"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Reynov, N. M.

USSR/Physics - Zeeman's effect

Card 1/1 Pub. 22 - 10/45

Authors : Gross, E. F., memb. corresp. of the Acad. of Scs. of the USSR; Zakharchenya, B. P.; and Reynov, N. M.

Title : Zeeman's effect in the spectrum of the exciton of cuprous-sulfate crystals

Periodical : Dok. AN SSSR 99/4, 527-528, Dec 1, 1954

Abstract : A study of the causes of existance of an abundant number of absorption lines in the spectrum "of the Cu_2O" exciton (combination of a hole and an electron) is described. The study was conducted with the help of a wide dispersion spectral apparatus in a strong magnetic field. Four USSR references (1952-1954). Table; illustrations.

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

Submitted : ...

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[illegible]07, [illegible]: "The electrical properties of 'elegas' and its use in industry". Leningrad, 1955. Acad Sci USSR. Leningrad Physicotechnical Inst. (Dissertation for the Degree of Doctor of TECHNICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

KOMAR, A.P.; REYNOV, N.M.; AHLYT, S.S.

Investigation of photomagnetoelectric effect in cuprous oxide at low temperatures. Izv.AN SSSR.Ser.fiz. 19 no.4:444-446 Jl-Ag '55. (MIRA 9:1)

1.Fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Copper oxide--Electric properties) (Photoelectricity) (Low temperature research)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

BOGORODITSKIY, N.P., doktor tekhnicheskikh nauk, professor. (Leningrad);
REYNOV, N.M., kandidat tekhnicheskikh nauk. (Leningrad);
CHERNYAYEV, Yu.S., inzhener (Leningrad).

100 kv gas-filled prototype capacitor. Elektrichestvo no.1: 68-71 Ja '56. (MLRA 9:3)

(Condensers (Electricity))

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNOV, N.M.

Zeeman effect in the yellow series of exciton of a cuprous oxide crystal. B. F. Gross, B. P. Zakharchenya, and N. M. Reinov (Phys.-Tech. Inst., Acad. Sci. S.S.S.R., Leningrad.) *Zhur. Tekh. Fiz.* 26, 700-1(1956).—In addn. to previous investigations of the absorption lines of Cu_2O crystals (cf. *C.A.* 50, 0930*d*) the Zeeman effect of the yellow series was measured with a spectrograph of 1.5 A./mm. dispersion at 1.3°K. (the crystal was cooled with liquid He). In a magnetic field of 27000 oersteds, lines of the series $n = 3, 4, 5$, and 6 on the absorption spectrogram, in nonpolarized light, changed into doublets. The sepn. of the line $n = 2$ was not accomplished as a result of its great width. The investigations in polarized light indicated that the doublets may be observed in both π and σ components. The distance $\Delta\lambda$ between components of doublets was const. for all lines and was equal to the distance between σ components ($\Delta\lambda$ = 1.0 A.) of the first line of the series. The lines of the series sepg. in a magnetic field were displaced toward the short wave lengths, relative to their initial position in the absence of the magnetic field. The displacement was increased with the quantum no. of the line, for $n = 5$ it was 0.5A. in a magnetic field of 27000 oersteds. Paul Pallyenko

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PRIKHOT'KO, A F

24(7) p 3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Pizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Shpol'skiy, E.V., E.A. Girdzhiyauskayte, and L.A. Klimova. Emission Spectra of Aromatic Hydrocarbons at Low Temperatures 24

Gross, Ye. F., and A.A. Kaplyanskiy. Exciton Pattern of the Spectral Curves for the Intrinsic Photoeffect and the Exciton Luminescence Spectra in Crystals 37

Gross, Ye. F., B.P. Zakharchenya, and N.M. Reynov. Zeeman Effect in the Exciton Spectrum of the Cuprous-oxide Crystal 38

Feofilov, P.P. Absorption and Luminescence of Bivalent Rare-earth Ions in Synthetic and Natural Fluorite Crystals 39

Faydysh, A.N., and I. Ya. Kucherov. Migration and Transfer of Electron-excitation Energy in Anthracene and Naphthalene Crystals 40

Card 4/30

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNOV, N. M.

Zeeman effect in the yellow series of exciton of cuprous oxide crystal. E. F. Gross, B. P. Zakharchenya, and N. M. Reinov. *Soviet Phys. Tech. Phys.* 1, 677-80(1957)(English translation).—See *C.A.* 51, 2390b. B. M. R.

3

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

GROSS, Ye.F.; ZAKHARCHENYA, B.P.; REYNOV, N.M.

Zeeman effect in the exciton spectra of cuprous oxide crystals. Fiz. sbor. no.3:38-39 '57. (MIRA 11:8)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Copper oxides--Spectra) (Excitons) (Magnetooptics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNOV, N.M.

AUTHOR: REYNOV, N.M., STEL'MAKH, M.F. PA - 2596

TITLE: Temperature Dependence of Arbitrary Magnetization in Ferrites Co-Zn at Low Temperatures. (Temperaturnaya zavisimost' samoproizvol'noy namagnichennosti v Co-Zn-ferritakh pri nizkikh temperaturakh, Russian).

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 3, pp 342 - 344 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: Lecture delivered at the All-Union Conference for Semiconductors in November 1955 at Leningrad. The theory developed by Vonsovskiy and Agafonova makes it appear possible that a second type of ferromagnetic semiconductors, the "Exiton" ferromagnetica, which have two Curie points, exists. In the present work the experimental investigation of this assumption was extended to the domain of helium temperatures. Mixed Co-Zn ferrites were chosen as objects of investigation for the reason that a certain anomaly was observed with respect to their magnetic properties. The dependence on temperature of spontaneous magnetization of the Co-Zn ferrite scale with a content of ZnO of from 0 up to 0,9 within the domain of temperatures of from Curie point up to 1,3° K was investigated. The result showed that the decrease of the magnetic saturation moment in the case of a temperature drop of down to 1,3° K to be expected according to the theory by Vonsovskiy and Agafonova could not be

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PA - 2596

Temperature Dependence of Arbitrary Magnetization in Ferrites Co-Zn at Low Temperatures.

observed. Therefore, it may be assumed that the upper limit for the excitation energy of the exitons in these ferrites amounts to $\Delta E \lesssim 10^{-16}$ erg.
(3 illustrations and 3 citations from Slav publications)

ASSOCIATION:
Leningrad Physical-Technical Institute of the Academy of Science of the U.S.S.R.
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Reynov, N.M.

AUTHOR: KOGAN,A.V., REYNOV,N.M., SOKOLOV,I.A., STEL'MAKH,M.F. PA - 2149

TITLE: He-filled Proportional Counters under Low Temperature (Russian).

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 2, pp 429 - 431 (U.S.S.R.)
Received: 3 / 1957 Reviewed: 4 / 1957

ABSTRACT: In the case of the experiments dealt with by this paper the errors committed in measuring of temperatures amounted to roughly ± 2%. Therefore it was assumed that at a given temperature gas density depends linearly on pressure. At more than 4.2°K helium was assumed to be a perfect gas and at 4.2°K the data mentioned in papers for the density of saturated He-vapors at 760 torr were used. Test-counters were made, the construction of which allowed a temperature- and pressure-modification of He. α particles of Po^{210} were used in order to form the ionization-impulse. At 4.22°K in all cases an essentially lower value of the gas-intensification-coefficient was found than is the case with gases below normal temperature. Already in the case of a gas-intensification of the 10 - 20 order and less an independent discharge occurs in the counters. This limits the applicability of gas counters for operation

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PA - 2149

He-filled Proportional Counters under Low Temperature.

with orientated kernels. In order to find out wether the reduction of gas-intensification is perhaps connected with the formation of a layer on the surface, a special construction for heating the filament by electricity was provided. The results are shown in two illustrations and they prove that the observed effect is not connected with an increased gas-purity. The experiments make it possible to conclude that the observed gas-intensification depends on the counter temperature. Since, however, existing theories exclude this, a new distribution of the potentials in the gas-space is the most probable explanation of this dependence. It is possible that this new distribution is due to the formation of a helium-film on the surface of the linement.

ASSOCIATION: Leningrad Institute for Technical Physics (ZFTI) of the Academy of Science of the U.S.S.R.

PRESENTED BY:

SUBMITTED: 3.7.1956.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

KOGAN, A.V.; REYNOV, N.; SOKOLOV, I.A.; STEL'MAKH, M.F.

