A 53
z

SA

539.133

6381. Hybrid orbits for coordination numbers 7 and 9. M. O. Shirmaman and M. E. Dyakina. Dokl. Akad. Nauk, SSSR, 77 (No. 1) 75-8 (1951) In Russian. Using Kimball's method 8 configurations are examined: (i) with coord. No. 7, a pentagonal bipyramid, symmetry D_{5h}; (ii) with coord. No. 9, a trigonal prism having atoms above the centres of right-angled faces, symmetry D_{3h}. Reduction tables show how 7 and 9 σ-bonds resp. can arise in hybridizations of s-, p-, d-, and in all but one case, f-electrons.

J. Jacobs.

METALLURGICAL LITERATURE CLASSIFICATION

L 40302-66   EWT(m)/EWP(t)/ETI   IJP(c)   JD

ACC NR: AP6017302 (A)   SOURCE CODE: UR/0126/66/021/005/0674/0677

AUTHORS: Volkenshteyn, N. V.; Dyakina, V. P.; Novoselov, V. A.; Startsev, V. Ye.

ORG: Institute of Metal Physics, AN SSSR (Institut fiziki metallov AN SSSR)

TITLE: Peculiarities of the temperature dependence of electric resistivity of dysprosium at low temperatures

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 5, 1966, 674-677

TOPIC TAGS: dysprosium, electric resistivity, resistivity

ABSTRACT: The electric resistivity of highly purified dysprosium ($R_{300K}/R_{42K} \cong 105$) was measured over the temperature interval 1.5--300K to determine the magnetic contribution to the electric resistivity as a function of temperature. The resistivity was measured on 10 x 1 x 0.5 mm strips made of distilled dysprosium using a cryostat (R. V. Colvin and S. Arajs. Phys. stat. sol., 1964, 4, 73). The results are shown in Fig. 1. These results were found to agree well with the theoretical predictions proposed by A. K. Mackintosh (Phys. Lett., 1963, 4, 140). This is demonstrated in Fig. 2 which shows a comparison.
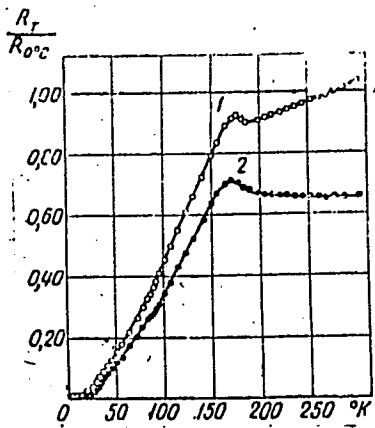
UDC: 539.292:537

Card 1/2

L 40303-66

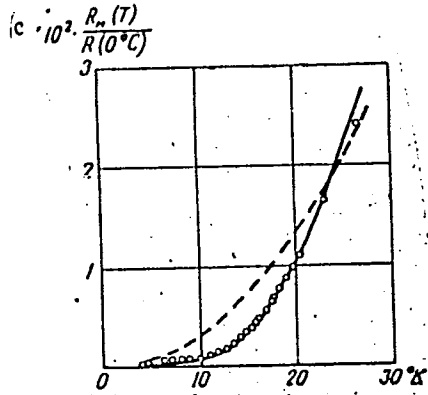Fig. 1. Electric resistivity of dysprosium: 1 - total resistivity; 2 - magnetic resistivity.

Fig. 2. Low temperature electric resistivity: 0 - experimental results; solid line - curve

$$\rho_M = aT^2 e^{-\frac{\Delta}{kT}},$$ with $a/R_{0C} = 1.27 \times 10^{-4}$ degrees^{-2}, $\Delta/k = 30K$; dotted line - curve of T^2 function having common point with experimental results at $T = 24K$.

Orig. art. has: 2 formulas and 3 figures.

Card 2/2 mL   SUB CODE: 11/   SUBM DATE: 10Aug65/   ORIG REF: 005/   OTH REF: 004

NIKOLAYEV, N.A.; ANDRYUKHINA, T.D.; VESELYY, V.A.; DYAKIVSKIY, S.I.

Line suspension insulators made of glass. Elektrichestvo no.2:
41-46 F '60.   (MIRA 13:5)

1. L'vovskiy politekhnicheskiy institut.
        (Electric insulators and insulation)

NIKOLAYEV, N.A., kand.tekhn.nauk; ANDRYUKHINA, T.D., kand.tekhn.nauk;
      VESELYY, V.A., inzh.; DYAKIVSKIY, S.I.

Hard-glass suspension insulators for areas with electrically
conducting percipitation. Elektrichestvo no.10:68 0 '60.
                                                    (MIRA 14:9)
1. L'vovskiy politekhnicheskiy institut.
                (Electric insulators and insulation)

ANDRYUKHINA, T.D., DYAKIVSKIY, S.I., NIKOLAYEV, N.A.

Tempering glass insulators. Stek. i ker. 17 no.6:25-28 Je '60.
(MIRA13:6)
(Electric insulators and insulations--Testing)

NIKOLAYEV, N.A., kand.tekhn.nauk; ANDRYUKHINA, T.D., kand.tekhn.nauk;
    VESELYY, V.A., inzh.; DYAKIVSKIY, S.I.

Features of tempered glass suspension insulators for electric
power transmission lines. Elek. sta. 31 no.12:64-70 D '60.

        (Electric insulators and insulation)
        (Electric lines—Overhead)

34159
S/196/62/000/002/006/023
E194/E155

AUTHORS: Nikolayev, N.A., Andryukhina, T.D., Veselyy, V.A.,
             and Dyakivskiy, S.I.

TITLE: The manufacture of overhead-line suspension
             insulators of hardened glass

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
             no.2, 1962, 6-7, abstract 2B 35. (Vestn.
             elektroprom-sti, no.9, 1961, 54-56).

TEXT: The composition of glass used for insulators is given.
The glass is melted in a regenerative furnace burning natural gas,
with a flame shaped like a horseshoe. The amount of glass is
about 200 kg per m^2 of furnace area, so that it was possible to
maintain a comparatively low temperature of 1410-1420 °C.
Appropriate quantities of hot glass are delivered to cast-iron
moulds for pressing. At this instant the temperature of the glass
is about 1020 °C. When the glass part of the insulator has been
pressed, the inner hollow of the head is of conical shape and is
then shaped by a special device. The time cycle for forming a
glass insulator part, including mould cooling time, is 1.5 min.
Card 1/2   X

The manufacture of overhead-line ....

34159
S/196/62/000/002/006/023
E194/E155

Temperature equalisation and heating for hardening is carried out in a conveyor furnace for 15 minutes with a gas temperature of 680 °C. The hot glass parts are then delivered for hardening to air-cooled machines with eight spindles. After hardening, the thermal resistance of hardened parts of insulator ПС-4.5 (PS-4.5) increases from 35 °C (in the unfired condition) to 200 °C, and the mechanical strength increases from 3.0-4.0 up to 10 tons. It is denied that slight damage to the surface layer of the hardened glass leads to complete failure of the part. After hardening, the glass parts are submitted to thermal shock tests with positive and negative temperatures. Insulator strings consisting of 18-22 units are subjected to a one-minute tensile load of 3.6 tons (types PS-4.5; ПСУ-4.5 (PSU-4.5); ПСГ-4.5 (PSG-4.5); 5.5 tons for type ПС-8.5 (PS-8.5); and 7 tons for type ПС-11 (PS-11). The insulators are then exposed for 3 minutes to a continuous flow of sparks which do not form an arc. The insulator fittings are 40-50% lighter than those for porcelain insulators. 2 illustrations, 5 literature references.

Card 2/2   [Abstractor's note: Complete translation.]

NIKOLAYEV, N.A., kand.tekhn.nauk; ANDRYUKHINA, T.D., kand.tekh.nauk;
     VESELYY, V.A., inzh.; DYAKIVSKIY, S.I., inzh.

     Manufacture of hard-glass suspension insulators. Vest. elektroprom.
     32 no.9:54-56 S '61.   (MIRA 14:8)
        (Electric lines--Overhead) (Electric insulators and insulation)

AUTHOR: Dykman, I. M.; Tomchuk, P. M.

