BAZILEVICH, S. V., Cand Tech Sci -- (diss) "Study of the Behavior of Zinc in Blast Furnaces." Mos, 1957. 13 pp with drawings (Central Sci Res Inst of Ferrous Metallurgy), 110 copies (KL, 49-57, 112)

Bazilevich, S.V.

130 - 6 - 3/27

AUTHORS: Khil'kevich, F.A., Lazarev, B.L. and Bazilevich, S.V.

TITLE: Blast furnace operation with oxygenated blast. (Rabota domennykh pechey na dut'ye, obogashchennom kislorodom).

PERIODICAL: "Metallurg" (Metallurgist), 1957, No.6, pp.3-7 (USSR).

ABSTRACT: The use of oxygenated blast for producing steel-making pig iron and ferromanganese in blast furnaces 1386 and 1100 m^3 in useful volume and operating with medium top pressure, respectively, is described. The experiments were carried out at the Nizhne-Tagil'sk metallurgical combine in 1956-57 jointly with the Central Research Institute of Ferrous Metallurgy and were reported at the recent All-Union Blast-Furnace Conference. The pig iron (0.6% Si, 1% Mn, 0.04% S, 0.2% P) was melted from a mixture of fluxed and unfluxed sinters and magnetite ores. The reducibility and strength of the burden were low. A 90-day trial period with ordinary blast was followed by a total of 6 days with oxygenation to 22.19% O_2, 14 days at 23.3% O_2 and 8 at 24% O_2. Blast moisture was kept constant at 20 g/m^3, blast volume was reduced to keep the time rate of gas production constant and blast temperature was increased. Throat CO_2-content traverses show that good distribution was maintained, and the operating characteristics of the furnace (coke rate,

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Blast furnace operation with oxygenated blast. (Cont.)

productivity, CO/CO_2 ratio and calorific value of top gas, coke-burning rate) were better in the oxygenated-blast periods, but the practice is complicated by the deterioration in raw material quality which occurred in part of the 24% period; without this deterioration the productivity was 2063 tons per day compared with 1915 without oxygenation. Because of high oxygen costs at the works direct production costs of the iron were slightly higher with oxygen-enriched blast, but this was offset by improvement in various factors. The manganese ore from which ferromanganese was melted contained much fines and high production rates were difficult to achieve. Oxygenation to 24.3% O_2 for a month gave a productivity increase of 11.2% (from 399.7 to 447.0 tons/day). A relatively acid($(CaO + MgO)/SiO_2$ = 1.10 to 1.15) slag was used and blast temperatures were about 1000 C. In general the results are considered to show that it is advantageous to use oxygenated blast for operation on prepared charges.

ASSOCIATION: Nizhne-Tagil'sk Metallurgical Combine.
(Nizhne-Tagil'skiy Metallurgicheskiy Kombinat).

AVAILABLE:

Card 2/2

BAZILEVICH, S.V.

133-7-2/28

AUTHOR: Zakharov, A.F., Khil'kevich, F.A., Bazilevich, S.V. and Lazarev, B.L., Engineers.

TITLE: Smelting of Ferro-manganese in a Large Blast Furnace (Vyplavka ferromargantsa v bol'shoy domennoy pechi)

PERIODICAL: Stal', 1957, No.7, pp. 580 - 584 (USSR)

ABSTRACT: In 1956, the smelting of ferro-manganese was carried out in a large furnace (No.2 furnace Nizhne Tagil'skiy Works) (1 100 m^3) with high top pressure (0.5 atm.) and oxygen-enriched blast (up to 24.5%). The preparation of the furnace for the transfer from foundry iron to ferro-manganese production, characteristic of raw materials, operational practice and the results obtained are described. The profile of the furnace and the distribution of CO_2 in the top gas along the throat diameter are shown in Figs. 1 and 2, respectively. Material and heat balances are given in Tables 1 and 2, respectively. The comparison of main indices of heat balances of smelting ferro-manganese in three different works is given in Table 3. In addition, the distribution of temperatures and changes in the gas composition along the height of the furnace stack (Fig.3) and the composition of gas in the combustion zone (Fig.4) were studied. It is concluded that on smelting

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SOV/130-59-2-2/17

AUTHORS: Bazilevich, S.V., Candidate of Technical Sciences and Lazarev, B.L., Engineer

TITLE: Production of Pellets from Charges Containing Pyrites Residues (Polucheniye okatyshey iz shikht s uchastiyem piritnykh ogarkov)

PERIODICAL: Metallurg, 1959, Nr 2, pp 4-7 (USSR)

ABSTRACT: Pyrites residues from Ural chemical works contain 16-25% silica and some copper and zinc and not more than 45-50% iron. Their direct use in blast-furnaces is therefore deleterious and experience at the Cherepovetskiy metallurgicheskiy zavod (Cherepovets Metallurgical Works) (Ref 1) has shown that their use in the sinter mix reduces sintering rates and gives an inferior product. The authors describe work at the Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhne-Tagil'skiy Metallurgical Combine) on the production of flux-containing pellets from pyrites-residues containing mixes and the comparison of this method with sintering. In this work S.V.Makayev, chief engineer of the combine, co-operated and I.D.Paderin and Ye.A.Pakhomov participated.

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Production of Pellets from Charges Containing Pyrites Residues

Vysokogorskiy magnetite concentrate (59.3% Fe, 25.8% FeO, 0.19% S, 0.23% Cu, 0.08% Zn, 7.2% SiO_2, 3.2% CaO) 0 - 0.21 mm in size was pelletised with pyrites residues (52.3% Fe, 7.5% FeO, 1.45% S, 0.22% Cu, 0.27% Zn, 17.4% SiO_2, 2.8% CaO) and various sizes of limestone were pelletised. A 1000 mm diameter disc pelletiser rotating at 12 rpm was used, limestone being added to give a basicity of 1. Fig 1 shows pellet crushing strength, shatter strength and moisture (curves 1, 2 and 3 respectively) as a function of pyrites residues content (top abscissa scale). About 20% residues gave the strongest pellets and this content (residues + concentrate = 100%) was used in the main part of the investigation. The properties of unfired pellets with this residues to concentrates ratio made with limestone, lime or calcium hydroxide are shown in table 2. Calcium hydroxide gave the strongest pellets (dry crushing load 3.97 kg) and this strengthening effect was found to become more pronounced the higher the pyrites concentration. To study desulphurisation processes various charges were fired in a down-draught of air in a 150 mm

Production of Pellets from Charges Containing Pyrites Residues

electrically heated pot. Fig 2 shows the degrees of desulphurisation as functions of heating time (minutes) for 1000, 1200 and 1250°C for fluxed residues (curve 1) unfluxed residues (1000 and 1200°C only) (curve II) and fluxed 20 to 80 residues to concentrates mixture (curve III). When pellets of the latter composition were fired it was found (Fig 3) that with increasing firing temperature (range 1180 to 1280°C) the residual sulphur content falls (from about 0.05 to about 0.02%) and the ratio of ferrous to total iron rises. The optimal temperature is given as 1210-1240 and duration as 20 min. The properties of the pellets were compared with those of sinter of the same material by allowing 100 g samples in a basket to descend 8 m down a blast-furnace and then withdrawing and subjecting to chemical analysis to determine degrees of reduction. The results of these tests showed that while sinter was only 9.1% reduced the value for pellets was 40.1%. Table 4 gives results of these and other comparative tests which showed that for about the same iron content the pellets had less FeO and sulphur than

Production of Pellets from Charges Containing Pyrites Residues

the sinter and had good physical properties even after a 20 hour soaking in water. The authors conclude that it is preferable to smelt pyrites residues as a component of pellets than of sinter. There are 3 figures, 4 tables and 1 Soviet reference.

ASSOCIATION: Nizhne-Tagil'skiy Metallurgicheskiy Kombinat (Nizhniy Tagil'skiy Metallurgical Combine)

Card 4/4

Khil'kevich F.A.

133-9-1/23

AUTHOR: Khil'kevich, F.A. and Bazilevich, S.V., Engineers.