Thermoelectron emission of ferroelectric substances. Zhur. tekh. fiz. 27 no.2:432-434 F '57. (MLRA 10:4)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR, Leningrad.
(Thermionic emission) (Ferroelectric substances)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Reynov, N. M.

57-27-7-29/40

AUTHORS: Ayrapetyants, A. V., Kogan, A. V., Reynov, N. M., Ryvkin, S. M., Sokolov, I. A.

TITLE: Concerning the Use of Germanium n-p-α-Counters at Low Temperatures (Ob ispol'zovanii germaniyevykh n-p-α-schetchikov pri nizkikh temperaturakh).

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7, pp. 1599-1600 (USSR)

ABSTRACT: With reference to the paper in Zhurnal Tekhnicheskoy Fiziki, 1955, Vol. 25, Nr 11 and 1957, Vol. 27, Nr 1 some preliminary results on the investigation of the counter-properties of germanium n-p-counters at helium temperatures are reported here. The scheme of the device is described. From the table of the comparative characteristics of the n-p counters at room temperature and at helium temperature is to be seen that at the temperature of liquid helium the signal-noise ratio strongly increases. At helium temperature (as well as at room temperature) the n-p counters have a good plateau in the counter-characteristic, as well as a saturation in the curve of the dependence of the amount of the impulse on the applied voltage. There are 2 figures, 1 table and 2 references, all of which are Slavic.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Concerning the Use of Germanium n-p-α-Counters at Low Temperatures 57-27-7-29/40

ASSOCIATION: Physico-Technical Institute AS USSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR, Leningrad)

SUBMITTED: January 9, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Radiation counters-Low temperature properties 2. Germanium-Applications 3. Helium (Liquid)-Applications

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

21(8) SOV/56-35-5-42/56

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Sokolov, I. A., Stel'makh, M. F.

TITLE: Measurement of the β-γ-Correlation of Orientated Nuclei (Izmereniye β-γ-korrelyatsii oriyentirovannykh yader)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 5, pp 1295-1296 (USSR)

ABSTRACT: Reference is first made to some earlier papers dealing with this subject. When investigating correlation, the authors constructed a device for the orientation of nuclei and took several measures for the purpose of extending the duration of measurements and improving their statistical accuracy. The main source of heat supply is thermal radiation, which passes through a light pipe, which is used for transmitting the flashes of light produced in a plastic scintillator during the recording of β-particles. The β-radiation asymmetry of Co^{60}-nuclei was measured. These cobalt nuclei were introduced into a thin superficial layer of a cesium-magnesium-nitrate crystal. The authors carried out their measurements

Card 1/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Measurement of the β-γ-Correlation of Orientated Nuclei SOV/56-35-5-42/56

of the β-γ-angular correlation on orientated Co^{60}-nuclei. The provisional data obtained by these measurements are not in contradiction to theoretical calculations which were carried out on the basis of the conservation of combined parity. Further, the investigation of β-γ-angular correlation for Mn^{52} and V^{48} is planned. The authors thank A. I. Alikhanov, Academician, and Professor S. Ya. Nikitin for placing the Co^{58} at their disposal (this element is, by the way, less well suited for measurements of the here described kind); they further express their gratitude to A. Z. Dolginov for many useful discussions, and to O. V. Larionov for the chemical separation of Co^{58}. There are 2 figures and 6 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 9, 1958

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

24(0) SOV/SC-59-2-42/60

AUTHOR: Khalatnikov, I. M., Doctor of Physical and Mathematical Sciences

TITLE: Investigations of Low-temperature Physics (Issledovaniya po fizike nizkikh temperatur)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 2, pp 98-100 (USSR)

ABSTRACT: The 5th All-Union Conference on this problem took place in Tbilisi from October 27 to November 1, 1958. It was attended by physicists from Moscow, Khar'kov, Leningrad, Tbilisi, Sverdlovsk, and Kiyev. 4 fields of low-temperature physics were discussed: superliquidity of liquid helium II, supraconductivity, antiferromagnetism, magneto-resistive effect. The following reports and communications were heard: A. A. Abrikosov, L. P. Gor'kov reported on the investigation of the properties of supraconductive alloys. A. A. Abrikosov, L. P. Gor'kov, I. M. Khalatnikov spoke of properties of supraconductors in the high-frequency magnetic field. D. V. Shirkov and Chen' Chun'-yan' and Chzhou Si-shin', two young Chinese scientists working at Moscow University, described investigations for determination of the influence exercised by the Couloab (Kulon) interaction of charges on supraconductivity. V. V. Tolmachev explained the nature of the so-called collective excitations of the Bose type in supraconductors. D. N. Zubarev, Yu. A. Tserkovnikov spoke of the thermodynamics of supraconductors and B. T. Geylikman, V. Z. Kresin of the thermal conduction of supraconductors. Yu. V. Sharvin, V. F. Gantmakher reported on experimental work with supraconductors. M. V. Zavaritskiy spoke of the measurement of the anisotropy of thermal conductivity in the supraconductive state. In a series of reports problems of the superliquidity of helium were discussed, which was discovered in 1938 by P. L. Kapitsa and the theory of which was set up in 1941 by L. D. Landau. E. L. Andronikashvili and his collaborators investigated the properties of rotating helium. V. P. Peshkov spoke of the effect of the formation of the boundary between superliquid and non superliquid helium. Guan Vey-yan', collaborator of the Institut fizicheskikh problem (Institute of Physical Problems) investigated the properties of the so-called jump in temperature of Kapitsa. I. M. Lifshits, M. D. Peschanskiy investigated galvanomagnetic phenomena in strong magnetic fields for metals with open Fermi surfaces. M. Ye. Alekseyevskiy, Yu. P. Gaydukov experimentally investigated the resistance anisotropy of gold monocrystals in the magnetic field. I. S. Kan, B. G. Lazarev combine the presence of a temperature minimum with the structural state of the metal. M. Ya. Azbel' reported on the quantum theory of metallic conductivity in the alternating electromagnetic and constant magnetic field. A. S. Borovik-Romanov reported on the weak ferromagnetism in antiferromagnetic samples of $MnCO_3$. N. M. Kreynes, Ye. A. Turov investigated the magnetic anisotropy of the antiferromagnetic monocrystals $CuSO_4$ and $CoSO_4$. Z. A. Alikhanov reported on neutronographic investigations of antiferromagnetics. Ye. I. Kondorskiy and collaborators reported on the susceptibility of nickel and nickel-copper alloys at low temperatures. M. I. Kaganov, V. M. Tsukernik reported on kinetic phenomena in ferromagnetics at low temperatures. A. I. Akhiyezer, V. G. Bar'yakhtar, and S. P. Peletminskiy spoke of computations of the relaxation of the magnetic moment in ferromagnetic dielectrics at low temperatures. V. I. Sanadze spoke of observation results of paramagnetic resonance of terbium in the $TbNO_3 \cdot 6H_2O$ nitrate. G. R. Khutsishvili gave a theoretical analysis of the orientation of the nuclear spin in the Overhauser (Overkhauser) effect in nonmetals. B. N. Samoylov, N. M. Reynov and collaborators reported on obtaining orientated nuclei. Z. V. Bulatova, V. S. Kogan and B. G. Lazarev showed that hydrogen isotopes in solid state have different structures. I. A. Sindin, B. G. Lazarev, Kh. D. Starodubov and V. I. Khotkevich detected polymorphism in a number of metals at low temperatures. E. L. Andronikashvili, V. P. Peshkov and M. P. Malkov reported on the stage of development of foreign scientific research work in the field of low-temperature physics. At the end of the Conference P. L. Kapitsa spoke of his successful development of investigations in the field of low-temperature physics. The participants of the Conference visited the Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences of the Gruzinskaya SSR) and the Physics Faculty of Tbilisi University as well as the building of the new research atomic reactor near Tbilisi.

Card 1/4

Card 2/4

Card 3/4

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

BOGORODITSKIY, N.P.; REYNOV, N.M.; ALEKSANDROV, L.A.