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR); Institute of Physics, AN UkrSSR, Kiev (Institut fiziki AN UkrSSR)

TITLE: Function of electron distribution and mobility in polar semiconductors with a nonparabolic dispersion law

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1343-1350

TOPIC TAGS: electron distribution, electron mobility, electron temperature

ABSTRACT: A donor-type polar semiconductor for which a nonparabolic dispersion law holds is investigated. The interaction is considered between the conducting electrons and the polar lattice vibrations, whose energy quanta are constant $\hbar\omega_0 = k\theta$. It is assumed that the lattice temperature $T_0 \gg \theta$; it is shown that the "electron escape" effect is removed if the effective mass of the electrons grows with energy ε. For fast electrons, ε and the impulse p are related by the approximation $\varepsilon = \lambda p^v$, where $v < 4/3$. With a dispersion law such as is valid for InSb, the electron temperature increases monotonically with the function field. The instability of the solution for fields $F > F^*$ is removed, and thereby breakdown cannot occur. Conductivity and mobility differ from those when dispersion follows a parabolic law. Mobility falls as the

Card 1/2

L 46928-66

ACC NR: AP6015449 O

field intensifies because the mean electron mass increases with their temperature. Curves are plotted for the dependence of the electron temperature in InSb and the relative conductivity on the strength of the applied field. Orig. art. has: 2 figures, 33 formulas.

SUB CODE: 20,09/   SUBM DATE: 29Jul65/   ORIG REF: 006/   OTH REF: 004

лит

Card 2/2

ABLOV, A.V.; D'YAKON, I.A.; IVANOVA, ...; PROSKIN, ...; CHAPURINA, L.F.

Modification of copper ... prochelate. Zhur. neorg. khim. 10 no.3:
628-635 Mr '65. (MIRA 18:7)

1. Institut khimii Akademii nauk SSSR.

D'YAKONENKO, A.K.

A.C.S.

Chemistry & Physics

Quick analysis of clays and grog products. A. I.
SHARFSTEIN AND A. K. DIAKONENKO. *Zavodshaya Lab.*,
9, 1227-32 (1940); abstracted in *Chem. Zentr.*, 1942, I
[21] 2004; *Khim. Referat. Zhur.*, 4 [6] 76 (1941).—The fol-
lowing procedure has been worked out for a rapid analysis
of clays and grog products for Al_2O_3, TiO_2, and Fe_2O_3.
Fuse a sample with NaOH in a silver crucible. Leach the
fused mass with water and allow to settle. Filter an ali-
quot, acidify the filtrate with HCl, add a solution of
hydroxyquinoline in an amount sufficient for the maximum
content of Al_2O_3, and then add a solution of CH_3COONa.
After some time heat the solution until it becomes cloudy,
make to a definite volume, filter and titrate the excess
hydroxyquinoline in an aliquot with a solution of bromide-
bromate, adding this reagent in some excess, and titrate
back iodometrically. Thus determine Al_2O_3. Filter the
remainder of the master solution through the same filter
which was used for the solution of Al_2O_3. Dissolve Ti and
Fe oxides with HCl. Determine Fe and Ti in aliquots.
As the colorimetric determination of Ti in a HCl solution
and in the presence of Fe is not reliable, reprecipitate Ti
and Fe with NH_4OH and dissolve the precipitate on the
filter with H_2SO_4. Determine TiO_2 in this solution colori-
metrically. As Fe does not settle out completely, add the
alkaline filtrate to the solution obtained by dissolving the
hydroxides. Determine Fe_2O_3 by the Zimmerman-
Reinhardt method. The deviation in the values of results
obtained by this method from those obtained by the classi-
cal method is from -0.48 to $+0.57\%$ absolute for Al_2O_3,
and from -0.24 to $+0.27\%$ absolute for Fe_2O_3. Ten
analyses can be made within 3.5 hr. An analyst with an
assistant can make 450 to 500 analyses per month.
M.V.C. + M.Ho.

UVAROV, S.F., glavnyy red.; POPOV, A.S., red.; D'YAKONENKO, V.M., red.;
    GROBMAN, S.M., red.; PETROVA, T.G., red.; KOLESNIKOV, F.M., red.;
    KRUTOUS, V.P., tekhn.red.

[Papers at a technical conference on design, construction, manu-
facture, and use of reinforced concrete poles for electric trans-
mission lines and telephone communications, November 27-30, 1956]
Materialy nauchno-tekhnicheskoy konferentsii po proektrirovaniiu,
stroitel'stvu, proizvodstvu i ekspluatatsii zhelezobetonnykh opor
liniy elektroperedachi i svyazi. [Groznyi] Checheno-Ingushskoe
knizhnoe izd-vo, 1957. 163 p.   (MIRA 11:6)

1. Nauchno-tekhnicheskaya konferentsiya po proyektirovaniyu,
stroitel'stvu, proizvodstvu i ekspluatatsii zhelezobetonnykh opor
linii elektroperedachi i svyazi. Groznyy, 1956.
    (Reinforced concrete construction) (Electric lines--Poles)

KAGAN, Ya.I., kand.fiz.-mat.nauk; KOVALENKO, A.D.,inzh.; ZHARKIKH, V.Z., inzh.;
    BOGDANOV, O.I., inzh.; ZUBAR', V.P., inzh.; D'YAKONENKO, V.S., inzh.

Automatic measurement of shaft diameters during grinding. Vest.mash.
38 no.10:58-59 O '58.   (MIRA 11:11)
            (Thickness measurement)

LYUBOMUDROV, V. Ye., kand. med. nauk; AGARKOVA, S. V.; D'YAKONENKO, Ye. K.;
    MATEYEVA, K. M.; PAVLOVA, O. A.; SIROTA, G. M.; EYDIS, L. Z.

Combined forms of pneumoconioses in patients with collagenoses.
Terap. arkh. no.9:95-101 '61.   (MIRA 15:2)

1. Iz Stalinskogo nauchno-issledovatel'skogo instituta fiziologii
truda.

        (LUNGS—DUST DISEASES)   (COLLAGEN DISEASES)

D'YAKONOV,A.; MANDRIKOV,V.

Cultural mass work among students. Sov.profsoiuzy 3 no.9:52-54
S '55.   (MIRA 8:12)

1. Predsedatel' profkoma Ural'skogo Politekhnicheskogo instituta
imeni S.M.Kirova, Sverdlovsk (for D'yakonov) 2. Zamestitel' pred-
sedatelya pravleniya kluba instituta (for Mandrikov)
                (Sverdlovsk--Community and school)

D'YAKONOV, A.I.

SEVERUD, Fred, N.; MERRILL, Anthony; SEMENOV,Yu.V. [translator]; D'YAKO-
NOV,A.I.,[translator]; LYUBIMOV,S.A. [translator]; VOLODIN,N.V.,
[translator]; RUSANOV,P.I., redaktor;PAVLOV,V.S., redaktor; GE-
RASIMOV,Ye.S., tekhnicheskiy redaktor

[Protection for people, buildings and equipment from the atomic
bomb. Translated from the English.] Protivoatomnaia zashchita
liudei, zdanii i oborudovaniia. Perevod s angliiskogo IU.V.Seme-
nova i dr. Moskva, izd-vo inostrannoi lit-ry, 1955. 292 p.

(MIRA 9:3)

(Building, Bombproof) (Atomic bomb--Safety measures)

D'YAKONOV, A.I.

D'YAKONOV, A.; BRANZBURG, Ye.

The people's university is a source of knowledge. Stroitel'
no.2:20-21 F '60.   (MIRA 13:5)

1. Starshiy insnektor TSentral'nogo komiteta Profsoyuza
rabochikh stroitel'stva i promyshlennosti stroitel'nykh
materialov (for D'yakonov).
        (Building trades--Study and teaching)

VORONOV, F.D., prof.; D'YAKONOV, A.I., kand.tekhn.nauk; DIKSHTEYN, Ye.I., inzh.;
TRIFONOV, A.G., inzh.; LORMAN, V.V., inzh.; KAZAKOV, A.I., inzh.; KOVALIK,
I.S., tekhnik .

