of sodium and to the 0.5 power in the case of potassium). In both metals, the heat transfer coefficient under conditions of free convection in a large volume is proportional to the heat load raised to approximately 0.7. In the case of nucleate boiling, the heat transfer can be given by the empirical formula $\alpha = Ap^{0.15}q^{0.7}$ kcal/m^2·h-degC, with A = 7.0 for sodium and A = 3.0 for potassium. The same formula can be used to calculate the heat transfer for fully developed nucleate boiling in tubes and annular channels if the vapor content is not decisive. Orig. art. has: 3 figures and 2 formulas. [02]

ASSOCIATION: none

SUBMITTED: 03Nov64 ENCL: 00 SUB CODE: NP, TD

NO REF SOV: 004 OTHER: 002 ATD PRESS: 4120

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

PETROVICH, N.T.; KOZYREV, A.V.; GROZNOVA, V.I., redaktor; KORUZEV, N.N., tekhnicheskiy redaktor.

[Generation and transformation of electric impulses] Generirovanie i preobrazovanie elektricheskikh impul'sov. Moskva, Izd-vo "Sovetskoe radio," 1954. 427 p. (MLRA 8:5)
(Pulse techniques (Electronics))
(Oscillators, Electron-tube)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, Anatolii Vladimirovich; FABRIK, Mark Abramovich; KANEVSKAYA, M.D., redaktory; TROITSKIY, L.V., redaktor; ANDRIONOV, B.I., tekhnicheskiy redaktor

[Design of amateur magnetic recorders] Konstruirovanie liubitel'skikh magnitofonov. Moskva, Izd-vo DOSAAF, 1956. 175 p. (MLRA 9:9)
(Magnetic recorders and recording)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

PARKHOMENKO, Vladimir Ivanovich; KOZYREV, A.V., red.; VORONIN, K.P., tekhn.red.

[Magnetic recording heads] Magnitnye golovki. Moskva, Gos. energ.izd-vo, 1960. 70 p. (Massovaia radiobiblioteka, no.365). (MIRA 13:6)

(Magnetic recorders and recording)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.A., slesar'

Puncher for maufacturing designation strips from electrical cardboard. Energetik 12 no.1:22-23 Ja '64. (MIRA 17:3)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.A., elektroslesar'

System for mechanizing electric motor repair operations. Energetik 9 no.7:24 Jl '61. (MIRA 14:9)
(Electric motors--Maintenance and repair)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.I., inzh.; SHARGORODSKIY, V.L., inzh.

Tests in the preventive maintenance of rotor winding insulation of hydrogenerator rotors using a stepped-up voltage. Elek. sta. 34 no.1:83-84 Ja '63. (MIRA 16:2)
(Turbogenerators—Testing) (Hydroelectric power stations)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.I., inzh.

Calculation of the degree of capacitive nonsymmetry of a 35 kv. network and transposition of lines at the busbars of substations. Elek.sta. 33 no.11:49-52 N '62. (MIRA 15:12)
(Electric power distribution) (Electric substations)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 58575-65

ACCESSION NR: AP5017891 UR/0286/65/000/011/0130/0131
629.13.01/06

AUTHOR: Lachayev, Yu. P.; Kozyrev, B. I. 13B

TITLE: A regulator for a gravity feed air supply. Class 62, No. 171742

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 130-131

TOPIC TAGS: air conditioning equipment, air flow, thermistor 10

ABSTRACT: This Author's Certificate introduces a regulator for a gravity feed air supply in aircraft air conditioning systems. The device contains an air flow controller, amplifier, fixed resistor, actuating mechanism and voltage regulator. The device is designed for high accuracy in controlling the gravity feed air supply at various temperatures and pressures and for smooth adjustment during operation. The regulator uses a mass flowmeter which consists of two thermistors. One of the thermistors is equipped with a constant-power heater which heats the thermistors to a given temperature when the mass flow rate of the air stream is constant.

