FILIPPOV, Ye.; KOP'YEV, S., kandidat tekhnicheskikh nauk.

Institute for innovators in Gorkiy. Stroitel' 2 no.4-5:28 Ap-My '56.
(MIRA 10:1)

1. Predsedatel' soveta instituta novatorov, Gor'kiy (for Filippov).
(Gor'kiy--Building trades--Study and teaching)

107-57-1-51/60

AUTHOR: Dugin, B. and Filippov, Ye.

TITLE: International Show of Radio Equipment (Mezhdunarodnaya vystavka radioapparatury)

PERIODICAL: Radio, 1957, Nr 1, pp 55-57 (USSR)

ABSTRACT: The 3rd International Show of Radio Equipment took place in Lyublyana (Yugoslavia) in August 1956. The following countries displayed their exhibits: USSR, Yugoslavia, East Germany, West Germany, England, France, Austria, Holland, and Italy. The Soviet Union displayed the following equipment: "Rossiya," "Lyuks," and "Kontsert" radio-phonograph combinations; "Latviya," "Melodiya," "Baykal," "Rodina," "Turist," and "Nov'" radio receivers; "Yantar'," "Mir," "Znamya," "Soyuz," "Prizyv," and "Rekord" TV sets; "EG-2" electric phonograph; TGK-3 thermo-electric generator for supplying battery radio receivers. A number of defects and constructional drawbacks of the Soviet equipment are listed in the article. A few items of equipment displayed by East Germany, West Germany, Austria, England, and Yugoslavia are described. There are 6 figures in the article.

AVAILABLE: Library of Congress

Card 1/1

FILIPPOV, Ye.

School of Gorkiy construction workers. NTO no.3:52-53 Mr '59. (MIRA 12:6)

1. Rabotnik kafedry stroitel'nogo proizvodstva Gor'kovskogo inzhenerno stroitel'nogo instituta.
(Gorkiy--Building--Research)

FILIPPOV, Ye., starshiy shturman

Requirements of the navigation space on seagoing ships. Mor. flot 22 no.7:33-34 Jl '62. (MIRA 15:7)

1. Parokhod "Bobruysk" Sakhalinskogo parokhodstva.
(Ship handling--Equipment and supplies)

LASKORIN, B.N.; SKOROVAROV, D.I.; FILIPPOV, Ye.A.; SHILIN, A.L.

Mixtures of mono- and di(2,4-diethyl-1-octyl) methyl phosphonates as extractants. Radiokhimiia 5 no.4:424-428 '63. (MIRA 16:10)

(Phosphonic acid) (Extraction (Chemistry))

L 63622-65 EPF(n)-2/EWT(m)/EWP(b)/EWP(t)— Pu-4 IJP(c) WW/JD/JG

ACCESSION NR AP5017002 UR/0186/65/007/003/0356/0357

542.61:546.791.6:661.718.1+661.713.2

AUTHOR: Laskorin, B. N.; Filippov, Ye. A.; Goncharenko, G. L.; Skvortsov, N. V.; Skorovarov, D. .

TITLE: Extraction of uranium (VI) from carbonate solutions by quaternary phosphonium and arsonium bases

SOURCE: Radiokhimiya, v. 7, no. 3, 1965, 356-357

TOPIC TAGS: uranium extraction, phosphonium base, arsonium base, hydroxyquinoline

ABSTRACT: To determine the effect of the concentration of carbonate ions and nature of [illegible] extraction of uranium (VI), the authors tested phosphonium salts [illegible] arsonium salts $[R_4As]^+Cl^-$. The organic phase consisted of a [illegible] M quarternary base in chloroform or butyl ether. Aqueous solutions [illegible] 0.008 M aqueous solutions of uranium containing 0.1 M ammonium bicarbonate [illegible] sodium carbonate were employed. The extraction was carried out by [illegible] the combined aqueous and organic phases. It was found that the arsonium [illegible] compounds have practically the same extractive properties, but the addition [illegible] hydroxyquinoline causes the distribution ratio to be much higher in the case of the arsonium compounds. It is concluded that the extraction of uranium (VI) from carbonate

Card 1/2

L 63622-65
ACCESSION NR: AP5017002

media by the phosphonium and arsonium compounds is rather ineffective owing to a decrease in the distribution coefficient caused by an appreciable solubility of the complex in the aqueous phase; however, the addition of 8-hydroxyquinoline raises the distribution ratio because of the formation of the complex $[UO_2(C_9H_6ON)_3]^-$, which has no affinity for water. The phosphonium and arsonium bases were synthesized by G. Kh. Kamay and co-workers." Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: None

SUBMITTED 23Dec63 ENCL: 00 SUB CODE: IC

NO REF SOV: 000 OTHER: 007

Card 2/2

SOV/124-57-7-7890

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 61 (USSR)

AUTHORS: Vyzgo, M. S., Filippov, Ye. G.

TITLE: The Spreading of a Jet and the Erosion of Loose Soil (Rastekaniye strui i razmyv nesvyaznogo grunta)

PERIODICAL: Izv. AN UzSSR, 1956, Nr 5, pp 45-56

ABSTRACT: Certain aspects of the phenomenon of spreading of a non-free submerged jet and the erosion of loose soil are clarified. A description of experiments is given on the vertical flow of a rectangular water jet in a medium consisting of water and sand in suspension which has been displaced from the bottom of a flume by the action of the jet. The dynamics of the formation of the erosion crater were studied. It was established that after a certain period of time the depth of the crater and its form become stabilized and a definite portion of the sand remains in a constant state of suspension. It is pointed out that an artificial change in the density of the medium accomplished by means of adding sand to the erosion crater or by siphoning off the suspended sand in a corresponding decrease or increase in the depth of the crater up to a definite stable value. Various aspects of the motion of the

Card 1/2

SOV/124-57-7-7890

The Spreading of a Jet and the Erosion of Loose Soil

seepage flow in the non-eroded soil are studied, as well as the pressure distribution along the contour of the crater. The values of the coefficient K in the formula of M. S. Vyzgo for the depth of erosion

$$t = K q_0^{0.5} E_0^{0.25}$$

are calculated by means of experimentally-obtained data. The values of K obtained for one and the same type of soil ranged from 2 to 5. According to the author these values indicate that the depth of erosion depends upon the hydrodynamic characteristics of the jet and the degree of freedom for its spreading and the quantity and size of the particles of the suspended medium, but not on the properties of the soil generally evaluated by the permissible flow velocity. The formulas of G. V. Vostrzhela were used for an approximate evaluation of pressure at the bottom of the crater. These formulas correspond to those of the free, turbulent, submerged jets (RZh-Mekh., 1956, abstract 4550). In the first formula on page 46 of the article a factor v_o has been inadvertently left out in the numerator. Bibliography: 11 references.

A. G. Chanishvili

Card 2/2

FILIPPOV, Ye.G., aspirant

Present state of research on certain problems of multistage water intake. Trudy SANIIRI no. 104:81-90 '59. (MIRA 14:1)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut irrigatsii. (Hydraulic engineering)

KULIKOV, O.F.; TEL'NOV, Yu.Ya.; FILIPPOV, Ye.I.; YAKIMENKO, M.N.

Compton effect on moving electrons. Zhur. eksp. i teor. fiz. 47 no.4:1591-1594 O '64. (MIRA 18:1)

1. Moskovskiy gosudarstvennyy universitet i Fizicheskiy institut imeni P.N. Lebedeva AN SSSR.

FILIPPOV, Ye. M.

FILIPPOV, Ye. M. --"On the Method of Gamma-Gamma-Electric Core Sampling (GGK) (Theory and Experiment)." Min Higher Education USSR. Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Sciences).

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

FILIPPOV, E. M.

"Gamma-Gamma Survey," Utilization of Radioactive Isotopes & Emanations in the Petroleum Industry, (Symposium), Min. Petroleum Industry USSR, 1957.

Results of the Joint Session of the Technical Council of Min. of the Petroleum Industry USSR and Soviet Sci. and Technical Association, Moscow 14-19 Mar 1956.

Filippov, Ye.M.

FILIPPOV, Ye.M.

Theory of gamma-gamma logging. Prikl. geofiz. no.17:231-264 '57. (MIRA 11:2)

(Nuclear geophysics) (Gamma rays)

FILIPPOV, Ye. M.

With Zaporozhets, V. M. "Application of Charged Particle Accelerators in Borehole Surveying by Radioactive Logging."

p.234 in book Applied Geophysics; Collection of Articles, No. [illegible], Moscow Gostoptekhizdat, [illegible], [illegible]p.