TITLE: An Investigation of the Service Life of Carbon Lining in the Blast Furnace Stack. (Issledovaniye raboty uglerodistoy futerovki shakhty domennoy pechi)

PERIODICAL: Stal', 1957, No.9, pp. 769 - 771 (USSR)

ABSTRACT: The service life of the chamotte lining of blast furnace stack on the above works was lately about 2 - 2.5 years. Moreover, the presence of zinc in the burden increased the erosion of lining and occasionally caused bursting of the shell. In October, 1956, the bottom 7.2 m of the stack of the No.3 furnace was relined with carbon blocks (Fig.1). For the cooling of the carbon lining three rows of plate-coolers placed close up to the external surface of the carbon blocks were used. The seams between the blocks were filled with paste made from foundry coke (0 - 0.5 mm fraction) - 50%, pitch - 22.5% and anthracene oil - 27.5%. The lentil was smoothed with a chamotte-cement tie piece on to which two rows of chamotte bricks were placed followed by a row of lentil coolers on to which the first row of carbon blocks was placed. A number of thermocouples in sheaths was placed into holes drilled in the carbon blocks and connected to recording galvanometers. The temperature of the lining during the heating-up period is shown in Fig.2. Calculated temperature

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An Investigation of the Service Life of Carbon Lining in the Blast Furnace Stack.

distribution in the carbon lining is shown in Fig.3. Indications of thermocouples inserted 340 mm into the carbon lining remained during 5 months of the furnace operation on the same level as after blowing in (Fig.4). A high sensitivity of thermocouples (placed near the hot surface of the lining) to changes in the gas flow in the stack can be used for the control of furnace operation. In order to evaluate the gas permeability of carbon lining measurement of gas pressures on hot and cold surfaces of the lining was carried out. Pressure in the furnace on level 5 (6 100 mm from the lentil) was on average 1.25 atm. gage, and the gas pressure on the cold side of the lining rose and after 9 days reached a maximum (pressure drop 0.59 atm.). Then pressure drop began to increase and stabilised at 1.23 atm., which was apparently due to an intense deposition of zinc in seams. After 30 days of operation when changing thermocouples a thick layer of metallic zinc on the walls of the thermocouple hole was noticed. The gas composition on the hot and cold sides of the carbon lining was practically identical. On the 32nd day, the shell cracked. It was welded but cracking continued due to an intense deposition of zinc in the lining. To prevent the deposition of zinc in the lining itself the authors proposed a

An Investigation of the Service Life of Carbon Lining in the Blast Furnace Stack.

modified design of lining Fig.5, which, however, is considered in the editorial note of not much use for preventing the cracking of the shell. In conclusion it is stated that carbon-lining is more stable than chamotte lining and therefore its thickness can be reduced to 500 mm. Replacing the chamotte lining with a carbon one did not substantially increase the external heat losses. In the case of the presence of zinc in the burden, the use of a two-layer lining (Fig.5) should be used. In the editor's note it is pointed out that six months' operation is insufficient for the conclusions drawn. There are 5 figures.

ASSOCIATION: Nizhniy Tagil Metallurgical Combine (Nizhne-Tagil'skiy Metallurgicheskiy Kombinat)

AVAILABLE: Library of Congress.

Card 3/3

BAZILEVICH, S.V., kand. tekhn. nauk; LAZAREV, B.L., inzh.

Preparing pellets from charges containing pyrite cinder.
Metallurg 4 no.2:4-7 F '59. (MIRA 12:1)

1.Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Pyrites) (Sintering)

PHASE I BOOK EXPLOITATION SOV/5274

Bazilevich, Sergey Vladimirovich, Boris Leonidovich Lazarev, Modest Andreyevich Starikov, and Boris Viktorovich Goloskov

Metody eksperimental'nogo issledovaniya domennogo protsessa (Methods for the Experimental Investigation of the Blast-Furnace Process) Sverdlovsk, Metallurgizdat, 1960. 256 p. Errata slip inserted. 3,200 copies printed.

Reviewer: I. S. Kulikov, Candidate of Technical Sciences; Ed.: L. Z. Khodak; Ed. of Publishing House: F. K. Chapaykina; Tech. Ed.: R. M. Matlyuk.

PURPOSE: This book is intended for technical personnel of industrial laboratories and for workers at scientific research institutes. It may also be of use to personnel of blast-furnace plants and to students at schools of higher and secondary education.

COVERAGE: Methods of experimental investigations of the blast-furnace smelting process are reviewed. Equipment and apparatus

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used for investigating the various zones of a blast furnace are described. Also briefly outlined are methods of laboratory research in the field of cast-iron metallurgy. No personalities are mentioned. There are 236 references, mostly Soviet.

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Automatic control of the speed of sintering machine operations.
Metallurg 5 no. 12:2-4 D '60. (MIRA 13:11)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Uralmekhanobr.
(Sintering--Equipment and supplies) (Automatic control)

RYAZANTSEV, A.P., inzh.; SIMAKOV, Yu.V., inzh; BAZILEVICH, S.V., kand.tekhn. nauk

Improving the sintering process. Metallurg 6 no.3:4-5 Mr '61. (MIRA 14:5)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Sintering)

MILLER, V.Ya., prof.; BAZILEVICH, S.V., kand.tekhn.nauk; KHUDOROSHKOV, I.P., inzh.; MAYZEL', G.M., inzh.

Investigating the strength of sinter. Stal' 21 no.9:769-775 S '61. (MIRA 14:9)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Institut metallurgii Ural'skogo filiala AN SSSR.
(Sintering)

MILLER, V.Ya.; BAZILEVICH, S.V.; MAYZEL', G.M.

Composition of the gaseous phase during the sintering of magnetite concentrates. Obog.rud. 7 no.1:29-34 '62. (MIRA 15:3)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Sintering) (Gases--Analysis)

VINOGRADOV, V.S., inzh.; AL'TSHULER, M.A., kand. tekhn. nauk; POLYAKOV, V.G., inzh.; KUROCHKIN, A.N., inzh.; KARMAZIN, V.I., doktor tekhn. nauk; ZAIKIN, S.A., inzh.; OSTROVSKIY, G.P., inzh.[deceased]; NAUMENKO, P.I., inzh.; BOBRUSHKIN, L.G., inzh.; RUSTAMOV, I.I., inzh.; SHIFRIN, I.I., inzh.; GOLOVANOV, G.A., inzh.; KRASOVSKIY, L.A., inzh.; TSIMBALENKO, L.N., inzh.; RAVIKOVICH, I.M., inzh.; BAZILEVICH, S.V., kand. tekhn.nauk; ZORIN, I.P., inzh.; ZUBAREV, S.N., inzh.; TIKHOVIDOV, A.F., inzh.; SHITOV, I.S., inzh.; GAMAYUROV, A.I., inzh.; KUSEMBAYEV, Kh.N., inzh.; DEKHTYAREV, S.I., inzh.; VORONOV, I.S., inzh.; BURMIN, G.M., inzh.; BARYSHEV, V.M., inzh.; GOLOVIN, Yu.P., inzh.; MARCHENKO, K.F., inzh.; RYCHKOV, L.F., inzh.; NESTERENKO, A.M., inzh.; KABANOV, V.F., inzh.; PATRIKEYEV, N.N., inzh.[deceased]; ROSSMIT, A.F., inzh.; SOSEDOV, O.O., inzh.; POKROVSKIY, M.A., inzh., retsenzent: POLOTSK, S.M., red.; GOL'DIN, Ya.A., glav. red.; GOLUBYATNIKOVA,G.S., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

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BAZILEVICH, S.V.; LAZAREV, B.L.

Ways of improving the granular composition of sinter. Stal' 22 no.12:1061-1065 D '62. (MIRA 15:12)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Sintering) (Granular materials)

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Calculating temperatures during the sintering process. Izv. vys. ucheb. zav.; chern. met. 6 no.8:47-53 '63. (MIRA 16:11)

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BAZILEVICH, S.V.; PAKHOMOV, Ye.A.