Technological characteristics of Magnitogorsk Metallurgical Combine open-
hearth furnace operations using compressed air in the fuel spray. Stal'
23 no.12:1088-1091 D '63.   (MIRA 17:2)

1. Magnitogorskiy metallurgicheskiy kombinat i Magnitogorskiy gorno-
metallurgicheskiy institut.

VORONOV, F. D.; D'YAKONOV, A. I.; LORMAN, V. V.

Oxidation of the open-hearth furnace bath by the hearth
atmosphere and its effect on the indices of smelting. Izv.
vyx. ucheb. zav.; chern. met. 7 no.6:40-43 '64.   (MIRA 17:7)

1. Magnitogorskiy gornometallurgicheskiy institut.

BORUKAYEV, Ch.B.; D'YAKONOV, A.I.

Tuapse zone of lateral shifts (northwestern Caucasus). Dokl. AN
SSSR 155 no. 3:552-554 Mr '64.   (MIRA 17:5)

1. Predstavleno akademikom V.I.Smirnovym.

M

/

Analysis of the Process of Absorption of Gases by Metals. I.—Characteristics of Gas-Metal Systems. A. D'yakonov and A. Samarin (*Izvest. Akad. Nauk S.S.S.R.*, 1945. [Tekhn.]. (9). 813-820).—[In Russian] A general account.—N. A.

A I 8 · S L A   METALLURGICAL LITERATURE CLASSIFICATION

PROCESSING AND PROPERTIES INDEX

2

Analysis of the absorption process of gases by metals
II. Absorption of hydrogen and nitrogen by iron. A.
D'yakonov and A. Samarin. *Bull. acad. sci. U.R.S.S.*,
(Classe Sci. Tech.) 1946, 131-6; cf. *ibid.* 1945, No. 9.—The
neg. heat effect of absorption and the close adherence o.
this phenomenon to "square-root rule" at all temps. and
pressures indicate that in the system H-Fe there is a
typical case of soln. of at. H in Fe. The relation between
the soly. const. of H in Fe and the temp. is given for a-Fe
by log $K_H = -(1360/T) - 2.51$, γ-Fe log $K_H = -(1220/T) - 2.535$, δ-Fe log $K_H = -(1340/T) - 2.46$, and liquid
Fe log $K_H = -(1600/T) - 1.71$. Calcns. of ΔF_{soln} and
of ΔH_F show that the allotropic form of Fe has a slight
effect on the soly. of H in Fe. N is less metallic than H
and therefore it has a greater chem. activity toward Fe.
The latter forms 2 known nitrides, Fe_4N and Fe_8N.
ΔF_{soln} of Fe_4N and Fe_8N is 800 and 2580, resp., thus the
latter is the less stable of the two. The relation between
the soly. of N in Fe and temp. is given for a-Fe by log $K_N = -(3660/T) + 0.43$, γ-Fe log $K_N = (371/T) - 1.907$,
δ-Fe log $K_N = -(2770/T) - 0.55$, and liquid Fe log
$K_N = (634/T) - 1.08$. Thermodynamic calcns. show
that the absorption of N by a, δ, and liquid Fe results in a
soln. of N in the Fe, whereas the absorption of N by γ-Fe
results in the formation of the nitride Fe_4N.   M. Hoseh

A.S.M.-S.L.A.   METALLURGICAL LITERATURE CLASSIFICATION

Determination of the metallurgical activity of slags A
I. D'yakonov U.S.S.R. 103,751 Sept 25, 1956. The
metallurgical activity of slag during a run is determined as measured in the electrical conductivity of the slag. The activity is measured in the furnace and the slag characteristics are calculated from nomograms. M. H. Z.

Decarburation of molten steel in
and its dependence a an character
I i/ values
Algustay i C.

LYAKOHOV, A..I.

"Investigation of Gas Movement in Liquids on the Hydraulic Models,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957

D'yakonov, A.I.

137-1958-2-2426

Translation from: Referativnyy zhurnal, Metallurgiya. 1958, Nr 2, p 32 (USSR)

AUTHORS: Paliy, L.F., Gorin, V.K., D'yakonov, A.I.

TITLE: The Productivity of Open-hearth Furnaces as a Function of the Values of the Parameters of the Bath (Proizvoditel'nost' martenovskikh pechey v zavisimosti ot velichiny parametrov van.)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 42-60. Diskus., pp 160-187

ABSTRACT: A study of the performance of open-hearth furnaces of diverse tonnages revealed that the total time to complete a heat, Z, is expressed by the straight-line equation $Z \approx \Sigma + K H_{av}$; the first term, Σ (the summation of the amounts of time needed for preparatory servicing, charging, reduction, and tapping), is not a function of the tonnage (T) of the furnace, but is determined solely by the quality of the work-planning and the degree of mechanization; the second term (the sum of the amounts of time needed for melting and the "boil") is proportional to the mean depth of the bath; moreover, the coefficient K is a function of thermal and mechanical factors. An analysis of existing units of specific productivity of open-hearth furnaces, i.e., in terms of the yield,

Card 1/2

137-1958-2-2426

The Productivity of Open-hearth Furnaces (cont.)

revealed their complicated dependence on the design and dimens-
ions of the baths. which makes these units unsuitable for comparing
the performances of open-hearth furnaces of equal tonnage. It was
found that the hourly productivity of open-hearth furnaces is pro-
portional to certain functions of their dimensions:

$$P \approx M \sqrt[3]{T^2} \qquad \text{and} \qquad P \approx L \sqrt[3]{H_{av}} \cdot S_o$$

wherein S_o is the area of the bath surface, P is the productivity
of the open-hearth furnace, and the coefficients M and L (which
are proportional to one another) are the absolute units of specific
productivity and are independent of the dimensions of the furnaces.
The yield of steel, taken in units of $T^{2/3}$, which is called the
nominal working capacity of an open-hearth furnace, is determined
solely by the quality of work planning and the degree of mechaniz-
ation. These findings have been verified by data obtained from
questionnaires covering 89 foreign and domestic furnaces of from
4 to 320 tons.
Bibliography: 8 references.   G.S.

Card 2/2   1. Furnaces—Production—Theory   2. Melts—Mathematical analysis

D'yaKonov, A.I.

137-1958-1-338

AUTHORS· Agapov, V.F., Varshavskiy, A.P.. D'yakonov, A.I.

TITLE·   A Study of the Sequence and Rate of Fusion of the Free-flowing
          Materials in a Basic Open Hearth Furnace (Izucheniye posledo-
          vatel'nosti i skorosti plavleniya sypuchikh materialov v osnovnoy
          martenovskoy pechi)

ABSTRACT: The sequence and rate of interaction of the ore and limestone
          with pig iron in accordance with level and order of charging was
          studied in seven heats in 380-t open hearth furnaces by means of
          isotopes P^{32}, F^{59}, and S^{35}, imbedded in pieces of the loose ma-
          terials. Appearance of the isotopes in samplings of the metal and
          slag indicated that the layer of material containing them had lique-
          fied. Curves of the radioactivity of the metal and slag as the heat
          progresses are adduced. It is noted that the deeper the layer of
          free-flowing metals, the more time is required to fuse it. The
          time required for the pig iron and ore to react diminishes as the
          amount of iron, the speed of charging, and the amount of light-

Card 1/2

137-1958-1-338

A Study of the Sequence and Rate of Fusion (cont.)

weight scrap increase. The mean fusion time of a single layer of ore and limestone in proportion to their level in the bath is determined. A plot is adduced showing the relationship between the time the isotopes appear in the samples and the depth at which they are located. It is established that fusion time is lowest when a single layer of ore is charged onto the hearth and the limestone is in the lowest possible position.

M Kh.

1. Open hearth furnaces--Performance--Analysis   2. Iron--Production
3. Phosphorus isotopes (Radioactive)--Applications   4. Fluorine
isotopes (Radioactive)--Applications   5. Sulfur isotopes (Radio-
active)--Applications

Card 2/2

137-58-4-6668

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 50 (USSR)

AUTHOR: D'yakonov, A. I.