These articles are concerned with the methodology of interpreting the results of gravimetric, seismic and electrical surveys, Review the collecting properties of rocks on the basis of data obtained from resistometers and the application of charged particle accelerators in well logging.

FILIPOV, Ye. M.

"Investigation of the Diffused Spectrum of Gamma Radiation in Rocks of Different Mineralogical Composition and Densities."

p. 230 in book Applied Geophysics, Collection of Articles, No. 19 Moscow, Gostoptekhizdat, 1958, 253pp.

The articles are devoted to a discussion of methods of interpreting various types of electrical logs, methods of determining the porosity, permeability, and specific surface characteristics of water bearing rocks, and methods of determining the physical properties of sidements and the characteristics of various physical parameters. A description of piezoelectric pressure recorders used in seismic exploration is also given.

ZAPOROZHETS, V.M.; FILIPPOV, Ye.M.

Use of particle accelerators in radioactive well logging. Prikl. geofiz. no.20:234-258 '58. (MIRA 11:11)
(Oil well logging, radiation)

Filippov, Ye. M.

PHASE I BOOK EXPLOITATION SOV/3600

Yadernaya geofizika; sbornik statey po ispol'zovaniyu radioaktivnykh izlucheniy i izotopov v geologii nefti (Nuclear Geophysics; Collection of Articles on the Use of Radioactive Radiation and Isotopes in Petroleum Geology) Moscow, Gostoptekhizdat, 1959. 370 p. Errata slip inserted. 4,000 copies printed.

Ed.: F.A. Alekseyev, Professor, Doctor of Geological and Mineralogical Sciences; Exec. Ed.: A.P. Kalastarov; Tech. Ed.: A.S. Polosina.

PURPOSE: This book is intended for petroleum geologists, geophysicists and scientists engaged in geological research who are interested in radiometric techniques of petroleum prospecting.

COVERAGE: The collection contains 28 articles compiled by staff members and aspirants of the Laboratory for Nuclear Geology and Geophysics of the Petroleum Institute (now the Institute for Geology and Mineral Fuel Processing) of the Academy of Sciences USSR, the Laboratory for Radioactive Logging of the All-Union Scientific Research Institute of Geophysics, and the heads of councils for planning research projects for petroleum enterprises. The articles treat new material on radiometric surveying in petroleum geology, describe radiometric instruments (counters, etc.) for registering neutrons and gamma rays, give the results of research with models of rock strata, introduce fundamentals of a new method for effectively utilizing radioactivity in the analysis of rock samples from petroleum-survey bore holes, etc. Problems of method in the study and interpretation of radiometric measurements in bore holes are reviewed, as well as the results of studies in the nonabsorption of tritium in tracing the movement of petroleum and water in a stratum. Finally, a new method of surveying based on measuring the radioactivity of the surface of a prospective petroleum deposit is described. No personalities are mentioned. References accompany each article.

AVAILABLE: Library of Congress

3(5) SOV/132-59-9-7/13

AUTHORS: Filippov, Ye.M. and Kuznetsov, G.A.

TITLE: Determining the Density of Rocks and Ores in Outcroppings and Mining Sites by the Dispersed Gamma-Radiation Method

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 9, pp 38-40 (USSR)

ABSTRACT: The authors propose the application of the method of dispersed gamma-radiation to determine the density of rocks or ores on the spot. Experiments made with samples show large discrepancies due to changes in humidity and the rock structures when the samples were taken. For this purpose, a light KRL gamma-densitometer was developed by Ye.M. Filippov and A.G. Khryapin. It is equipped with an electromechanical EMS meter which registers up to 100 imp/second. To increase the sensitivity of the densitometer, the EMS meter was replaced by a self-discharging halogenous STS-1 meter. A "Kacha" SG-7 stabilizer was included in the high voltage net for the delivery of a 380 v

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Determining the Density of Rocks and Ores in Outcroppings and Mining Sites by the Dispersed Gamma-Radiation Method

current to this meter. As sources of gamma-radiation, a radium standard Nr 5 (E_m = 0.08 mev) and a cobalt source (E_m = 1.25 mev) with a 0.5 micro-curie activity were used. The volume of the intensity of radiation I dispersed by the rock is calculated from the formula

$$I = I_p - I_{nf_1} - (I_v - I_{nf_2})$$

where I_p is the intensity above the investigated rock; I_v - the intensity in the air; I_{nf_1} - the intensity above the investigated rock without the source and I_{nf_2} the intensity in the air without the source. If the investigated rocks have a low intensity, then the values I_{nf_1} and I_{nf_2} are identical

Determining the Density of Rocks and Ores in Outcroppings and Mining Sites by the Dispersed Gamma-Radiation Method

and the radiation intensity can be calculated from the formula $I = I_p - I_v$. Experimental investigations were carried out on rocks with densities varying from 0.46 up to 7.8 gr/cu cm. The results received in units related to the density of the surrounding medium are shown (Figure 2). The intensity of dispersed gamma-radiation in water was taken as a standard for the curve. It was found that the intensity of dispersed gamma-radiation in rocks of low density increases along with the increase of rock density to a certain maximum point which depends on the initial energy of gamma-quants. There is 1 graph, 1 table and 3 Soviet references.

ASSOCIATION: Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR (Institute of Geology and Geophysics of the Siberian Section of the AS USSR)

FILIPPOV, Ye. M.

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

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

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

Sponsoring Agency: USSR. Ministerstvo geologii i okhrany nedr.

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

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

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

TABLE OF CONTENTS:

Card 3/4

FILIPPOV, Ye.M.

Theory of the photoneutron methods for studying rocks and ores.
Geol. i geofiz. no.6:94-105 '60. (MIRA 13:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
(Prospecting--Geophysical methods)

FILIPPOV, Ye.M.

Studying the thickness of layers in connection with the use of the scattered gamma-radiation method. Geol. i geofiz. no.3:103-108 '60. (MIRA 13:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
(Ore deposits) (Prospecting--Geophysical methods)

FIL'PPOV, Ye.M.

Use of the group method of neutron density distribution in investigating highly-absorbent rocks intersected by the borehole. Prikl. geofiz. no.27:201-211 '60. (MIRA 13:12)
(Radioactive prospecting)

KOP'YEV, Sergey Ivanovich; FILIPPOV, Yevgeniy Mikhaylovich; MYAGKOV, M.M., red.; ANDREYEVA, L.S., tekhn. red.

[Volunteer institute of inventors and builders] Obshchestvennyi institut novatorov-stroitelei. Moskva, Izd-vo VTsSPS, Profizdat, 1961. 52 p. (MIRA 15:1)

(Building)

FILIPPOV, Ye.M.; KUZNETSOV, G.A.

Selecting the optimum design of a gamma-densitometer. Geol. i geofiz. no. 1:113-115 '61. (MIRA 14:5)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Densitometers)

S/169/61/000/011/028/065
D228/D304

AUTHORS: Polak, L.S., Filippov. Ye.M., Kuznetsov, G.A., and Zhavoronkov, V.Ya.

TITLE: Investigating the spectrum of dispersed gamma-radiation in conformity with the solution of certain geophysical problems

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 34-35, abstract 11A306 (Geologiya i geofizika, no. 3, 1961, 111 - 115)

TEXT: Experiments are described on the study of the spectrum of dispersed γ-radiation; these were carried out with the aim of clarifying the possibilities of the method of dispersed γ-radiation (DGR). The isotopes Co^{60} and Cs^{137} were used. A luminescent counter with a crystal of CsI (Tl) and a ФЭУ-29 (FEU-29) photomultiplier were employed as an indicator. A 100-channel analyzer of the "Raduga" type was used. The source and indicator of the radiation were placed in a lead shield at a distance of 7 cm from each other. The depth-potential of the investigation was ascertained in plexiglass,

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Investigating the spectrum of ... S/169/61/000/011/028/065
D228/D304

glass and iron. The spectra obtained in these media are given. It was established that the increase in the density of the medium and in its effective atomic number leads to the decrease in the depth-potential of the investigation. The increase in the energy of the source of the γ-quanta from 0.661 m.e.v. to 1.25 m.e.v. for a 7 cm probe results in practically no change in the depth-potential of the investigation. The recording of the maximum of the equilibrium spectrum of the dispersed γ-radiation in place of the recording of the integral rate of counting is recommended when working with a 7 cm probe; this leads on an average to a 25 % increase in the depth-potential. The dependence of the measurement results on the change in the rock density in the interval 0.4 - 7.8 g/cm^3 was investigated. It was established that the increase in the energy of the source of the γ-quanta results in the increase sensitivity of the method to changes in the rock density. It is shown that the presence of small impurities of the heavy element (Pb) in the sand leads to the sharp change in the spectrum of the dispersed γ-radiation, and that the method's sensitivity to the content of the heavy element in the K-jump region is higher compared with the integral. In the

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Investigating the spectrum of ... S/169/61/000/011/028/065
D228/D304

author's opinion the measurements of the differential and integral rates of counting should be combined when determining the density of rocks and studying the content of heavy elements in them by the method of dispersed γ-radiation. [Abstractor's note: Complete translation].

