high latitude stations (up to 50° of geomagnetic latitude) were used in the study, by taking the parameters f_{min} and f_0F2 from ionospheric data. Graphs were plotted on the dependence of time (t) of the anomaly beginning on the effective latitude $\bar{\lambda}$ (in coordinates $\bar{\lambda}$ vs. t and $\bar{\lambda}$ vs Δ t; where Δ t is the duration of anomalous absorption in the polar cap). The heliophysical phenomena were investigated for the same period. Two active areas (A and B) were present in the sun during the period from March 30 to April 20 (See Solnechnye dannye, 1958, No. 4. and Quart. Bull. Solar Activity, 1958, No. 2). The entire complex of disturbances which occurred between April 10 and 20 was tentatively explained on the basis of these data. The flocculus in area A emitted, on April 8, a corpuscular stream (stream 1) of low velocity which reached the earth orbit and caught the earth on April 14, causing a storm with a gradual beginning (the earth entered the stream from the lateral side). The chromospheric solar flare (φ=11°N, λ=40°W) occurred at 14 hrs. 30 min. in the region B of the sun (eastern part, latitude ~10-20° N). It generated high-energy particles causing an anomalous absorption in the polar cap on April 10. The prolonged wandering of particles in space was caused by the presence of stream 1 and magnetic heterogeneity. This explained also the isotropic intrusion of particles into the ionosphere of the entire polar cap. The same flare emitted another corpuscular

L 9781-66

ACC NR: AP5025483

stream (stream 2) which passed the earth without reacting with the earth's magnetic field because of its high velocity. Till the evening of April 11 stream 2 caused a local effect of a decrease in cosmic rays and ionosphere for European zone, which was at this moment in the evening side. The geomagnetic storm of the SC type, which occurred at 20 hrs. 48 min. on April 15 could have been caused by corpuscular stream 3, emitted by the chromospheric solar flare generated in the area B and having the coordinates $\varphi = 14^{\circ}N$ and $\lambda = 36^{\circ}W$. Orig. art. has: 4 figures.

SUB CODE: 08,04/SUBM DATE: 07Dec64/ NR REF SOV: 004/ OTHER: 002

3/3

L 28902-66 EWT(1) GW

ACC NR: AP6019172 SOURCE CODE: UR/0251/65/039/003/0555/0560

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M. 40 B

ORG: Institute of Geophysics, AN GruzSSR (Institute geofiziki AN GruzSSR)

TITLE: Problem of anomalous absorption in the polar cap

SOURCE: AN GruzSSR. Soobshcheniya, v. 39, no. 3, 1965, 555-560

TOPIC TAGS: solar flare, solar chromosphere, solar radio emission, ionospheric sounder, solar corpuscular radiation, magnetic storm, solar radiation absorption, storm

ABSTRACT: This study is devoted to a detailed investigation of a particular case of anomalous polar cap absorption associated with the chromospheric flare of 7 July 1958. The authors used data from vertical soundings of the ionosphere at 67 stations in the northern and 34 stations in the southern hemisphere. The particular flare was of importance 3+ and it and the related active region are described. This flare was accompanied by powerful solar radio emission at all frequencies; the onset of the flare coincided with a type-II radio burst and the maximum of the flare coincided with type-IV radio burst. The entire development of the process in the sun-space-earth system is analyzed. The corpuscular stream emanating from this flare attained the earth's orbit and caused a geomagnetic and an ionospheric storm, as well as earth current and cosmic ray storms. When the earth entered the corpuscular stream particles with 1 Mev or less penetrated into the ionosphere over the auroral zone along the lines of force, thereby causing anomalous type-II absorption. The technique used in detecting the time of anomalous absorption is described. The anomalous absorption began simultaneously at all stations in the northern hemisphere southward to latitude $\bar{\lambda} = 64°$. This paper was presented by Corresponding Member AN GruzSSR, Academician M. M. Mirianashvili on 14 January 1965. Orig. art. has: 4 figures and 2 formulas. [JPRS]

SUB CODE: 03, 08 / SUBM DATE: 14Jan65 / ORIG REF: 007 / OTH REF: 002

Card 1/1 CC

L 43160-66 EWT(1)/FCC GW

ACC NR: AP6018924 SOURCE CODE: UR/0203/66/006/003/0588/0589

AUTHOR: Khocholava, G. M.; Gachechiladze, R. G.

ORG: Institute of Geophysics, AN GruzSSR (Institut geofiziki AN GruzSSR)

TITLE: Nature of disturbances in the F2 region of the ionosphere at middle latitudes

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 588-589

TOPIC TAGS: ionospheric disturbance, F layer, Earth magnetic field, geomagnetic disturbance

ABSTRACT: In an analysis of the character of ionospheric disturbances at middle latitudes, use was made of data obtained from vertical sounding of the ionosphere during the IGY by six stations located in the latitude range of 02-65°N. The initial data employed were the critical frequencies of the F2 layer. Graphs were plotted for deviations of these frequencies from the normal level (F2, %). The disturbance pattern was studied by using different methods of processing the data, in order to determine whether positive disturbances are due to errors inherent in the method itself or whether they actually occur at middle latitudes. The following conclusions were reached: (1) the median calculated for magnetically quiet days can be used at all latitudes; (2) positive disturbances are observed only at low (equatorial) latitudes, and also during winter months at geomagnetic latitudes above 47° (nocturnal winter anomaly); (3) positive disturbances are lacking at middle latitudes. Isolated cases of positive distrubances observed by some stations at middle latitudes are strictly local

Card 1/2 UDC: 550.388.2

L 43160-66

ACC NR: AP6018924

in character and have nothing in common with the development of the overall planetary character of the disturbances of the earth's magnetic field. Orig. art. has: 2 figures and 1 table.

SUB CODE: 04,08/SUBM DATE: 04Dec65/ ORIG REF: 003

Card 2/2 MLP

L 10838-67 EWT(1)/FCC GW

ACC NR: AR6032355 SOURCE CODE: UR/0169/66/000/007/A052/A052

AUTHOR: Abuladze, N. B.; Khocholava, G. M.; Chikovani, D. S.

TITLE: Some parameters of type Sc geomagnetic storms

SOURCE: Ref. zh. Geofizika, Abs. 7A317

REF SOURCE: Sb. Nekotoryye vopr. issled. elektromagnitn. polya Zemli, no. 1(23), Tbilisi, Metsniyereba, 1965, 46-51

TOPIC TAGS: storm, magnetic storm, geomagnetic storm, anomalous absorption, polar cap, geomagnetic latitude

ABSTRACT: Some parameters of fluxes for magnetic storms following anomalous absorption in the polar cap (AAPC) were investigated on the basis of data obtained at the Dusheti Magnetic Observatory and the ionospheric data for the IGY. These parameters are compared with the parameters of usual fluxes. Also, AAPC dynamism in the period of the development of a geomagnetic storm was studied. On the basis of the condition that the energy density of the corpuscular flux at the boundary of the magnetosphere and that of the geomagnetic field are equal, the authors derive a formula connecting the magnetospheric radius R with the increase

Card 1/2 UDC: 550.385.4

L 10838-67

ACC NR: AR6032355

of the geomagnetic field and on the equator into the initial stage of storm ΔH. R and flux densities n are calculated for various storms. It is concluded that in comparison with ordinary storms, the storms correlated with AAPC have a larger R and a lower n. It is stated that denser fluxes possess more intensive magnetic fields. It is noted that there is a divergence between theoretical and experimental values of the geomagnetic latitude of the external zone of anomalous absorption. This divergence is especially noticeable at the moment of the highest geomagnetic field depression. I. Kovalevskiy. [Translation of abstract]

SUB CODE: 08/

Card 2/2 blp

ACC NR: AR6032354 SOURCE CODE: UR/0169/66/000/007/A042/A043

AUTHOR: Katsiashvili, N. A.; Matsaberidze, V. S.; Khocholava, G. M.

TITLE: Magneto-ionospheric disturbances correlated with anomalous absorption in the polar cap

SOURCE: Ref. zh. Geofizika, Abs. 7A254

REF SOURCE: Sb. Nekotoryye vopr. issled. elektromagnitn. polya Zemli. No. 1(23). Tbilisi, Metsniyereba, 1965, 52-61

TOPIC TAGS: ionospheric disturbance, geomagnetic disturbance, anomalous absorption, geomagnetic storm, polar cap absorption

ABSTRACT: Magneto-ionospheric disturbances correlated with anomalous absorption in the polar cap (AAPC) were studied on the basis of data for the International Geophysical Year obtained at the Dusheti Magnetic Observatory and at 12 Soviet Ionospheric stations. Their characteristics are compared with storms which are not correlated with AAPC. The following conclusions were reached: 1) Sc* type geomagnetic storms with a preliminary negative momentum (for Dusheti) have almost no correlation with AAPC; 2) the presence of the preliminary

Card 1/2 UDC: 550.338.2:550.385.4

ACC NR: AR6032354

negative momentum is explained by the influence of the daily course of disturbed S_D variation; however, the Zinger hypothesis on the influence of hydromagnetic waves is not excluded from the investigation; 3) in the majority of cases, sharper and deeper subsidence into H is characteristic of geomagnetic storms which correlate with AAPC; this is explained by the high energy of fluxes which cause these storms; 4) the conclusion of Hokura that in the period of AAPC the state of the F2 layer is normal before the start of the geomagnetic storm, a fact indicates that the AAPC is of a local nature, is confirmed by numerous data; 5) the majority of ionospheric disturbances connected with AAPC are negative; 6) the amplitude of the F2 layer disturbances decreases, while the delay time in relation to the magnetic storm increases with a decrease in latitude, which demonstrates the corpuscular nature of the agent responsible for this phenomenon; 7) the delay time of the start of an ionospheric disturbance in relation to a magnetic storm depends on whether at the start of the storm the station is within or outside of the forbidden zone; 8) in the majority of cases, a lowering of f_0F2 is accompanied by a sharp increase in the h'F layer, while at normal layer heights f_0F2 rises. I. Kovalewskiy. [Translation of abstract] [DW]

SUB CODE: 20, 04/

Card 2/2

ACC NR: AR6035547 SOURCE CODE: UR/0269/66/000/010/0058/0058

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.