Temperature dependence of T_c of the compound $CaZrO_3$ at liquid helium temperatures. Fiz. tver. tela 1 no.2:350-352 F '59. (MIRA 12:5)

(Calcium zirconate--Electric properties)
(Low temperature research)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

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~~18 (6)~~

AUTHORS: Reynov, N.M., Smirnov, A. P. SOV/181-1-8-20/32

TITLE: On the Elastic Limit of Tin and Indium

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1279 - 1280 (USSR)

ABSTRACT: During some investigations carried out at temperatures of liquid helium not only new particularities in the behavior of stressed metals but also a considerable influence of temperature lowering upon the processes to be examined has been found. Therefore, a continuation of this work at extremely low temperatures is of interest. Basing on metal elastic limit measurements the possibility of tensile tests at temperatures below 1°K has been explained. The transition from the range of elastic deformation to the range of irreversible deformations was consulted to determine the elastic limit by recording heat liberation at the beginning of nonelastic sample deformation. Preliminary experiments were made with polycrystalline tin samples (residual resistivity: 3.10^{-3}) at 0.1° - 0.3°K. Cooling was brought about by adiabatic demagnetization of a paramagnetic salt into which the cold-conductor (kholodoprovod) was pressed together with the sample soldered to it. The temperature

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67315

On the Elastic Limit of Tin and Indium SOV/161-1 -8-20/32

of the sample was determined from magnetic susceptibility. With a stress of 1.8 kg/mm^2 upon tin and of 0.24 kg/mm^2 upon indium the samples lost superconductivity. With these stresses a nonelastic deformation probably has already been present in the samples so that the elastic limit does not exceed the above values. The authors do not have any information on publications concerning measurement of the elastic limit of tin and indium by way of low-temperature stretching. Experiments with single crystals at still lower temperatures will permit the recording of smaller heat quantities liberated during deformation and also a more accurate determination of the elastic limit. The authors thank A. V. Stepanov and V. I. Khotkevich for the discussion of the present paper. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: July 30, 1958

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

21(0)

AUTHOR: Chentsov, R. SOV/53-67-4-7/7

TITLE: The Fifth All-Union Conference on the Physics of Low Temperatures (5-ye Vsesoyuznoye soveshchaniye po fizike nizkikh temperatur)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 743-750 (USSR)

ABSTRACT: This Conference took place from October 27 to November 1 at Tbilisi; it was organized by the Otdeleniye fiziko-matematicheskikh nauk Akademii nauk SSSR (Department of Physico-mathematical Sciences of the Academy of Sciences, USSR), the Akademiya nauk Gruzinskoy SSR (Academy of Sciences, Gruzinskaya SSR), and the Tbilisskiy gosudarstvennyy universitet im. Stalina (Tbilisi State University imeni Stalin). The Conference was attended by about 300 specialists from Tbilisi, Moscow, Khar'kov, Kiyev, Leningrad, Sverdlovsk, and other cities as well as by a number of young Chinese scientists at present working in the USSR. About 50 lectures were delivered which were divided according to research fields.

V. Various Questions.

One of the most interesting lectures delivered at this Conference was that by I. A. Gindin, B. G. Lazarev, Ya. D. Starodubov and V. I. Khotkevich (KhPTI) on the polymorphism of metals at low temperatures; P. L. Kapitsa commented on this topic during the discussion. R. P. Bulatova, V. S. Kogan and B. G. Lazarev (KhPTI) investigated the system hydrogen-deuterium by the methods of low-temperature-radiography, thermal analysis, and the visual observation of crystallization. Kh. I. Amirkhanov, Sh. Kh. Amirkhanova and R. I. Bashirov investigated the thermomagnetic properties of compounds of the type $A^{III}B^{V}$ and $A^{II}B^{VI}$, and dealt with the phenomenon of the "photon wind" predicted by Gurevich; the investigation was carried out at the Dagestanskiy filial AN SSSR (Dagestan Branch, AS USSR). N. N. Reynov and A. P. Shirnov (LFTI - Leningrad Physico-technical Institute) gave a report on the measurement of the electricity limit of tin- and indium polycrystals at very low temperatures (1°K), and N. N. Reynov and K. I. Krivko (LFTI) spoke about attempts made to find the expected diamagnetic resonance on polarons in cuprous oxide. G. R. Khutsishvili (TGU i Institut fiziki AN Gruzinskoy SSR - Tbilisi State University and Institute of Physics AS Gruzinskaya SSR) carried out a theoretical investigation of the Overhauser effect in non-metals. Lomkadze investigated the electron- and nuclear (proton) resonance in diphenylpicryl hydrazyl at helium temperature. B. N. Sanoylov spoke about experiments he carried out concerning the orientation of Co^{60}- and Au^{198}-nuclei (in iron) at extremely low temperatures. B. P. Zakharchenya and Ye. F. Gross (LFTI) investigated the absorption spectrum of a cuprous oxide crystal in the magnetic field at helium temperature and observed the effect of magneto-optical oscillations. V. P. Peshkov and M. P. Malkov gave information concerning scientific work of Soviet scientists in foreign countries (zagranichnaya nauchnaya komandirovka), and E. V. Shpol'skiy spoke about the abstracting journal "Fizika". The head of the department for problems of the physics of low temperatures, Academician P. L. Kapitsa and the President of the Academy of Sciences Gruzinskaya SSR, Academician N. I. Mushkelishvili closed the Conference. The 6. All-Union Conference on the Physics of Low Temperatures will be held in June and July 1959 in the city of Sverdlovsk.

Card 9/11

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69092

S/120/60/000/01/039/051
E032/E314

24.5600

AUTHORS: Reynov, N.M. and Smirnov, A.P.

TITLE: Determination of the Elastic Limit of Metals at Ultra-low Temperatures

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 128 - 130 (USSR)

ABSTRACT: The temperatures involved are less than 1 °K. Figure 1 shows a schematic drawing of the apparatus employed to determine the elastic limit of superconducting metals by a thermal method. The very low temperatures (down to 0.05 °K) were obtained by adiabatic demagnetisation of a paramagnetic salt (Ref 4). The specimen (21) of the metal under investigation was in the form of a wire 0.1 - 0.4 mm in diameter and 5-10 mm long. One end of the wire was attached to a silver rod (20) pressed into a block of the paramagnetic salt (10). In order to reduce the supply of heat to the working block a similar buffer block (8) was placed as shown in Figure 1. The lower end of the specimen was attached to the silver extension arm (16) which in its turn was attached to the iron core (24) of the electromagnet. To prevent the

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Determination of the Elastic Limit of Metals at Ultralow Temperatures

heating of the specimen by light, special diaphragms (1) were inserted and the specimen was screened by the glass tube (22) covered with silver paste which was in contact with the working block (10). The electromagnet can produce stresses of up to 100 g. The specimen was surrounded by the solenoid (13) which produced an axial magnetic field of 350 Oe at 0.5 A. The electrical resistance was measured by the induction method described by Samoylov in Ref 5 with the aid of the three coils (15), (23), having a large number of turns and the two coils (14) made of a super-conducting wire and directly connected with the specimen. The elastic limit was determined as follows. As soon as the lowest temperature due to the demagnetisation of the salt was reached, a preliminary determination was made of the rate of heating of the working block of salt due to the natural leak of heat. Next, a determination was made of the critical magnetic field for which the specimen goes over from superconducting to the normal state as a function of temperature. The magnetic field of

Card2/3

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Determination of the Elastic Limit of Metals at Ultralow Temperatures

the solenoid is adjusted so that heating of the specimen through 0.1 - 0.2 °K from the starting temperatures causes its transition from the superconducting to the normal state. The stress is then applied to the specimen with the aid of the electromagnet and the natural heating of the specimen during the extension should be less than 0.1 °K. When the resistance of the specimen appears, the load on it is noted and this determines its thermal elastic limit. It was found that the minimum value of the elastic limit of monocrystalline specimens of tin is 200 g/mm^2. There are 2 figures and 8 references, 4 of which are Soviet, 2 German and 2 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-engineering Institute of the Ac.Sc., USSR)

SUBMITTED: October 10, 1958

Card 3/3

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

GUBANOV, A.I.; KRIVKO, N.I.; REYNOV, N.M.

Experimental determination of polaron mass in cuprous oxide. Zhur. eksp.i teor.fiz. 38 no.2:341-344 F '60. (MIRA 14:5)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR. (Copper oxide) (Semiconductors)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Reynov, N. M.

82598

S/056/60/039/01/06/029
B006/B070

24.2200

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Sokolov, I. A., Stel'makh, M. F.