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BAZILEVICH, V.A. [Bazilevych, V.O.]

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USSR/Medicine - Benzpyrene
Medicine - Tumor

May/Jun 49

"Retention of 3,4 Benzpyrene in the Site of Administration and Its Presence in Tumors Formed by Its Action," V. M. Bergol'ts, A. A. Il'ina, V. V. Bazilevich, Lab of Oncol, Inst of Normal and Path Morph, Acad Med Sci USSR, Opt Lab, State Opt Inst, Moscow, 8½ pp

"Biokhim" Vol XIV, No 3

Tabulates and summarizes spectural analysis of the fluorescent effects on mice inoculated with varying amounts of benzpyrene at time intervals from that immediately following the inoculation to 226 days afterward. Submitted 15 Oct 48

PA 63/49T41

BAZILEVICH, V. V.

USSR/Chemistry - Spectrum Analysis
Chemistry - Benzoxy-Pyrene

Jan/Feb 49

"Fluorescence Spectra of 3,4-Benzoxy-Pyrene and Their Utilization for Detecting It in the Living Organism," V. M. Bergol'ts, A. A. Il'ina, V. V. Bazilevich, Lab of Oncol, Inst of Normal and Path Morph, Acad Med Sci USSR, Opt Lab, State Pedagogical Inst, Moscow, 5½ pp

"Biokhimiya" Vol XIV, No 1

Studies fluorescence spectra of 3,4-benzopyrene, one of most potent cancerogenic substances, by means of a photoelectric spectrometer. Applies method to detection of benzopyrene in urine and certain organs of mice. Submitted 19 May 48

PA 45/49T11

BAZILEVICH, V. V.

USSR/Physics Sep 48
Fluorescence
Chemistry - Anthracene, Fluorescence

"Fluorescence Spectra of Anthracene, 1,2-Benzanthracene, and Some of Their Derivatives," E. V. Shpol'skiy, A. A. Il'ina, V. V. Bazilevich, Optics Lab, Moscow State Pedagogical Inst imeni V. I. Lenin, 4 pp

"Dok Ak Nauk SSSR" Vol LXII, No 2. Submitted [illegible]

Studied fluorescence spectra of anthracene, 9,10-dimethylanthracene, 10-diethylanthracene, 1,2-benzoanthracene, 1,2,5,6-dibenzoanthracene, 9,10-dimethyl-1,2-benzoanthracene, cholanthrene, 3-methyl-cholanthrene and benzopyrene. Compared results for the fluorescene of anthracene in benzene with those of Shishlovskiy, R. A. Burdett and L. C. Jones, and Pringsheim. Submitted by Acad S. I. Vavilov, 13 Jul 48

PA 36/49T73

BAZILEVICH, V.V.

AUTHORS: Topchiyev, A. V., Academician, Yegorova, G. M. 20-1-31/58
Aliyeva, G. A., Bazilevich, V. V.

TITLE: The Chemical Composition of the Makhachkala Oil (Khimicheskiy sostav Makhachkalinskoy nefti).

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 110-113 (USSR).

ABSTRACT: This oil field lies 2 km south of the town. The mineraloil is deposited in sand layers of the Chokrak-Spiralisovyye deposits of the G-suite. Physico-chemical characteristic. Elementary composition in percentage by weight. -% %. C - 86,23 - 86,36, H - 13,48 - 13,67, S - 0,21, N + O - 0,08. Other properties are given. The investigated oil contains benzine fractions (27,2 %) and is to be classified with the very light mineral oils of mixed foundation. According to the general properties it is close to other mineral oils of Dagestan. Benzine fractions. The chemical composition by groups was determined by means of the method of aniline-points. Deviations of the values of the aniline-points $T_{2(max)}$ which were found after dearomatization lay within the range 0 - 0,6° (table 1). A high (about 50 %) content of paraffinic hydrocarbons was characteristic of all 4 benzine fractions. The content of aromatic hydrocarbons was also considerable and increased on transition from the lower to the higher fractions.

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20-1-31/58

The Chemical Composition of the Makhachkala Oil.

There are 3 tables, and 3 Slavic references.

SUBMITTED: June 12, 1957.

AVAILABLE: Library of Congress.

Card 3/3

22281

S/152/61/000/004/002/009
B126/B219

11.1210

AUTHORS: Panchenkov, G. M., Bazilevich, V. V., Boyeva, R. S., Zlotchenko, V. N., Nikolov, N. I.

TITLE: Investigation of the influence of the catalyst composition on the hydrocarbon content of gasolines from catalytic cracking

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 4, 1961, 57-62

TEXT: The above investigation was carried out in view of the growing importance of petroleum as a raw material for chemical synthesis. The combined method of B. A. Kazanskiy and G. S. Landsberg for detailed examination of gasolines served as a basis, (Ref.3: Landsberg G. S., Kazanskiy B. A., Bazhulin P. A., Bulanova T. F., Liberman A. L., Mikhaylova Ye. A., Plate A. F., Sterin Kh. Ye., Sushchinskiy M. M., Tarasova G. A., Ukholin S. A. "Opredeleniye individual'nogo uglevodorodnogo sostava benzinov pryamoy gonki kombinirovannym metodom" ("Determination of the individual hydrocarbon content in straight-run gasolines by a

Card 1/3

Investigation of the influence...

combined method"), Izd-vo AN SSSR, 1959; Ref. 4: Landsberg G. S., Bazhulin P. A., Sushchinskiy M. M. "Osnovnyye parametry spektrov kombinatsionnogo rasseyaniya uglevodorodov" ("Basic parameters of the spectra of Raman scattering from hydrocarbons"), Izd-vo AN SSSR, 1956). A distillate with a boiling interval at 300-400°C was used as initial raw material. Cracking was brought about in the laboratory at a temperature of 475°C and a feed rate of the raw material of 0.7 ml/hr, and lasted for 1 hr. The experiment was carried out under the same conditions in two equal apparatuses with aluminum silicate catalysts of various Al_2O_3 content, viz. a commercial aluminum silicate catalyst consisting of 12.8% Al_2O_3, 85.1% SiO_2, 0.2% Fe_2O_3, 0.05% Cr_2O_3, and a synthetic aluminum silicate catalyst with 30% Al_2O_3 and 70% SiO_2. The fractions 55-95 and 95-122°C were subjected to chromatographic adsorption, the losses being far less through use of the method of A. V. Topchiyev and collaborators (Ref. 6: "Khimiya i tekhnologiya topliva i masel", no. 11, 1957). In the determination of the individual composition of the narrow-band fractions, the method of the Raman spectra was used. The results of the investigation showed that the catalyst with the higher Al_2O_3 content

has a greater isomerizing effect. The dehydrogenating effect of this catalyst is greater too. The catalyst with Al_2O_3 and Cr_2O_3 content has a greater cyclization effect. With this catalyst, gasoline with a higher aromatic and naphthenic hydrocarbon content was obtained. There are 6 tables and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The two references to English language publications read as follows: Molpolder P. W., Brown P. A., Young W. S., and Headington C. E., Ind.Eng.Chem., 44, 1142, 1952; Cady W. E., Marsehner R. F., Cropper W.P., Ind.Eng.Chem., 44, 1850, 1952.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I. M. Gubkina (Moscow Institute of Petrochemical and Gas Industry imeni Academician I.M.Gubkin)

SUBMITTED: December 8, 1960

S/020/61/137/006/014/020
B103/B217

AUTHORS: Topchiyev, A. V., Academician, Yegorova, G. M., Bazilevich, V. V., and Yevstaf'yev, V. P.