ASSOCIATION: none

Card 1/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

L 58575-65

ACCESSION NR: AP5017681

SUBMITTED: 19Feb64 EXCL: 01 SUB CODE: EC,AC

NO REF SOV: 000 OTHER: 000

Card 2/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

58575-65

ACCESSION NR: AP5017891

ENCLOSURE: 01

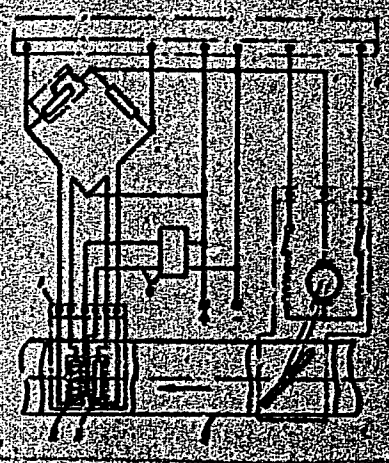

Fig. 1--mass flowmeter; 2 and 3--thermistors; 4--constant-power heater; 5--pipeline

Card 3/3

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

PROCESSES AND PROPERTIES INDEX

CA

Preparation of water-soluble colloidal mercury. A. F. Gerasimov and B. M. Kozuirev.—*J. Russ. Phys.-Chem. Soc.* **62**, 833-8(1930).—To 30 cc. Paal's mixt. (*C. A.* **23**, 3840) is added 24 cc. glacial AcOH, the whole heated on a water bath until it no longer smells of H_2S (or a few min. if no H_2S is present) and a soln. of 0.375 g. $HgCl_2$ in water is added drop by drop. The colloid is pptd. with Na_2CO_3, washed with water at least 4 times and redissolved on addn. of NaOH. The soln., when evapd. on a water bath, yields a black powder contg. 27.6% Hg. Its 1% soln. is not affected by air and can therefore be preserved indefinitely. The colloid particles are negatively charged. In the above prepn., the protein mixt. itself (mainly its diffusible components) acts as the reducing agent. AcOH hinders the reduction, on the other hand, it increases the stability of the resulting sols. The amt. of NaOH used in redissolvin; the colloid should be just sufficient to produce a clear soln.; an excess of the alkali will cause a partial pptn. when the soln. is evapd. The sol is pptd. by AcOH, but redissolves in excess. In acid soln., the coagulating power of the electrolytes increases to a greater extent with the valence of the cation than with that of the anion. In alk. soln. the cation is again much more important, satd. KCl and K_2SO_4 producing only a partial pptn., while small concns. of $AlCl_3$ completely coagulate the sol. The chlorides, in general, render the alk. sol more resistant toward AcOH. B. Soyenkoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

CA

2

Water-soluble colloidal lead. A. F. Gerasimov and M. Kuguiev. *Trans. Butlerov Inst. Chem. Tech.* Kazan No. 1, 119-25(1934); cf. C. A. 25, 1140.—To 50 cc. Paal's mixt. is added 30 cc. glacial AcOH, the mixt. heated on the water bath until the odor of H_2S disappears, then 3 cc. of a 25% soln. of $Pb(NO_3)_2$ or an equiv. amt. of Pb acetate is added slowly. The mixt. is heated again until it no longer appears darker in reflected light. The soln. is then coagulated with Na_2CO_3 and the ppt. dissolved with a few drops of 20% NaOH soln. The soln. is carefully evapd. to dryness at 105°. The product weighs 0.8 g. and analyzes 16.5% Pb. Phys.-chem. properties of a freshly prepd. 1% colloidal Pb soln. after dialysis for 12 hrs. are: sp. gr. 1.006, viscosity 0.0735, sp. cond. 1307×10^{-6} (all these at 17°), elec. charge neg., colloidal particles of ultramicroscopic size. S. L. M.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

CA

2

Kinetics of the reaction involved in the reduction of bismuth chloride by means of hypophosphorous acid in aqueous solutions. A. F. Gerasimov and B. M. Kozmirev. *Trans. Butlerov Inst. Chem. Tech. Kazan* No. 1, 125-34 (1931); cf. preceding abstr.—The kinetics of the reaction $4BiCl_3 + 3H_3PO_2 + 6H_2O \rightarrow 4Bi + 12HCl + 3H_3PO_4$ were studied at 50°. The Bi was in the form of BiOCl and was dissolved by means of HCl. The empirical equation showing the relation between concn. of Bi, C and time of reaction, t, is given as $\log C = -2.523 - 0.1 \log t$.