Card 3/3

L 19048-63 EWT(l)/EWT(m)/BDS--AFFTC/ASD--TP/CZ

PHASE I BOOK EXPLOITATION

SOV/6285

022

12

Filippov, Yevgeniy Mikhaylovich

Prikladnaya yadernaya geofizika; primeneniye istochnikov yadernogo izlucheniya v geologii i geofizike (Applied Nuclear Geophysics; the Application of Sources of Atomic Radiation in Geology and Geophysics). Moscow, Izd-vo AN SSSR, 1962. 579 p. Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut geologii i geofiziki.

Ed. (Title page): L. S. Polak, Doctor of Physics and Mathematics; Resp. Ed.: E. E. Fotiadi, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: V. M. Meder; Tech. Eds.: T. A. Prusakova and Ye. V. Makuni.

PURPOSE: This book is intended for geophysicists and geologists, as well as for engineers and technicians working in the field of applied nuclear geophysics.

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L 19048-63

Applied Nuclear Geophysics; the Application of (Cont.) 10 SOV/6285

COVERAGE: The book contains a review of nuclear geophysics methods through 1960. Various methods based on the utilization of external nuclear radiation sources in geophysics and geology are investigated. The following personalities are mentioned: Sh. A. Fuberman; coworkers of the Institute of Geology and Development of Mineral Fuels D. I. Leypunskaya, D. F. Bespalov, D. M. Srebrodol'skiy, and Yu. S. Shimelevich; A. Ya. Temkin, member of the Institute of Petrochemical Synthesis of the Academy of Sciences USSR; V. I. Baranov, S. A. Kantor. References accompany individual chapters.

TABLE OF CONTENTS [Abridged]:

Card 2/51

STRUMINSKIY, V.V. (Moskva); FILIPPOV, V.M. (Moskva)

Experimental investigation of light-scattering phenonema in laminar and turbulent fluid flows. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.6:10-16 N-D '62. (MIRA 15:12)
(Light—Scattering) (Laminar flow) (Turbulence)

POLAK, L. S.; FILIPPOV, Ye. M.; KUZNETSOV, G. A.; ZHAVORONKOV, V. Ya.

Concerning the remarks of S. G. Troitskii, and V. L. Shashkin in "Geologiia i geofizika" no. 7, 1962. Geol. i geofiz. no.9: 125-126 '62. (MIRA 15:10)

(Rocks—Density) (Gamma-ray spectrometry)
(Troitskii, S. G.) (Shashkin, V. L.)

VARVARIN, G.B.; ZHAVORONKOV, V.Ya.; FILIPPOV, Ye.M.; BORISOV, V.B.; MELIK-STEPANOV, Yu.G.

Determining the density of the flow of a mineral suspension during ore dressing on shaking troughs, using a source of gamma rays. TSvet. met. 36 no.7:7-10 Jl '63. (MIRA 16:8)
(Ore dressing) (Suspensions (Chemistry)--Density)
(Gamma rays--Industrial applications)

L 16313-65 EWP(e)/EWT(m)/EWP(t)/EWP(b) Pq-4 IJP(c)/ESD(t)/ESD(gs)/RAEM(i)/
AEDC(b)/SSD/AFWL/ASD(a)-5 JD/JG/WH
ACCESSION NR: AP5002052 S/0136/64/000/008/0020/0020

AUTHOR: Ostapov, I. T.; Filippov, Ye. M.

TITLE: Use of nuclear methods for automation of the process of sorting ores from gold ore deposits

SOURCE: Tsvetnyye metally, no. 8, 1964, 20

TOPIC TAGS: mining engineering, gold, industrial automation, radiation instrument, spectroscopy, radiometry

Translation: The Central Scientific Research Institute of Tin has investigated radiometric methods of automating of the process of sorting gold-bearing ore obtained from Krasnoyarskiy Kray. In mineralogical composition, the ore mass consists of phyllitized schists, phyllites, and vein quartz. Gold is chiefly associated with sulfides and quartz, and with schists to a much lesser degree.

The radiometric method of automating the sorting process is based on several phenomena observed when gamma rays or elementary particles interact with matter: attenuation of the beam of the penetrating gamma radiation, scattering of the latter, and the phenomenon of induced activity.

A study of the chemical composition and physical properties of the ore and rock established that the separation of the ore from the rock is possible

Card 1/3

if use is made of the value of the induced activity which arises as a result of irradiation of the material (ore or rock) by a neutron flux.

Since the gold content of the ore is minute, and the half-life of the radioactive isotope Au^{198} is 2.7 days, the direct separation of the ore and rock in a flow by means of the metal did not seem possible.

To solve this problem, other elements were used whose nuclear characteristics meet these requirements, namely, aluminum, which has a relatively high activation capacity.

In order to determine the possibility of separating ore and rock by the method of induced activity based on aluminum, a calculation was carried out for the sample under investigation (irradiation time used was 1 sec, and the flux density was 10^8 neutrons/cm^2-sec) which showed a difference in the induced activity of the schists, quartz, and concretions. In order to check calculated data on the possibility of separating schists from quartz and concretions, experiments on samples of the ore and rock were carried out in the activating unit of the Institute of Geology and Geophysics, Academy of Sciences of the USSR (Siberian Branch).

Treatment of the experimental data produced values of average specific activities for quartz, concretions, and dark and gray schists, which showed that

for different mineralogical groups, the difference in specific induced activity is relatively great; thus, quartz and concretions used for further enrichment have an activity that is 2 to 4 times as high as that of the schists.

The possibility of separating ore from the rock by using spectra of induced activity in the region of soft gamma radiation with an energy up to 1 Mev was also checked.

Analysis of the data obtained showed that the resolving power of the spectrometric method was greater than that of the measurement of the integral induced activity. Thus, the recording of soft radiation in the region of 1 to 20 channels gives a 6- to 3-fold difference in the induced activity of quartz and concretions with schists, against a 3-to 2-fold difference in the case of the recording the integral induced activity.

The calculated and experimental investigations which were carried out showed the fundamental feasibility of separating ore from the rock of the gold-ore deposit by use of the induced-activity method.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: GO, NP
NO REF SOV: 000	OTHER: 000	JPRS

Card 3/3

L 58983-65 EWP(e)/EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5019017 UR/0286/65/000/012/0042/0042
550.835

AUTHOR: Filippov, Ye. M.; Vakhtin, B. S.; Rusyayev, V. G.

TITLE: A device for determining the moisture content of ores which contain boron. Class 21, No. 171937

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 42

TOPIC TAGS: mining engineering, ore, moisture measurement

ABSTRACT: This Author's Certificate introduces a device for determining the moisture content of ores which contain boron. The unit contains a neutron source, detector and shielding screen for shielding the detector from the effect of thermal and epithermal neutrons which are sensitive to the content of boron in the ore. Accuracy is improved and single valued readings are obtained by using an indicator which is activated by slow neutrons which are not sensitive to boron.

ASSOCIATION: none

SUBMITTED: 10Mar64 ENCL: 01 SUB CODE: ES, NP

Card 1/2 NO REF SOV: 000 OTHER: 000

L 53983-65

ACCESSION NR: AP5019017

ENCLOSURE: 01

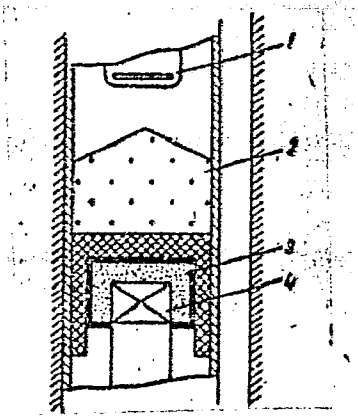


Fig. 1. 1--neutron source; 2--screen; 3--indicator; 4--detector

Card 2/2

L 58985-65 EWT(m)/T IJP(c)

ACCESSION NR: AP5019018

UR/0286/65/000/012/0043/0043
550.835

AUTHOR: Varvarin, G. B.; Zhavoronkov, V. Ya.; Filippov, Ye. M.