TITLE: Study of isomeric octalines

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 6, 1961, 1381-1384

TEXT: The authors initially give a survey of publications on production, use, reactions, and identification methods of isomeric octalines. They state that they hardly used the spectral methods for their studies. The authors studied the Raman spectra of 1) Δ-9,10-octaline, 2) Cis-Δ-2,3-octaline, and 3) mixture of Δ-1,9-and Δ-9,10-octaline. Synthesis methods: to 1). The authors heated gradually 200 g Cis-Cis-decalol-2 with 70 g orthophosphoric acid up to 200°C under mechanical stirring, the reaction products being continuously distilled off. Nitrosochlorides were obtained from the formed hydrocarbons under the action of isoamylnitrite and hydrochloric acid at -10°C. White (melting point 125-127°C) and light-blue crystals (melting point 90°C) were obtained from these by means of acetone. From these results the authors conclude that the forming 2) is partly isomerized to 3). 1) was

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B103/B217

Study of isomeric qotalines

obtained from the light-blue crystals by decomposition according to W. Hückel (Ref. 3). The isomer content amounted in 1) to 1-2% at most. To 2). The authors' experiments proved that the dehydration of Cis-Cis-decalol-2 in the presence of the cation-exchanging resin КУ-2 (KU-2) (hydrogen form) is not suited for the synthesis of pure 2) for the purpose of spectral analysis, since 2) is partly isomerized to 3). Therefore the authors synthetized 2) by the known method of dehydration of decalol in the presence of 200% freshly melted potassium bisulfate. The white crystals (melting point 176°C) thus formed were obtained by rising in acetone. The authors established that the 2) synthetized by them contains only traces of 1). The oxidation of a weighed-in portion with alkaline potassium permanganate solution yielded, however, Cis-cyclohexane diacetic acid-1,2 (melting point 159°C). The authors used for recording and evaluation of spectrograms; the spectrograph ИСП-51 (ISP-51) and a comparator ИЗА-2 (IZA-2). Table 1 contains the frequencies of the Raman lines. The visually evaluated intensities are given in brackets according to a 10-units scale. This evaluation was related in the spectra of each individual compound to the line 1684 cm^{-1} in the spectrum of 1), which line was equated with 10 scale units. On the strength of their results the authors ascribe the frequencies of the C=C bond as

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B103/B217

Study of isomeric octalines

follows: 1684 cm^{-1} belongs to 1), 1672 cm^{-1} to Δ-1,9-octaline and 1652 cm^{-1} to 2). From this they conclude that the 9,10-bond is stronger than the 1,9-bond. The 1,9-bond is, however, stronger than the 2,3-bond. This final conclusion is in line with the mentioned isomerization of 2) to 3). An intensive line at 675 cm^{-1} exists in the spectrum of 1), which lacks in the spectrum of 2). Its intensity in the spectrum of 3) is considerably weakened. It is obviously characteristic of 1). The intensity of the lines 418 and 830 in the spectrum of 1) is also striking. The authors mention the paper by M. B. Turova-Polyak (Ref. 1: Uch. zap. MGU, no. 3, 193, 1934), W. Hückel, R. Danneel et al; Ref. 3: Ann. 474, 121, 1929). There are 1 table and 16 references: 4 Soviet-bloc and 12 non-Soviet-bloc. The three most recent references to English-language publications read as follows: A. G. Anderson, J. Nelson, Ref. 5: J. Am. Chem. Soc., 73, 232, 1951; Sukh Dev, Ref. 6: J. Ind. Chem. Soc., 31, 1-7, 1954; A. C. Cope, R. J. Cotter, G. G. Roller, Ref. 12: J. Am. Chem. Soc., 77, 3594, 1955.

SUBMITTED: January 20, 1961

Card 3/5

ANDRASHNIKOV, B.I., inzh.; BAZILEVICH, V.V., inzh.; TROITSKIY, I.A., kand.tekhn.nauk

Control systems of selective weighing with potentiometer-type weight transducers. Mekh.i avtom.proizv. 16 no.12:28-35 D '62. (MIRA 16:1)

(Electronic control) (Weighing machines)

L 53597-65 SWT(m)/EPF(c)/EWP(t)/EWP(b) Pr-4 IJP(c) JD/JW
ACCESSION NR: AP5010990 UR/0104/65/005/002/0211/0216

AUTHORS: Panchenkov, G. M.; Zhorov, Yu. M.; Kuznetsov, O. I.; Bazilevich, V. V. 27

TITLE: Cracking of n-hexadecane in the presence of silica gel modified by alkali

SOURCE: Neftekhimiya, v. 5, no. 2, 1965, 211-216

TOPIC TAGS: organic synthesis, silica, alkali, catalyst, IR spectrometer

ABSTRACT: Because of the importance of high-boiling polymers, particularly alpha-olefins, the effect of modification of silica gel by alkalies on the structure of olefins forming during the cracking of n-paraffins, particularly n-hexadecane, was examined. [illegible]

[illegible]

only isomerization activity but also cracking activity, with a simultaneous increase in yield of high boiling alpha-olefins. It is thus found that this technique yields a higher quantity of such olefins than thermal cracking. Silica gel of this kind

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ACCESSION NR: AP5010998

may be used as a carrier, inert to isomerization of the double bond and to cracking,

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I.

SUBMITTED: [illegible] ENCL: 00 SUB CODE: FP, GC

NO REF SOV: [illegible] OTHER: [illegible]

Card 2/2

BAZILEVITS, V. V. and M.E.Shvets

"Review of 'General Meteorology, Physics of the Atmosphere,'" Journal of Chinese Meteorology, Vol 25, No 1, pp 47-53, 1954

M-229, 7 Mar 55

Bazilevich V. V.

AUTHORS Bazilevich V.V., Tverskoy N.P. 57-8-24/36

TITLE Freezing of Drops of the Supercooled Water Fog in the Accoustic Field.
(Zamerzaniye kapel' pereokhlazhdennogo vodyanogo tumana v akusticheskom pole - Russian)

PERIODICAL Zhurnal Tekhn.Fiz., 1957, Vol 27, Nr 8, pp 1826-1829 (U.S.S.R.)

ABSTRACT The conditions under which deep-cooled water in small quantities and especially in form of drops freezes,and the influence of strong vibrations (shocks)on these deep-cooled drops were investigated.From literature we know the case that the formation of ice-crystals was observed with deep-cooled river-fog in the beam of the searchlight of a car which had stopped on the bank when a strong accoustic signal exercised its influence on it.Experiments were carried out in a 24.10^4 cbcm chamber with super cooled water-fog in order to investigate this phenomenon.The accustic oscillations were caused by a siren.The experiments showed that a fast crystallization of the supercooled fog took place in the accoustic field with an intensity of 3.10^2 Erg.cm^{-2}.sec.$^{-1}$. The whole process lastet for about one minute and a crystallization was not observed without the influence of the accoustic oscillations on the fog.Experiments with various negative temperatures showed that the supercooled fog crystallizes quicker within the range of from -4 to -5°C. The intensity of sound is,of course,decisive in this process.
(3 illustrations and 2 Slavic references).

Card 1/2

BAZILEVICH, V. V., and SHIFRIN, K. S. (editors)

"The Works of Ya. I. Frenkel' on Geophysics,"

in Collection of Selected Works of Ya. I. Frenkel', Vol. 2, Scientific Articles, Moscow, Izd-vo AN SSSR, 1958, 600pp.

BAZILEVICH, V.V.
P 2

PHASE I BOOK EXPLOITATION SOV/3904
SOV/2-M-73

Glavnaya geofizicheskaya observatoriya

Fizika atmosfery (Physics of the Atmosphere) Leningrad, Gidrometeoizdat, 1958. 130 p. Errata slip inserted. 1,300 copies printed. (Series: Its: Trudy, vyp. 73)

Additional Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed.: V.V. Bazilevich, Doctor of Physics and Mathematics; Ed.: M.M. Yasnogorodskaya; Tech. Ed.: O.G. Vladimirov.

PURPOSE: This publication is intended for meteorologists and geophysicists.

COVERAGE: This issue of the Transactions of the Main Geophysical Observatory of the USSR contains 11 articles on problems in atmospheric physics, particularly in the region of the ground layer. Individual articles discuss: the meteorological conditions surrounding the formation of winter evaporational fogs, the possibilities of using radio-controlled aircraft models for

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aerological investigations, the effect of atmospheric turbulence on sound propagation, and the physical properties of fog droplets. References accompany each article.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

JA/dwm/gmp
8-1-60

Card 3/3

V.V.