S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

B-I-3

Determination of chemical composition of straight-run gasolines. P. S. Maslov and E. I. Kosudreva (Gros. Neft., 1954, 4, No. 5, 26—28).—

0·5—0·7% of 96% H_2SO_4 completely removes aromatic hydrocarbons from straight-run gasolines when treated for 2 hr. in a mechanical agitator. Excess of H_2SO_4 removes other hydrocarbons as well. Ch. Abs. (c)

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Bc

B-1-2

CONTENT OF FIVE- AND SIX-MEMBERED NAPHTHENES IN THE MAIKOP "TOLUENE" GASOLINE FRACTION.

P. S. Maslov and E. I. Kosuireva (Groz. Neft., 1934, 4, No. 8, 59--60).--The fraction contains aromatics 23, 6-membered naphthenes 33, 5-membered naphthenes 21, and saturated compounds 23%. The naphthenes were determined by treatment with H_2 at 290--300° in presence of Pd.

Ch. Abs. (c)

COMMON ELEMENTS

OPER

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

Apparatus for examination of isothermic transformation of austenite. V. A. Delle and B. P. Kozurev. *Zavodskaya Lab.* 4, 1233-6(1935). -An app. for the dilatometric study of the isothermic transformation of austenite at various temps. is illustrated and described. C. R.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

14-1

Dependence of absorption of weak high-frequency electrical fields by certain substances on the tension of these fields. B. M. KOZIREV and S. G. SALICHOV (Sci. Mem. Kazan State Univ., 1938, 98, No. 4, 149—152).—Absorption falls linearly with increasing tension of the field in the case of H_2O; with C_6H_6, PhMe, xylene, EtOAc, and $H_2C_2O_4$ the curves are discontinuous. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

USSR/Chemistry - Cyclopentadienyl, Pentaphenyl- Nov 1947

Chemistry - Magnetism

PA 36T4

"Paramagnetic Relaxation in Pentaphenyl-cyclopentadienyl," B. M. Kozyrev, C. G. Salikhov, Physicotechnical Institute, Kazan Branch, Academy of Sciences of the USSR, 3 pp

"Dok Ak Nauk" Vol LVIII, No 6 pp 1023-5

The paramagnetic relaxation in perpendicular fields N can be explained, according to Frenkel', by the resonance between the frequency ν of the external field h and frequency ν_0 of the larmoric precision resulting from the magnetic moment of the paramagnetic ion

[redacted] 36T4

USSR/Chemistry - Cyclopentadienyl, Pentaphenyl- (Contd) Nov 1947

or the molecules in the constant field H: $\nu_0 = \frac{g\mu_0}{h} H$

where g is Land's factor, μ_0 Bohr's magneton, and h Planck's constant. Submitted by S. I. Vavilov 17 Jun 1947.

[redacted] 36T4

KOZYREV, B. M.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

Kozyrev, B. M. - "Magnetic spin resonance in solutions of chromium trichloride", Izvestiya Kazansk. filiala (Akad. nauk SSSR), Seriya fiz.-mate. i tekhn. nauk, Issue 1, 1948, p. 3-7, - Bibliog: 9 items.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

USSR/Chemistry - Resonance, Absorption of May 1948
Chemistry - Erbium, Salts of

"Resonance Paramagnetic Absorption in Er^{+++} and Ce^{+++} Salt Solutions," B. M. Kozyrev, Phys Tech Inst, Kazan Affiliate, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR," Vol LX, No 4 - pp. 567-8

Reports experiments carried out on erbium nitrate, and concentrated solutions. In solid state, displays no appreciable alteration in paramagnetic absorption Q, when H varies from 20 to 400 Oersteds; in dilute solution, effect becomes noticeable. Position of maximum absorption for solutions of 0.3 to .03 M/l is when $H \approx 130$ Oe. Hence Lande's factor $g = 1.14 \pm 0.05$. This corresponds closely to theoretical value $g = 1.2$. Analogous results were obtained for cerium chloride solutions. Author interprets these phenomena. Submitted 18 Feb 1948.

KOZYREV, B. M.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M., AL'TSHULER, S. A. and TYABLIKOV, S. V.