18
B

TITLE: A device for simultaneously determining the moisture content and volumetric weight of ores in natural deposits. Class 21, No. 171938

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 43

TOPIC TAGS: moisture measurement, ore, scintillation counter

ABSTRACT: This Author's Certificate introduces a device for simultaneously determining the moisture content and volumetric weight of ores in natural deposits. The instrument contains a radiation source, a scintillation counter, a shield for protecting the counter from the radiation source, a cadmium screen and a measurement circuit. The device is designed for using a single scintillation counter to register both scattered gamma rays which indicate the volumetric weight of the ores, and thermal neutron capture gamma radiation where the thermal neutrons indicate the moisture content of the ores. For this purpose the phosphor in the device is surrounded by a substance which captures thermal neutrons.

Card 1/3

L 58985-65

ACCESSION NR: AP5019018

ASSOCIATION: none

SUBMITTED: 28Feb64 ENCL: 01 SUB CODE: ES, NP

NO REF SOV: 000 OTHER: 000

Card 2/3

L 08995-65

ACCESSION NR: AP5019018

ENCLOSURE: 01

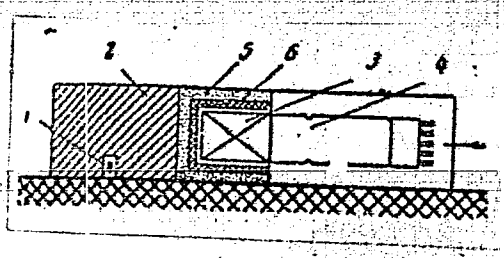


Fig. 1. 1--source of neutrons and photons; 2--shield; 3--phosphor; 4--photomultiplier; 5--layer of material which absorbs thermal neutrons; 6--cadmium screen

Card 3/3

VAKHTIN, B.S.; ZHAVORONKOV, V.Ya.; FILIPPOV, Ye.M.

Using the SRP-2 radiometer for solving certain practical problems in geology. Razved. i okh. nedr 31 no.1:40-44 Ja '65. (MIRA 18:3)

1. Sibirskoye otdeleniye AN SSSR.

VAKHTIN, B.S., FILIPPOV, Ye.M.

Determination of the high content of boron in powder samples by the neutron-neutron method. Geol. i geofiz. no.4:155-157 '65. (MIRA 18:8)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

ZHAVORONKOV, V.Ya.; FILIPPOV, Ye.M.

Problem of classifying rocks and ores differing slightly in normal physical properties. TSvet. met. 38 no.5:18-19 My '65. (MIRA 18:6)

FILIPPOV, Ye.M.

Possibility of aerial prospecting for minerals with a generator of neutrons. Geol. i geofiz. no.2:107-122 '65. (MIRA 18:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

ZHAVORONKOV, V.Ya.; FILIPPOV, Ye.M.

Determination of boron content in rocks by recording gamma radiation from the B^{10} (p, α) reaction. Geol. i geofiz. no.7:101-103 '65. (MIRA 18:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

VAKHTIN, B.S.; FILIPPOV, Ye.M.

Neutron-neutron profiling in determining boron original rock outcrop. Geol. i geofiz. no.10:132-135 '64. (MIRA 18:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted January 25, 1965.

ACC NR: AP7013162 SOURCE CODE: UR/0210/66/000/009/0094/0102

AUTHOR: Filippov, Ye. M.--Philippov, E. M.; Zhavoronkov, V. Ya.

ORG: Institute of Geology and Geophysics, Siberian Department, AN SSSR, Novosibirsk (Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR)

TITLE: Possibility of using electronic accelerators in truck and helicopter surveys

SOURCE: Geologiya i geofizika, no. 9, 1966, 94-102

TOPIC TAGS: electron accelerator, gamma radiation, geologic instrument, geologic survey, photoneutron, geologic research facility, stratigraphic mapping, prospecting, helicopter / MI-6 helicopter

SUB CODE: 08,20,01

ABSTRACT: The author discusses the possibilities for using electronic accelerators as sources of powerful gamma radiation for determing the presence of a number of kinds of minerals by the photoneutron method. Computations are presented showing that nuclear technology now can be employed on land or from the air for both geological mapping and determining the rock content of beryllium, deuterium, lithium, carbon, thorium and uranium. The Institute of Nuclear Physics of the Siberian Department of the Academy of Sciences, for example, has developed an electron accelerator weighing 1.2 tons that can be used aboard

Card 1/2 UDC: 550.835

ACC NR: AP7013162

a helicopter employed for geological prospecting work. A MI-6 helicopter with a load-lifting capacity of 10-12 tons can be used. This craft can lift up to 8 tons on a cable to heights of 25-50 m. The helicopter carriers recording apparatus and a current source for operation of the accelerator. The crew is protected by lead shielding weighing about 1 ton. Therefore, the total weight of the apparatus on the cable is 4-5 tons. The control panel, recording system and computer weigh not more than 1-2 tons. It is recommended that helicopters be replaced by less expensive dirigibles. Prospecting for beryllium (for example) can be carried out from a height of about 50 m and its clarke can be determined with sufficient accuracy from a height of 25 m. The doses of radiation at the surface are entirely harmless. Orig. art. has: 1 figure, 9 formulas and 6 tables. [JPRS: 40,106]

Card 2/2

ACC NR: AN7007034 SOURCE CODE: UR/9003/67/000/052/0005/0005

AUTHOR: Filippov, Ye. (Doctor of geo-mineralogy, Head of Laboratory)(Novosibirsk)

ORG: Laboratory of Nuclear Geophysics of Institute of Geology and Geophysics of Siberian Branch Academy of Sciences, SSSR (Laboratoriya yadernoy geofiziki Instituta geologii i geofiziki, Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: The atom, geology, and millions [A discussion of the intelligent use of new achievements in geophysics]

SOURCE: Izvestiya, no. 52, 2 Mar 67, p. 5, cols. 1-6

TOPIC TAGS: x ray analysis, geophysics

ABSTRACT: Filippov, Doctor of Geological-Mineralogical Sciences and head of the nuclear geophysics laboratories of the Institute of Geology and Geophysics (Siberian Department of the Academy of Sciences USSR) writes that nuclear geophysics methods are being introduced at too slow a pace. The editors of "Izvestiya" agree with Filippov and comment pro and con on the performances of various ministries. [NC]

SUB CODE: 08/ SUBM DATE: none/ ATD PRESS: 5116

Card 1/1 UDC: none

IVANOV, Yuriy Vladimirovich, kand.tekhn.nauk; Prinimali uchastiye: ALEKSEYEV, N.I., inzh.; FILIPPOV, Ye.N., mekhanik; FILIPPOV, G.F., mekhanik. BODRILIN, A.P., red.; NIKOLAYEVA, L.N., tekhn.red.

[Maintenance of the steering gear and pin couplings in a motor vehicle] Proverka tekhnicheskogo sostoianiia rulevogo upravleniia i shkvornevykh soedinenii avtomobilei. Moskva, Avtotransizdat, 1960. 31 p. (MIRA 13:11)
(Motor vehicles--Maintenance and repair)

FILIPPOV, Yevgeniy Petrovich

[Safety manual for the operators of roadconcrete-machinery finishing] Pamiatka po tekhnike bezopasnosti dlia mashinistov dorozhnykh betonootdelochnykh mashin. Moskva, Stroiizdat, 1965. 17 p. (MIRA 19:1)

S/180/62/000/006/001/022
E193/E383

AUTHORS: Vertman, A.A., Samarin, A.M. and Filippov, Ye.S. (Moscow)

TITLE: Viscosity and electrical conductivity of liquid nickel-carbon alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no. 6, 1962, 37 - 42

TEXT: In continuation of an earlier work (Izv. AN SSSR, OTN, Metallurgiya i toplivo, 1960, no. 6, 162-167) the authors have determined the concentration-dependence of viscosity and electrical conductivity of liquid nickel-carbon alloys in the 0-2.3% carbon range. The results are reproduced in Fig. 4, where the viscosity (ν, centistokes) and electrical resistivity (ρ, $\mu\Omega$cm) of the alloys at temperatures indicated by each curve are plotted against the carbon content (C, wt.%) of the alloy. Since it had been shown earlier (V.M. Glazov, A.A. Vertman - Sb. Stroyeniye i svoystv zhidkikh metallov (Symposium. Structure and properties of liquid metals), Izd-vo AN SSSR, 1960, 124-137) that the viscosity isotherms of eutectiferous systems passed through a