TITLE: Ionospheric disturbances caused by great chromospheric flares

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.419

REF SOURCE: Sb. Nekotoryye vopr. issled. elektromagnitn. polya Zemli. No. 1(23), Tbilisi, Metsniyereba, 1965, 62-73

TOPIC TAGS: ionospheric disturbance, solar flare, ionospheric absorption, magnetic storm, anomalous ionospheric absorption, polar cap, corpuscular stream

ABSTRACT: Several cases of type-III anomalous absorption recorded for the period July 1957—July 1960, are investigated. The possibility of a connection between some periods of anomalous ionospheric absorption in the polar cap and solar flares of force 2 and 2^+ is suggested. Two types of anomalous absorption, "simultaneous" and the "gradual" types, have been detected in the polar cap. The phenomena of type-I start with a small delay following the start of a solar flare (most frequently in the western section of the solar disk) and embrace the entire polar cap simul-

Card 1/2 UDC: 523.75:525.23

ACC NR: AR6035547

taneously. Type II phenomena start at one or several stations and gradually embrace the entire polar cap but in the first 10 to 15 hours the absorption is not total. Generally, these cases follow flares occurring in the eastern solar hemisphere. It is supposed that the magnetic field intensity of the corpuscular stream may be one of the factors determining the division of anomalous absorption in the polar cap into two types. Daily variations and the duration of anomalous absorption in the polar cap are investigated. The evolution of anomalous absorption may be divided into three stages: prior to, during, and following the magnetic storm. On the basis of experimental data, a mechanism of the origin of all the three stages of anomalous absorption is suggested. Bibliography has 20 titles. I. Odintsova. [Translation of abstract] [DW]

SUB CODE: 03/

Card 2/2

ACC NR: AT6028209 SOURCE CODE: UR/2502/65/001/000/0062/0073

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.

ORG: none

TITLE: Ionospheric perturbations caused by large chromospheric flares

SOURCE: AN GruzSSR. Institut geofiziki. Trudy, v. 1(23), 1965. Nekotoryye voprosy issledovaniya eletromagnitnogo polya Zemli (Some problems in the investigation of the earth's electromagnetic field), 62-73

TOPIC TAGS: solar chromosphere, solar flare, ionospheric disturbance, ionospheric absorption

ABSTRACT: This paper studies all cases of type III anomalous absorption recorded from July 1957 to June 1960 in the polar cap and the laws governing it. The material used is from the world data center for IGY, Moscow (mirovoy tsentr dannykh MGG). The topics discussed include the relationship between anomalous absorption and solar activity. It is noted that of the 37 cases in the polar cap 29 may be linked to chromospheric flares of intensity 3 and 3+, and the other eight to flares of intensity 2 and 2+. Two types of anomalous absorption in the polar cap corresponding to the "early" and "late" types of Sakurai are considered. Daily variation and length of anomalous absorption in the solar cap where absorption continuously increases for about one day and deteriorates over several days is discussed: one flare causes 2-3 days

Card 1/2

ACC NR: AT6028209

absorption, several flares, 7-10 days. The state of the F_2 layer of the ionosphere during anomalous absorption in the solar cap is discussed and it is noted that it is almost impossible to determine in the polar cap and at high latitudes. Its state can be determined below 60°, but no planet-wide picture can be established. Soviet data on 14 ionospheric storms indicates normality of the F_2 layer. Orig. art. has: 1 formula, 2 tables, and 6 figures.

SUB CODE: 04,03/ SUBM DATE: none/ ORIG REF: 016/ OTH REF: 004

Card 2/2

KHOCHOLAVA, I. A.

Khocholava, I. A.: "A more precise calculation of input coefficients of raw tea per unit of finished product", (For four tea factories of the Chay-Gruziya Trust), - In index: A. A. Khocholava, Byulleten' Vsesoyuz. mauch. p issled. in-ta chaya i subtrop. kul'tur, 1948, No. 3, p. 104-08.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

KHOCHOLOVA, I. A.

Khocholova, I. A. : "On the selection of finished tea", (For four tea factories of the Chay-Gruziya Trust), Byulleten'Vsesoyuz. nauch. -issled. in-ta chaya i subtrop. kul'tur, 1948, No. 4, p. 114-21.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

Name: KHOCHOLAV, Ivan Andreyevich

Dissertation: Technology of Tea

Degree: Doc Tech Sci

Affiliation: All-Union Sci Res Inst of the Tea Industry

Defense Date, Place: 5 Jun 56, Council of Georgian Order of Labor Red Banner Agr Inst

Certification Date: 12 Jan 57

Source: BMVO 7/57

KHOCHOLAVA, I.A., doktor tekhn.nauk

Peaks in the tea industry and ways of eliminating them. Trudy VNIICHP no.1:3-15 '58. (MIRA 12:5)
(Tea trade)

DAVITAYA, I.P., professor; KHOCHOLAVA, K.H.

Intracerebral pneumocephalus. Vop.neirokhir. 20 no.2:55-57 Mr-Ap '56.
(MLRA 9:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki lechebnogo fakul'teta Tbilisskogo meditsinskogo instituta

(BRAIN, dis.
pneumocephalus caused by gunshot wound of brain)
(WOUNDS AND INJURIES
gunshot wound of brain causing pneumocephalus)

NOSACH, Ye.G.; KHOCHOLAVA, V.N., inzh.

Phase registration of the disconnection of short-circuits by switches. Energetik 11 no.1:17-18 Ja '63. (MIRA 16:1)
(Electric power distribution). (Electric protection)

KHODA, V. (Odessa)

Coating the chassis with lacquer. Radio no.6:56 Je '57. (MIRA 10:7)
(Radio--Apparatus and supplies)

KHODABA, A. I.

USSR/Pharmacology. Toxicology. Tranquilizers V

Abs Jour : Ref Zhur - Biol., No II, 1958, No 51905

Author : Galenko V. Ye. Khodaba A.I.
Inst : -
Title : Experimental Application of Serpasil in Psychiatric Diseases

Orig Pub : V. sb. Vopr. psikhiatrii, Vyp 2, M., 1957, 36-38

Abstract : No abstract

Card : 1/1

KHODAK, A. N

N/5
615.918
.N1

Nomenklaturnyy spisok detaley oborudovaniya, podlezhashchikh plamennoy poverkhnostnoy zakalke (Classed List of Equipment Subject to Flaming Case Hardening, by) M. V. Naboka, P. I. Rodzevich, A. H. Khodak. Khar'kov, metallurgizdat, 1952.

71 p.

At head of title: Russia. Nauchnoissledovatel'skoye byuro organizatsiy proizvodstva chernoy metallurgii.

KHODAK, A.N.

RAYKO, V.V.nauchnyy sotrudnik; VOLKOV, Ya.R.nauchnyy sotrudnik; LEVITSKIY, D.A.nauchnyy sotrudnik; KHODAK, A.N.nauchnyy sotrudnik; RATNER, Yu.Z. inzhener; VORODIMOV, N.I.inzhener; GRISHAYEV, N.N.inzhener; SHULYATSKIY, D.I., inzhener, redaktor; ANDREYEV, S.A., tekhnicheskiy redaktor

[Rules for the technical operation of cranes] Pravila tekhnicheskoi ekspluatatsii pod" emnykh kranov. Khar'kov, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 167 p. (MLRA 10:5)

1. Russia (1923 U.S.S.R.) Ministerstvo chernoy metallurgii. 2. Vsesoiuznyy nauchno-issledovatel'skiy institut organizatsii chernoy metallurgii. (for Rayko, Volkov, Levitskiy, Khodak) 3. Otdel glavnogo mekhanika Ministerstva chernoy metallurgii. (for Shulyatskiy) 4. Zavod "Azovstal'" (for Ratner) 5. Zavod "Zaporozhstal'" (for Vorodimov, Grishayev)

(Cranes, derricks, etc.)

RAYKO, V.V., nauchnyy sotrudnik; NIKBERG, I.M., nauchnyy sotrudnik; KHODAK, A.N., nauchnyy sotrudnik; PEVEDUSHCHIY, A.I., nauchnyy sotrudnik; VOLKOV, Ye.R., nauchnyy sotrudnik; PEYCHEV, G.P., otv. red.; IPATOV, P.P., red.; SHULYATSKIY, D.M., red.; BURKSER, L.D., red.; BALASKVICH, Yu.Yu., red.; SVETCHENKO, V.N., red.; KRYLOVSKIY, A.P., red.; SINYAVSKAYA, Ye.K., red.izd-va; ANDREYEV, S.P., tekhn.red.

[Regulations for operating the mechanical equipment of rolling mills] Pravila tekhnicheskoi ekspluatatsii mekhanicheskogo oborudovaniia prokatnykh tsekhov. Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 247 p. (MIRA 12:9)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii proizvodstva i truda chernoy metallurgii. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii proizvodstva i truda chernoy metallurgii (VNIIOChERMET) (for Rayko, Nikberg, Khodak, Pevedushchiy, Volkov). 3. Otdel glavnogo mekhanika byvshego Ministerstva chernoy metallurgii SSSR (for Ipatov, Shulyatskiy). 4. Zavod imeni Dzerzhinskogo (for Burkser, Balasevich). 5. Zavod imeni Kirova (for Svetchenko). 6. Zavod imeni Voroshilova (for Krylovskiy).
(Rolling mills--Equipment and supplies)

KHODAK, A.S., (Bryansk).