"K. Horter, Paramagnetic Relaxation", Moscow Foreign Leterature Publishing House, 1949.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

PA32/49T94

Mar 49

USSR/Physics
Paramagnetism
Crystals - Magnetic Properties

"Resonance Paramagnetic Absorption in Certain Crystal Powders," B. M. Kozyrev, S. G. Salikhov, Phys Tech Inst, Kazan Affiliate, Acad Sci USSR, 8 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 3 p-185

Investigates paramagnetic absorption in number of paramagnetic salts. Magnetospin resonance in $Cu(NO_3)_2.6H_2O$ and $Cu(NH_3)_4SO_4.H_2O$ was studied for first time. Measurements were made at frequencies

32/49T94

[redacted]

Mar 49

USSR/Physics (Contd)

2.07×10^8 and 0.688×10^8 at room temperature. Establishes: (1) Position of maximum on curves of absorption coefficient χ'' in relation to field strength corresponds to condition $h\nu = g\mu_0 H$. (2) Half-width of these curves is practically independent of frequency. (3) Position of maximum and half-width, as shown by $CrCl_3$, is independent of quantity of absorbent and sensitivity of HF oscillator (4) Product of maximum χ'' and half-width is proportional to static susceptibility of substance absorbing energy of HF oscillator. Submitted 20 Jul 48.

32/49T94

[redacted]

KOZYREV, B. M.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

6640. Influence of nuclear spin on the paramagnetic resonance absorption in solutions of manganese and copper salts. S. A. Altshuler, B. M. Kozyrev and S. G. Salikhov. Dokl. Akad. Nauk, SSSR, 71 (No. 5) 855-7 (1950) In Russian. 537.222 : 539.13

At low magnetic field strengths nuclear-spin/electronic-spin coupling is preserved and magnetic resonance effects corresponding to the resultant system may be observed. For $MnCl_2$ at 0.5 Mole/l in H_2O, a sharp resonance peak for Mn^{++} at 130 oersteds and 202 Mc/s is observed which corresponds to $g \simeq 1$, which agrees with theory taking $I = 5/2$ and $J = 5/2$. At 3 Mole/l interionic fields destroy the spin coupling and an indistinct electronic resonance is found at 100 oersteds. For Cu^{++} $I = 3/2$, $J = 1/2$, the coupling is weaker and several small resonance peaks are observed with 1.6 Moles/l of $Cu(NO_3)_2$ and 69 Mc/s as the theory for intermediate field strengths requires. Observations are made with perpendicular static and high frequency measuring fields and absorption is observed by reaction on the generator.

D. H. WHIFFEN

TRANSLATION w/ Appended figure
AVAILABLE - W-13005, 24 Aug 50

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

3

CA TRANSLATION w/ appended figures
AVAILABLE - W-22271, 23 Apr 52

The method of paramagnetic resonance absorption in the magnetochemistry of organic compounds. B. M. Kozyrev (Phys.-Tech. Inst. Kazan Branch Acad. Sci. U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 81, 427-30(1951).—The hidden paramagnetism present in summarily diamagnetic org. compds. is revealed by detns. of the dependence of the coeff. of paramagnetic absorption χ'' or the high-frequency susceptibility χ' on the intensity of a static magnetic field H perpendicular to an oscillating magnetic field of const. amplitude $H_0 \ll H$ and const. frequency ν. The condition of resonance is that ν be equal to the frequency of the Larmor precession $\nu = (g\beta/h)H^*$, where g = Lande's factor, β = Bohr's magneton, $H^* = H$ corresponding to the max. of χ''. The latter was measured at $\nu = 2.17 \times 10^8$ hertzes. No paramagnetic resonance absorption was expected or found in C_6H_6 and furfurole. A measurable effect was observed in anthracene and in alloöcimene; the curve of χ'' as a function of H has one resonance peak corresponding to an effective $g \approx 1$. On lowering the temp. from 300 to 80°K., the intensity of the peak increases by about 15% in anthracene, and by about 25% in alloöcimene; this indicates the presence of a weak paramagnetism, little dependent on the temp. In 1,9-bis(2-furyl)-5-oxo-1,3,6,8-nonatetraene ($C_{17}H_{14}O_5$) and in 1,9-diphenyl-5-oxo-1,3,6,8-nonatetraene ($C_{21}H_{18}O$), at 300°K., two resonances of about equal height are observed, one corresponding to $g \approx 2$, the other to $g \approx 1$. On cooling to 90°K., the 1st peak becomes practically unnoticeable on the background of the 1st, the intensity of which increases by about 30%. In this case there is, in addn. to a paramagnetism of the type present in anthracene and in alloöcimene, also a normal paramagnetism of the type present in free radicals. Evidently, no excited states of the type of free radicals exist in C_6H_6 and in furfurole. Such states are apparently absent also in anthracene and in alloöcimene. The weak paramagnetism found in these compds. is still unexplained, and cannot be attributed to paramagnetic impurities on account of the unusual value of g and the weak temp. dependence. In the highly conjugated compds. $C_{17}H_{14}O_5$ and $C_{21}H_{18}O$, excited states of the type of free radicals are undoubtedly present at room temp., but disappear practically at liquid-air temp. The increase of the probability of such states with the increase of the no. of double bonds in the mol. parallels the increase of the stability of free radicals with increasing no. of double bonds. These results are a 1st demonstration of a latent paramagnetism in diamagnetic compds. The order of magnitude of the observed effects agrees with the values which can be expected from Pascal's increments. N. Thon