TITLE: Variation in the Electrical Conductivity of Liquid Slags in the Course of an Open Hearth Heat (Izmeneniye elektroprovodnosti zhidkikh shlakov v protsesse martenovskoy plavki)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 469-478. Diskus. pp 505-512

ABSTRACT: A method for and the results of measurement of the electrical conductivity χ of liquid slag in the course of an open hearth furnace heat are presented. Measurement was by determination of the resistance between two Fe electrodes immersed in the slag. To determine the resistance of the slag skin formed on the electrodes, additional measurements were made during immersion of the electrodes in the metal. χ measurements were made in four heats in 190 and 380 t basic open hearth furnaces. Specimens of slag and metal were taken during the heats. It was found that the χ of the slags varied in the 0.53-12.4 mho/cm range The change in χ during the process of fusion parallels most

Card 1/2   closely the change in the values of the CaO/SiO_2 and the

137-58-4-6668

Variation in the Electrical (cont.)

$[CaO + (FeO)]/SiO_2$ ratio. The higher that ratio, the greater the χ'. It is noted that the rate of elimination of S from the open hearth bath increases with increasing χ.

Yu.Sh.

1. Metallurgy   2. Slags--Conductivity--Measurement   3. Electrodes--Applications

Card 2/2

D'YAKONOV, A. I.

137-1958-3-4779

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 46 (USSR)

AUTHORS: D'yakonov, A. I., Gorin, V. K.

TITLE: A Rotary Spout for the Discharging of Metal From Large Open-
           hearth Furnaces (Povorotnyy zhelob dlya vypuska metalla iz
           bol'shegruznykh martenovskikh pechey)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gorno-metallurg. in-t, 1957,
           Nr 11, pp 70-76

ABSTRACT: The Magnitogorsk metallurgic combine developed a rotary
           spout for large open-hearth furnaces, which ensures good control
           over the filling of two ladles with metal and slag when the melt
           is discharged. The spout is mounted on two supporting sections
           set on rollers and may be rotated by means of a power drive from
           an electric winch. The lining of the spout interlinks with a trough
           (approximately 400 mm long), attached to the mounting plate of
           the discharge opening of the furnace.
                                                       V. P.

Card 1/1

137-58-4-6687

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 54 (USSR)

AUTHORS: Tuzankin, N. M., Gorin, V. K., D'yakonov, A. I.

TITLE: Car-bottom Slag Pockets for Rapid Slag Removal Regardless of
             its State of Aggregation (Vydvizhnyye shlakoviki dlya bystrogo
             udaleniya shlaka pri lyubom agregatnom sostoyanii)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t 1957,
             Nr 11, pp 77-84

ABSTRACT: The design of car-bottom slag pockets for open-hearth furn-
             aces developed by the Magnitogorsk gornometallurg. in-t (Insti-
             tute of Metallurgy and Mining) is described. The receiving ele-
             ment (RE) in the form of a lined metal box is mounted on a car-
             riage, and is rolled out by a crane onto the pouring platform.
             The tops of the slag pockets rest on horizontal beams borne in
             turn by metal columns fixed into the foundation. Reinforcing wed-
             ges 50-80 mm high are provided between the carriage and the
             RE. After they are pulled out by a crane, the RE, which has
             fused to the roof of the slag pocket pulls away under the effect
             of its own weight. The RE is calculated to take 250-270 heats.
Card 1/2   The weight of a full RE is 200-250 t. The force to roll it clear

137-58-4-6687

Car-bottom Slag Pockets (cont.)

from the roof is 3-5 t and the time required for replacement during repairs
when the furnace is shut down, is 3-4 hours. For future open-hearth furn-
aces a sunken type of slag pocket is proposed with the RE removed to the
slag dump along inclined tunnels below the pouring platform. The benefits pro-
vided by car-bottom slag pockets are: elimination of the need to drill and fire
charges to clean slag pockets, complete mechanization of slag removal elim-
ination of the partitions between gas and air slag pockets, and reduction in
repair time and in open hearth furnace down time.

A.D.

1. Equipment--Design   2. Equipment--Operation   3. Slags--Removal--Processes

Card 2/2

D'yAKoNov, A.I.

137-58-5-9078

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 5, p 47 (USSR)

AUTHORS: Perchatkin, P.N., D'yakonov, A.I.

TITLE: Heat Absorption in the Hearth of an Open-hearth Furnace in the Course
             of a Heat (Teplopogloshcheniye martenovskoy vanny po khodu
             plavki)

ABSTRACT: Absolute heat absorption (HA) values were determined for in
             the course of an open-hearth heat. The investigations were car-
             ried out in an 185-ton gas-heated open-hearth furnace (OHF)
             with carburization with tar. The heat flows (HF) were measured
             by means of a calorimeter of VNIIT design. The HF's vary
             sharply in the course of an open-hearth smelting; the direct flow,
             passing from the flame to the hearth, varies more than the re-
             turn flow from the hearth. A graph is presented showing the var-
             iations of the direct HF along the hearth. The absolute value of
             the direct HF is greater at the end than it is at the midway point
             in the scrap-charging process. The return HF remains practi-

Card 1/2   cally constant throughout the length and width of the hearth.

137-58-5-9078

Heat Absorption in the Hearth of an Open-hearth Furnace (cont.)

During the charging of scrap the HA varied from 340,000 kcal/m^2 at the second opening to 140,000 kcal/m^2 at the fifth one. A similar nonuniformity was observed in other stages of smelting also. The HF also varies from one switching to another. The variations of the direct and return HF's in the course of a smelting are shown in the form of a graph. The HA, which at the time of charging of limestone amounted to 260-300 thousand kcal/m^2, decreased to a value of 130-140 thousand kcal/m^2 after the limestone had been heated for a period of 3-5 minutes. An analogous situation is observed in the course of charging of Fe ore. After the introduction of the metal scrap charge into the furnace, the HA amounted to 260-340 thousand kcal/m^2, but after 1.5 hrs of heating it dropped to a value of 140-160 thousand kcal/m^2. At the end of the smelting period and throughout the boiling stage, the HA diminishes smoothly from 120-160,000 to 30-50,000 kcal/m^2. The HA is also shown to be a function of the combustion rate of C in the hearth. The HA, which prior to the introduction of Fe-Mn into the hearth had a value of 90-120,000 kcal/m^2 (the hourly oxidation rate of C being equal to 0.20-0.25%), is reduced to a value of 40-55,000 kcal/m^2 three to five minutes after the introduction of the Fe-Mn.
G.L.

1. Open hearth furnaces 2. Heat--Absorption 3. Temperature--Measurement 4. Calorimeters--Applications
Card 2/2

PERCHATKIN, P.N.; PANOV, A.S.; BEZDENEZHNYKH, A.A.; BIGEYEV, A.M.; LATIMIN, V.N.;
D'YAKONOV, A.I.

Sulfur distribution between metal and slag during conversion
smelting of low-manganese pig iron. Izv. vys. ucheb. zav.: chern.
met. no.1:33-40 '60.   (MIRA 13:1)

1.Magnitogorskiy gorno-metallurgicheskiy institut.
     (Open-hearth process) (Desulfuration)

VORONITSYN, K.I., kand. tekhn. nauk, red.; TIZENGAUZEN, P.E., kand.
tekhn. nauk, red.; NADBAKH, M.P., red.; TANTSEV, A.A., starshiy
nauchnyy sotr., red.; ABRAMOV, S.A., kand. tekhn. nauk, red.;
ABRAMOV, D.A., red.; BOGDANOV, N.I., starshiy nauchnyy sotr.,
red.; VINOGOROV, G.K., kand. tekhn. nauk, red.; GAVRILOV, I.I.,
starshiy nauchnyy sotr., red.; GUSARCHUK, D.M., starshiy nauchnyy
sotr., red.; D'YAKONOV, A.I., red.; ZAV'YALOV, M.A., kand. tekhn.
nauk, red.; ZARETSKIY, M.S., starshiy nauchnyy sotr., red.;
KACHELKIN, L.I., starshiy nauchnyy sotr., red.; KISHINSKIY, M.I.,
kand. tekhn. nauk, red.; KOLTUNOV, B.Ya., starshiy nauchnyy sotr.,
red.; OSIPOV, A.I., kand. tekhn. nauk, red.; SHINEV, I.S., kand.
ekon. nauk, red.