TITLE: The Polarization of Sc^{46} Nuclei in Iron

79

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 1 (7), pp. 47-52

TEXT: B. N. Samoylov, V. V. Sklyarevskiy and Ye. P. Stepanov (Refs. 8-10) succeeded in polarizing the nuclei of a number of weakly magnetic elements alloyed with ferromagnetics. They discovered the possibility of orienting the nuclei of many elements including scandium. In the present paper, the first results found by the authors on the orientation of Sc^{46} introduced into iron are published. Fig. 1 shows a schematic cross section of the apparatus employed for the purpose. Its description is given in the introduction. To check the working of the apparatus, experiments were first made on the orientation of Co^{60} in iron ($\leq$ 0.02% Co) which are described in detail. Fig. 2 shows the asymmetry of the gamma

Card 1/3

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The Polarization of Sc^{46} Nuclei in Iron

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radiation of Co^{60} as a function of temperature. The asymmetry is characterized by $\varepsilon = [I(\pi/2)-I(0)]/I(\pi/2)$. Next, the experiments carried out on scandium are described. The neutron irradiated scandium was introduced as a metal into pure iron (Sc concentration $\leq 0.5\%$). A large number of asymmetry measurements of the gamma radiation from Sc^{46} were made in the temperature range of from 0.03 to 0.015°K. At the lowest temperatures $\varepsilon = 2.5\%$. The sign of the asymmetry agreed with the known dipole character of the cascade gamma transitions in Ti^{46}. Fig. 3 shows the asymmetry of gamma radiation for temperatures of the cooling salt between 0.025-0.03°K. ε was also measured for other temperatures. At 0.04-0.05°K, ε was 1%, at ~ 1.2°K, however, it was 1.8%, showing that the temperature dependence of the asymmetry of gamma radiation for small values of 1/T cannot be determined with sufficient accuracy. The magnetic moment of Sc^{46} was not measured. Still, it can be estimated with sufficient accuracy to be 3.5 nuclear magnetons, from which the effective magnetic field on C^{46} nucleus in iron for 1/T = 25 is found to be $H_{eff} \approx 10^5$ oersteds. The

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The Polarization of Sc^{46} Nuclei in Iron

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possible errors in this determination are then discussed. They are related to the errors in the determination of nuclear magnetic moments, ε, and T, and the error resulting from imperfect domain orientation. Taking these into account H_{eff} lies within the limits $3.0 \cdot 10^5 \leq H_{eff} \leq 4.0 \cdot 10^5$ oe for Co^{60} and $0.70 \cdot 10^5 \leq H_{eff} \leq 1.30 \cdot 10^5$ oe for Sc^{46}. Finally, the possible investigations of $\beta\gamma$-correlation for oriented Sc^{46} nuclei are very briefly discussed. The authors thank Professor N. P. Sazhin for making available metallic scandium, and Professor A. Z. Dolginov for the derivation of the asymmetry formula. G. R. Khutsishvili and L. M. Shestopalov of Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute of the AS USSR) are mentioned. There are 3 figures and 21 references: 7 Soviet, 8 American, 1 Canadian, 3 Dutch, and 2 British.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences of the USSR)

SUBMITTED: February 20, 1960

Card 3/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

KRIVKO, N.I.; REYNOV, N.M.

Experimental determination of polaron mass in cuprous oxide. Zhur. eksp. i teor. fiz. 39 no. 6:1850 D '60. (MIRA 14:1)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.

(Copper oxide) (Semiconductors)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

KOGAN, A.V.; KUL'KOV, V.D.; NIKITIN, L.P.; REYNOV, N.M.; SOKOLOV, I.A.
STEL'MAKH, M.F.

Polarization of some radioactive isotopes in alloys containing iron. Zhur. eksp. i teor. fiz. 40 no.1:109-113 Ja '61. (MIRA 14:6)

(Iron alloys) (Magnetic fields)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

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25180
S/056/61/040/006/001/031
B102/B214

AUTHORS: Kolchin, A. M., Mikhaylov, Yu. G., Reynov, N. M., Rumyantseva, A. V., Smirnov, A. P., Totubalin, V. N.

TITLE: Investigation of the destruction of superconductivity in thin tin films

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 6, 1961, 1543 - 1550

TEXT: The possibilities of practically applying superconduction effects (cf. Proc. IRE, 48, 1263 and 1395, 1960) make it of interest to study the destruction of the superconductivity of thin metal films as caused by current. Subject to this work was to elucidate the regularities of the destruction of superconductivity by a magnetic field or a current, as well as to describe the laws governing the return of the film to the superconducting state on removal of the field (current) in a larger temperature interval. The investigations were limited to films of thicknesses ($1 - 6$) 10^{-7} cm under the action of current pulses of different shapes and lengths and at temperatures near the critical one. The results of the measurements have

Card 1/5

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Investigation of ...

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been presented earlier to the Seventh All - Union Conference on Low Temperature Physics in Khar'kov (June 1960). The films were prepared by vacuum sputtering (10^{-5} mm Hg). Fig. 1 shows the appearance of such a sample with the current and voltage contacts. The backing was glass or mica, chemically purified and heated in vacuo. The film thickness was determined by weighing; the breadths of the films were 0.10 - 0.25 mm. The resistances of the films amounted to 30 - 130 ohms at room temperature. Direct current experiments were done with a potentiometer circuit with galvanometer or rheochord with automatic recording of current and voltage by recording potentiometers of the types ЭПП-09М (EPP-09M) and ЭПП-11М (EPP-11M). The transition of the sample to (from) the superconducting state was established by an oscillographic apparatus (use of an oscillograph of the type ЭНО-1 (ENO-1)) which allows to observe and photograph the volt-ampere characteristics. Generators of the types ГИС-2 (GIS-2) and ГИ-3М (GI-3M) were used to study the destruction of superconductivity by pulsed current (duration of the pulse 0.1 - 10 sec). The current and voltage were recorded simultaneously by a double-ray oscilloscope of the type ДЭСО-1 (DESO-1). In direct current operation at 4.2°K, films of resistance of 1 - 6 ohms and resistivity 0.4 - 1 μohm/cm were investigated.

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The critical temperature of these films for a measuring current of 40 ma lay between 3.75 and 3.85°K and was therefore higher than for massive tin. The experiments showed that with increasing current the resistance increased first very slowly, and for currents over 10 ma more rapidly. The transition of the sample from the superconducting to the normal state on increasing current was investigated by taking measurements with triangular pulses. The influence of thermal effects on the transition could also be studied in this way. It was found that the sample was heated even by a rise and fall in the pulse of 0.1 μsec each. This heating is attributed to the appearance of a hysteresis on transition from normal to the superconducting state. Fig. 8 shows a volt - ampere characteristic (pulse growth 0.5 μsec, fall 0.1 sec, sequence 50 cps, I_{max} = 150 ma). Further measurements were made by rectangular pulses of 0.1 - 10 μsec (front 0.05 - 0.15 μsec). Fig. 10 shows an oscillogram of the transitions of a sample from the superconducting to the normal state for a pulse length of 2 μsec (upper curve: current, lower: voltage). The following results were obtained from the studies: The regularities found hold for films of such thicknesses for which the current destroying the superconductivity depends only slightly on the thickness.

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B102/B214

Investigation of ...

For thinner samples, other regularities are to be expected. Under the action of very short pulses the transition is greatly affected by Joulean heat and heat caused by Foucault currents. Besides the hysteresis of thermal effects on transition from the normal state to the superconducting state, there is also observed a hysteresis which is attributed to the existence of superconducting domains in the normal phase. The duration of the spontaneous transition to the superconducting state is considerably smaller than that of the destruction of the intermediate state arising when the superconducting state is destroyed by current. The duration of transition from the superconducting to the normal state depends on the amplitude of the current in the pulse. For sufficiently large amplitudes, the transition time is $\tau < 5 \cdot 10^{-9}$ sec. A. A. Galkin is mentioned. There are 12 figures and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The most important references to English-language publications read as follows: J. W. Bremer, V. L. Newhouse. Phys. Rev. 116, 309, 1959 and Phys. Rev. Lett. 1, 282, 1958; C. R. Smallman et al. Proc. IRE, 48, 1562, 1960.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

S/120/62/000/003/032/048
E032/E114

AUTHORS: Grigor'yev, A.D., Mikhaylov, Yu.G., Reynov, N.M., Rumyantseva, A.V., and Smirnov, A.P.