AUTHOR: None Given SOV/ 5o-58-6-22/24

TITLE: Transactions of the Scientific Research Institutes of the "Hydrometeorologic" Service in 1957 (Trudy nauchno-issledovatel'skikh uchrezhdeniy Gidrometeosluzhby za 1957 g.) Continuation (Prodolzheniye)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 61 - 63 (USSR)

ABSTRACT: Transactions of the Geophysical Main Observatory imeni A. I. Voyeykov (Trudy Glavnoy geofizicheskoy observatorii im. A. I. Voyeykova) Periodical Nr 67. Research problems of clouds of mighty convection and of the zones of thunderstorm activity. Editor: V. V. Bazilevich, 153 pages, 11 articles.
Periodical Nr 68. Problems of actinometry and atmospheric optics. Editors: K. S. Shifrin and V. L. Gayevskiy, 2o8 pages, 18 articles.
Periodical Nr 69. Problems of the physics of the ground-near layer of the atmosphere. Editor: D. L. Laykhtman, 1o7 pages, 16 articles.
Periodical Nr 7o. Problems of general climatology. Editor: O. A. Drozdov, 135 pages, 6 articles.

Card 1/3

Transactions of the Scientific Research Institutes of the "Hydrometeorologic" Service in 1957. Continuation

Periodical Nr 71. Problems of the numerical forecast and of climate theory. Editor: M. I. Yudin, 236 pages, 16 articles.
Periodical Nr 72. Problems of atmospheric physics. Editor: A. P. Chuvayev, 151 pages, 13 articles.
Periodical Nr 73. Atmospheric physics. Editor: V. V. Bazilevich, 132 pages, 11 articles.
(Periodical Nr 74 is not given).
Periodical Nr 75. Glazed frost and hoar-frost. Editor: O. A. Drozdov, 91 pages, 4 articles.

Transactions of the State Hydrological Institute (Trudy Gosudarstvennogo gidrologicheskogo instituta)
Periodical Nr 59. Experimental investigation of the elements of the water balance in Valday. Editors: A. R. Konstantinov and V. V. Kupriyanov, 224 pages, 6 articles.
Periodical Nr 60. Problems of the hydrology of swamps. Editor: K. Ye. Ivanov, 108 pages, 6 articles.
Periodical Nr 61. Problems of the flow formation and the methods for its calculation. Editor: D. L. Sokolovskiy, 306 pages, 11 articles.

SOV/50-58-6-22/24

Transactions of the Scientific Research Institutes of the "Hydrometeorologic" Service in 1957. Continuation

Periodical Nr 62. Problems of hydrometry. Editor: A. K. Proskuryakov, 108 pages, 6 articles.
(Periodical Nr 63 is not mentioned).
Periodical Nr 64. Problems of the construction of hydrological apparatus. Editor: K. D. Zav'yalov, 58 pages, 6 articles.
(Periodical Nr 65 is not mentioned).
Periodical Nr 66. Research problems of lakes and reservoirs. Editor: A. P. Domanitskiy, 140 pages, 5 articles.

1. Scientific reports--USSR 2. Meteorology 3. Hydrology

Card 3/3

NIKANDROV, Vladislav Yakovlevich; BAZILEVICH, V.V., otv.red.; VLASOVA, Yu.V., red.; VOLKOV, N.V., tekhn.red.

[Artificial modification of clouds and fogs; microphysical principles] Iskusstvennye vozdeistviia na oblaka i tumany; mikrofizicheskie osnovy. Leningrad, Gidrometeor.izd-vo, 1959. 189 p. (MIRA 13:3)
(Weather control)

BAZILEVICH, Ye.I.; IVANISHIN, V.S.; PALINSKAYA, V.I.

Hydraulic fracturing in the Bitkov oil field. Neft. i gaz. prom. no.4:51-54 O-D '63. (MIRA 17:12)

1. Nauchno-issledovatel'skaya laboratoriya neftepromyslovogo upravleniya "Nadvornayaneft'".

BAZILEVITCH, YE. V., Master Tech Sci— (diss) "Contactless telegraph relays."
Moscow, 1957. 8 pp (Min Communic USSR. Moscow Electrotechnical Inst of Communic),
(KL, No 40, p 92)

BAZILEVICH, Ye. V.

CIRCUITS AND CIRCUIT ELEMENTS

"Transistorized Contactless Telegraph Relays", by Ye.V. Bazilevich, Elektrosvyaz', No 8, August 1957, pp 50-60.

Report on an experimental investigation of several types of contactless telegraph relays employing transistors. The discussion covers ac and dc circuits, (diode triggers, dynatron-effect triggers, cascade-effect triggers, etc.), as well as modulating and keying circuits.

Card 1/1

YERGEL'YANOV, G. A.; BAZILEVICH, Ye. V.; TSYGIKALS, A.I.; KIRSANOV, V.I.; PEREGUDOV, A.N., otv. red.; DOBRYNINA, A.Ya., red.; MARKOCH, K.G., tekhn. red.

[Telegraphic communication; an informational bulletin] Telegrafnaia sviaz'; informatsionnyi sbornik. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1958. 104 p. (MIRA 11:11)

1. Russia(1923- U.S.S.R.)Ministerstvo svyazi. Tekhnicheskoye upravleniye. (Telegraph)

DUBOVIK, Vladimir Afanas'yevich; VYGOVSKIY, Sergey Ivanovich; BAZILEVICH, Yevgeniy Vladimirovich; YEMEL'YANOV, Gennadiy Alekseyevich; MARTSENITSEN, S.I., otv. red.; KOKOSOV, L.V., red.; SHEFER, G.I., tekhn. red.

[Frequency telegraphy] Chastotnoe telegrafirovanie. By V.A. Dubovik i dr. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1962. 349 p. (MIRA 15:2)
(Radiotelegraph) (Telegraph)

GUROV, Vadim Sergeyevich; YEMEL'YANOV, Gennadiy Alekseyevich; YETRUKHIN, Nikolay Nikiforovich; BAZILEVICH, Yevgeniy Vladimirovich; SINIL'SHCHIKOV, B.V., retsenzent; PETROVSKIY, B.N., otv. red.; KOMAROVA, Ye.V., red.

[Principles of data transmission using wire communication channels] Osnovy peredachi dannykh po provodnym kanalam sviazi. [By] V.S.Gurov i dr. Moskva, Sviaz', 1964. 310 p. (MIRA 17:12)

AM5006634 UR/0000/63/000/000/0001/0001

[illegible]

[illegible] applications of data transmission by wire and [illegible]

TOPIC TAGS: communication channel, communication coding, communication antijam, data transmission, linear signal

PURPOSE AND COVERAGE: This book is a textbook for [illegible] theory of transmitting pulsed signals along communications channels, the fundamentals of protection the coding of transmitted information arising [illegible]

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L 38148-65
AM5006609

cults are presented. The basic content of the book was presented by the Depart-
[illegible]

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Ch. 8. Communications channels for data transmission - - 246
Ch. 9. Examples of apparatus and circuits for data transmission - - 265
Literature - - 306

SUB CODE: EC SUBMITTED: 26Oct64 NR REF SOV: 050

OTHER: 011

Card 3/3

Bazilevich, Yu. A.

USSR/Medicine - Veterinary FD-468

Card 1/1 : Pub 137 - 9/24

Author : Buchnev, K. N., Dr Vet Sci, Nikolayeva, V. V., Scientific Associate, and Bazilevich, Yu. A., Scientific Associate

Title : Hyperimmune antibrucellosis serum

Periodical : Veterinariya, 7, 30-31, Jul 54

Abstract : Experiments conducted since 1948 on mice, guinea pigs, rabbits, and cattle resulted in the development of hyperimmune antibrucellosis serum which speeds up recovery of cattle infected with brucellosis. This serum may be used as prophylaxis against abortion, metritis, and endometritis. It seems possible that this serum may be also used successfully against brucellosis in sheep, goats, and hogs. The Main Administration of Animal Husbandry and Veterinary Medicine of the Ministry of Agriculture of the USSR has issued a decree ordering manufacture of this antibrucellosis serum. The decree contains also instructions as to methods of administration of this serum. Two injections should be given subcutaneously 5 days apart. Single dose should consist of 5cc of antibrucellosis serum per kg of weight of the animal.