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

Electromagnetism

Paramagnetic resonance in liquid solutions. Izv. AN SSSR. Ser. fiz. 16 No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

USSR/Physics - Crystals Jan 52

"Paramagnetic Resonance Absorption and Dispersion of Susceptibility in Crystal Powders of Certain Salts at Frequency $9.62 \cdot 10^9$," B. M. Kozyrev, S. G. Salikhov, Yu. Ya. Shamonin, Phys-Tech Inst, Kazan Affiliate, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXII, No 1, pp 56-61

Gives the results of measurements of paramagnetic absorption chi' and high-frequency susceptibility chi' in dependence upon the strength H of a const magnetic field disposed perpendicularly to an alternating magnetic field of frequency $9.62 \cdot 10^9$.

204T102

USSR/Physics - Crystals (Contd) Jan 52

Conducted measurements with a number of paramagnetic salts of the transitional elements of period IV. Established that while some salts give one intense resonance line, others display a spectrum consisting of several partially intersecting lines of comparatively small intensity. Noted no measurable effect in some salts.

(CA 47 no.22: 11838 '53)

204T102

KOZYREV, B. M.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.M.

USSR

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

FD-738

USSR/Nuclear Physics - Proton resonance

Card 1/1 : Pub 146-8/22

Author : Kozyrev, B. M. and Ryvkind, A. I.

Title : Proton resonance in solutions of paramagnetic salts

Periodical : Zhur. eksp. i teor. fiz., 27, 69-74, Jul 1954

Abstract : Proton resonance absorption in aqueous solutions of paramagnetic salts is analyzed. Obtained data are used for computation of effective magnetic moments characterizing the effect of paramagnetic ions on the shortening of the proton relaxation time. Molecular motion essentially acts on the relaxation mechan sm of proton resonance in solutions. This is particularly noticeable in complex paramagnetic ions and many be applied to the explanation of their structure. 3 references, including 2 foreign.

Institution : Physicotechnical Institute, Kazan Affiliate, Acad. Sci. USSR

Submitted : January 8, 1954

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.M.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 22 - 25/44

Authors : Kozyrev, B. M., and Rivkind, A. I.

Title : Complex formation in solutions investigated by the proton resonance method

Periodical : Dok. AN SSSR 98/1, 97-98, Sep 1, 1954

Abstract : The use of the proton resonance phenomenon, as a method of studying the complex ion formation in solutions (paramagnetic salt solutions), is debated. The effect of complex formation on the proton resonance was determined. The relative intensity of the proton resonance lines were measured at conditions of partial saturation as a function of the paramagnetic concentration in the solution. Two USA references (1948 and 1952).

Institution : Acad. of Sc. USSR, Kazan Branch, Physico-Technical Institute

Presented by : Academician A. E. Arbuzov, April 8, 1954

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

Kozyrev, B. M.

USSR/Physics

Card 1/1 : Pub. 22 - 12/44

Authors : Garifyanov, N. S., and Kozyrev, B. M.