Card 1/4

minimum at the eutectic composition (i.e. in the alloy in which the relatively weaker forces binding dissimilar atoms predominated), the curves reproduced in Fig. 4 indicated that the Ni-C eutectic was formed at 1.35% against the published value of 2.0-2.5% C. The constitution diagram of the Ni-C system was therefore reinvestigated by thermal and metallographic analysis; the results showed that the eutectic was, in fact, formed at approximately 1.3-1.4% C. It was concluded, consequently, that the minima on the viscosity and electrical-resistivity isotherms were associated with the fact that the short-range order, inherent in solid eutectic alloys, was retained on melting; increasing the concentration of either Ni or C in the alloy brought about an increase in the proportion of the relatively stronger forces between similar atoms which, in turn, increased the viscosity of the alloy. The existence of viscosity hysteresis was also established. This effect was attributed to the existence of microscopic arrays of C atoms in the alloy; these dissolved partially on melting, as a result of which their size during subsequent cooling was smaller than during heating, this difference being reflected in the viscosity of the alloy. The presence of a sharp minimum in the concentration-

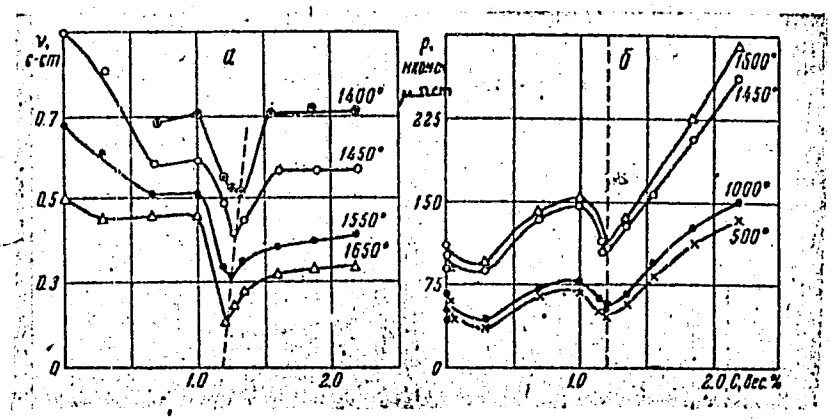
dependence of the activation energy for the viscous flow of Ni-C alloys was also attributed to the effect of microscopic arrays of C atoms. The concentration-dependence of the ρ_{liq}/ρ_{TB} ratio (where ρ_{liq} and ρ_{TB} denote, respectively, resistivity of the alloy in the liquid and solid states at the eutectic temperature) was also determined. The value of ρ_{liq}/ρ_{TB}, practically constant in the hypo-eutectic alloys, increased sharply in the hyper-eutectic range. This effect was attributed to partial dissolution of the carbon micro-arrays on melting. The general conclusion was that the formation of carbon micro-arrays was a property common to all three systems of the Ni-C system which represent a limiting case of microheterogeneous eutectic alloys with properties approaching those of a colloidal solution. There are 7 figures.

SUBMITTED: May 8, 1962

S/180/62/000/006/001/022
E193/E383

Viscosity and ....

Fig. 4:



Card 4/4

VERTMAN, A.A.; SAMARIN, A.M.; FILIPPOV, Ye.S.

Phase diagram of Ni - C. Dokl. AN SSSR 148 no.2:342-343 Ja '63.
(MIRA 16:2)

1. Institut metallurgii im. A.A. Baykova. 2. Chlen-korrespondent AN SSSR (for Samarin).
(Nickel-carbon alloys)

ACCESSION NR: AP4022716 S/0020/64/155/002/0323/0325

AUTHOR: Vertman, A.A.; Samarin, A. M. (Corresponding member); Filippov, Ye.S.

TITLE: The density of iron, nickel and cobalt in solid and liquid state.

SOURCE: AN SSSR. Doklady*, v. 155, no. 2, 1964, 323-325

TOPIC TAGS: iron, cobalt, nickel, density, solid state, liquid state, fusion temperature, temperature density function, activation energy, fluidity density function, structure stability, interatomic distance

ABSTRACT: The densities of iron, nickel and cobalt were determined by the "large drop" method (V.N. Yermenko, Yu.V. Naydich, Fiz. met. i metalloved., No. 6, 883 (1961)) to obtain more accurate data than presently available (fig. 1). It is proposed that the increase in density in the proximity of the fusion temperatures of the metals is caused by the evolution of gases on fusion. The temperature-density function of the metals in the liquid state, calculated for the equation $\Delta V = A \exp(B/RT)$, where B is the energy of activation, is shown

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ACCESSION NR: AP4022716

in fig. 2. The break in the curve for Fe is caused by a transition to the gamma-iron structure. The fluidity-density relationship according to the formula $1/v = a - b\rho$ (ρ = density, a and b are constants) is a straight line function. The deviation (fig. 3) shows the structures do not remain constant and is associated with the atoms aligning to the structure of the solid phase. Calculations were made to show that the structure of Ni is the most stable with respect to temperature change. Interatomic distances were calculated from the densities for Ni, Co, and Fe in the liquid state. Orig. art. has: 2 tables, 3 figures and 4 equations.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 15Oct63 DATE ACQ: 08Apr64 ENCL: 02

SUB CODE: ML NR REF SOV: 005 OTHER: 007

Card 2/4

FILIPPOV, Ye.S.; VERTMAN, A.A.; SAMARIN, A.M.

Apparatus for measuring the density and surface tension of iron melts. Zav. lab. 30 no.5:620-621 '64. (MIRA 17:5)

1. Institut metallurgii imeni Baykova.

VERTMAN, A.A.; FILIPPOV, Ye.S.; SAMARIN, A.M.

Density of iron alloys with carbon in solid and liquid states.
Izv. vys. ucheb. zav.; chern. met. 7 no.7:19-23 '64
(MIRA 17:8)

1. Institut metallurgii im. Baykova.

L 16006-65 EWA(s)-2/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pad/Pt-10/Pu-4 IJP(c)/APWL
ACCESSION NR: AP5001943 JD/WW/HW/JG S/0148/64/000/007/0162/0164

AUTHOR: L'vilippov, Ye. S.; Vertman, A. A.; Samarin, A. M.

TITLE: Density of Co-C and Ni-C alloys in the solid and liquid states

SOURCE: IVUZ. Chernaya metallurgiya, no. 7, 1964, 162-164

TOPIC TAGS: cobalt base alloy, nickel base alloy, carbon containing alloy, melting, metal property

Abstract: the authors studied the temperature and concentration dependence of density in Co-C and Ni-C alloys in the liquid and solid states, since density is directly related to the change in the structure of a solution. Density polytherms were plotted, and then used to plot isotherms for the 1000-1700°C range and to determine the influence of carbon on the volume change taking place on melting. In the range of low concentrations (approximately 0.8%C in the Ni-C alloy and 1.0%C in the Co-C alloy), dissolution of carbon sharply increases decompression of the solution, i.e., in the alloys studied, the bonding forces between like particles surpass those between unlike ones, so that positive deviations from Raoult's law should be expected in Ni-C and Co-C alloys. However, at carbon concentrations below 0.9%, slight negative deviations are observed in the Ni-C system which,

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ACCESSION NR: AP5001943

at high concentrations, become pronounced positive deviations. Eutectic Ni-C alloys are characterized by only a slight increase in density with increasing carbon content, as is the Fe-C eutectic. This appears to be due to the thermal stability of large eutectic "colonies", and indicates the preservation of short-range order in the eutectic melt up to about 1400°C. Orig. art. has 3 figures.

ASSOCIATION: Institut metallurgii im. Baykova (Institute of Metallurgy)

SUBMITTED: 20Mar64	ENCL: 00	SUB CODE: MM
NO REF SOV: 004	OTHER: 001	JPRS

Card 2/2

VERTMAN, A.A.; IVANOV, D.P.; SAMARIN, A.M.; FILIPPOV, Ye.S.

Changing the density of liquid cast iron by isothermal holding.
Lit.proizv. no.10:30-32 O '64. (MIRA 18:4)

FILIPPOV, Ye.S.; VERTMAN, A.A.

Connection between volumetric characteristics of molten iron and "critical concentrations." Izv. vys. ucheb. zav.; chern. met. 8 no.5:5-8 '65. (MIRA 18:5)

1. Institut metallurgii imeni Baykova, Moskva.

FILIPPOV, Ye.S.; SAMARIN, A.M.

Determining the short-range order structure of liquid binary alloys. Dokl. AN SSSR 165 no.1:85-87 N '65. (MIRA 18:10)

1. Institut metallurgii im. A.A.Baykova. 2. Chlen-korrespondent AN SSSR (for Samarin).

FILIPPOV, Ye.S.