TITLE: An apparatus for producing films by evaporation in vacuo

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 133-135

TEXT: A description is given of a laboratory apparatus (including a full sectional drawing) for the production of films of metals and dielectrics. It can be used to evaporate five different materials and to obtain (in a single pumping cycle) multi-layer systems consisting of films with ten different configurations in any desired sequence. The thickness of the films is determined in situ from their resistance. Alundum evaporators heated directly by tungsten spirals are employed (maximum temperature 1700 °K, 160 W). The pumping speed (oil diffusion pump) is 250 litres/sec and the working pressure is 5×10^{-6} mm Hg. The targets are cooled by liquid nitrogen. There are 3 figures.

Card 1/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

An apparatus for producing films... S/120/62/000/003/032/048
E032/E114

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
(Physicotechnical Institute AS USSR)

SUBMITTED: November 14, 1961

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

S/056/62/043/003/015/063
B102/B104

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M., Stel'makh, M. F., Shott, M.

TITLE: Asymmetry in β-radiation from some nuclei polarized in an iron-containing alloy

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 828-830

TEXT: The authors measured the β-emission asymmetry of Re^{186}, Ir^{192} and In^{114} nuclei polarized at 0.1-0.03°K in an iron alloy, using an apparatus described in ZhTF, 29, 1039, 1959 or ZhETF, 35, 295, 1958. The values of $\mu_n H_{eff}$ (μ_n-nuclear magnetic moment, H_{eff}- effective field acting on the nucleus) were determined from the asymmetry given as

$$\varepsilon_\beta(T) = [W(0^\circ) - W(\pi)]/[W(0^\circ) + W(\pi)] = A(v/c)f_1,$$

when, for allowed β-transitions, $W(\vartheta) = 1 + A(v/c)f_1\cos\vartheta$. $W(0^\circ)$ is the β-radiation recording probability if the magnetic field is applied in the

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direction of the detector, $W(\pi)$ is the same if $\vec{H}$ has the opposite direction; A is a factor depending only on the spins I_1 and I_0 ($I_1 \neq I_0$) of final and initial states, f_1 - nuclear polarization coefficient, ϑ - angle between the direction of nuclear polarization and that of particle emission. For Re and Ir the quantity $10^{18} \mu_n H_{eff}$ was determined from the slope of the straight line $\varepsilon_\beta(1/T)$ giving 8 ± 1 for Re and 4 ± 0.5 for Ir. These values do not agree with the results of γ-anisotropy measurements (2.5 ± 0.5 and 12 ± 1.5); i.e. the relation $\varepsilon_\beta(T) = A(v/c)f_1$ cannot be used. Since for these nuclei $A < 0$ and $\mu_n > 0$ it follows that H_{eff} will be negative. For Ir^{144} also the nuclear spin relaxation time τ_n in the field H_{eff} was determined. Up to $\sim 0.1^\circ K$ $\tau_n \leqslant 70$ sec. $\mu_n \leqslant 1.7 \pm 0.4$ nuclear magnetons and H_{eff} is also negative. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR). Institute of Nuclear Research of the Academy of Sciences Czechoslovak SSR (M. Shott)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Asymmetry in β-radiation from some...

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SUBMITTED: April 13, 1962

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

GUTS, Z. A.; REYNOV, N. M.; KRIVKO, N. I.; SIDOROVA, T. A.; FOGEL', A. A.

Superconducting alloys in the system Nb - Zr. Fiz. tver. tela 5 no.1:361-362 Ja '63. (MIRA 16:1)

1. Fiziko-tekhnicheskiy institut imeni A. F. Ioffe AN SSSR, Leningrad.

(Niobium-zirconium alloys) (Superconductivity)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

KOLCHIN, A.M.; KRIVKO, N.I.; REYNOV, N.M.

Experimental study of a superconducting Nb-Zr alloy at the frequency 9250 Mc. Zhur. eksp. i teor. fiz. 44 no.1:53-56 Ja '63. (MIRA 16:5)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR.
(Niobium-Zirconium alloys)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

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L 15530-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3005233 S/0056/63/045/002/0001/0007

64
59

AUTHOR: Kogan, A.V.; Kul'kov, V. D.; Nikitin, L. P.; Reynov, N. M.; Stel'makh, M. F.

TITLE: Measurement of the nuclear specific heats of iridium and rhenium in iron alloys

SOURCE: Zhur, ekspr. i teor. fiz. v. 45, no. 2, 1963, 1-7.

TOPIC TAGS: Nuclear specific heat, iridium, rhenium, magnetic moment, effective magnetic field, Re, Ir

ABSTRACT: A method for measuring very small nuclear specific heats and for estimating nuclear relaxation times in alloys is described. Such measurements are of interest because they can be used to determine the effective magnetic field and the magnetic moment of radioactive isotopes. The specific heats of the alloys were measured by comparison with the specific heat of a cooling mixture consisting of 50% saturated aqueous solution of criummagnetsium nitrate and 50% glycerin by volume, which in turn was determined in control experiments by comparison with the known specific heats of metallic cobalt and Fe-Co alloys with different concen-

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ACCESSION NR: AP3005233

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trations. The nuclear specific heats of Re-Fe and Ir-Fe alloys of various concentrations were measured. The effective magnetic fields acting on the nuclei of the alloying metals were found to be $(6.7 \pm 0.7) \times 10^5$ Oe for Re and $(1.35 \pm 0.3) \times 10^6$ for Ir. The magnetic moment of Ir-192 was found to be $(1.8 {}^{+0.6}_{-0.5})$ nuclear magnetons. magnetons. The possible errors of the procedure are estimated. "The authors wish to thank Yu. M. Burdukov, A. A. Fogel, T. A. Sidorova, and Z. A. Guts for assistance in preparing the samples. Orig. art. has: 3 figures, 4 formulas, and 2 tables.

ASSOCIATION: Fizichesko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Inst. Academy of Sciences SSSR)

SUBMITTED: 13Dec62 DATE ACQ: 06Sep63 ENCL: 02

SUB CODE: PH NO REF SOV: 005 OTHER: 006

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REYNSALU, A. [Reinsalu, A.]; VAYSMAN, M. [Vaisman, M.], red.; PEDARI, Ya. [Pedari, J.], tekhn. red.

[Tallinn] Tallin. Tallin, Estonskoe gos. izd-vo, 1961. 163 p. (Tallinn) (MIRA 14:11)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

PEYNSALU, E. [Peinsalu, E.]

Ways to improve the blasting operations in the stall and pillar system of mining. Khim. i tekh. gor. alan. i prod. ikh perer. no.13:27-36 '64. (MIRA 18:9)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

ZAKHAROV, M.K.; BOYARSOZONOVICH, S.P.; SHUSTER, A.Ye.; REYNSBURG, A.M.; MORKHOV, S.M.

Reducing electric motors of construction finishing machines. Stroi. i dor. mash. 10 no.8:17-19 Ag '65. (MIRA 18:9)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

BOYAR-SOZONOVICH, S.P.; ZAKHAROV, M.K.; KAMENYARZH, A.Ya.; REYNSBURG, A.M.; RYVKIN, V.L.

Development and application of new techniques for insulating the grooves of electrical machines using polymers. Energ. i elektrotekh. prom. no.1:31-34 Ja-Mr '63. (MIRA 16:5)

1. Odesskiy politekhnicheskiy institut (for Boyar-Sozonovich, Zakharov). 2. Odesskiy zavod stroitel'no-otdelochnykh mashin. (for Kamenyarzh, Reynsburg, Rybkin).
(Electric motors, Synchronous)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

Cultivated Plants.

Ref Zhur-Biologiya, No. 5, 1959, No. 20351

ABSTRACT: the most productive. The hay yield in 1954 from the uncovered sowing of these mixtures was, respectively, 179.6 and 187.1 centners per ha, and from those under cover 124.7 and 146.2 cwt/ha. --G.N. Chernev

CARD: 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNSHTEYN, B.

"Newspaper" without paper. Nauka i zhizn' 27 no. 4:42-43 Ap '60. (MIRA 14:5)

(Radio broadcasting)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNTAM, E. A. Cand Biol Sci -- "On the problem of the content of sugar and volatile aliphatic acids in the blood of cattle." Mos, 1961 (Mos Order of Lenin Agr Acad im K. A. Timiryazev). (KL, 4-61, 192)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNTAM, E.A.

Volatile fatty acids and sugar in the blood of farm animals. Dokl.Akad.sel'khoz. 24 no.6:36-40 '59. (MIRA 12:9)

1. Moskovskaya veterinarnaya akademiya. Predstavlena akademikom N.F.Popovym.
(Blood--Analysis and chemistry) (Blood sugar)
(Acids, Fatty)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNTAM, L.Yu.