Title : Superfine structure of paramagnetic resonance lines in solutions of Mn^{++} and Vo^{++} salts

Periodical : Dok. AN SSSR 98/6, 929-931, October 21, 1954

Abstract : Experimental studies of the superfine structure of paramagnetic resonance lines observed in solutions of Mn^{++} and Vo^{++} salts, when the latter were in a strong variable magnetic field, are described. Klystrons, which had generated the frequency of 9.444×10^9 cycles, were used for this experiment. Nine references; 3 USSR (1944-1953).

Institution : Physico-Technical Institute of the Kazan Branch of the Acad. of Scs. of the USSR

Presented by: Academician A. N. Terenin, June 1, 1954

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

"Paramagnetic Resonance in Solutions of Electrolytes," - Kazan Branch, AS USSR.

Faraday Society (British) Meeting on Microwave and Radio Frequency Spectroscopy, Cambridge, 4-6 April 1955

A-41060, 11 May 55

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B.M., kanditat fiziko-matematicheskikh nauk.

Works of the Kazan school of physicists on paramagnetic resonance. Vest.AN SSSR 25 no.8:13-19 Ag '55. (MLRA 9:1)
(Magnetic materials) (Magnetic fields)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826010013-0

KOZYREV, B. M.

USSR/ Physics - Paramagnetic resonance

Card 1/1 Pub. 22 - 14/46

Authors : Kozyrev, B. M.

Title : Electron paramagnetic resonance in liquid salt solutions

Periodical : Dok. AN SSSR 103/1, 53-56, Jul 1, 1955

Abstract : Electron paramagnetic resonance of liquid salt solutions of the ions of the iron group and of gadolinium was studied. The electron paramagnetic resonance was studied with the help of an oscillograph which could produce frequencies of 10^7 to 10^{10} cycles. Solutions of the following salts: Cu^{++}, Mn^{++}, VO^{++}, Cr^{++} and Gd^{++}, of various concentrations, were investigated from the point of view of the fine structure of the spectral absorption lines of these salts. Ten references: 4 USA and 6 USSR (1948-1954).

Institution : Acad. of Sc., USSR, Kazan' Branch

Presented by: Academician L. N. Terenin, May 9, 1955

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KOZYREV, B. M. (Kazan)

"Paramagnetic Resonance in the Solutions of Electrolytes," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

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KOZYREV, B. M.

ZAVOYSKIY, Ye.K.; AL'TSHULER, S.A.; KOZYREV, B.M.

Paramagnetic resonance. Izv.AN SSSR.Ser.fiz. 20 no.11:1199-1206 N '56. (MLRA 10:5)

(Nuclear magnetic resonance)
(Magnetic materials)

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Kozyrev, B.M.

USSR/Magnetism - [redacted]

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34978

Author: Garif'yanov, N. S., Kozyrev, B. M.

Institution: Physicotechnical Institute, Kazan' Branch, Academy of Sciences USSR

Title: Paramagnetic Resonance in Anthracite and Other Substances Containing Carbon

Original Periodical: Zh. eksperim. i teor. fiziki, 1956, 30, No 2, 272-276

Abstract: Measurements were made at frequencies of 9,450, 536.71, 176.1, and 2 Mc. Electronic paramagnetic resonance gave a series of substances, containing carbon (the name of the substance is followed by the half-width of the absorption curve in oersteds.); anthracite 0.8; coal 4.4; freshly prepared charcoal 4.8; petroleum asphalt 4.3; carbolite 3.8; black rubber 11. The g-factor for all the substances is independent of the frequency and equals 2.004 ± 0.002. The line widths are also independent of the frequency. In all the substances, the intensity of absorption increased by 3 times as the temperature was reduced from

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USSR/Magnetism - Magnetic Radiospectroscopy, F-6

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34978

Abstract: 295° K to 90° K, this being in agreement with the Curie law. All these facts indicate that probably, in all cases the effect is due to the free radicals, and not to the conduction electrons. At 90° K, a weak absorption with $g \approx 2$ was observed in specimens of petroleum obtained from the deposits of Barly, TaSSR. In the anthracite specimens, it was observed that the electric conductivity affects the paramagnetic absorption: when the depth of the skin layer was smaller than the thickness specimen, the absorption curve became distorted and became similar to the dispersion curve; in such specimens this did not occur. These results are in qualitative agreement with the Bloembergen theory (Bloembergen, N. J., Applied Physics, 1952, 23, 1383), which so far was confirmed only for nuclear resonance.

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