[Materials of the enlarged session of the Scientific Council of
the Central Scientific Research Institute for Mechanization and
Power Engineering in Lumbering on problems concerning power
engineering and the electrification of the lumber industry]
Materialy rasshirennoi sessii Uchenogo soveta TsNIIME po voprosu
energetiki i elektrifikatsii lesnoi promyshlennosti. Moskva,
1961. 75 p.   (MIRA 15:4)

(Continued on next card)

VORONITSYN, K.I.---(continued) Card 2.

      1.Khimki.TSentral'nyy nauchno-issledovatel'skiy institut me-
khanizatsii i energetiki lesnoy promyshlennosti. 2. Nachal'nik
TSentral'nogo byuro tekhnicheskoy informatsii lesnoy promyshlen-
nosti (for Nadbakh). 3. Direktor TSentral'nogo nauchno-
issledovatel'skogo instituta mekhanizatsii i energetiki lesnoy
promyshlennosti (for Voronitsyn). 4. Uchenyy sovet TSentral'nogo
nauchno-issledovatel'skogo instituta mekhanizatsii i energetiki
lesnoy promyshlennosti (for D'yakonov). 5. Nachal'nik otdeleniya
energetiki i sredstv avtomatizatsii TSentral'nogo nauchno-
issledovatel'skogo instituta mekhanizatsii i energetiki lesnoy
promyshlennosti (for Zaretskiy).
               (Lumbering)   (Electric power)

ROSTOVTSEV, K.O.; VOSKRESENSKIY, I.A.; D'YAKONOV, A.I.

New data on the geology and gas and oil deposits of the eastern regions of the Kuban. Trudy KF VNII no.6:38-66 '61. (MIRA 15:2) (Kuban--Petroleum geology) (Kuban--Gas, Natural--Geology)

D'YAKONOV, A.I.

Geology and prospects for finding gas and oil in Tuapse District,
Krasnodar Territory. Trudy KF VNII no.6:67-90 '61. (MIRA 15:2)
(Tuapse District--Petroleum geology)
(Tuapse District--Gas, Natural--Geology)

D'YAKONOV, A.I.; ROSTOVTSEV, K.O.; VOSKRESENSKIY, I.A.

New data on the geology of the Khadyzhensk and Shirvan-Bezvodnenskiy regions. Trudy KF VNII no.10:67-81 '62.

(MIRA 15:11)

(Caucasus—Geology)

VOSKRESENSKIY, I.A.; ROSTOVTSEV, K.O.; D'YAKONOV, A.I.

       Geology of the Barakayeyskoye field based on new data.
       Trudy KF VNII no.10:89-97 '62.   (MIRA 15:11)
            (Krasnodar Territory—Petroleum geology)
            (Krasnodar Territory—Gas, Natural—Geology)

D'YAKONOV, A.I.; MITIN, N.Ye.; SHELKOPLYAS, P.A.

Study of the Permian and Triassic sediments of the Belaya
Basin in the northwestern Caucasus. Trudy KF VNII
no.10:149-157 '62.   (MIRA 15:11)
   (Belaya Valley (Krasnodar Territory)—Geology, Stratigraphic)

D'YAKONOV, A.I.; KOROTKOV, B.S.

Geological structure and oil and gas potentials of the
southern slope of the northwestern Caucasus. Neftegaz.
geol. i geofiz. no.3:6-9 '63.   (MIRA 16:8)

1. Krasnodarskiy filial Vsesoyuznogo nauchno-issledovatel'-
skogo neftegazovogo instituta.

GORLOV, S.I.; D'YAKONOV, A.I.

Prospecting for oil and gas in the maikop sediments of the eastern Kuban. Neftegaz, geol. i geofiz. no.11: 6-8 '63
(MIRA 17:7)

1. Krasnodarskly filial Vsesoyuznogo neftegazovogo nauchno - issledovatel'skogo instituta.

GORLOV, S.I.; D'YAKONOV, A.I.

New data on the structure, and oil and gas potentials of the
Armavir-Nevinnomyssk region. Izv. vysh. ucheb. zav.; neft' i
gaz 6 no.3:9-13 '63.   (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova
i Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta.
              (Russia, Southern—Petroleum Geology)
              (Russia, Southern—Gas, Natural—Geology)

ALEKSIN, G.A.; GORLOV, S.I.; D'YAKONOV, A.I.

Determining the time of the formation of gas pools. Geol.
nefti i gaza 7 no.3:43-48 Mr '63.   (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut, Moskva, i Krasnodarskiy filial Vsesoyuznogo
neftegazovogo nauchno-issledovatel'skogo instituta.
          (Maikop region—Gas, Natural—Geology)

GORLOV, S.I.; D'YAKONOV, A.I.; NESTEROV, L.V.; SOKOLOV, P.N.

New gas-bearing area in the northern foothills of the Greater
Caucasus. Geol. nefti i gaza 7 no.5:39-43 My '63.
(MIRA 16:6)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta i Nauchno-promyslovoye upravleniye
Khadyzhenneft'.
(Caucasus—Gas, Natural—Geology)

D'YAKONOV, A.I.

Iacies characteristics of the lower Cretaceous sediments of the southern slope of the northwestern Caucasus in connection with prospects for finding oil and gas. Izv.vys.ucheb.zav.; geol. i razv. 6 no.11:73-85 N '63.   (MIRA 18:2)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchn -issle-dovatel'skogo instituta.

GORLOV, S.I.; D'YAKONOV, A.I.; ALEKSIN, G.A.

New oil and gas bearing region in the eastern Kuban. Neftegaz.
geol. i geofiz. no.6:35-39 '64.   (MIRA 17:8)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta i Vsesoyuznyy nauchno-issledovatel'-
skiy geologorazvedochnyy neftyanoy institut, Moskva.

D'YAKONOV, A.I.

Prospects for finding oil and gas in the Cretaceous sediments
of the Black Sea region. Vest. Mosk. un. Ser. 4: Geol. 19 no.1:
20-27 Ja-F '64.   (MIRA 18:2)

1. Kafedra geologii i geokhimii goryuchikh iskopayemykh Moskov-
skogo universiteta.

D'YAKONOV, A.I.

Geological prerequisites for oil and gas prospecting and prospecting
plan for the Black Sea region in Krasnodar Territory. Geol. nefti i
gaza 9 no.6:32-36 Je '65.   (MIRA 18:8)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skogo instituta.

KOSYKH, N. N. (Veterinary Doctor) and D'YAKONOV, A. T. (Veterinary Technician, B-Khoumutets Veterinary Section, Dobrovsk District, Lipetsk Oblast'). (Abstracted by NOSKOV, A. I.)

   "Treatment of herpes tonsurans".....
   Veterinariya, vol. 39, no. 3, March 1962 pp. 32

D'YAKONOV, A.P., nauchnyy sotrudnik

Natural draft ventilation in standard dairy barns. Veterinariia 42
no.4:91-94 Ap '65.   (MIRA 18:6)

1. Moskovskoye otdeleniye Vsesoyuznogo proyektnogo i nauchno-
issledovatel'skogo instituta tipovogo i eksperimental'nogo
proyektirovaniya sel'skokhozyaystvennykh proizvodstvennykh
kompleksov i predpriyatiy po khraneniyu i pererabotke zerna.

DYAKONOV, A. Ye.

Calculating re... h burners operating without blast. Gaz. prom.
8 no.3:35-36 '63.

(MIRA 16:7)

D'YAKONOV, B.P.