Determination of small concentrations of ethyl alcohol. Apt.delo 2 no.2: 69-71 Mr-Ap '53. (MLRA 6:5)
(Alcohol, Denatured)

(CA 47 no.16:7949 '53)

Khodak, A. S.

Rapid method of detection of methyl alcohol in different materials. A. S. Khodak. *Apteknoe Delo* 4, No. 6, 30–3 (1955).—An appl. is described by which the MeOH vapors of the boiling material are absorbed in either 2% $K_2Cr_2O_7$ in 25% H_2SO_4 or 2% $KMnO_4$ in 5% H_2SO_4 to be oxidized to HClO. The latter is carried over to a soln. of a few grains of either morphine, codeine, or dionine in 2–3 cc. of H_2SO_4. In the presence of H_2O_2 a red-violet coloration changing to violet and forming a ring between the two liquids takes place. The limit of sensitivity is 0.2 cc./100 cc. In case of alc. or alc. fluids 2–10 cc. dild. to 50–100 cc. and in case of urine 100–200 cc. previously acidified with oxalic or tartaric acid are taken for analysis. In chem.-legal cases 100–200 g. of cadaver material crushed and worked into a paste with either acidified urine or distd. water are used.

A. S. Mikhin

KHODAK, A.S.

Quantitative determination of small concentrations of ethyl alcohol in biological materials and pharmaceutical preparations. Apt.delo 6 no.1:42-45 Ja-F '57. (MLRA 10:3)

1. Iz byuro sudebno-meditsinskoy ekspertizy Bryanskoy oblasti (nachal'nik S.P.Zubkov)
(ETHYL ALCOHOL)

BRODSKIY, I.I., inzh.; GNILENKO, B.A.; KRYUKOV, G.Ya.; MARSHAK, V.I.; KHODAK, I.Z.

Modernization of a continuous pipe-rolling mill. Mekh.i avtom. proizv. 14 no.1:24-26 Ja '60. (MIRA 13:5)
(Pipe mills)

KHODAK, K. M.

KHODAK, K. M.: "The functional state of the higher portions of the central nervous system in various phases and in various clinical forms of rheumatism in children." Khar'kov Medical Inst. Khar'kov, 1956.
(Dissertation for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya letopis', No 23, 1956.

CA

Mechanism of the anodic overvoltage in the electrolysis of cryolite-alumina melts. S. I. Rempel and L. P. Khorlak. *Doklady Akad. Nauk S.S.S.R.* 75, 873-6(1950).—The theories ascribing the high potential E of C anodes at high c.d., observed in the electrolysis of solns. of Al_2O_3 in fused Na_3AlF_6, to accumulation of O_2 to a high partial pressure (e.g. Pearson and Waddington, *C.A.* 43, 8074g) and, subsequent oxidation of the C anode by O_2 as a secondary, purely chem. (not electrochem.) process, are contradicted by oscillographic observations of the change of the anode potential E after interruption of the polarizing current. These detns. show potentials of well over 1 v. to persist for several sec.; the quantity of electricity discharged in a fall of E from 1.8 to 1.34 v. shows the amt. of electrochemically active O to be thousands of times the amt. calcd. for the gas phase. With increasing c.d., E of a fresh nonpolarized C anode increases exponentially, whereas it remains practically const. for a long time when the c.d. is lowered from 0.7 to 0.3 amp./sq. cm. Thus, E cannot be detd. by the partial pressure of gaseous O_2. Inasmuch as C does interact chemically with O_2 (~ 1030°), the C-O_2 electrode cannot be considered as a gas electrode analogous to the C-Cl_2 electrode where there is no chem. interaction between C and Cl_2. Under a const. c.d., oscillograms of E often show a max. In the light of the known facts on the combustion of C, the most probable effect of the discharge of oxygenated anions on C is the formation of intermediate C-O complexes at the surface of C. Bond regrouping processes in this surface complex are relatively slow, and the final stage is decompn. of the intermediate products and desorption of gaseous CO and/or CO_2. At low c.d., discharge takes place at the most active points, where O is most strongly bound. Accordingly, at low c.d., the decompn. potential, 0.98 v., is very close to the reversible potential of $Al_2O_3 + 3C = 2Al + 3CO$. With the discharge extending, at higher c.d., to a point of lower heat of adsorption, it will take place at increasingly higher potentials, and the more loosely held O ions will pass into the electrolyte at a higher E. It is the stability of the surface oxides formed at high c.d. and high E which accounts for the practical absence of a change of E on lowering the c.d. The slow process is the decompn. of the intermediate surface C—O compds., as is known from combustion of C. It is not the stage of discharge of anions and of formation of the adsorption complexes. N. Thon

1951

KHODAK, L.P.

4

7 Mechanism of the origin of overvoltage on a carbon anode in cryolite aluminum oxide melts. S. I. Rempel and L. P. Khodak. *Zhur. Priklad. Khim.* 26, 931–40 (1953); cf. *C.A.* 43, 6519e.—A detailed discussion supported by many references to the work of others and to exptl. data obtained by the authors in this and previous publications are presented to refute the theory of Drossbach (*C.A.* 30, 4095⁹) and his "followers" that a C anode in an Al_2O_3 bath is a reversible O electrode. The specific capacity of the double layer on a "fresh" C electrode is 15–20 microfarads/sq. cm. During and after electrolysis it is appreciably greater. It is concluded that neither concd. polarization nor retardation of the discharge reaction are primary factors of appreciable overvoltage. The discharge of O-contg. ions on a C electrode results in the formation of "chemisorbable C:O complexes" and not free O. The low rate of decompn. of these complexes and the heterogeneity (energy) of the C surface cause the increase of the anodic potential with the increase in c.d., i.e. the primary cause of overvoltage on a C anode is the low rate of formation of gaseous C oxides from the complexes and their subsequent desorption from the surface of the anode.

I. Bencowitz

KHODAK, L. P.

USSR.

✓The Causes of Angelic Overreliance and Its Connection with Current Efficiency

Inst. Chem. + Metallurgy
Ural. Affil. AS USSR

KHODAK, L. P.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 22 - 27/48

Authors : Rempel', S. I.; Anisheva, N. A.; and Khodak, L. P.

Title : Comparison gas-electrode for measurements of cryolite-alumina fusions

Periodical : Dok. AN SSSR 97/5, 859-862, August 11, 1954

Abstract : The characteristics of various gas comparison-electrodes, used for the measurement of cryolite-alumina fusions, are analyzed. The oxygen-carbon electrode is considered to be the most stable comparison electrode and because of its high accuracy is best recommended for measurements of cryolite-alumina fusions. Means of securing composition constancy of the gaseous mixture surrounding the comparison electrode and to prevent anode gases from falling into the gas mixture, are described. Five USSR references (1944-1953). Graph; drawing.

Institution : Acad. of Sc. USSR, Ural Branch, Institute of Chemistry and Metallurgy

Presented by : Academician A. N. Frumkin, April 3, 1954

KHODAK, L. P.

3

With increasing c.d., E of a fresh [illegible]

[illegible] of the anodic overvoltage or the electrolysis

theories ascribing the high potential E of C anodes at high c.d. observed in the electrolysis of solns. of Al_2O_3 in fused [illegible] to a high [illegible]

Under a const. c.d. [illegible] in the light of the known [illegible]

[illegible]

1957

SUSHKOV, Akim Ivanovich; TROITSKIY, Ivan Alekseyevich; EYDENZON, Moisey Aronovich; KHODAK, L.P., kand.tekhn.nauk, red.; IVANOV, A.I., inzh. red.; REMPEL', S.I., prof. doktor tekhn.nauk, red.; LUCHKO, Yu.V., red.izd-va; ZEF, Ye.M., tekhn.red.

[Metallurgy of light metals] Metallurgiia legkikh metallov. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1957. 510 p. (MIRA 11:2)
(Light metals--Metallurgy)

SOV/137-58-12-24284

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 51 (USSR)

AUTHOR: Khodak, L. P.

TITLE: The Principle Underlying the Plotting of the Energy Balance of a Cell (K voprosu o printsipe postroyeniya energeticheskogo balansa elektrolizera)

PERIODICAL: Tr. In-ta metallurgii. Ural'skiy fil. AN SSSR, 1957, Nr 1, pp 139-143

ABSTRACT: A correlation of the processes proceeding in pyrometallurgical installations and electrolysis baths (EB) leads to the conclusion that it is impossible to apply the principle employed in compiling the heat balance of metallurgical furnaces (addition of exothermic processes within the installation to the balance) to that of EB energy balances. In the energy balance of an EB the major item of input is the energy of the electric current, while the major output items are the energy requirements for increasing the heat content of the flow of material passing through the EB (including that required for initial heating of the materials) and the energy required for the compensation of the heat loss into the ambient medium.

Ye. Z.

Card 1/1

SOV/137-59-1-460

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 58 (USSR)

AUTHORS: Khodak, L. P., Rempel', S. I., Kuznetsov, S. I.