Determining the coordination number of liquid metals by their temperature relation to density. Izv. vys. ucheb. zav.; chern. met. 8 no.11:103-109 '65. (MIRA 18:11)

1. Institut metallurgii im. A.A. Baykova.

L 13068-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) JD/WW/JG

ACC NR: AP5028575 SOURCE CODE: UR/0148/65/000/011/0103/0109

AUTHOR: Filippov, Ye. S.

ORG: A. A. Baykov Institute of Metallurgy (Institut metallurgii im. A. A. Baykova)

TITLE: Determining the coordination number of molten metals according to the temperature-dependence of density

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1965, 103-109

TOPIC TAGS: molten metal, ~~coordination number~~, fluid density, temperature dependence

ABSTRACT: It is shown that the coordination number z of molten metal can essentially be determined according the ideal volume V_0 at 0°K. V_0 itself represents the sum of the volume at atoms V_{at} and free volume V_{fr}, and it can be determined by extrapolating the volume of molten metal at melting point to 0°K. For molten iron the thus obtained V_0 of the "γ"-structure of short-range order is less than the V_0 of the "δ"-structure, which corresponds to the theoretically expected increase of coordination number from 8 to 12 with heating at 1700°C. It can be shown that the extrapolation of the volume of molten metal to 0°K indeed completely accounts for the entire free volume due to thermal expansion (Fig. 1). If, in accordance with the melting points of specific metals, the absolute values of change in density during melting,

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L 13068-66

ACC NR: AP5028575

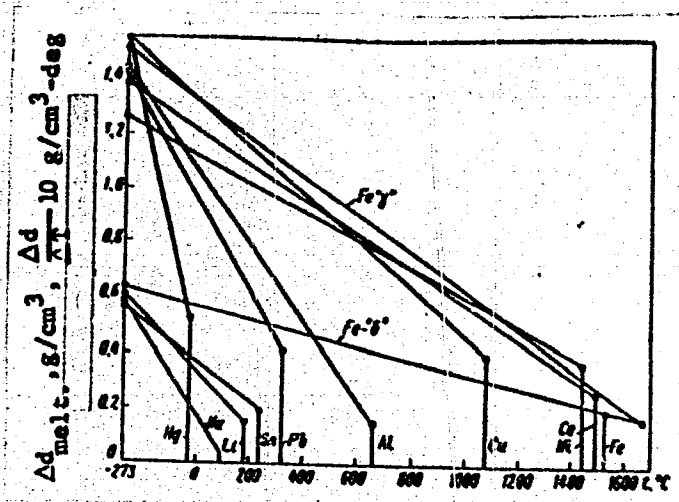

Fig. 1. Comparative evaluation of adjusted values of metal densities on extrapolating density to 0°K (the lengths of vertical lines correspond to changes in density during melting and their position is determined by the melting of the metal; the position of the slanted lines is determined by the temperature dependence of density, $\Delta d/\Delta T$). The values of adjusted metal densities with respect to 0°K are given in units of $\Delta d_{melt.}$, g/cm^3.

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L 13068-66

ACC NR: AP5028575

$\Delta d_{melt.} = (d_{solid} - d_{liquid})_{t°_{melt.}}$ are plotted along the ordinate on assuming that the weight of the atoms of all the metals is identical (i.e. on plotting Δd from 0, for convenience), and if in accordance with the temperature dependence of density $(\Delta d / \Delta T)_{t°_{melt.}} + 50°C$, the thus adjusted values of density of the molten metal at melting point are extrapolated to 0°K, it will be noted that these values are roughly divisible into two groups: with dense packing (z = 12) and with loose packing (z = 8). Thus, for molten iron there exist two short-range structures, conditionally denoted by "δ" (z = 8) and "γ" (z = 12) (cf. Fig. 1 again). An analysis of the findings on 21 metals gives reason to believe that the following two tendencies for structure-formation exist in molten metals: 1) preservation of directional bonds conditioned by the overlapping of p^6 or d^6 orbitals ($z \approx 8$); 2) complete spherical symmetry of the atoms ($z \approx 12$). The intermediate values of z apparently are conditioned either by the thermal expansion of the melt or by the partial preservation of directional bonds. Orig. art. has: 5 figures, 1 table, 8 formulas.

SUB CODE: 11, 20/ SUBM DATE: 14Jun65/ ORIG REF: 010/ OTH REF: 002

Card 3/3

L 15255-66 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/WW/HW/JG
ACC NR: AP5027840 SOURCE CODE: UR/0020/65/165/001/0085/0087

60
36
B

AUTHOR: Filippov, Ye. S.; Samarin, A.M. (Corresponding member AN SSSR)

ORG: Institute of Metallurgy im. A.A. Baykov (Institut metallurgii)

TITLE: An estimate of short range order structures in liquid binary metal alloys

14

SOURCE: AN SSSR. Doklady, v. 165, no. 1, 1965, 85-87

TOPIC TAGS: liquid metal, iron alloy, grain structure

6

ABSTRACT: Whereas the local order structure of pure liquid metals is quite well known, this is not the case with liquid alloys. However, the coordination number characterizing the local order of atoms may be estimated, as in the case of liquid metals, from the temperature dependence of the liquid alloy density. The present analysis is carried out on the basis of data published earlier. It is summarized in Fig. 1. Elements which widen or stabilize the δ or δ' regions of solid iron solutions stabilize in liquid solutions the local order structures $<<\delta>>$ (coordination number ~ 8) and $<<\gamma>>$ (c.n. ~ 12), respectively. Orig. art. has: 3 figures.

SUB CODE: 11 / SUBM DATE: 14Jun65 / ORIG REF: 006

Card 1/2 UDC: 669.14:669.15

L 15255-66
ACC NR: AP5027840

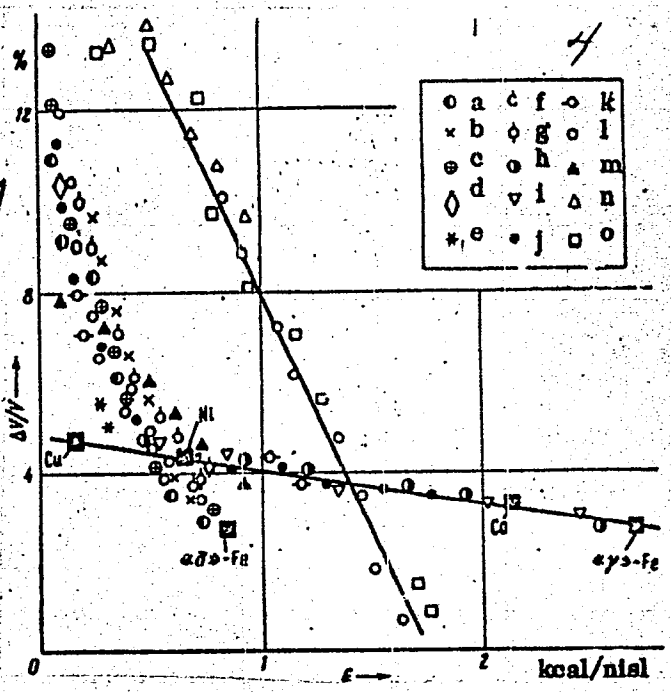

Fig. 1. The determination of the short range order structures of liquid alloys of iron. Complete stabilization <<δ>> of the local order structure. a - Fe-Cr; b - Fe-Mo; c - Fe-Si; d - Fe-Al; e - Fe-V; f - Fe-S. Complete stabilization of the <<γ>> structure: g - Fe-PT; h - Fe-Mn; i - Fe-Cu. Partial stabilization of the <<δ>> and <<γ>> local orders structure: j - Fe-Ni; k - Fe-Co; l - Fe-C; m - Fe-P (local order structure of Fe_2P); m - Ni-C; o - Co-C.

Card 2/2

FILIPPOV, Ye. V.

Unit for the remote control of fuel-distribution pumps. Transp. i khran. nefti i nefteprod. no.5:18-20 '65. (MIRA 18:10)

1. Proyektno-konstruktorskoye byuro Volgo-Vyatskogo soveta narodnogo khozyaystva.

FILIPPOV, Yu.

For a unified procedure in disability evaluation. Okh.truda i sots.strakh. no.1:58 Ja '60. (MIRA 13:5)

1. Doverennyy vrach Tul'skogo oblsovprofa.
(Tula--Disability evaluation)

FILIPPOV, Yu., inzh.

The man at the blast furnace. Izobr.i rats. no.10:14-16 0'60. (MIRA 13:10)

1. Zavod "Serp i molot."
(Blast furnaces)

BUKMAN, M.; FILIPPOV, Yu.; TARASOVA, I., inzh.