Institution : Far Eastern Zonal Scientific-Research Veterinary Institute

Submitted :

MUN, A.I.; BAZILEVICH, Z.A.

Some characteristics of the distribution of iodine in silty lake sediments. Geokhimiia no.5:468-476 My '64. (MIRA 18:7)

1. Institut khimicheskikh nauk AN Kazakhskoy SSR, Alma-Ata.

MUN, A. I., BAZILEVICH, Z. A., BEKTUROV, A. B.

Geochemistry of bromine in the lakes of central Kazakhstan. Vest. AN Kazakh. SSR 16 no.7:13-20 Jl '60. (MIRA 13:8)
(Kazakhstan--Lakes) (Bromine)

BEKTUROV, A.B.; MUN, A.I.; BAZILEVICH, Z.A.

Chemical composition of brines of salt lakes in the Kokchetav Province. Izv.AN Kazakh. SSR. Ser.khim. no.1:3-6 '61. (MIRA 16:7)
(Kokchetav Province--Lakes) (Brine)

MUN, A.I.; BAZILEVICH, Z.A.

Distribution of bromine in the silt of inland waters. Geokhimiia no.2:175-180 '62. (MIRA 15:3)

1. Institute of Chemical Sciences, Academy of Sciences of the Kazakh Soviet Socialist Republic, Alma-Ata.
(Kazakhstan--Silt) (Kazakhstan--Bromine)

MUN, A.I.; BAZILEVICH, Z.A.

Iodine in surface brines and waters in central Kazakhstan. Geokhimiia no.5:500-506 My '63. (MIRA 16:7)

1. Institute of Chemical Sciences, Academy of Sciences of the Kazakh S.S.R., Alma-Ata.

(Kazakhstan—Iodine)
(Kazakhstan—Water—Composition)

RUBINSHTEYN, B.L.; YAKUBOVICH, S.V.; BAZILEVICH, Z. A.

Method for determining the resistance to abrasion of paints.
Lakokras.mat. i ikh prim. no.2:50-52 '64. (MIRA 17:4)

BEKTUROV, A.B., akademik; MUN, A.I., kand. khimicheskikh nauk;
BAZILEVICH, Z.A.

Some problems concerning the distribution of fluorine in the natural waters of Kazakhstan. Vest. AN Kazakh. SSR 18 no.10:3-10 O '62. (MIRA 17:9)

1. Akademiya nauk Kazakhskoy SSR (for Bekturov).

BAZILEVICH, Z.A.; MUN, A.I.

Bromine in lake deposits. Trudy Inst.khim.nauk AN Kazakh.SSR 10:58-69 '64. (MIRA 17:10)

RUBINSHTEYN, B.L.; YAKUBOVICH, S.V.; BOGDANOVA, G.S.; BAZILEVICH, Z.A.

Photometric method for determining the whitening capacity (intensity) of white pigments. Lakokras.mat.i ikh prim. no.3:51-55 '60. (MIRA 14:4)

(Pigments)

RUBINSHTEYN, B.L.; YAKUBOVICH, S.V.; Prinimali uchastiye: BOGDANOVA, G.S.; BAZILEVICH, Z.A.

Photometric determination of the dyeing power of ultramarine. Lakokras.mat. i ikh prim. no.2:70-71 '61. (MIRA 14:4)
(Ultramarine)

ABARBARCHUK, Y.L. [Abarbarchuk, I.L.]; BAZILEVS'KA, N.P. [Bazylevs'ka, N.P.]

Interaction between iodine chloride and naphthalene. Nauk. pratsi UASHN 17 no.12:159-162 '60. (MIRA 16:7)

(Iodine chlorides) (Naphthalene)

BAZILEVSKAYA, G.A.; CHARAKHCH'YAN, T.N.

Some data on the 27-day intensity variation of cosmic rays in the stratosphere. Izv. AN SSSR.Ser.fiz. 29 no.10:1888-1890 O '65. (MIRA 18:10)

L 4492-66 EWT(1)/FCC/EWA(h) GW

ACC NR: AP5024659 SOURCE CODE: UR/0048/65/029/009/1774/1776

AUTHOR: Bazilevskaya, G.A.; Kvashnin, A.N.; Krasotkin, A.F.; Filatov, V.M.; Charakhchyan, A.N.

ORG: Physics Institute im P.N.Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Radiosonde for measurement of x rays in the stratosphere /Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v 29, no 9, 1965, 1774-1776

TOPIC TAGS: x ray, stratosphere, secondary cosmic ray, radiosonde

ABSTRACT: There are briefly described two radiosondes for measuring x rays in the stratosphere. Both instruments employ NaI:Tl scintillators and vacuum tube electronics and are battery powered with transistor voltage convertors. The lighter instrument weighs 2.5 kg and records photons with energies above 30-35 keV. The second instrument weighs 6 kg and its threshold is adjustable from 20 to 360 keV by a system of relays, so that photon energy spectra can be recorded. Schematic diagrams are given for both instruments, but not for their power supplies or for the relay system. Altitude versus counting rate curves recorded over Dolgoprudnyy are presented. Orig. art. has: 4 figures.

SUB CODE: NP,OP,EC/ SUBM DATE: 00/ ORIG REF: 002/ OTH REF: 000

Card 1/1

090/0400

ABRASIMOV, A.T.; BAZILEVSKAYA, G.A.; SOLOV'YEVA, V.I.; KHRISTIANSEN, G.B.

Extensive air showers involving ultrahigh energies. Zhur. eksp. i teor. fiz. 38 no.1:100-107 Jan '60. (MIRA 14:9)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta i Fizicheskiy institut im. P.N.Lebedeva AN SSSR.
(Cosmic rays)

[redacted], O.A., KRASOTKIN, A.F., [redacted]

X-rey photons in extensive air showers at various mean free paths for r olear interaction. Izv. AN SSSR. Ser. fiz. 28 no.11:1899-1903 N '64. (MIRA 17:12)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.

GORCHAKOV, Ye.V.; BAZILEVSKAYA, G.A.

Measuring the intensity of charged particles following the chromospheric flare of July 7, 1958. Isk.sput.Zem. no.8:84-86 '61. (MIRA 14:6)

(Artificial satellites) (Solar radiation—Measurement)

ACCESSION NR: AP4037565 S/0056/64/046/005/1556/1560

AUTHORS: Bazilevskaya, G. A.; Krasotkin, A. F.; Charakhch'yan, A. N.

TITLE: Energy spectrum and total number of x-ray photons in extensive air showers of cosmic rays

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1556-1560

TOPIC TAGS: cosmic ray, extensive air shower, x-ray photon equilibrium spectrum, electron photon cascade

ABSTRACT: In view of the discrepancy between the previously calculated equilibrium spectrum of low-energy (x-ray) photons produced in electron-photon cascades generated by primary electrons or photons of relatively high energy (ZhETF v. 40, 1602, 1961) and the experimental data with scintillation counters on pilot balloons, the experiments on the low-energy photons have been repeated in extensive air showers, in which the overwhelming majority of particles are

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electrons and photons, and concerning which there are still few data in the literature. The measured energy spectrum and the total number of x-ray photons in the EAS were found to be in agreement with the calculations for the equilibrium spectrum of photons produced in electron-photon cascades. The measurements were made by two methods; by recording the number of triple coincidences in scintillation counters and by recording quadruple coincidences for three gas-discharge and a single scintillation counter. The disparity with the data obtained in the measurements with the aid of triple coincidences is explained. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 11Oct63 DATE ACQ: 09Jun64 ENCL: 01

SUB CODE: GP, NP NR REF SOV: 002 OTHER: 003

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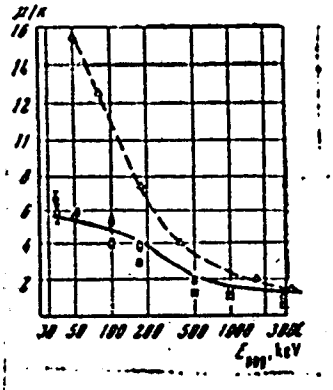
ACCESSION NR: AP4037565

ENCLOSURE: 01



Ratio of number of flashes due to photons in the scintillator, to the number of flashes produced by the electrons, as a function of the energy-release threshold E_{thr}: Δ- measurements in the stratosphere. The EAS measurement data are as follows:
○ - with the aid of three scintillation counters,
□ - with the aid of three gas-discharge and one scintillation counter; continuous line - results of calculations.