TITLE: On the Effect of Periodic Charging of Raw Materials on the Energy Balance in an Electrolytic Bath (O vliyanii periodicheskikh zagruzok syr'ya na energeticheskiy rezhim elektroliznoy vanny)

PERIODICAL: Tr. In-ta metallurgii. Ural'skiy fil. AN SSSR, 1957, Nr 1, pp 144-148

ABSTRACT: Utilizing the case of an Al bath as an example, the authors analyze the significance of the heat of dissolution of raw materials introduced into the bath in batches and the significance of an increase in electrical potential occurring in the bath during periods between charging on energy-balance equations for an electrolytic bath. In computing variations in heat content of a system undergoing an electrochemical reaction, e.g.: $Al_2O_3+1-1/2\,C \rightarrow 2Al+1-1/2\,CO_2$, the right-hand side of the equation must show the Al_2O_3 in the form in which it is introduced into the bath rather than in the form of Al_2O_3 already dissolved in the electrolyte. In computing the energy balance, the alumina (A) must appear in the same form as that

Card 1/2

On the Effect of Periodic Charging of Raw Materials on the Energy Balance (cont.)

in which it appears in the material balance. An increase in the electrical potential of the bath, which occurs as the concentration of A in the electrolyte is reduced, results in the consumption of an additional quantity of electrical energy Q_g. If the increase in potential is brought about merely by a change in the concentration of A, then $Q_g = \Delta Z_p$, where ΔZ_p is the change in the isobaric-isothermal potential of the system. If other causes also are active, the magnitude of the ΔZ_p will be fully compensated by the electrical energy supplied externally. The magnitude of the Q_g will be the sum of two items: $Q_g = \Delta Z_p + Q'$, where Q' represents the additional quantity of electrical energy consumed in the bath as a result of an increase in the potential due to any causes aside from a change in the concentration of the A. Being a separate item on the input side of the energy-balance equation, the heat of dissolution of the raw material in the electrolyte must not be taken into consideration. A method permitting computation of the mean increase of potential in electrolyzers operating with raw material introduced periodically is given together with the computation of the mean value of the potential increase in an Al bath (this value being 0.105 v in said instance). In computing variations in the heat content of a system undergoing an electrochemical reaction the output side of the balance equation must be based on thermodynamic data for solid rather than dissolved A.

L. S.

KHODAK, L.P.; REMPEL', S.I.; KUZNETSOV, S.I.

Energy balance of aluminum bath. Trudy Ural.politekh.inst. no.58:88-96 '57. (MIRA 11:4)
(Aluminum--Electrometallurgy)

KHODAK, L. P.

3(5) PHASE I BOOK EXPLOITATION SOV/2154

Akademiya nauk SSSR. Vostochno-Sibirskiy filial

Syr'yevyye resursy legkikh metallov Vostochnoy Sibiri, tom. 2 (Light Metal Resources of Eastern Siberia, Vol 2) Moscow, 1958. 298 p. (Series: Its: Trudy, vyp. 13) 1,200 copies printed.

Editorial Board: N.S. Alekseyev, Ye. P. Besselitsyn, V.S. Brashev, A.F. Li, Doctor of Geological and Mineral Sciences, and Ye. I. Khazanov (Resp. Ed.) Candidate of Technical Sciences; Ed. of Publishing House: V.K. Shlegov; Tech. Ed.: P.S. Kashkina.

PURPOSE: This issue of the Eastern Siberian Branch Transactions is of interest to structural, exploration and mining geologists, mineralogists, and metallurgists in the light metal industries.

COVERAGE: This collection of articles is a compilation of the reports presented at the third coordinated conference on "The Creation of a Light Metals Industry in Eastern Siberia Based on Local Ores" organized by the Laboratory of Electrometallurgy of the Eastern Siberian Branch of the AN SSSR in October, 1956. It met for the purpose of promoting coordination between the activities of the power generation combines and the fast developing light metals industry of Eastern Siberia. The reports indicate that large aluminum and titanium-magnesium combines are being constructed in the Krasnoyarsk Kray and the Irkutsk Oblast. These areas provide the cheapest sources of coal and electric energy. Individual articles also report on the following subjects: general questions in the development of the light metals industry in Eastern Siberia, sillimanite ores, nepheline syenites, bauxites, magnesium ores, etc. References accompany each article.

AVAILABLE: Library of Congress

Card 7/7

MM/mas
8-19-59

KHODAK, L.P.; IVANOV, A.I.

Using blast furnace slags for the production of alumina. Trudy Inst. met. UFAN SSSR no.2:253-256 '58. (MIRA 12:4)
(Alumina) (Blast furnaces—By-products)

KHODAK, L.P.; IVANOV, A.I.

Complex processing of alumina iron ores and high-iron bauxites.
Trudy Vost.-Sib. fil. AN SSSR no.13:237-241 '58. (MIRA 12:12)

1.Ural'skiy filial AN SSSR.
(Iron ores)

KHODAK, L. P.

[redacted]

5(4) PHASE I BOOK EXPLOITATION SOV/2216

Soveshchaniye po elektrokhimii. 4th, Moscow, 1956.

Trudy...; [sbornik] (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.N. Frumkin (Resp. Ed.) Academician, O.A. Yesin, Professor; S.I. Zhdanov (Resp. Secretary), B.N. Kabanov, Professor, S.I. Zhdanov (Resp. Secretary); B.N. Kabanov, Professor; Ya. M. Kolotyrkin, Doctor of Chemical Sciences; V.V. Losev, P.D. Lukovtsev, Professor; Z.A. Solov'yeva; V.V. Stender, Professor; and G.M. Florianovich; Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodepositon and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

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Card 14/34

KHODAK, L.P.; KUZNETSOV, S.I.; IVANOV, A.I.; SEMENNIKOVA, O.V.; MOTEVA, N.G.

Obtaining alumina from blast furnace slags rich in the compound. Izv.Sib.otd.AN SSSR no.2:19-28 '59. (MIRA 12:7)
(Alumina) (Slag)

MOLEVA, N.G.; IVANOV, A.I.; KHODAK, L.P.

Effect of the calcium oxide content on the structure and properties of easily crumbling aluminum-calcium slags. Izv. Sib. otd. AN SSSR no.8: 58-61 '59. (MIRA 13:2)

1.Ural'skiy filial AN SSSR.
(Slag)

KHODAK, L.P.; VARLAMOVA, N.N.; KOZHEVNIKOV, G.N.

Extraction of alumina and alkali from sinters obtained in the reduction smelting of red muds. Izv. Sib. otd. AN SSSR no.7: 64-70 '62

1. Ural'skiy filial AN SSSR, Sverdlovsk.

GRUZINOV, V.K., akademik; MIKHAYLOV, V.V., akademik; KHODAK, L.P., kand. tekhn.nauk; MIKHAYLOV, S.V.; RAKHIMOV, A.R.; NIKITIN, G.M.

Utilization of the brown ores of the Lisakov deposit. Vest. AN Kazakh. SSR 21 no.11:9-13 N '65. (MIRA 18:12)

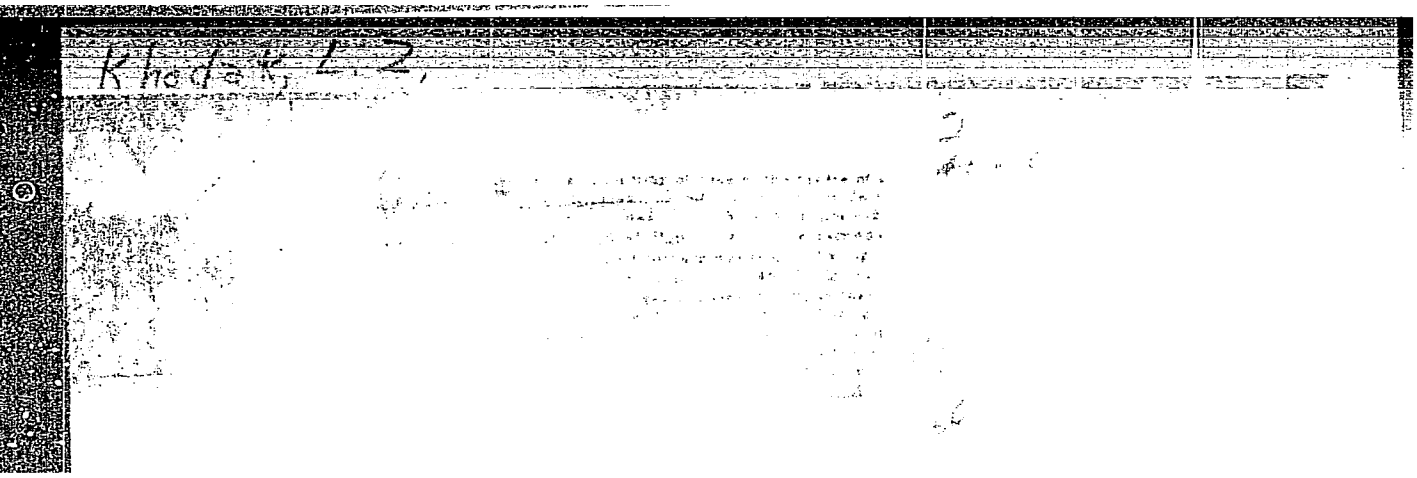
1. Akademiya nauk Kazakhskoy SSR (for Gruzinov, Mikhaylov, V.V.).

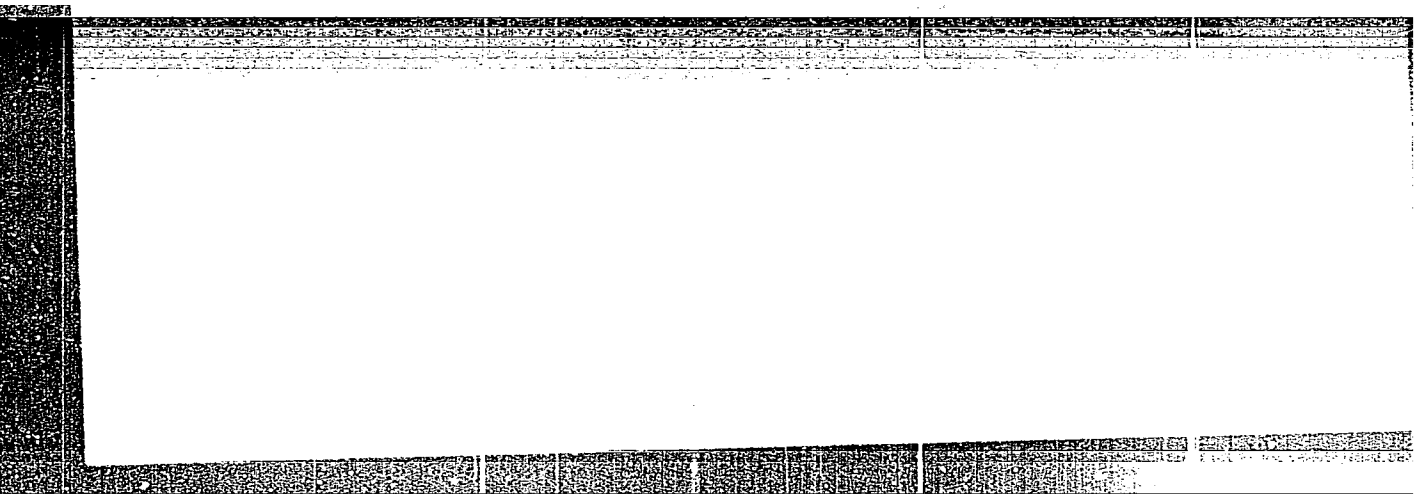
KHSDAK, L. Z.