Principles of using amplitude and phase characteristics of an
electromagnetic field in electrical prospecting. Izv.AN SSSR.
Ser.geofiz. no.10:1207-1210 0 '56.   (MLRA 10:1)

1. Akademiya nauk SSSR Geofizicheskiy institut.
          (Prospecting--Geophysical methods)

/A cylinder in the field of
a Point Source of Electric Current
B P Inyasova, Bul. and oth...
Russian Chemica, Geolo...
direct of an inducing electric...
rotating magnetic field...
containing the...
circuit

D'YAKONOV, B. P.

49-3-15/16

AUTHOR: Kirillov, F. A.

TITLE: Conference of junior research workers, engineers and
            aspirants of the Institute of the Physics of the Earth,
            Ac. Sc., U.S.SR. (Konferentsiya mladshikh nauchnykh
            sotrudnikov, inzhenerov i aspirantov Instituta Fiziki
            Zemli AN SSSR).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya"
            (Bulletin of the Ac. Sc., Geophysics Series), 1957,
            No. 3, pp. 411-415 (U.S.S.R.)

ABSTRACT: The conference was held on December 24-26, 1956, 21
            papers were read relating to work completed in 1955 and
            1956. In this report the contents of the individual
            papers are briefly summarised.   B. P. D'yakonov read a
            paper "diffraction of Electro-Magnetic Waves on
            Spherical Inclusions in a Two-Layer Medium".

D'yakonov, B. P.

AUTHOR: D'yakonov, B. P.

49-6-12/21

TITLE: Nature of the electric currents of the Earth and their investigation at the bottom of the ocean. (Priroda zemnykh elektricheskikh tokov i ikh issledovaniye na dne okeana).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.6, pp. 800-802 (U.S.S.R.)

ABSTRACT: In spite of the fact that there is a great deal of work published on the study of currents in the sea, the author points out that most of the experimental work is extremely superficial. Recording of the electric currents in the sea by various authors was effected mainly by means of pick-ups submerged to shallow depths around the shores and, so far, there is no comparison between the electric currents in the sea and on the land recorded simultaneously by means of identical automatic recording apparatus. A further study of the natural electric currents will have to be made at larger depths and it will also be necessary to utilise the sea as a screen for certain frequencies of the electromagnetic field of external sources for the purpose of detecting the electro-magnetic signals emanating from the depths of the Earth. It is shown that at a depth of 2 km disturbances with periods.

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49-6-12/21

Nature of the electric currents of the Earth and their
investigation at the bottom of the ocean. (Cont.)

below 15 minutes will be appreciably weakened and this effect
can be utilised for attempting to record electromagnetic
disturbances of a new nature which so far have not been
studied.   No new experimental data are given. In conclusion
the author outlines some of the problems, the answers to
which could be revealed by means of the electromagnetic
disturbances with sources located inside the Earth: the very
fact of their existence will provide additional information
on the state and the structure of the internal regions of our
planet; if a correlation will be observed between the
recordings of currents at distant spots, there will be
adequate justification for the conclusion of the existence
of a unified system of currents which encompasses large
regions of the Earth; the seismic activity of the depth of
the Earth may cause so far unknown electromagnetic
disturbances which encompass limited regions and this would
be of great interest since it may permit solving the
difficult problem of forecasting earthquakes.
    There are 1 table and 14 references, 10 of which are Slavic.
SUBMITTED: February 23, 1956.
ASSOCIATION: Institute of Physics of the Earth, Ac.Sc.USSR.
Card 2/2   (Akademiya Nauk SSSR Institut Fiziki Zemli).
AVAILABLE: Library of Congress

3.1000

SOV/49-59-9-4/25

·AUTHOR: D'yakonov, B. P

TITLE: Diffraction of Electromagnetic Waves by a Circular
          Cylinder in a Uniform Half-Space

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,
          1959, Nr 9, pp 1332-1343 (USSR)

ABSTRACT: The aim of the present work is to solve the problem of the
          diffraction of electromagnetic waves by a cylindrical
          inclusion placed in a uniform half-space. The solution
          is expressed in a form which is convenient in certain
          calculations in connection with electrical prospecting.
          The problem is formulated in the following way. Consider
          an alternating electromagnetic field having a frequency ω
          which is produced by a source placed in air or on the
          Earth's surface. Under the Earth's surface there is an
          infinitely long cylindrical inclusion having a circular
          cross-section whose axis is parallel to the surface. The
          Earth and the inclusion are looked upon as uniform and
          anisotropic. In order to simplify the problem it is assumed
          that in the field produced by the source there is only one
          component of the electric field (parallel to the axis of

Card 1/4 the cylinder and constant along this axis). It is required

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SOV/49-59-9-4/25

·Diffraction of Electromagnetic Waves by a Circular Cylinder in a
Uniform Half-Space

to determine the electromagnetic field on the earth's sur-
face and also inside the Earth. The following symbols are
used: σ_3 - conductivity of the cylinder, ε_3 - dielectric
constant, a - radius, h - distance from the axis of the
cylinder to the Earth's surface. The characteristics of
the Earth and the air are given subscripts 1 and 2. The
magnetic permeability of the media is considered to be the
same. It is well known (Ref 2) that at all ordinary points
in space, a monochromatic electromagnetic field satisfies
the wave equation given by Eq (1), where $k = (i\mu\sigma\omega -$
$\varepsilon\mu\omega^2)^{1/2}$ is the wave number in the medium. The vector
potential $\underline{A}$ is given by Eq (2), and the relation between
the electric field and the vector potential by Eq (3),
since in the case under consideration div $\underline{A} = 0$. On the
boundaries between media with different electrical proper-
ties there should be a continuous tangential component of
both electric and magnetic fields. At infinity, the
diffracted field should obey the radiation principle. In
this way the problem formulated above is reduced to the

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· Diffraction of Electromagnetic Waves by a Circular Cylinder in a
Uniform Half-Space

solution of Eq (1) subject to given conditions on the
boundaries, the properties of the field at the source, and
the conditions at infinity. It follows from the formula-
tion of the problem that there exists only one component
of the vector potential both for the primary and the di-
ffracted fields. From Eqs (2) and (3) it is easy to show
that for the z-component of the vector potential the boun-
dary conditions are of the form given by Eq (4), where n
indicates the normal to the surface, and A_z and A_z'' are
vector potentials on either side of the boundary. The
problem is solved by separating the variables. The plane
Earth-air boundary is replaced by a cylindrical surface of
radius R_0 so that the distance h remains constant (Fig 1).
The problem is then reduced to that of two cylinders whose
axes are parallel but do not coincide. From the solution
of this problem, the required solution is obtained by
putting $R_0 \rightarrow \infty$ at constant h. The wave equation is then
transformed to polar coordinates (Eqs 5, 6, and 7) in
which case the boundary conditions assume the form given

Card 3/4   by Eqs (8) and (9). The solutions are written down in the

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Diffraction of Electromagnetic Waves by a Circular Cylinder in a
Uniform Half-Space

form of series (Eqs 10, 11 and 12) whose constants are then
obtained from the boundary conditions. It is shown that
the magnitude of the diffracted field reflected from the
Earth's surface cannot always be neglected. The solution
is not substantially altered if the vector potential is
introduced by the relation $\varepsilon E = \operatorname{rot} A$. It follows that
it is not difficult to extend the present solution to the
case where the magnetic field is along the z-axis and is
independent of z. There are 1 figure and 9 Soviet refer-
ences, of which 3 are translations from English.

ASSOCIATION: Akademiya nauk SSSR. Institut fiziki Zemli
        (AS USSR, Institute of Physics of the Earth)

SUBMITTED: December 1, 1956

Card 4/4

SOV/49-59-11-6/28

AUTHOR: D'yakonov, B.P.