Rapid assembly of large-panel buildings. Zhil. stroi. no.12: 13-15 '62. (MIRA 16:1)

1. Glavnyy inzh. SU Montazhzhilstroy tresta Altaysvinetsstroy (for Bukman). 2. Nachal'nik eksperimental'no-konstruktorskogo otdela SU Montazhzhilstroy tresta Altaysvinetsstroy(for Filippov).

(Ust'-Kamenogorsk--Apartment houses)
(Precast concrete construction)

L 23270-66 EWD/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c) WG/WH
ACC NR: AP6012726 SOURCE CODE: UR/0403/66/000/004/0007/0009

AUTHOR: Filippov, Yu. (Engineer)

ORG: none

TITLE: Lasers

SOURCE: VDNKh SSSR. Informatsionnyy byulleten', no. 4, 1966, 7-9

TOPIC TAGS: laser, solid state laser, semiconductor laser, medical laser

ABSTRACT: A review is presented of several types of Soviet solid-state lasers with liquid oxygen (90K) or liquid neon (20K) cooling. Emission powers of the order of units of watts were obtained in the cw mode. Pulses with several gigawatts of power with a duration of several seconds were obtained with a ruby laser (beam divergence approximately 0.5°). Lasers whose active medium is glass doped with rare-earth elements are advantageous in that any form can be given to the glass and the active medium can have the proper dimensions for obtaining optimum efficiency. Barium glass doped with trivalent neodymium is one of the most suitable. Emission was obtained at 10,200 Å in lithium-magnesium-alumino-silicate glass doped with ytterbium; with holmium emission occurred at 20,500 Å. Emission took place at 6130 Å in plastic lasers using poly(methyl methacrylate) filaments containing chelate molecules with atoms of europium as the active medium. The laser was pumped by an ultraviolet flash bulb. The active medium of plastic lasers can be in the form of rods or in

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L 23270-66
ACC NR: AP6012726

the form of thin sheets or very thin filaments wound on a coil. Among the devices shown at the exhibition on the Achievements of the National Economy for 1966 were the following: the GOR-100 m, GOS-300, and GOS-100 lasers (for scientific tests), geodetic range finders using GD-314 and GD lasers (laying out routes and channels, etc.), a semiconductor laser for the investigation of telephone and television communications, a GG-2 gas laser for telephone communications, the UP-2 and UL-20 laser welding devices, the OK-1 ophthalmocoagulator (equipped with laser) for eye treatment, activated neodymium glasses for lasers, protective eye glasses, the FMP-M photometer for measuring laser energy in the visual and infrared regions, and many others. Orig. art. has: 1 figure. [JA]

SUB CODE: 20/ SUBM DATE: none/ ATD PRESS: 4235

Card 2/2 ULR

FILIPPOV, Yuriy A.

AFANAS'YEV, Vasiliy Vladimirovich; GREYNER, Leonid Karlovich, NOVIKOV, Solomon Mikhaylovich; MAKAROVA, Nina Arkad'yevna; STUKALOVA, Antonina Ivanovna, TARASOV, Viktor Konstantinovich, FILIPPOV, Yuriy Alexandrovich; PETROVA, T.G.; AFANAS'YEV, V.V., red.; ZABRODINA, A.A., tekhn. red.

[High-frequency switches; training tables] Kommutatsionnye apparaty vysokogo napriazheniia; uchebnye tablitsy. Moskva, Gos. energ. izd-vo, 1957. 43 p. and 15 plates (in portfolio) (MIRA 11:3)
(Electric switchgear)

AFINOGENOV, L.P.; BAKAL, M.; FILIPPOV, Yu.A.

Milliken vacuum capacitor. Part 2. Radiotekh. i elektron. 6 no.4:642-648 Ap '61. (MIRA 14:3)
(Electric capacitors)

27.2400

32010
S/089/62/012/001/013/019
B102/B138

AUTHORS: Druskina, L. S., Dmitriyeva, T. G., Filippov, Yu. A.

TITLE: Improvements in the photographic method of personnel monitoring

PERIODICAL: Atomnaya energiya, v. 12, no. 1, 1962, 57-58

TEXT: The possibilities of extending the range of applicability of the photographic method of radiation monitoring was studied, using films of the type Рентген XX (Rentgen XX) with sensitivity of 25-30 reciprocal r. This type has a lower limit of ~ 0.05 r, which corresponds to three days maximum permissible dose, and an upper limit of 2.5-3 r. Attempts were made to extend this range in both directions by chemical intensifying and thinning the negatives with the aim of changing the optical density, first of the previously exposed and then of the developed X-ray films. The films were exposed to Ra^{228} radiation and developed in metol-hydroquinone. The darkened film was then treated with a proportional clearing agent: potassium ferrocyanide with sodium thiosulfate. Density was measured with a photoelectrical densitometer ДФЭ-10 (DFE-10) in dependence on the

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Improvements in the photographic...

irradiation dose. The measurements were plotted for different concentrations of potassium ferrocyanide: 50, 25, 50 and 50 g/l and 9, 18, 18 and 27 min, respectively. Before clearing the darkening-versus-dose curve was so steep that accurate measuring was only possible up to 2.5 r. After clearing, the curves were bent, so that accuracy could be extended to 50 r. A concentration of 50 g/l (27 min) was found to be best. The negatives were intensified in quinone thiosulfate. From the darkening-versus-dose curves it can be seen that intensification shifts the lower limit to ~0.01 r. For clearing and intensification the films must be uniform and have received similar photographic pretreatment. There are 2 figures, 1 table, and 2 Soviet references.

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FILIPPOV, Yu.A.

Milliken vacuum capacitor. Part 3. Radiotekh. i elektron. 8 no.8:1466-1470 Ag '63. (MIRA 16:8)
(Condensers (Electricity))

ACCESSION NR: AP4013542 S/0181/64/006/002/0649/0650

AUTHOR: Filippov, Yu. A.

TITLE: Statistics of secondary electron emission of glass

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 649-650

TOPIC TAGS: electron emission, silicate glass, Millikan vacuum capacitor, secondary electron emission coefficient, Poisson formula

ABSTRACT: The emission characteristics of silicate glass were investigated, using a Millikan vacuum capacitor. The glass, in the form of fine spheres obtained by blowing ground glass through a gas flame, was placed in an electrostatic injector (a chamber directly beneath the bottom plate of the capacitor). A voltage pulse of up to 7 kv and several milliseconds long applied to the injector introduced the glass particles into the capacitor. Measurements were made for three values of primary electron energy: 100, 350, and 500 ev. The 350-ev energy is approximately that corresponding to the maximal value of the secondary electron emission coefficient (seec). The data were plotted together with the probability distributions from the Poisson formula for the particular values of seec. The

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ACCESSION NR: AP4013542

author thanks L. N. Dobretsov for his guidance. Orig. art. has: 1 diagram.

ASSOCIATION: Fiziko-tekhnicheskiy institut imeni A. F. Ioffe AN SSSR Leningrad (Physical and Technical Institute AN SSSR)

SUBMITTED: 12Dec63	DATE ACQ: 03Mar64	ENCL: 00
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KOROBOCHKIN, B.I.; FILIPPOV, Yu.A.; DITKIN, V.A., prof., otv. red.; ORLOVA, I.A., red.

[Tables of modified Whittaker functions] Tablitsy modifitsirovannykh funktsii Uittekera. Moskva, Vychislitel'nyi tsentr AN SSSR, 1965. 321 p. (MIRA 18:5)

L 25474-77 EWT(1)/EWT(m) IJP(c) AT/JD/HW

ACC NR: AP6009678 SOURCE CODE: UR/0181/66/008/003/0877/0882

42
B

AUTHOR: Filippov, Yu. A.

ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Statistics of secondary electron emission of nickel and iron

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 877-882 27 27

TOPIC TAGS: secondary electron emission, iron, nickel, statistic analysis, electron scattering

ABSTRACT: The author investigated the statistics of secondary electron emission from particles of nickel and iron suspended in the electric field in vacuum, using a method described by him earlier (Radiotekhn. i elektron. v. 8, 1466, 1963). The experiments consisted of irradiating the particles with a weak beam of electrons from a gun and determining the net charge of the suspension by measuring the current it produces in a capacitor. The results of the experiments have shown that at low primary-electron energies the secondary electron emission obeys Poisson-law statistics but deviates from the latter with increasing energy. This deviation is attributed to scattering of the primary electrons by the target material. An approximate relation is derived for the secondary-emission probability distribution to fit the experimental data. The author thanks the supervisor of this work L. N. Dobretsov for continuous interest and valuable hints. Orig. art. has: 5 figures and 10 formulas.