4

The Influence of Coke Circulation on the Combustion Process in Blast Furnaces. I. P. Bardin, M. Ya. Ostroukhov, [illegible]

The combustion zone in front of [illegible] by four blast furnaces. The [illegible] carbon monoxide [illegible]





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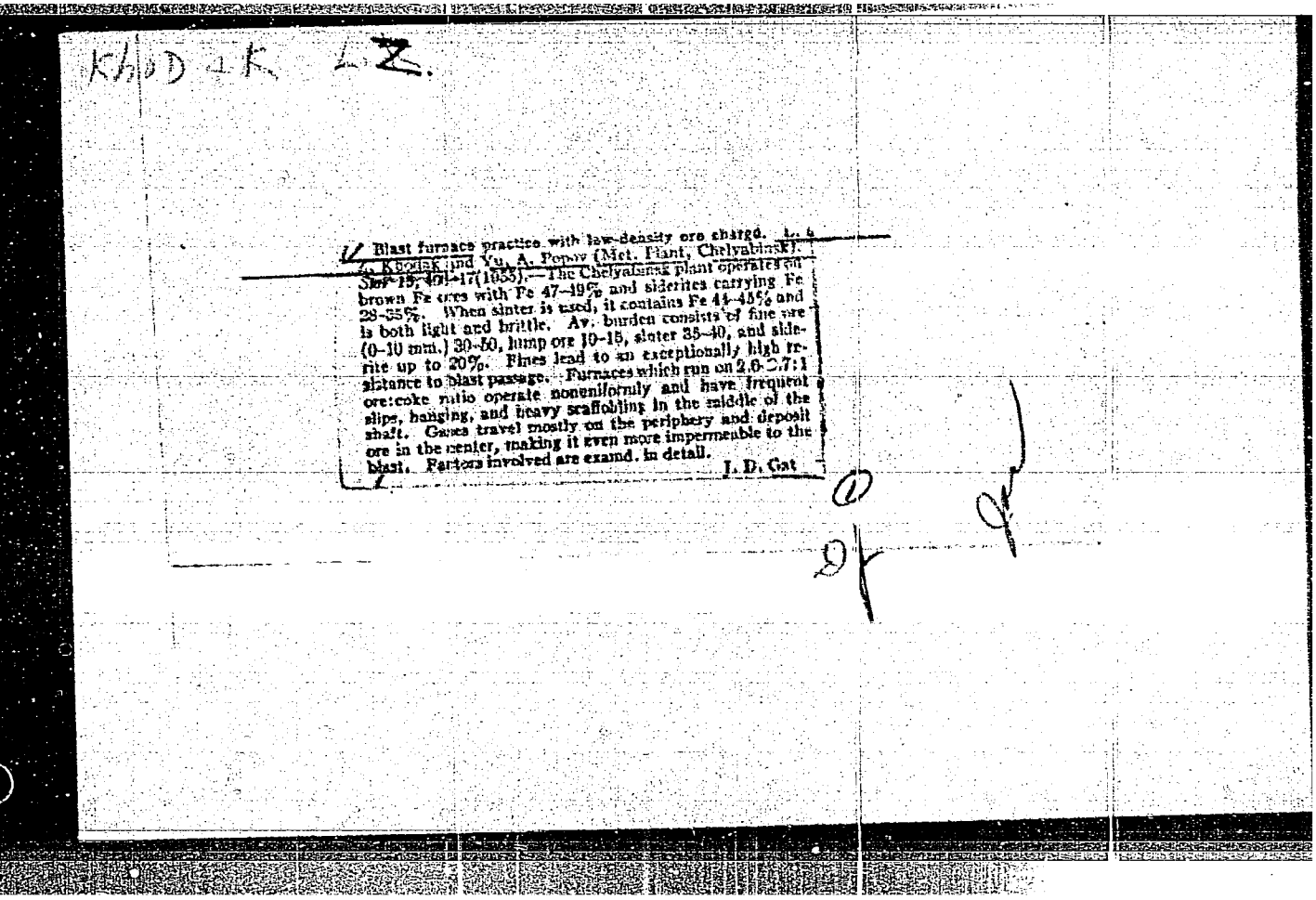
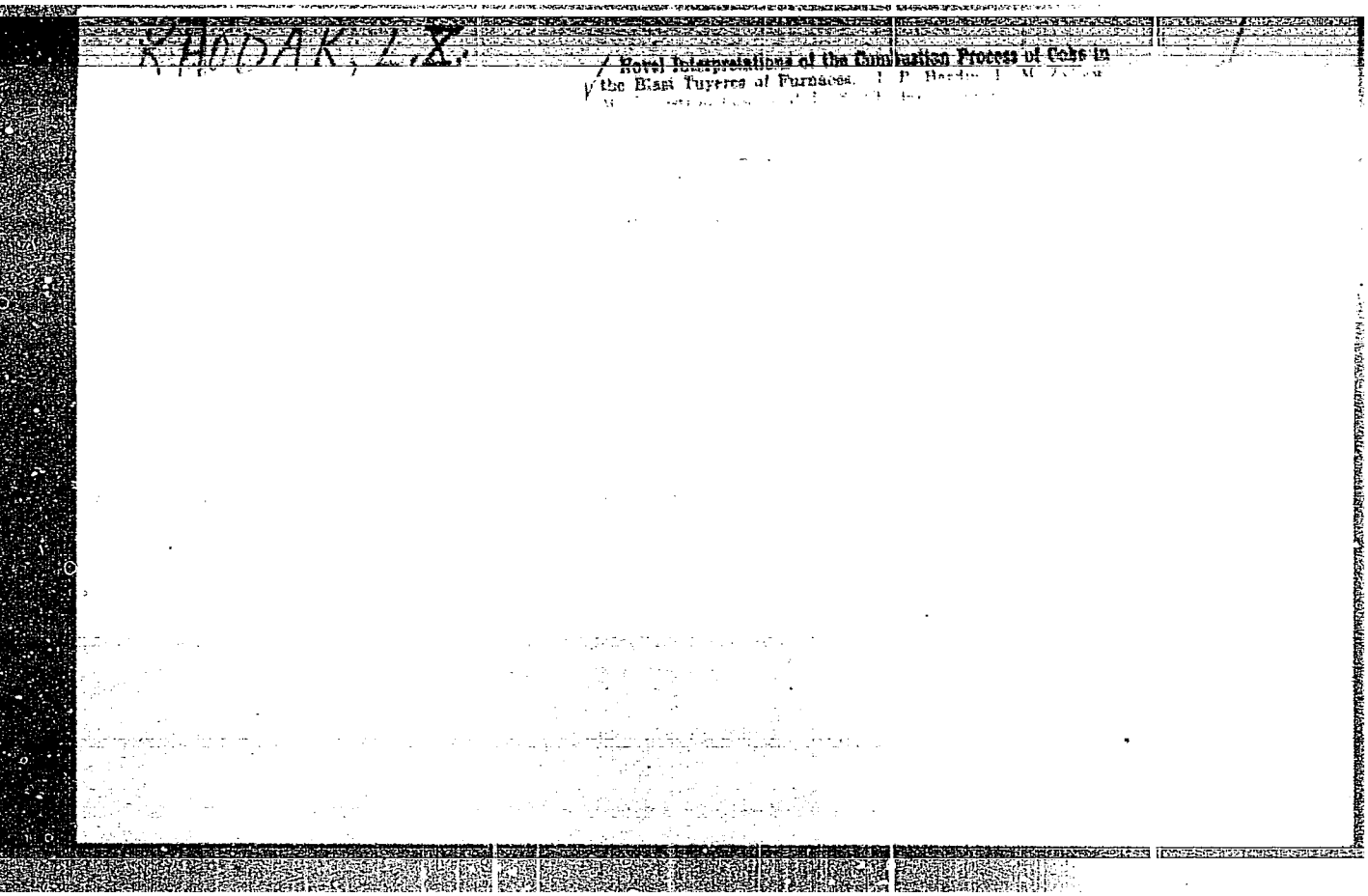


Blast furnace practice with low-density ore charge. L. A. Kholdek and Yu. A. Popov (Met. Plant, Chelyabinsk). Stal' 15, 491–17(1955).—The Chelyabinsk plant operates on brown Fe ores with Fe 47–49% and siderites carrying Fe 28–35%. When sinter is used, it contains Fe 44–48% and is both light and brittle. Av. burden consists of fine ore (0–10 mm.) 30–50, lump ore 10–15, sinter 35–40, and siderite up to 20%. Fines lead to an exceptionally high resistance to blast passage. Furnaces which run on 2.6–2.7:1 ore:coke ratio operate nonuniformly and have frequent slips, hanging, and heavy scaffolding in the middle of the shaft. Gases travel mostly on the periphery and deposit ore in the center, making it even more impermeable to the blast. Factors involved are examd. in detail.