Soil districting as exemplified by southeastern Estonia [with summary in English]. Pochvovedenie no.8:34-44 Ag '58. (MIRA 11:9)

1.Estonskaya sel'skokhozyaystvennaya akademiya, g. Tartu.
(Estonia--Soils)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNTAM, L. Yu., Cand Agr Sci -- (diss) "Soils of southeastern Estonia." Tartu, 1960. 44 pp with maps; 1 page of diagrams; (Estonian Agricultural Academy); 350 copies; free; (KL, 17-60, 164)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

ROOMA, I.P.; REYNTAM, L.Yu. [Reintam, L.Y.]; KENDRA, Kh.E.

Utilization of the materials of a large-scale survey of land resources in the Estonian S.S.R. Pochvovedenie no.11:1-14 N '63. (MIRA 16:12)

1. Pochvennyy otdel Instituta Estsel'khoz-proyekt i Estonskaya sel'skokhozyaystvennaya akademiya.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

ROOMA, I.P. [Rooma, I.]; REYNTAM, L.Yu. [Reintam, L.]

Compiling large-scale soil maps in the Estonian S.S.R. Pochvovedenie no.3:30-35 Mr '62. (MIRA 15:7)

1. Estonskiy filial Vsesoyuznogo obshchestva pochvovedov.
(Estonia—Soils—Maps)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNTAM, L.Yu. [Reintamm, L.]; RAUKAS, A.

Changes in the mechanical, mineralogical, and chemical characteristics of turf-Podzolic soils on carbonate rich red-brown moraine. Pochvovedenie no.3:29-38 Mr '65. (MIRA 18:6)

1. Estonskaya sel'skokhozyaystvennaya akademiya i Institut geologii AN Estonskoy SSR.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

GORBUNOV, N.I., [illegible]

Problems of soil mineralogy at the 8th International Congress of Soil Scientists. Pochvovedenie no.5:101-106 My '65.

(MIRA 18:5)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, A.M., prof.

Use of shortened esophagoscopic tubes in direct laryngoscopy. Vest.oto.-rin. 20 no.4:105 Jl-Ag '58 (MIRA 11:7)

1. Iz kafedry bolezney ukha, gorla i nosa Krymskogo meditsinskogo instituta.
(LARYNX--EXPLORATION)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, A.M.

REYNUS, A.M., professor

Inhalation of plaster during impression making. Stomatologiia 36 no.4:72 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry bolezney ukha, gorla, nosa Krymskogo meditsinskogo instituta.
(DENTISTRY) (BRONCHI--FOREIGN BODIES)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

[illegible], A. [illegible].

Reynus, A. K. "Cartilage from corpses preserved in formaldehyde as material for plastics," Trudy Kirovsk. med. in-ta im. Stalina, Vol. XII, 1948, p. 239-41

SO: U-3850, 16 June 53, (Letopsis 'Zhurnal 'nykh Statey, No. 5, 1949)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

FEYNUS, L. M.

Chem. Inst. Sverdlovsk, Ural Branch Acad. Sci., (-1946-).

"Polarographic Studies of Nitric Acid Solutions of Niobrium."

Zhur. Fiz. Khim. No. 7, 1946.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REINUS, L. M.

A. G. Stromberg and L. M. Reinus

"A Polarographic Study of Half-Wave Potentials of Substituents of quinones, phenones and Fuchsones" from "Zhurnal obshtchei Khimii", No. 9, 1946

The object of this article is to make a polarographic study of quinones, phenones, and fuchsones in order to explain the influence of substituents on the potential of the half-waves of these three groups of organic compounds. The work was begun at the suggestion of Prof. Dr. I. Y. Postovsky in order to explain the connection between the antibacterial properties of certain quinones and their physico-chemical properties.

Translation available

D 46934

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, R.M.

Daily rhythm of carbohydrate accumulation in leaves of Primula Moorkroftiana (Wall.) in relation to the developmental phase. Izv.Otd.est.nauk AN Tadzh.SSR no.9:143-147 '55. (MLRA 9:10)

1. Pamirskaya biologicheskaya stantsiya Instituta botaniki AN Tadzhikskoy SSR.
(Primroses) (Carbohydrate metabolism) (Leaves)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

1. REYNUS, R. M.

2. USSR (600)

4. Altitude, Influence of

7. Nitrogen metabolism in plant leaves in the high mountain deserts of Pamir. Soob. TFAN SSSR No. 31, 1951.

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

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, R. M.

Carbohydrate and nitrogen metabolism in the meadow plants of the Pamirs. Trudy Bot. inst. AN Tadzh. SSR. 18:202-233 '62. (MIRA 16:1)

(Plants—Metabolism) (Pamirs—Grasses)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, R. M.

Biological Chemistry, Nutrition and Feeding (11110)
Izv. AN Tadzh. SSR, No 3, 1953, pp 99-107
REYNUS, R. M.
"Chemical Composition of Wild Plants Growing in Eastern Pamir With Respect to Their Value as Feeds" Plants growing in the high-altitude pastures of Eastern Pamir are high in soluble carbohydrates, hemicellulose and protein, which makes them valuable as feeds. The chemical composition of the plants depends on the altitude at which they grow. At high altitudes the carbohydrate, protein, and starch concentrations are greater.

SO: Referativnyy Zhurnal--Khimiya, No 1, 1 Jan 54; SO: (W-30785, 28 July 1954.)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

[illegible], P.M.; [illegible], S.

Carbohydrate metabolism in barley at various altitudes of the Pamirs. Trudy Pam. biol. sta. 1:194-203 '63. (MIRA 17:10)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

L 33566-66

ACC NR: AT6013450 SOURCE CODE: UR/3179/65/007/000/0159/0164

AUTHOR: Reynus, R. M.

ORG: none

26
B+1

TITLE: Dependence of carbohydrate metabolism shifts of plants on altitude

SOURCE: Vsesoyuznoye botanicheskoye obshchestvo. Problemy botaniki, v. 7, 1965. Voprosy biologii i fiziologii rasteniy v usloviyakh vysokogoriy (Problems of biology and physiology of plants at high altitudes), 159-164

TOPIC TAGS: plant ecology, plant metabolism, carbohydrate, agricultural crop, climatic influence

ABSTRACT: To study carbohydrate metabolism shifts of cultured plants taken from a temperate climate and introduced to the Pamirs, Nutans 027 barley was planted at the same time at the Leningrad Botanical Garden (sea level) and in the Pamirs at altitudes of 2320 m and 3860 m. Carbohydrate levels of plants were determined at different developmental stages. Barley grown in the Pamirs, particularly at 3860 m, displayed a marked increase of soluble carbohydrates, largely due to the high

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L 33566-66

ACC NR: AT6013450

saccharose level. Compared to barley plants grown in Leningrad, the saccharose level of barley leaves grown at 3860 m was 8 to 10 times higher and the saccharose level of barley leaves grown at 2320 m was 2 times higher. Within the natural distribution limits, the carbohydrate levels of plants do not change with different altitudes. However, the transfer of high altitude flora to a temperate climate or the transfer of a temperate climate plant to a high altitude affect plant metabolism, particularly carbohydrate metabolism. Only the soluble carbohydrate levels are affected, but the polymer (starch, hemicellulose) forms remain unchanged. Orig. art. has: 4 figures.

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 009

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, R. M., Cand Biol Sci (diss) -- "Carbohydrate metabolism of plants under the high mountainous conditions of the Pamir". Leningrad, 1960. 18 pp (Acad Sci USSR, Botanical Inst im V. L. Komarov), 300 copies (KL, No 14, 1960, 130)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNUS, Roza Mikhaylovna; NASYROV, Yu.S., otv. red.

[Carbohydrate metabolism in plants of the high mountains of the Pamirs] Uglevodnyi obmen rastenii v usloviiakh vysokogorii Pamira. Dushanbe, Izd-vo AN Tadzhik.SSR, 1964. 136 p. (MIRA 18:3)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, A.A.

Age-related changes in the incidence of pulmonary tuberculosis in Tallinn from 1947-1960. Probl.tub. no.8:3-11 '61.

(MIRA 15:5)

1. Iz Instituta eksperimental'noy i klinicheskoy meditsiny AN Estonskoy SSR (dir.- kand.med.nauk P.A. Bogovskiy, nauchnyy konsul'tant - prof. A.D. Semenov).