SUB CODE: 20/ SUBM DATE: 06Aug65/ ORIG REF: 009/ OTH REF: 006

Card 1/1 UC

SOV/109-59-4-2-10/27

AUTHOR: Filippov, Yu.F.

TITLE: Amplification of the Space-Charge Waves in an Electron Beam Moving With a Variable Velocity Along the Channels in a Lossy Medium (Usileniye voln plotnosti zaryada pri dvizhenii puchka elektronov s peremennoy skorost'yu po kanalam v srede, obladayushchey omicheskimi poteryami)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 2, pp 228-232 (USSR)

ABSTRACT: An electron beam, having a variable velocity $v_0(x)$, passes through a medium whose conductivity is σ and permittivity ε. The electrons are assumed to be moving along channels having small transverse cross sections. The parameters ε, μ and σ and the medium are constant. The convection current (Ref 5) is given by:

$$\vec{i} = \vec{i}_s + \sigma\vec{E} \qquad (1)$$

where i_s is the electron beam current density, while the other component denotes the induced current density; $\vec{E}$ is the electric field vector. If the problem is assumed to be unidimensional, the following equations

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have to be solved:

$$\frac{dv}{dt} + v\frac{dv}{dx} = \frac{e}{m}E, \qquad (2)$$

$$\frac{di_s}{dx} + \frac{dn_s}{dt} = 0,$$

$$\frac{dE}{dt} = -\frac{4\pi}{\varepsilon}(i_s + \sigma E) \qquad (3)$$

If v and n are approximated by Eq (4) then Eq (3) can be written as Eq (5) where Z(x) is defined by Eq (6) and (7). If the velocity is an exponential function of x, Eq (5) can be written as Eq (8). Consequently, the expression for $i_s(x)$ which satisfies Eq (6) and (8) and the boundary conditions of Eq (9), is given by Eq (10). If $\sigma = 0$ and $\alpha = 0$, this is in the form of Eq (11), which is similar to the expressions given by Rydbeck (Ref 6 and 7) and by Birdsall (Ref 4 and 5).

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The amplification of the system at the output, that is for $x = \ell$, is defined by Eq (12). If the modulus of the amplification coefficient is denoted by p and its argument by q, the values of p and q can be found for various special cases. In particular for $\beta \gg 1$, p and q are given by Eq (16) and (17) respectively, while for $\alpha = 0$, p and q are given by Eq (18) or (19). The dependence of p on frequency, the conductivity of the medium and the delay coefficient of the electron beam is illustrated in the figures a, b and b on page 232. The graphs were evaluated for $\varepsilon = 1$, $\chi = 0.15$, $u_0 = 4.05 \times 10^9$ cm/sec, $\Omega_0 = 1.2 \times 10^9/\text{sec}^{-1}$ and $\mu_0 = 1$. The author expresses his gratitude to

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Amplification of the Space-Charge Waves in an Electron Beam Moving With a Variable Velocity Along the Channels in a Lossy Medium

Professor V.L.German for discussing the problem.
There is 1 figure and 8 references of which 2 are Soviet, 5 English and 1 French.

ASSOCIATION: Institut Radiofiziki i Elektroniki AN USSR (Institute of Radio Physics and Electronics of the AS UkrSSR)

SUBMITTED: 23rd May 1957

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SOV/109-59-4-2-11/27

AUTHOR: Filippov, Yu.F.

TITLE: Motion of an Electron Beam Having a Periodically Varying Velocity Along the Channels in a Lossy Medium (Dvizheniye puchka elektronov s periodicheski menyayushcheysya skorost'yu po kanalam v srede, obladayushchey omicheskimi poteryami)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 2, pp 233-240 (USSR)

ABSTRACT: This work can be regarded as an extension and continuation of the author's preceding article (see the present issue of the Journal pp 228-232). Again, it is assumed that the medium is lossy and that the electrons move along the channels having small transverse dimensions. The electron velocities are periodic functions of the co-ordinates. It is also assumed that the signals are comparatively small and that the problem is, therefore, unidimensional. If the thermal velocities of the electrons can be neglected, the problem can be solved by employing the differential

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equation:

$$Z''(x) - \left[\frac{3}{4}\left(\frac{v'_0}{v_0}\right)^2 + \frac{3}{2}\frac{v''_0}{v_0} - \frac{\omega_0^2 u_0}{v_0^3(1 - i\eta)}\right]Z(x) = 0 \quad (1)$$

where $Z(x)$ is defined by the second equation on p 234. If the change in the beam velocity is periodic, as defined by Eq (2), Eq (1) can be written as Eq (3). In the region where $\beta \sim 1$, Eq (3) can be solved approximately and its solution is given by Eq (4), where U and V are defined by Eq (5); the constants C_1 and C_2 can be found from the boundary conditions. The amplification coefficient of the system is defined by Eq (7), which for the case of the boundary conditions expressed by Eq (6), is in the form of Eq (8). The solution of Eq (3) can be also in the form of a modulated travelling wave, as expressed by Eq (14), where $f(x)$ is a periodic function which is given by Eq (15). The condition of existence of this type of solution is expressed by the scattering matrix given by Eq (16). If the thermal velocities v_T and

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the electrons are taken into account, the system is described by Eq (22). This can be written as Eq (23), which is similar to Eq (3) except that β is replaced by β_1 and h is replaced by h_1. The problem can also be analysed by employing the Maxwell equations and the kinetic equation of the system and finding their simultaneous solution. In this case, the electron beam is assumed to be propagating in a cylindrical waveguide and the system is represented by Eq (26), where v is the velocity of the electron beam, F is the distribution function for the beam and φ_0 is the potential of an external stationary field. The scattering equation of the system can be obtained by employing the method described in Ref 7. The final formula is then in the form of Eq (27), where Ω_0 is the plasma frequency, k_1 is a quantity to be determined from the boundary conditions at the walls of the waveguide, $n = 4\pi\sigma/\varepsilon\omega$ and μ^0 is the propagation constant at $q = 0$. If it is assumed that the values of μ^0 are given by Eq (29), the amplification coefficients χ can be expressed by

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Eq (30) and (31). From these, it follows that the presence of the thermal electron velocities does not interfere with the generation and amplification of high-frequency signals for $q = 0$. The effect of the periodic velocity variation, that is $q \ll 1$, can be taken into account by assuming that the roots of the scattering equation differ from those defined by Eq (29) only by a small parameter δ_i. The correction parameters $\delta_{1,2}$ can be found from Eq (33). There are

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9 references of which 6 are Soviet, 2 English and 1 French; one of the Soviet references being translated from English.

ASSOCIATION: Institut Radiofiziki i Elektroniki AN USSR (Institute of Radiophysics and Electronics of the AS UkrSSR)

SUBMITTED: 19th July 1957

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28440
S/185/61/006/002/014/020
D210/D304

3.2310 (1049, 1502, 1031)

AUTHOR: Filippov, Yu.F.

TITLE: Absorption of waves of finite amplitude in a conducting medium

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961, 248 - 254

TEXT: Non-linear effects connected with propagation of magneto-acoustic waves in a viscous conducting medium in an external magnetic field. As the general system of magnetohydrodynamical equations cannot be solved, the following assumptions are made: 1) The problem is one-dimensional, all quantities depend on x and t only: $\vec{H} = \vec{H}_0 + \varepsilon\vec{h}$, $\rho = \rho_0 + \varepsilon\rho'$, $p = p_0 + \varepsilon p'$, $T = T_0 + \varepsilon T'$, $\varepsilon < 1$, ρ_0, p_0, T_0 are the equilibrium values of density, pressure and temperature; 2) terms containing ξ, η, σ, $\varkappa$ (coefficients of

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viscosity, electric conductivity, thermal conductivity) and describing dissipative processes are of the second order in (i.e. proportional to ξ^2); 3) only the propagation of one magneto-accoustic wave is considered, assuming that other waves are not excited. Approximate equations, including terms up to the second order in ξ, are established. The initial excitation is supposed to be $v_x = v_0 \cos(kx - \omega t)$. To avoid secular terms, the solution is looked for in the form $v_x = a \cos\psi$, $\partial a/\partial t = 0$, $\partial a/\partial x = \xi A$; ψ is to be determined either from boundary and initial conditions or from:
a)

$$\psi = kx\left[1 + \varepsilon \sum_{n=0}^{\infty}(Z_n(a)\cos n\psi + v_n(a)\sin n\psi)\right] - \omega t \qquad (10)$$

(solution periodical in time) or b)

$$\psi = kx - \omega t\left[1 + \varepsilon \sum_{n=0}^{\infty}(X_n(a)\cos n\psi + Y_n(a)\sin n\psi\right] \qquad (11)$$

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