J. D. Gat



KHODAK, L. Z.

3

18

... PROCESS AT BLAST FURNACE TUYERES. Ostroukhov, M. Ya. ...

Chem. Abstr., 1957, vol. ... In the tuyere ... packing in the tuyere occupying 4-7% of the tuyere opening and swivelling ... were obtained. Combustion stock, samples of gases in the combustion area in the charge and surrounded by a taking place in a cavity made by the blast in the charge and surrounded by a compact layer of coke 100-200 mm thick. Stereoscopic high speed photographs ... entering this cavity from above ... In the horizontal the blast ... along the cavity wall ... it to the ...

... in the plane of ...

... is only one of the factors.

OSTROUKHOV, M.Ya., kandidat tekhnicheskikh nauk; KHODAK, L.Z.; LEBEDEV, V.V.

Cinematographic study of the process of coke burning. Priroda 45 no.7: 78-81 Jl '56. (MLRA 9:9)

1.Institut metallurgii imeni A.A.Baykova Akademii nauk SSSR, Moskva (for Khodak).2.Laboratoriya nauchno-prikladnoy fotografii kinematografii Akademii nauk SSSR, Moskva (for Lebedev).
(Coke) (Combustion) (Cinematography--Scientific applications)

KHODAK, L. Z.

137-1958-2-2393

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 27 (USSR)

AUTHORS: Bardin, I.P., Tsylev, L.M., Ostroukhov, M.Ya., Khodak, L.Z.

TITLE: On the Process of Coke Combustion at the Tuyeres of a Blast Furnace (O protsesse goreniya koksa u furm domennoy pechi)

PERIODICAL: Tr. In-ta metallurgii AN SSSR, 1957, Nr 2, pp 3-8

ABSTRACT: In 1954-55, in different regions of the Soviet Union, a study was made on six blast furnaces having effective volumes of 330--1386 m^3. Gas samples were taken along the axis and above and below tha axis of a tuyere. The diagram depicting the change in gas composition in the combustion zone differed markedly from the "classical diagram." From the path of the isorithmic lines for CO_2, CO, and O_2 in a vertical plane it was possible to establish the direction of the blast and the pattern of circulation of the coke particles. These experiments led to the conclusion that combustion of the coke does not occur in the bed layer but inside the blast. In addition, the focal combustion zone was found to be distributed along a spherical surface nearly at the boundary of the combustion zone. The length of the oxidation zone was determined basically by the kinetic energy of the blast and did not depend appreciably on other factors. G.Ch.

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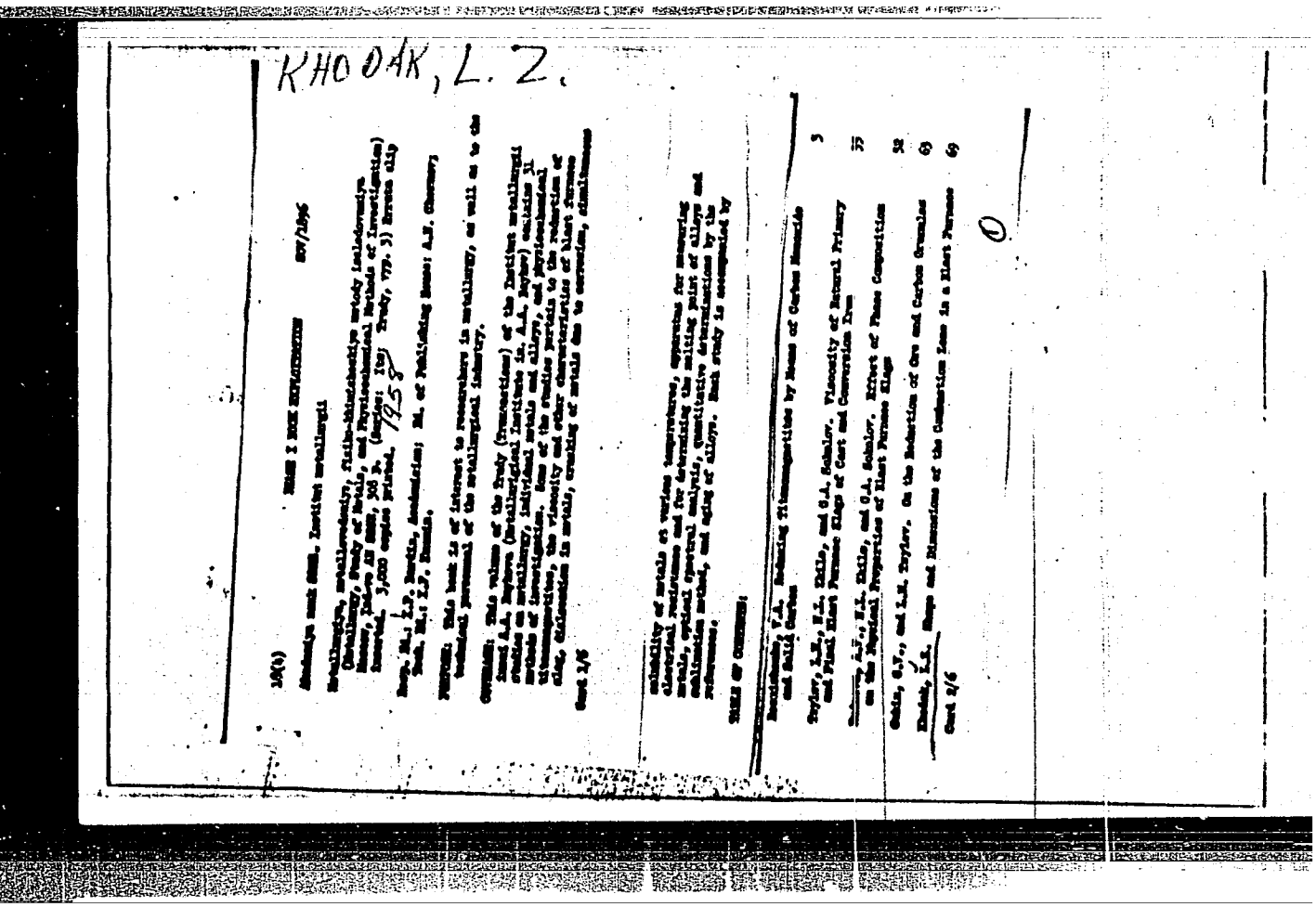
1. Coke--Combustion 2. Blast furnaces--Applications



KHODAK, L. Z.

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KHODAK, L. Z.

18(0) PHASE I BOOK EXPLOITATION SOV/1728

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Eds. of Publishing House: V.S. Rzhevaikov, and A.M. Dermov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical personnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Bardin on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of two articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nickolas Grant, and John Elliott (M.I.T., USA) describing their meeting with Bardin in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major portion of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles treating the metallurgy of nonferrous metals. The fifth part consists of three articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No personalities are mentioned.

TABLE OF CONTENTS:

Modern Problems in Metallurgy SOV/1728

Card 7/12

KHODAK, L. Z., Candidate of Tech Sci (diss) -- "Processes occurring in the combustion zone of a blast furnace". Moscow, 1959. 26 pp (Acad Sci USSR, Inst of Metallurgy im A. A. Baykov), 150 copies (KL, No 21, 1959, 117)

TSYLEV, Leonid Mikhaylovich; OSTROUKHOV, Mark Yakovlevich; KHODAK, Leonid Zalmanovich; ZINGER, S.L., red.izd-va; ATTOPOVICH, M.K., tekhn.red.

[Process of coke combustion in blast furnaces] Protsess goreniia koksa v domennoi pechi. Moskva, Gos.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1960. 98 p.
(MIRA 13:5)

(Blast furnaces--Combustion) (Coke)

BAZILEVICH, Sergey Vladimirovich; LAZAREV, Boris Leonidovich; STARIKOV, Modest Andreyevich; GOLOSKOV, Boris Viktorovich; KULIKOV, I.S., kand.tekhn.nauk, retsenzent; KHODAK, L.Z., red.; CHAPAYKINA, F.K., red.izd-va; MATLYUK, R.M., tekhn.red.

[Methods for experimental investigation of the blast-furnace process] Metody eksperimental'nogo issledovaniia domennogo protsessa. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Sverdlovskoe otd-nie, 1960. 254 p. (MIRA 14:3)
(Blast furnaces) (Cast iron--Metallurgy)

OSTROUKHOV, M.Ya. (Chelyabinsk), KHODAK, L.Z. (Moskva)

Analysis of the coke combustion process in blast furnaces by furnace gas constitution diagrams. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:5-13 N - D '60. (MIRA 13:12)
(Blast furnaces--Combustion)

S/133/60/000/012/015/015
A054/A027

AUTHORS: Dashevskiy, Ya.I., and Khodak, L.Z.