TITLE: Diffraction of Electromagnetic Waves by a Sphere
            Placed in a Half-space

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,
            1959, Nr 11, pp 1579-1590 (USSR)

ABSTRACT: The problem is solved for a sphere having an arbitrary
          conductivity and placed in a conducting half-space with
          a plane boundary. The solution is obtained in a form
          convenient in low frequency electrical prospecting. The
          corresponding problem for a cylindrical inclusion was
          solved by the present author in Nr 9 (1959) of this
          journal. The magnetic permeability is assumed to be the
          same for the two media and the electromagnetic field is
          taken to be polarized so that there is only one
          component of the electrical field. Maxwell's equations
          are then solved subject to the usual boundary conditions,
          namely, that the tangential components of the electrical
          and magnetic fields are continuous across boundaries
          and the radiation principle holds at infinity. The
          wave equation for the problem is given by Eq (2), where
Card 1/3 U is the Hertz function defined by Eq (1) (Ref 3). Since

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Diffraction of Electromagnetic Waves by a Sphere Placed in a
Half-space

there are three media (air, earth and the inclusion),
there are three functions U and these must satisfy
Eqs (2a), (2b) and (2B). The boundary conditions (cf
Fig 1) are given by Eqs (3a) and (3b). Assuming that
the source is in the air, the solution is sought in
the form of the series given by Eqs (6), (7) and (8)
and the coefficients are determined from the boundary
conditions. Formulae are obtained for the expansion
coefficients in the form of an infinite system of
algebraic equations. In the first approximation the
final solution takes into account the effect of
diffracted waves reflected from the boundary
of the half-space on the current distribution
both in the sphere and the adjoining regions.
Thus the solution takes into account not only the
effect of the uniform half-space on the primary field
but also the effect of the interaction of the sphere
Card 2/3   with the "plane" boundary. There are 7 references, 6

SOV/49-59-11-6/28

Diffraction of Electromagnetic Waves by a Sphere Placed in a
Half-space

of which are Soviet (2 translations from English)
and 1 English, and 1 figure.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli
(Academy of Sciences USSR, Institute of Physics of
Earth)

SUBMITTED: January 25, 1957

Card 3/3

3,9100
9,9700

AUTHOR: D'yakonov, B.P.

TITLE: Asymptotic Expressions for the Electromagnetic Fields Due to Cylindrical Inclusions

TEXT: In order to investigate the principal features of anomalous electromagnetic fields due to inclusions under the Earth surface, it is frequently convenient to replace these inclusions by simple geometrical forms, e.g. cylindrical bodies. The present paper derives expressions for the electromagnetic fields due to massive extended objects in the form of right circular cylinders. Use is made of the solutions obtained by the author in a previous paper (Ref. 1) for the diffraction of electromagnetic waves by a right circular cylinder in a half space. It is shown that the vertical component of the anomalous magnetic field

decreases along the surface at least as $1/y^3$ while the

Card 1/3

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S/049/60/000/007/004/009/XX
E032/E314

Asymptotic Expressions for the Electromagnetic Fields Due
to Cylindrical Inclusions

electric component and the horizontal component of the
magnetic field decrease as $1/y^2$. These results confirm
that it is useful to measure the horizontal components of
anomalous electromagnetic fields in searches for local
anomalies. It is also shown that the vertical component of
the anomalous magnetic field will be much stronger in regions
where there are considerable irregularities in the medium in
the horizontal directions and this is in agreement with
experimental data.
There are 3 references: 2 Soviet and 1 non-Soviet.

Card 2/3

86313
S/049/60/000/007/004/009/XX
E032/E314

Asymptotic Expressions for the Electromagnetic Fields Due to
Cylindrical Inclusions

ASSOCIATION: Akademiya nauk SSSR Institute fiziki Zemli
(Academy of Sciences of the USSR, Institute
of Physics of the Earth)

SUBMITTED: September 10, 1957

Card 3/3

D'YAKONOV, B. V. TIKHONOV, A.N., IVANOV, A.G., and TROITSKAYA, V.A.

"Relationship Between Earth Currents and Earthquakes" Tr. Geofiz. in-ta AN SSSR,
No 25, 1954, 181-191

A relationship between the propagation of seismic waves and the ap-
pearance of an electromagnetic perturbation, the so-called seismoelectric
effect is held possible, The effect originates in slow undulations of the
terrestrial core which may propagate as an elastic wave. The noticed coincidences
of seismic waves and electric perturbations indicate the necesity of recording
the slow motions of the terrestrial core. (RZhFiz, No 10, 1955)

D'YAKONOV, D. I.

Dakhnov, V. N.

Termicheskiye Issledovaniya Skvazhin [Thermic Research on Oil Wells By] V. N. Dakhnov
I D. I. D'Yakonov.
Moskva, Gostoptekhizdat, 1952.
251 P. Diagrs., Tables.
"Literatura": P. 246- 251.

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DAKHNOV, Vladimir Nikolayevich, professor; D'YAKONOV,D.I., redaktor; PETRO-
VA,Ye.A., redaktor; POLOSINA,A.S., tekhnicheskiy redaktor

[Interpretation of the results of geophysical studies of well pro-
files] Interpretatsiia rezul'tatov geofizicheskikh issledovanii raz-
rezov skvazhin. Moskva, Gos.nauchno-tekhn. izd-vo neftianoi i gorno-
toplivnoi lit-ry, 1955. 492 p. ----- --- [Album of charts for inter-
preting the results of well studies by resistance methods; an ap-
pendix] ---- ---- Al'bom paletok dlia interpretatsii rezul'tatov issle-
dovaniia skvazhin me5odom soprotivlenii; prilozhenie. 17 graphs
(in portfolio)   (MIRA 9:3)
          (Prospecting--Geophysical methods)

D'YAKONOV, D.I., dotsent.

Improving the interpretation and utilization of applied geophysical
data in the petroleum industry. Trudy MNI no.15:5-12 '55.
(MLRA 9:8)
(Prospecting--Geophysical methods) (Petroleum engineering)

D'YAKONOV, D. I. Doc Geol-Min Sci -- (diss) "Thermal methods of solving geological and petroleum(problems." Mos, 1959. 30 pp (Min of Higher Education USSR. Mos Order of Labor Red Banner Inst of Petroleum-Chemistry and Gas Industry im I. M. Gubkin. Chair of Mining Geophysics), 150 copies (KL, 52-58, 99)

-21-

3(5)28(5)   PHASE I BOOK EXPLOITATION   SOV/1262

D'yakonov, Dmitriy Ivanovich

Geotermiya v neftyanoy geologii (Application of Geothermal Surveys in Petroleum
    Geology) Moscow, Gostoptekhizdat, 1958. 276 p. 2,500 copies printed.

Ed.: Dakhnov, V.N.; Exec. Ed.: Dobrynina, N.P.; Tech. Ed.: Mukhina, E.A.

PURPOSE: This volume is intended for geologists, geophysicists, and petroleum
    engineers and may also be used by students at petroleum institutes. As a
    textbook it can be used as a guide in conducting and interpreting geothermal
    surveys in mining and in the solution of hydrogeological or engineering-
    geological problems. It is also useful in the study of the geothermal
    characteristics of coal, salt and other mineral deposits.

COVERAGE: This work discusses the history of the geothermal method and evaluates
    its scientific and practical value. It further describes the theoretical
    principles, the methodology of exploration and the interpretative techniques
    essential in geothermal borehole surveying. Particular attention is paid to
    the geothermal surveying of oilwells. By collecting and interpreting a large
    amount of basic field data, the author establishes the thermal characteristics

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of many oil-bearing districts of the USSR.   He also establishes basic relation-
ships between the many factors bearing on the problems of exploration or ex-
ploitation of oil and gas producing fields.   The author thanks Professor V.N.
Dakhnov for his assistance in editing the work.   There are 48 figures, 24
tables and 224 references, of which 169 are Soviet, 50 English, 4 German, and
1 French.

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DYAKONOV, D. I.

24(6)   SOV/2768

PHASE I BOOK EXPLOITATION

Vsesoyuznoye soveshchaniye po geotermicheskim issledovaniyam. 1st, 1956.

Problemy geotermii i prakticheskogo ispol'zovaniya tepla zemli; trudy, t.1 (Geothermal Problems and the Practical Utilization of Terrestrial Heat; Transactions of the 1st All-Union Conference on Geothermal Investigation, Vol. 1) Moscow, Izd-vo AN SSSR, 1959. 254 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk.

Ed. of Publishing House: L. V. Gassen; Tech. Ed.: I. N. Dorozhkin; Editorial Board: V. I. Vlodavets (Chairman), I. D. Dergunor (Deceased), V. V. Ivanov, F. A. Makarenko, and M. I. Khitarov.