Abscissa - E_{thr}, keV; ordinate - number of flashes in counter.

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L 6952-66 EWT(1)/EWA(h)/FCC GW

ACC NR: AP5026231 SOURCE CODE: UR/0048/65/029/010/1888/1890

AUTHOR: Bazilevskaya, G.A.; Charakhch'yan, T.N.

ORG: none

TITLE: Some data on the 27-day variation of cosmic ray intensity in the stratosphere /Report, All-Union Conference on Cosmic Ray Physics held at Apatity, 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 10, 1965, 1888-1890

TOPIC TAGS: Cosmic ray intensity, stratosphere, neutron flux, cosmic ray variation, periodic variation

ABSTRACT: Cosmic ray intensity periodograms based on the preceding six months data on the maximum cosmic ray intensity in the stratosphere over Moscow and the sea level neutron intensity as recorded at Herstmanceaux or Deep River have been constructed at monthly intervals beginning in 1957; some of these periodograms are presented and discussed. The 27 day period was apparent not only in 1957, but also in 1958 and throughout most of 1963, i.e., at times during which solar activity was near minimum. On many of the periodograms there were prominent maxima in both the stratosphere and the sea level data corresponding to periods between 20 and 23 days, and some periodograms showed two maxima, one at 22 days and one at 30 days. The shape of the 22

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day wave was the same in the stratosphere and the sea level data, but the ratio of the amplitude of the 22 day wave in the stratosphere to that at sea level ranged from 5 for the period October 1958 - March 1959 to 1 for the period February 1950 - July 1959. The reason for the 22 day period is not known.

The authors thank A.N.Charakhch'yan for valuable advice and A.M.Kulikov and B.K. Artem'yev for programming the computer. Orig. art. has: 4 figures.

SUB CODE: AA SUBM DATE: 00/--Oct65 ORIG.REF: 001 OTH REF: 000

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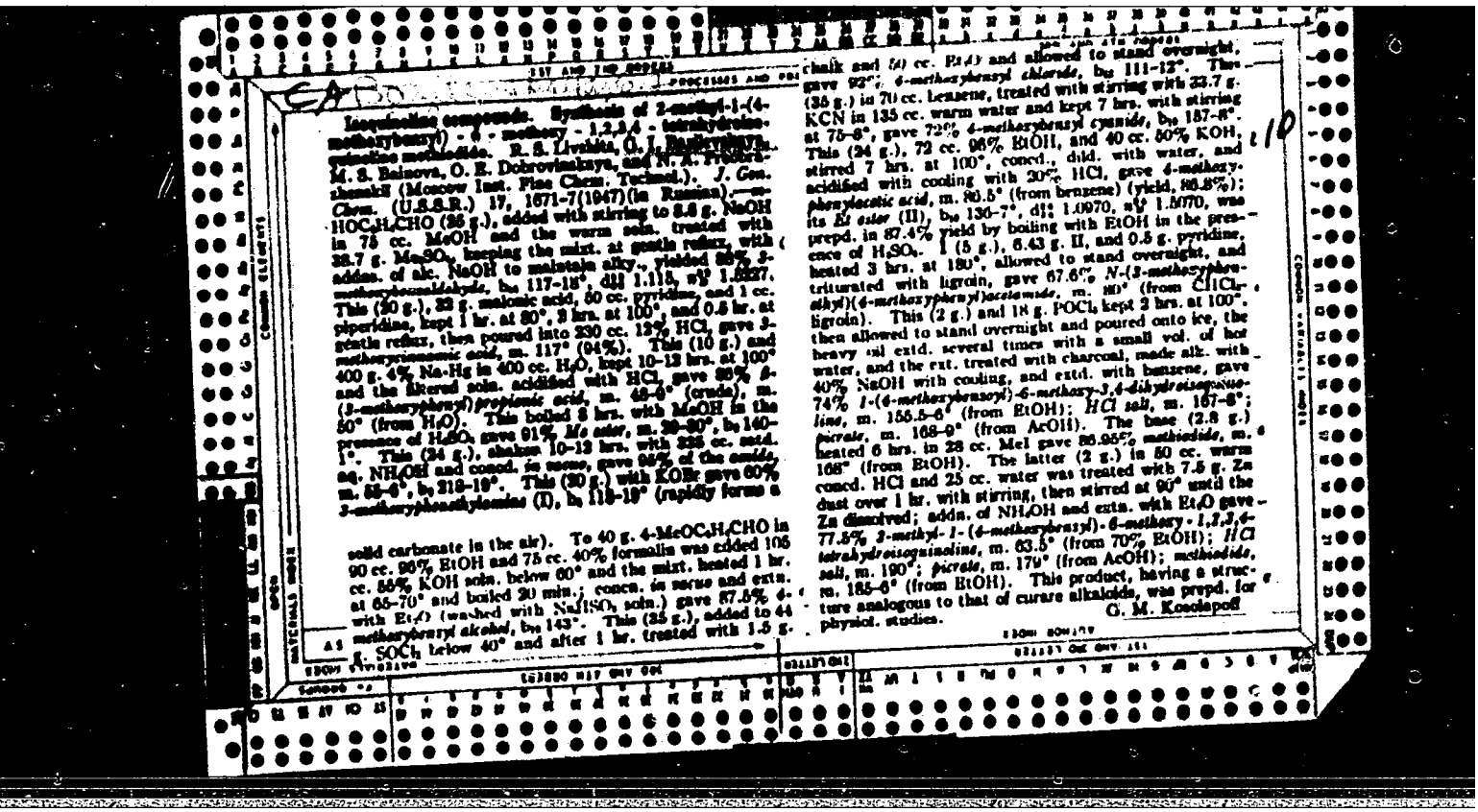