TITLE: All-Soviet Meeting of Furnacemen and Agglomeration Workers

PERIODICAL: Stal', 1960, No. 12, pp. 1156-1157

TEXT: The All-Soviet Meeting of Furnacemen and Agglomeration Workers convened by the State-Plan Committee of the Council of USSR Ministers, the State Scientific Research Committee of the Council of USSR Ministers and the Scientific-Technical Association of Iron and Steel Metallurgy was held in Magnitogorsk from 25 to 29 October 1960. All the Soviet metallurgical plants, scientific research institutes and planning bureaus were represented at the meeting. Presidential address was given by P.I. Korobov, Vice-President of the ГНТК (GNTK) of the USSR Council of Ministers and dealt with the present state of the blast furnace and agglomeration industry in the Soviet Union. The main topics of the section "ore-dressing and agglomeration" were: intensification of agglomeration and improving the quality of the agglomerate; application of heated and oxygen-enriched air in the agglomeration of iron ores; cooling the aggregates; introducing the most up-to-date types of agglomerating equipment; automation of agglomeration; developing pelletisation. Besides general remarks made to stress the need of improving enriching and agglomeration and more

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All-Soviet Meeting of Furnacemen and Agglomeration Workers

efficient machinery for these processes, it was proposed that: the upper limit of particle size of the agglomerated ore be lowered to 6-8 mm, that of fuel and fluxes for agglomeration to 1 mm; a uniform quality of ores and concentrates, fuels and fluxes be produced; the amount of lime in the agglomeration charge be raised to 4-5%; the process of lime calcination be intercalated in the agglomeration technology; the weight system be introduced in the dosage of the charge and all plants be supplied with the appropriate equipment between 1961 and 1963; the mixing of agglomerate charge be improved through two-stage mixing, the mixing drums extended, etc; the amount of air pumped through the agglomeration charge be increased to 100 m^3/m^2 of agglomerate; the agglomerizing equipment be fed with two charges having different fuel contents in the beds; hot air and combined heating be applied during agglomerization; special cooling equipment be constructed for the production of agglomerization fuel from weakly agglomerizing coal and peat; the agglomerate be air-cooled by forced draft, two agglomerizing machines with automatic control be installed; high-capacity agglomerating machines be designed and constructed, new technological processes be established, etc. With regard to blast furnaces the following problems were discussed: theoretical and experimental investigation of the combined blasting method;

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All-Soviet Meeting of Furnacemen and Agglomeration Workers

experiments with high-capacity blast furnaces and their auxiliary equipment; mechanization and automation of blast furnaces and their auxiliary equipment. It was emphasized that the Soviet Union was the first in the whole world to apply natural gas and that the combination of natural gas and oxygen blasting had improved the technical-economical conditions and reduced the coke-consumption considerably. In order to extend the use of natural gas, it was held necessary to make high-capacity oxygen equipment (units of 35,000 m^3/hour capacity) at short notice. Another problem to be solved was the reconstruction of blast furnaces for operation at higher (1.5-1.8 atm) pressures. All new blast furnaces would have to be built for a volume of 2,000 m^3 or more, and must operate with a pressure of 2.5 atm in the charging hole, utilizing the energy of pressureized top gas in turbine-distributors. In order to increase the efficiency of natural gas, equipment should be designed which automatically maintains the constant proportion between blast and natural gas blown through and moreover, insures a uniform distribution of blast and gas through the tuyères. Practice shows that blast furnaces with a volume of 1,719 m^3 operate satisfactorily; it is, therefore, justified to increase the blast furnace volume further. Among several recommendations for improving the furnace construction

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S/133/60/000/012/015/015
A054/A027

All-Soviet Meeting of Furnacemen and Agglomeration Workers

it was suggested that the burners of the air-heating system be provided with fans having a capacity of 70,000-80,000 m^3/hour, valves constructed for the air heaters, capable of operating with the blast heated up to 1,200°C, at a pressure of 4.2 atm and equipment provided for mixing, sieving, weighing and loading the charge with the aid of vibrating screens, conveyors and stationary weighers. It was found that the present state of automatization of blast furnace operation was unsatisfactory. More attention should be paid in this respect to insuring a uniform quality of the charge and a high degree of stability of furnace operation. It was pointed out that the mechanization of heavy labor in the furnace chamber did not keep pace with the increase in furnace volume. A special institute for planning the mechanization of these operations was recommended. To improve labor conditions a number of proposals was made: special equipment for changing the tuyères and slag apparatus, remote-control of charge-feeding, delivery of the charge by conveyors, hydraulic dust removal from the bunker area, pneumatic transport of dust from the collectors. For the scientific research institutes the most important tasks are: to establish the optimum methods for utilizing reducing gases, liquid fuels and oxygen, the optimum heat conditions of blast and gas pressure in the charging hole, suitable basicity of the

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All-Soviet Meeting of Furnacemen and Agglomeration Workers

slag which would make it possible to melt low-sulphur irons. Methods should be established for desulphurization of iron outside the furnace and for refining the iron in the furnace chamber. Turbine distributors should be constructed for utilizing excess pressure and the excess furnace gas; methods should be invented to increase the useful life of the furnace installation, refractory material of longer useful life should be established, equipment for grading the agglomerate and coke into fractions before loading, equipment for processing the slag at the blast furnace with mechanical collection of the semi-finished product (without ladles) should be constructed.

Card 5/5

KHODAK, L.Z. (Moskva); MALYSHEVA, T.Ya. (Moskva)

Reduction and primary slag formation processes during the forced melting of ore and slag granules in shaft furnaces. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:10-19 Jl-Ag '62. (MIRA 15:8)
(Blast furnaces) (Metallurgical laboratories)

KHODAK, L.Z.

Spread of combustion zones in blast furnaces. Trudy Inst. met. no.11:16-30 '62. (MIRA 16:5)

(Blast furnaces--Combustion)

CHERNYSHEV, A.M.; GESS, B.A.; KANAVETS, P.L.; MELENT'YEV, P.N.; KHODAK, I.Z.; SOKOLOV, G.A.; BORISOV, Yu.I.; CHERNYKH, V.I.; Prinimali uchastiye: VAVILOV, N.S.; MAKARCHENKO, V.G.; KISELEV, G.P.; VOLNISTOVA, R.A.; MOREYEVA, G.R.

Testing granules made by the method of chemical catalysis in a laboratory shaft furnace. Trudy IGI 22:70-78 '63. (MIRA 16:11)

KHODAK, L.Z.; MALYSHEVA, T.Ya.

Changes in phase composition and the mechanism of primary slag formation during the melting of ore-fuel granules. Trudy IGI 22:79-92 '63. (MIRA 16:11)

MALYSHEVA, T.Ya. (Moskva); KHODAK, L.Z. (Moskva)

Reduction and primary slag formation during the smelting of raw material prepared for blast furnace smelting. Izv. AN SSSR, Met. i gor. delo no.6:41-47 N-D '64. (MIRA 18:3)

BORISOV, Yu.I. (Moskva); KHODAK, L.Z. (Moskva)

Certain regularities of the charge movement in blast furnaces. Izv. AN SSSR. Met. no.3:3-10 My-Je '65. (MIRA 18:7)

BORISOV, Yu.I.; KHODAK, L.Z.

Mechanism of the flow of loose materials through an outlet. Inzh.-fiz. zhur. 8 no.6:712-719 Je '65. (MIRA 18:7)

1. Institut metallurgii imeni Baykova, Moskva.

BORISOV, Yu.I. (Moskva); KHODAK, L.Z. (Moskva)

Mechanism of the descending of the charge into the combustion area of a blast furnace operating with a forced blow. Izv. AN SSSR. Met. no.6:8-13 N-D '65. (MIRA 19:1)

1. Submitted August 12, 1964.

KHODAK, N.

MAKSIMUK, P.S.; KHODAK, N.

Use of blowers for feeding carbon dioxide gas to saturators. Sakh. prom. 31 no.2:45-46 F '57. (MLRA 10:4)

1. Kupyanskiy sakharnyy zavod.
(Blowers) (Carbon dioxide) (Sugar machinery)

KHODAK, P.A.; RUVINSKAYA, I.N., Blyuss, TS.M.

Utilizing spent alkali in the thylix process for gas purification.
Gaz.prom. 4 no.8:17-18 Ag '59. (MIRA 12:11)
(Gorlovka--Gas purification)

KHODAK, P.A.; VAS'KO, V.V.

Recovery of monoethanolamine after the purification of coke-oven gas. Khim. prom. no. 6:511 S '60. (MIRA 13:11)

1. Gorlovskiy azotno-tukovyy zavod.
(Ethanol) (Coke-oven gas)

KHODAK, T. I.

(1)

Fuel Abst.
Vol. 15 No. 4
Apr. 1954
Natural Solid Fuels:
Winning

2693. LINK WINCH FOR SLOPING AND STEEPLY DIPPING SEAMS. Khodak, T.I. (Ugol (Coal), Oct. 1953, 37-39). A short illustrated description is given, with diagrams, of the gear drives and electrical connections of a new winch for use with a coal cutter or cutter-loader. It is remote-controlled by the man operating the cutter. (L).

KHODAK, V.

Our present-day plans. Sil'. bud. 13 no.11:11-13 N '63.
(MIRA 17:1)

1. Predsedatel' soveta Pogrebeshchenskoy mezhkolkhoznoy stroitel'noy organizatsii Vinnitskoy oblasti.

5.3610

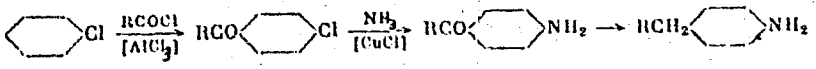
78304
SOV/79-30-3-58/69

AUTHORS: Nikolenko, L. N., Karpova, Ye. N., Khodak, V. A., Chirakadze, G. G., Borovik, V. P.

TITLE: Investigation of Aromatic Compounds With a Long Side Chain. III. Reduction of Alkyl 4-Aminophenyl Ketones According to Modified Kishner's Method

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 1028-1031 (USSR)

ABSTRACT: This is a continuation of the previous work (L. N. Nikolenko, K. K. Babiyevskiy, ZhOKh, 25, 2231, 1955) on preparation of aniline homologs according to the following scheme:



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Investigation of Aromatic Compounds With a Long Side Chain. III. Reduction of Alkyl 4-Aminophenyl Ketones According to Modified Kishner's Method

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A series of alkyl 4-chlorophenyl ketones (see Table 1) was obtained by the condensation of aliphatic acid chlorides with chlorobenzene in the presence of $AlCl_3$. The reaction mixture was kept for 2 hr at 20-22° and 1 additional hr at 100°. The alkyl 4-aminophenyl ketones shown in Table 2 were obtained by ammonolysis of the corresponding alkyl 4-chlorophenyl ketones. 4-Alkylanilines shown in Table 3 were obtained by reduction of the corresponding alkyl 4-aminophenyl ketones with hydrazine hydrate according to the modified Kirshner method. There are 3 tables; and 9 references, 1 U.S., 3 U.K., 2 Japanese, 3 Soviet. The 4 U.S. and U.K. references are: E. Cline, E. Reid, J. Am. Chem. Soc., 49, 3152 (1927); G. Baddeley, J. Kenner, J. Chem. Soc., 303 (1935); W. J. Hickinbottom, A. C. Waine, J. Chem. Soc., 1558 (1930); W. J. Hickinbottom, J. Hickenbottom, J. Chem. Soc., 1119 (1937).