(TALLINN--TUBERCULOSIS)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVALD', A. A., Cand Med Sci -- (diss) "Functional condition of the nervous system in patients with pulmonary tuberculosis under conditions of clinical and sanatorium treatment." Leningrad, 1960. 23 pp; (Leningrad State Order of Lenin Inst for Advanced Training of Physicians im S. M. Kirov); 300 copies; price not given; (KL, 23-60, 128)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, A.A. [Reinvald, A.]; SAUEMYAGI, L.R. [Sauemagi, L.]

Detection of tuberculosis in elderly persons. Trudy TSIU 63:135-139 '63. (MIRA 17:9)

1. Institut eksperimental'noy i klinicheskoy meditsiny AN Estonskoy SSR i Respublikanskiy protivotuberkuleznyy dispanser Estonskoy SSR.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, N.I.

Physicians should study medical psychology. Vop. psikhol. 10 no.2:67-78 Mr-Ap '64. (MIRA 17:9)

1. Meditsinskiy institut, Dnepropetrovsk.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, N.I.

Treatment of problems in the psychology of personality from the point of view of Pavlov's reflex theory. Vop. psikhol. 4 no.2:123-130 Mr-Ap '58. (MIRA 11:5)

1. Kafedra logiki i psikhologii Tartuskogo universiteta.
(Personality)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, O.A., inzh.

Experience in the operation of closed-loop power distribution networks in Riga. Elek. sta. 35 no.2:69-72 F '64. (MIRA 17:6)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNVAL'D, O.A. [Reinvald, O.], inzh.; AYZENBERG, S.I., doktor tekhn.nauk; TREYVISH, Ye.D., kand.tekhn.nauk

Operation of closed-loop electrical networks. Elek. sta. 36 no.8:67-74 Ag '65. (MIRA 18:8)

1. Gorelektroset' Rigi (for Reynval'd). 2. Leningradskiy inzhenerno-ekonomicheskiy institut imeni Pal'miro Tol'yatti (for Ayzenberg, Treyvish).

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

FEDOSENKO, R.Ya., kand. tekhn. nauk (Moskva); REYNVALD, O.A. [Reinvalds, O.] (Riga); GNEVKO, D.G., inzh. (Minsk); ZAROZHNYY, A.M., inzh. (Minsk); VOYTKO, A.M., inzh. (Minsk); FEDOROV, Ye.Ya., inzh. (Minsk); AYZENBERG, B.L., doktor tekhn. nauk (Leningrad)

Protection of closed-loop networks. Elektrichestvo no.2: 83-89 F '65. (MIRA 18:3)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYNYUK, I. I.

PA 245T84

USSR/Meteorology - Condensation Nov 52

"Redistribution of Water Vapor in the Atmosphere, I. I. Reynyuk, Magadan Meteorological Serv of Dal'stro

"Meteorol i Gidrol" No 11, pp 27-30

Conducted experiments on condensation of water vapor. Concludes that redistribution of water vapor in the atmosphere with change in temperature possesses very great significance, which

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is not limited only to the atmosphere. Redistribution related generally to gas mixtures and possibly to fluid solutions. This phenomenon deserves further study.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

ARZENIN, N.D.; BUDKOVSKIY, N.G.; BOLOTIN, A.A.; BONARTSEVA, N.N.; BOGDANOVA, M.V.; GOLOVENKO, I.P.; IL'BITENKO, K.I.; KIRPONOS, Ye.M.; KARAPETYAN, K.G.; KIRSANOVA, I.A.; KUZNETSOV, A.L.; KORESHNIKOVA, N.F.; KORZHENEVSKAYA, T.I.; NEMIROV, N.G.; NIKONOVA, T.K.; NAZAROV, V.N.; PISAREVA, I.A.; POPOV, S.A.; PRONINA, N.A.; PAKHMAN, M.Ye.; REYPOLSKIY, S.N.; ROGACHEV, Yu.N.; SOSNINA, V.D.; STARSHINOV, B.M.; KHUDYAKOV, B.Ya.; SHELEKASOV, V.I.; PARKOV, V.P., podpolkovnik, red.; MURAV'YEV, A.I., polkovnik, red.; CHAPAYEVA, R.I., tekhn. red.

[Relics of military glory]Relikvii boevoi slavy. Moskva, Voenizdat, 1962. 166 p. (MIRA 15:8)

1. Nauchnyye sotrudniki TSentral'nogo muzeya Sovetskoy Armii (for all except Murav'yev, Chapayeva).
(Military museums)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYS, F.

Redesigning the connector for 6S275L marine engine compressors.
Rech.transp. 18 no.12:47-48 D '59. (MIRA 13:4)

1. Inzhener po ratsionalizatsii Podtesovskoy remontno-ekspluatatsionnoy bazy.
(Marine diesel engines)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

PETROV, V.V., GROTTGUS, T.; REYS, F.F.; STRAKHOV, P.I.; BOLOTOV, A.T.; TBLEPNEV, V.D.; BEL'KIND, L.D., professor, redaktor; KUZNETSOVA, Ye.B., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[Selected works on electricity] Izbrannye trudy po elektrichestvu. Pod red. i s primechaniiami L.D. Bel'kinda. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 299 p. (MLRA 10:4)
(Electricity--Early works to 1850)

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L 22338-66 EWT(m)/EWA(d)/EWP(t)/EWP(k) IJP(c) JD

ACC NR: AP6013517 SOURCE CODE: UR/0120/66/000/002/0151/0153

40
B

AUTHOR: Malkin, O. A.; Reys, I. A.; Stepanov, A. M.

ORG: All-Union Electrotechnical Institute, Moscow (Vsesoyuznyy elektrotekhnicheskiy institut)

TITLE: Miniature probe for measuring variable magnetic fields 9M

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1966, 151-153

TOPIC TAGS: plasma probe

17 18

ABSTRACT: A miniature magnetic probe consisting of copper wire wound on nichrome wire 0.15 mm in diameter is described (see Fig. 1). The leads are twisted and recessed 1 cm and covered with organic material which hardens upon drying. The probe is placed into a Kovar sleeve whose outside diameter is 5 mm and is covered with a glass case which isolates the probe coil from plasma. The thickness of glass where the probe is located is 0.2 mm. The sleeve is inserted into a rubber cork which establishes a vacuum equal to 10^{-5} torr. The leads are connected to a shielded coaxial cable reducing the portion exposed to fields to 10—12 mm. Five probes of different size were made. These include probes 1.2 and 1.6 mm in outside diameter with 70 and 160 turns, respectively. Measurements with a 1.2 mm-o.d. probe of mag-

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ACC NR: AP6013517

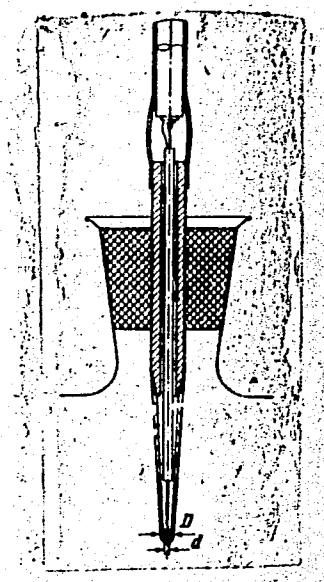

Fig. 1. Miniature magnetic probe

netic fields whose strength was equal to 2400 gauss were accurate to within 15—20%. Orig. art. has: 4 figures. [BD]

SUB CODE: 09/ SUBM DATE: 09Nov65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4241

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APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYS, N. V.

"A New Method for Obtaining Biogenic Amines and Its Use in the Investigation of Biological Materials." Cand Biol Sci, Leningrad State Order of Lenin U imeni A. A. Zhdanov, Leningrad, 1953. (KL, No 10, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYZENKIND, IOSIF YAKOVLEVICH

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621.25
.R3

Stereofotogrammetricheskaya s"yemka kar'yerov (Stereophotogrammetric survey of open cut mines, by) I. Ya. Reyzenkind R. R. Sinanyan. Moskva, metalluggizdat, 1956

177, (3) p. illus., diagrs., tables.

"Literatura": p. (179)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYS, N.V.