Isoquinoline compounds. Synthesis of 2-methyl-1-(4-methoxybenzyl) - 6 - methoxy - 1,2,3,4 - tetrahydroisoquinoline methiodide. R. S. Livshits, G. I. Bashkirtseva, M. S. Baisova, O. E. Dobrovinskaya, and N. A. Preobrazhenskii (Moscow Inst. Fine Chem. Technol.). *J. Gen. Chem.* (U.S.S.R.) 17, 1671-7(1947)(in Russian).—*m*-HOC_6H_4CHO (26 g.), added with stirring to 8.6 g. NaOH in 75 cc. MeOH and the warm soln. treated with 38.7 g. Me_2SO_4, keeping the mixt. at gentle reflux, with addns. of alc. NaOH to maintain alky., yielded 88% *3-methoxybenzaldehyde*, bp. 117–18°, d_4^{15} 1.115, n_D^{15} 1.5527. This (20 g.), 22 g. malonic acid, 50 cc. pyridine, and 1 cc. piperidine, kept 1 hr. at 80°, 2 hrs. at 100°, and 0.5 hr. at gentle reflux, then poured into 230 cc. 12% HCl, gave *3-methoxycinnamic acid*, m. 117° (94%). This (10 g.) and 400 g. 4% Na-Hg in 400 cc. H_2O, kept 10–12 hrs. at 100° and the filtered soln. acidified with HCl, gave 89% *β-(3-methoxyphenyl)propionic acid*, m. 48–9° (crude), m. 50° (from H_2O). This boiled 8 hrs. with MeOH in the presence of H_2SO_4 gave 91% *Me ester*, m. 30–30°, bp 140–1°. This (34 g.), shaken 10–12 hrs. with 225 cc. satd. aq. NH_4OH and concd. *in vacuo*, gave 96% of the *amide*, m. 58–9°, bp 218–19°. This (30 g.) with KOBr gave 60% *3-methoxyphenethylamine* (I), bp 118–19° (rapidly forms a solid carbonate in the air). To 40 g. 4-$MeOC_6H_4CHO$ in 90 cc. 96% EtOH and 75 cc. 40% formalin was added 105 cc. 55% KOH soln. below 60° and the mixt. heated 1 hr. at 65–70° and boiled 20 min.; concn. *in vacuo* and extd. with Et_2O (washed with $NaHSO_3$ soln.) gave 87.5% *4-methoxybenzyl alcohol*, bp 143°. This (25 g.), added to 44 g. $SOCl_2$ below 40° and after 1 hr. treated with 1.5 g. chalk and 50 cc. Et_2O and allowed to stand overnight, gave 92% *4-methoxybenzyl chloride*, bp 111–12°. This (35 g.) in 70 cc. benzene, treated with stirring with 23.7 g. KCN in 135 cc. warm water and kept 7 hrs. with stirring at 75–8°, gave 72% *4-methoxybenzyl cyanide*, bp 187–8°. This (24 g.), 72 cc. 98% EtOH, and 40 cc. 60% KOH, stirred 7 hrs. at 100°, concd., dild. with water, and acidified with cooling with 20% HCl, gave *4-methoxyphenylacetic acid*, m. 80.5° (from benzene) (yield, 80.8%); its *Et ester* (II), bp 130–7°, d_4^{15} 1.0970, n_D^{15} 1.5070, was prepd. in 87.4% yield by boiling with EtOH in the presence of H_2SO_4. I (5 g.), 6.43 g. II, and 0.5 g. pyridine, heated 3 hrs. at 180°, allowed to stand overnight, and triturated with ligroin, gave 67.6% *N-(3-methoxyphenethyl)(4-methoxyphenyl)acetamide*, m. 80° (from $CHCl_3$–ligroin). This (2 g.) and 18 g. $POCl_3$ kept 2 hrs. at 100°, then allowed to stand overnight and poured onto ice, the heavy oil extd. several times with a small vol. of hot water, and the ext. treated with charcoal, made alk. with 40% NaOH with cooling, and extd. with benzene, gave 74% *1-(4-methoxybenzyl)-6-methoxy-3,4-dihydroisoquinoline*, m. 155.5–6° (from EtOH); *HCl salt*, m. 167–8°; *picrate*, m. 168–9° (from AcOH). The base (2.8 g.) heated 6 hrs. in 28 cc. MeI gave 86.95% *methiodide*, m. 168° (from EtOH). The latter (2 g.) in 80 cc. warm concd. HCl and 25 cc. water was treated with 7.5 g. Zn dust over 1 hr. with stirring, then stirred at 90° until the Zn dissolved; addns. of NH_4OH and extn. with Et_2O gave 77.5% *3-methyl-1-(4-methoxybenzyl)-6-methoxy-1,2,3,4-tetrahydroisoquinoline*, m. 63.5° (from 70% EtOH); *HCl salt*, m. 190°; *picrate*, m. 179° (from AcOH); *methiodide*, m. 185–6° (from EtOH). This product, having a structure analogous to that of curare alkaloids, was prepd. for physiol. studies.

G. M. Kosolapoff

BAZILEVSKAYA, G. I.

Isoquinoline compounds. III. Synthesis of 2-methyl-1-(3,4-dimethoxybenzyl)-5,6-dimethoxy-1,2,3,4-tetrahydro-isoquinoline. R.S. Livshits, M.S. Bainova, G.I. Bazilevskaya, E.I. Genkin, N.A. Preobrazhenskii, Yu. M. Rozanova, and Z.A. Baranova (M.V. Lomonosov State Univ., Moscow). Zhur. Obshchei Khim. (J. Gen. Chem.) 21, 1354-60(1951); cf. C.A. 42, 2606g; 43, 2212i.-Guaiacol allyl ether (74% from CH_2: $CHCH_2Cl$ and guaiacol), b_{13} 111-13°, d_{20}^{20} 1.0592, n_D^{20} 1.5362, heated 3 hrs. to 230° gave 65% 2-hydroxy-3-methoxy-1-allylbenzene, b_{15} 124-5°, d_{20}^{20} 1.0904, n_D^{20} 1.5411, which, heated with KOH 5 hrs. to 170°, gave 52% 1-(2-hydroxy-3-methoxyphenyl)propene, b_9 125-8°, m. 66°. This with Me_2SO_4 and aq. NaOH gave the Me ether, b_{11} 128°, d_{20}^{20} 1.0372, n_D^{20} 1.5535. This (25 g.) in 480 ml. H_2O and 58 g. $K_2Cr_2O_7$ treated with 45 ml. concd. H_2SO_4 at 38-40° gave 70% 2,3-$(MeO)_2C_6H_3CHO$, b_{11} 133-5°, m. 52-3°, which with $CH_2(CO_2H)_2$ gave 93.6% 2,3-$(MeO)_2C_6H_3CH{:}CHCO_2H$, m. 177°, yielding with Na-Hg 85% of the propionic acid, m. 68°, which with MeOH-H_2SO_4, gave 90% Me ester, b_9 154-5°, d_{20}^{20} 1.127, n_D^{20} 1.5130. This with satd. NH_4OH gave 86% amide, m. 99-100°, yielding with Br-KOH 72.5% 2,3-$(MeO)_2C_6H_3CH_2$-CH_2NH_2 (I), b_9 134-5°. Vanillin and Me_2SO_4 gave 90% 3,4-$(MeO)_2C_6H_3CHO$, which with 40% formalin in H_2O-EtOH in the presence of KOH yielded 96% 3,4-$(MeO)_2C_6H_3CH_2OH$, b_{10} 159-60°; this and $SOCl_2$ gave 90% of the corresponding chloride, m. 51°, which with KCN yielded 68% cyanide, b_9 168-70°, hydrolyzed to the acid(87%), m. 98-9° [Et ester (85%), b_5 159-60°]. The ester (3.75 g.) and 3 g. I with a few drops of pyridine heated 3 hrs. at 180° gave 62.7%. N-(2,3-dimethoxyphenethyl)-α-(3,4 dimethoxy-phenyl)acetamide, m. 89° (from petr. ether). This heated with $POCl_3$ 2 hrs. at 100° gave 65% 3,4-dimethoxy-phenyl 5,6-dimethoxy-3,

5(3). SOV/153-58-2-13/30

AUTHORS: Bazilevskaya, O. I., Baynova, M. S., Gura, D. V., Dyumayev, K. M., Preobrazhenskiy, N. A.

TITLE: Synthesis of the Alkaloid Cocaine (Sintez alkaloida kokaina)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 75-81 (USSR)

ABSTRACT: At the beginning, use, occurrence, and structural formula of cocaine are repeated. According to the structure theory, four racemic stereoisomers of cocaine are possible: racemic cocaine (Ref 3), racemic pseudo-cocaine (Ref 4), racemic allococaine (Ref 5), and racemic allo-pseudo-cocaine (Refs 5,6), as well as a corresponding number of optically active compounds. Various methods of synthesis for cocaine have been published (Refs 3,7,8-11). In the present paper, the synthesis according to the scheme (Page 76) is described. Pharmacological investigations in the Minskiy meditsinskiy institut (Minsk Medical Institute), carried out by Professor K. S. Shadurskiy and N. A. Iskarev, Graduate Student, on samples of the authors proved that racemic cocaine is not inferior to the natural levorotary cocaine regarding its local-anaesthetic properties (on the

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