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Table 1. Alkyl 4-chlorophenyl ketones p-$RCOC_6H_4Cl$.

Key: (a) Yield (%); (b) mp; (c) mp of 2,4-dinitrophenylhydrazone.

R	a	b	c
C_4H_9	80	32—32.5	175—175.3°
C_6H_{13}	94	64.5—65.5	150—151
C_8H_{17}	97	58—58.5	134—135
$C_{10}H_{21}$	98	46.5—47	103.5—104.5
$C_{14}H_{29}$	81	51.5—52	80.3—80.7
$C_{15}H_{31}$	91	69.5—70	100—100.6

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Table 2. Alkyl 4-aminophenyl ketones p-$RCOC_6H_4NH_2$.
Key: (a) Yield (%); (b) mp.

R	a	b
C_9H_{13}	95	90—90.5
C_8H_{17}	98	91—92
$C_{10}H_{21}$	98	101.5—102
$C_{13}H_{27}$	98	101—101.5
$C_{14}H_{29}$	95	102—102.5
$C_{15}H_{31}$	99	99—100

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Table 3. 4-Alkylanilines p-$RC_6H_4NH_2$. Key: (a) Yield (%); (b) bp (pressure in mm) and mp.

R	a	b
C_9H_{19}	80	194—196 (16)
$C_{11}H_{23}$	85	167—168 (3)
		mp 19.5—20
$C_{14}H_{29}$	98	mp 44,5—45

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Investigation of Aromatic Compounds With a Long Side Chain. III. Reduction of Alkyl 4-Aminophenyl Ketones According to Modified Kishner's Method

78304
SOV/79-30-3-58/69

ASSOCIATION: D. I. Mendeleyev Moscow Institute of Chemical Technology (Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva)

SUBMITTED: January 12, 1959

Card 6/6

KHODAK, V.M., inzh.

Reduction of physical and mechanical indices of slabs to comparable values. Der. prom. 10 no.7:14 Jl '61. (MIRA 14:7)
(Hardboard—Testing)

DRUZHININ, V.N.; FEDORISHCHEV, T.I.; KHODAK, V.M.; OSHURKOVA, I.K.

Use of hydrophobic additions obtained from turpentine industry wastes in the manufacture of particle boards. Der.prom. 11 no.1:25-26 Ja '62. (MIRA 15:1)

(Hardboard)

KHODAK, Yu.A.

Bitumen stratification in Cambrian deposits in the Aldan District, Yakut A.S.S.R. Dokl.AN SSSR. 105 no.3:564-565 N '55. (MLRA 9:3)

1. Institut geologicheskikh nauk Akademii nauk SSSR. Predstavleno akademikom N.S. Shatskim.
(Aldan District--Bitumen)

KHODAK, YU A.

USSR/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26560.

Author : Khodak, Yu.A.
Inst : Lvov University.- Inst. Geol. Sci AS USSR, Moscow
Title : Secondary Alterations of Lower Cambrian Rocks in Aldanskiy Region of Yakut ASSR.

Orig Pub : Vopr. mineralogii osadoch. obrazovaniy. Kn. 3- 4, L'vovsk. un-t, 1956, 468 - 485.

Abstract : Some newly formed minerals were discovered at the study of alteration of sedimentary rocks, which have not been subject to the action of intrusions. Quartz and chalcedony were produced in the results of concentration of the original SiO_2 and of its transfer into the rock layers. Argillaceous minerals served as sources of K for the formation of felspars.

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KHODAK, Y. A.

Secondary minerals in the lower Cambrian deposits of the Aldan region of the Yakutsk A S S R

KHODAK, Yu. A.

Alterations of Cambrian dolomitic rocks of the Aldan [illegible] Union of Soviet Socialist Republics

[illegible] Acad Sci USSR [illegible]

[illegible] intrusions in dolomitic rocks. A [illegible] intrusion was established. Tables of rock-analysis results substantiate the findings. Heating curves are shown for [illegible]

Khodak, Yu.A.

USSR/ Geology

Card 1/1 Pub. 22 - 41/54

Authors : Khodak, Yu. A.

Title : Genesis of lower Cambrian dolomites of the Aldansk region of the Yakutsk-ASSR

Periodical : Dok. AN SSSR 106/2, 328-330, Jan 11, 1956

Abstract : Scientific data are presented on the genesis of lower Cambrian dolomites discovered in the Aldansk region of the Yakutsk ASSR. Thirteen references: 11 USSR; 1 French and 1 Eng. (1911-1955).

Institution : .....

Presented by: Academician N. N. Strakhov, October 23, 1955

KHODAK, Yu.A.

On fluorite from Lower Cambrian rocks of the Aldan region of the Yakut ASSR. Dokl. AN SSSR 106 no.3:533-536 Ja '56. (MIRA 9:6)

1.Institut geologicheskikh nauk Akademii nauk SSSR. Predstavleno akademikom N.S.Shatskim.
(Aldan region--Fluorite)

KHODAK, Yu.A.; MENYAYLOV, A.A., doktor geol.-mineral. nauk, otv. red.; SHLEPOV, V.K., red. izd-va; ASTAF'YEVA, G.A., tekhn. red.

[Petrographic and mineralogic characteristics of lower Cambrian sediments in Aldan District] Petrografo-mineralogicheskaia kharakteristika nizhnekembriiskikh otlozhenii Aldanskogo raiona. Moskva, Izd-vo Akad. nauk SSSR, 1960. 116 p. (MIRA 14:5)

(Aldan District--Petrology)

KHODAK, Yu.A.; SUN' SHU [Sun shu]

Main structures of northeastern China and the adjacent territory of the Soviet Far East. Izv.AN SSSR. Ser.geol.26 no.10:97-110 O '61. (MIRA 14:9)

1. Sovet po izucheniyu proizvoditel'nykh sil Gosudarstvennogo naucho-ekonomicheskogo soveta Soveta Ministrov SSSR, Moskva.
(China--Geology, Structural)
(Soviet Far East--Geology, Structural)

KHODAK, Yu.A.; CHEOBOTAREV, M.V.

Genesis of Sinaean magnesite rocks in the Lesser Khingan Mountains.
Dokl.AN SSSR 138 no.1:184-187 My-Je '61. (MIRA 14:4)

1. Sovet po izucheniyu proizvoditel'nykh sil AN SSSR i Dal'nevostochnoye geologicheskoye upravleniye. Predstavleno akademikom D.S.Korzhinskim.
(Lesser Khingan Mountains--Magnesite)

KHODAK, Yu.A.

Sequence and age of ancient formations in the Soviet Far East and adjacent regions of North China. Sov.geol. 4 no.12:96-106 D '61. (MIRA 15:2)

1. Akademiya nauk SSSR.
(Soviet Far East—Geology, Stratigraphic)
(China—Geology, Stratigraphic)

ACCESSION NR: AP4009628 S/0293/63/001/003/0460/0464

AUTHOR: Khodak, Yu. A.; Kozlov, V. V.; Tomson, I. N.; Khoroshilov, L. V.

TITLE: Significance of geographic and geological methods in lunar studies

SOURCE: Kosmicheskiye issledovaniya, v. 1, no. 3, 1963, 460-464

TOPIC TAGS: lunar research, lunar geological study, lunar geographic study, lunar structure, lunar relief, lunar history, meteorite lunar theory, astronomy, moon

ABSTRACT: The report offers a brief review of lunar research to date, clarifies the significance of geographic and geological methods for future studies of lunar structure and relief, proposes close coordination of such methods (giving consideration to comparative terrestrial material) with astronomical methods, evaluates various studies of geographic and geological aspects completed thus far, and discusses the meteorite approach to an explanation of the evolution of lunar structure and relief. It is suggested that it will be impossible to clarify the origin of lunar structures and relief, or their pattern of distribution, without the participation of geologists, nor will it be feasible to compile adequate topographic, geographic or selenological-geological charts or diagrams. "The authors acknowledge the contribution of Dr. A. G. Masevich in posing the problem". Orig. art.

Card 1/2

ACCESSION NR: AP4009628

has: no graphics.

ASSOCIATION: none

SUBMITTED: 09May63 DATE ACQ: 30Jan64 ENCL: 00

SUB CODE: AS NO REF SOV: 019 OTHER: 039

Card 2/2

ACCESSION NR: AP1009629 S/0293/63/001/003/0465/0471

AUTHOR: Khodak, Yu. A.

TITLE: The most important structural elements of the Moon

SOURCE: Kosmicheskiye issledovaniya, v. 1, no. 3, 1963, 465-471

TOPIC TAGS: moon, moon structural elements, lunar topography, albedo, lunar albedo, lunar relief, moon map

ABSTRACT: The character and location of lunar topographic features are analyzed to trace the principal structural elements of the Moon. Recent photographs, maps, and other data on lunar relief are employed. The paper focuses on three fundamental structural elements said by the author to have been formed about 300 million years ago: 1) a meridionally extended ancient massif embracing the western portion of the far side and the southern portion of the visible side; 2) the Great Belt of large depressions (seas) located within the massif and extending convexly in the form of a semi-circle to the north pole from the South Sea to the Sea of Moisture; 3) the meridional belt of large depressions of the far side of the Moon, located on the edge of an uncharted lunar area. Within these, it is possible to

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