PURPOSE: This book is intended for geologists, hydrogeologists, and geophysicists in general and petroleum and coal geologists in particular.

COVERAGE: This book, one of two published on the subject, is a collection of 22 articles based on reports presented at the First All-Union Conference on Geothermal Studies held in March, 1956. The Conference was organized by the Laboratory of Vulcanology, the Laboratory of Hydrogeological Problems in the F. P. Savarenskiy, the Institute of Geochemistry and Analytical Chemistry, the Geophysical Institute, and was attended by representatives of more than 60 research organizations. The material presented in this volume may be divided into three general categories: (1) general geothermal problems of the Earth (2) current status and methods of geothermal research (3) regional geothermal problems. References accompany each article.

D'YAKONOV, D.I.

Geothermal investigations in areal geology and subsurface tectonics.
Geol. nefti i gaza 4 no.11:50-54 N '60.   (MIRA 13:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akademika Gubkina.
                     (Earth temperature)

DAKHNOV, V.N.; KOBRANOVA, V.N.; PECHERNIKOV, V.F.; BENDEL'SHTEYN; B.Yu.;
    KHOLIN, A.I.; POZIN, L.Z., D'YAKONOV, D.I.; LATYSHEVA, M.G.;
    DOBRYNIN, V.M.; LARIONOV, V.V.; HEYMAN, Ye.A.; LEBEDEV, A.P.

    Terminology and symbols used in applied geophysics. Prikl. geofiz.
    no.27:223-235 '60.   (MIRA 13:12)
                    (Prospecting—Geophysical methods)

VASIL'YEV, Yu.M.; D'YAKONOV, D.I.; CHARYGIN, M.M.

Most important physical parameters of the deep-seated structures
of the Caspian Lowland. Trudy MINKHiGP no.43:178-191 '63.
(MIRA 17:4)

D'YAKONOV, D.I.

Some regularities in the distribution of the natural thermal field and possibilities of using geothermy. Trudy MINKHIGP no.50:208-214 '64   (MIRA 18:2)

ACC NR: AT6028387   SOURCE CODE: UR/0000/65/000/000/0267/0274

AUTHOR: D'yakonov, D. I.

ORG: none

TITLE: Geothermal investigations in oil- and gas-bearing regions

SOURCE: International Geological Congress. 22d, New Delhi, 1964. Geologicheskiye rezul'taty prikladnoy geofiziki (Geological results of applied geophysics); doklady sovetskikh geologov, problema 2. Moscow, Izd-vo Nedra, 1965, 267-274

TOPIC TAGS: geology, geologic conference, geothermal exploration, petroleum prospecting, gas prospecting, prospecting, geologic exploration

ABSTRACT: In the present paper the possibilities of applying geothermal methods in prospecting for oil and gas are analyzed. The use of these methods in oil- and gas-bearing regions of the USSR and other countries made it possible to establish the principal regularities in the distribution of the Earth's thermal field based on lithological, tectonic, and geohydrological factors. Geothermal prospecting methods provide the solution of the following problems: a) determination of temperatures and geothermal characteristics of subsurface formations, b) location of various minerals by investigation of local thermal fields produced by exothermal and endothermal processes; c) detection of inflows and annular circulation of water, water-yielding and water-absorbing formations, position and characteristics of cement

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in the annular space; d) more exact definition of geological structure of oil and gas fields and study of deep-seated tectonics; e) study of geohydrological and frost (in permafrost areas) characteristics of oil and gas fields; f) control of the development of oil and gas fields. The most important trends of geothermal research are as follows: a) development of theoretical basis of thermodynamics and thermal regime of the Earth's crust; b) systematic determinations of thermal properties of rocks and formation fluids; c) compilation of local and regional geothermal maps; d) preparation of instructions for conducting geothermal investigations in oil and gas fields.

SUB CODE: 08/   SUBM DATE: 06Jan65/ ORIG REF: 004

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L 05343-67   EWT(1)   FDN/GW

ACC NR: AP7000247   SOURCE CODE: UR/0020/66/168/004/0871/0873

AUTHOR: Vasil'yev, Yu. M.; D'yakanov, D. I.; Charygin, M. M.

ORG: Moscow Institute of Petroleum Chemistry and Gas Industry im. I. M. Gubkin
(Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti)

TITLE: Temperature of the deep layers of the Caspian Depression on the basis of data
from the Aral-Sor Superdeep Borehole

SOURCE: AN SSSR. Doklady, v. 168, no. 4, 1966, 871-873

TOPIC TAGS: geophysics, thermogram

ABSTRACT: The authors present the first results of geothermal investigations made
in the Aral-Sor superdeep borehole which is being drilled in the Caspian de-
pression. The data are as follow:

Depth, m	Temperature, °C
500	27
1,000	40
2,000	56
3,000	71
4,000	87
5,000	123
5,941	150

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ACC NR: AP7000247

The analysis of geothermograms revealed that the sedimentary complex in the depression consists of deposits which differ in thermal properties; there are many layers which differ in lithological composition and heat conductivity. This paper gives full details on the geothermal gradient for each of the stratigraphic components of the geological cross section. This paper was presented by Academician D. I. Shcherbakov on 6 January 1966. [JPRS: 37,058]

SUB CODE: 08 / SUBM DATE: 06 Jan 66

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PANASENKO, S.I., inzh.; SHCHERBINA, E.G., inzh.; AKSENOV, V.V., kand. tekhn. nauk; D'YAKONOV, D.M., inzh.; MIRONOV, N.T., inzh.

Testing experimental sections of the support of the AKD unit.
Ugol'. prom. no.6:54-57 N-D '62.   (MIRA 16:2)

1. Toretskiy mashinostroitel'nyy zavod (for Panasenko, Shcherbina).
2. Institut gornogo dela im. Skochinskogo (for Aksenov, D'yakonov, Mironov).

(Mine timbering--Testing)

AKSENOV, V.V., kand. tekhn. nauk, nauchnyy rukovoditel'; D'YAKONOV,
     D.N., inzh.; MIRONOV, N.T., inzh.; YAKOVLEVA, L.A., red.;
     GERASIMOV, V.F., tekhnolog

     [Optimum parameters of a system of working steep seams with
     stoping machinery and the efficiency of mechanized mining]
     Optimal'nye parametry sistemy razrabotki krutykh plastov
     ochistnymi agregatami i effektivnost' agregatnoi vyemki;
     kratkii nauchnyi otchet. Moskva, AN SSSR, 1963. 46 p.
                                              (MIRA 16:10)
     1. Akademiya nauk SSSR. Laboratoriya podzemnoy razrabotki
     ugol'nykh mestorozhdeniy.
          (Donets Basin—Coal mines and mining)

D'YAKONOV, D.N., inzh.

Basic parameters of a stope for the AKD unit. Nauch. soob IGD
20:72-81 '63.   (MIRA 16:10)

(Donets Basin--Coal mining machinery)

SHAKHOV, A.A.; STANKO, S.A.; KHAZANOV, V.S.; D'YAKONOV, F.S.

Spectral characteristics of plants. Bot.zhur. 44 no.12:1681-1693
D '59.   (MIRA 13:4)

1. Institut fiziologii rasteniy AN SSSR, 1 Vsesoyuznyy nauchno-
issledovatel'skiy svetotekhnicheskiy institut, Moskva.
      (Arctic regions--Leaves--Optical properties)

D' YAKONOV, F. V.

Economic Geography

Dissertation: "Geography of the Economy of Southwestern Yakutsk ASSR." Cand Geog
Sci, Moscow State Pedagogical Inst imeni V. I. Lenin, 22 Mar 54. (Vechernyaya Moskva
Moscow, 13 Mar 54)

SO: SUM 213, 20 Sep 1954

D'YAKONOV, F.V.; NAUMOV, G.V.

"Economic and Geographic Characteristics of the Southwestern Part of the Yakut A.S.S.R."

p. 6 Trudy Akad. Nauk SSSR, Yakutsk Filial, No. 1, 1956.