New method for the microdetermination of thallium in urine, blood and feces. Lab.delo 3 no.6:12-16 N-D '57. (MIRA 11:2)

1. Iz kafedry biologicheskoy khimii (zav. - prof. L.N.Lepin) Samarkandskogo meditsinskogo instituta imeni I.P.Pavlova.
(THALLIUM) (URINE--ANALYSIS AND PATHOLOGY)
(BLOOD--ANALYSIS AND CHEMISTRY)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

AUTHORS: Lapin, L. N., Reys, N. V. SOV/75-13-4-8/29

TITLE: Application of Diphenyl Carbazone in the Photometric Determination of Copper in Iron and Steel (Primeneniye difenilkarbazona dlya fotometricheskogo opredeleniya medi v zheleze i stali)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 426-429 (USSR)

ABSTRACT: In recent years, a number of photometric methods were suggested for the determination of copper in iron and steel (Refs 1-9), many of them, however, require special apparatus and reagents difficult to obtain. The authors found that the extremely sensitive reaction of copper with diphenyl carbazone under formation of a complex of low solubility in water is considerably more suited as compared with the methods of micro-determinations of copper described in publications. The formation of the complex is highly dependent on the pH-value. The best conditions are to be found about a pH of 4-5. The copper complex of diphenyl carbazone is not soluble in water and only difficultly soluble in ethanol, ether and carbon tetrachloride, whereas it is well soluble in benzene and its homologs. The red-colored solutions of the complex in benzene obey the law

Card 1/3

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SOV/75-13-4-8/29

Application of Diphenyl Carbazone in the Photometric Determination of Copper in Iron and Steel

of Lambert - Beer. Hence, they can be determined by quantitative photometric methods. Under the conditions of analysis diphenyl carbazone with the following cations does not form compounds soluble in benzene: Ag^{+}, $AuCl_4^{-}$, Zn^{2+}, Al^{3+}, Sn^{2+}, $V_2O_7^{4-}$, Sb^{3+}, Bi^{3+}, WO_4^{2-}, UO_2^{2+}, F^{-}, Mn^{2+}, Fe^{2+}, Fe^{3+}, Co^{2+}, Ni^{2+}, Cr^{3+}, $PtCl_6^{2-}$, $B_4O_7^{2-}$, Ti^{4+}, Tl^{+}. Diphenyl carbazone reacts with mercury only in the presence of chlorides, whereas with copper, molybdenum, cadmium and lead it reacts only at very high concentrations of these elements. The reaction is very sensitive and permits the photometric proof of 0,1μg of copper. In the quantitative dermination of copper in steels and iron according to this method, the iron is kept in solution in a complex state by a surplus of primary sodium phosphate and ammonia. The error of determination does not exeed 4%. As this reaction is extremely sensitive, the apparatus has to be kept carefully clear of possible copper traces. The preparation of the initial solutions and the exact way of carrying out the determination of copper in iron and steels according to this method is described in detail, as well as the results of the

Card 2/3

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SOV/75-13-4-8/29

Application of Diphenyl Carbazone in the Photometric Determination of Copper in Iron and Steel

determination of copper in different kinds of steel and iron. There are 2 figures, 2 tables, and 12 references, 9 of which are Soviet.

ASSOCIATION: Samarkandskiy meditsinskiy institut (Samarkand Medical Institute)

SUBMITTED: June 25, 1956

1. Copper--Determination 2. Diphenyl carbazones--Applications 3. Iron--Analysis 4. Steel--Analysis 5. Photometry --Equipment

Card 3/3

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LAPIN, L.N., prof.; REYS, N.V., dotsent

Determination of potassium iodide in table salt by means of a reaction between the complex ion I_2Cl^- and brilliant.green. Gig i san. 25 no.4:66-71 Ap '60. (MIRA 13:8)

1. Iz kafedry biologicheskoy khimii Samarkandskogo meditsinskogo instituta imeni akad. I.P. Pavlova.
(SODIUM CHLORIDE) (POTASSIUM IODIDE)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2"

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LAPIN, L.N.; REYS, N.V.

Use of diphenylcarbazone for the photometric determination of copper in iron and steel. Zhur.anal.khim. 13 no.4:426-429 Jl-Ag '58. (MIRA 11:11)

1. Samarkandskiy meditsinskiy institut.
(Steel--Analysis) (Photometry) (Formic acid)

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Reys, N.V.

USSR/Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4848

Author : Reys, N.V.
Inst : Samarkand Medical Institute
Title : New Reaction for Amines and Its use in Qualitative and Quantitative Analysis.

Orig Pub : Sb. nauchn. tr. Samarkandsk. med. in-t, 1956, 11, 117-124

Abstract : It was found that on action of NaBrO on primary, secondary and tertiary amines there are formed bromamines which react with KI to set free an amount of I_2 that is equivalent to the amine. On the basis of this reaction there has been worked out a method for the qualitative and quantitative determination of amines. The analysis is carried out in a specially designed apparatus, consisting of a test tube, 2.5-3 cm in diameter, with a stopper into which is inserted a tube fitted with a funnel, and a Kjeldahl trap, two U-tubes and a water pump. For a

Card 1/2

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TSETLIN, V.M., kand.khim.nauk; REYSAKHOV, I.L., kand.tekhn.nauk

Nomogram enabling to determine the speed of floating of dust particles in the Stokes' field at various temperatures of the air. TSvet. met. 33 no.11:42-44 N '60. (MIRA 13:11)

(Fly ash)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYSEL'MAN, S.D.

Nephrotic syndrome and its clinical significance. Klin.med. 38 no.7:21-26 '60. (MIRA 13:12)
(KIDNEYS—DISEASES)

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REISER, A.

The dipole moments of methoximes. A. Reiser, V. Jehlicka, and K. Dvorak (Tech. Univ., Prague). *Collection Czech. Chem. Commun.* 16, 13-22(1951).—Methoximes are colorless, oily liquids of pleasant odor, stable in the pure state, but less pure samples deteriorate slowly under the influence of light. *Benzophenone methoxime* is cryst. and decomps. before melting. Consts. for *pinacolone* and *cyclopentanone methoximes* are, resp.: b.p./mm. Hg 52.5/56, 36/10; d^{20} 0.8365, 0.9475; n_D^{20} 1.4209, 1.4560; $n_F - n_C$ 0.03863, 0.03728; $[R]_D$ exptl. 39.151, 32.456, calcd. 39.34, 32.36; ϵ^{20} 2.789$_1$, —; μ_1 0.98, —. The ds., dielec. consts., and polarization of benzene solns. of the methoximes are tabulated. The dipole moments of the *methoximes* in dil. soln. (μ_0) and in the pure liquid (μ_1) of the following are, resp.: *acetone* 1.172, 1.20; *2-butanone* 1.118, 1.19; *pinacolone* 0.953, 0.98; *cyclopentanone* 1.262, —; *cyclohexanone* 1.278, 1.25; *benzaldehyde* 0.630, 0.83; *acetophenone* 0.700, 0.93; *benzophenone* 0.389, —; *cyclohexanone ethoxime* 1.206, 1.22. The calcd. and exptl. dipole moments are compared. The slopes of the straight lines, the *s* values, are obtained by plotting the differences between the dipole moments of the halides RX and MeX *vs.* the electronic refractions, *R*, of C—Cl, C—Br, and C—I bonds and drawing straight lines through representative points of analogous mols. (s = const.) to the origin (thus $\mu_i = 0$ for $R = 0$). The *s* values ($\mu_i = \alpha.s$, where μ_i is an interaction term and α is the polarizability of the functional group) are as follows: Me 1.0, dimethyl 2.2, trimethyl 3.1, α-Me 0.5, β-Me 0.5, *tert*-Bu 3.4, cyclopentenyl 3.1, cyclohexenyl 3.3, phenyl 2.2. The relatively low dipole moments of the methoximes prove that the Me group is attached to O, since *N*-Me ethers of the oximes would contain a semipolar bond with charges on N and O and would be much more polar. Minor variations in the dipole moments of aliphatic and alicyclic methoximes are attributed to inductive effects and steric factors. The behavior of aromatic members is explained by mesomerism, and it was noted that the dipole moment of the methoximes is proportional to the refractive exaltation.

W. M. P.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYSER, L.A., Cand Med Sci -- (diss) "Certain clinico-experimental study of higher nervous activity in schizophrenia patients."

Vitebsk, 1957, 13 pp (Minsk State Med Inst) (KL, 27-58, 118)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444730006-2

REYZEL'MAN, S.D., prof. (Khar'kov)

Treating nephritis with Rauwolfia alkaloids. Terap.arkh. 31 no.6:36-44 Je '59. (MIRA 12:9)

(RAUWOLFIA ALKALOIDS, ther.use, nephritis (Rus))
(NEPHRITIS, ther. rauwolfia alkaloids (Rus))

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