relation between the light absorption of the solutions and the logarithm of the silver salt concentration for a certain time in a concentration range of silver ions between $3 \cdot 10^{-7}$ and $2 \cdot 10^{-6}$ moles/l, and in the presence of thiourea. The catalytic reaction is much slowed down by addition of a NaCN solution to a weakly acid hexacyanoferroate solution containing $AgNO_3$ and thiourea (Fig. 8). The authors revealed the reaction mechanism according to which the slowest reaction is the decomposition of the intermediate complex formed from positively charged catalyst ions (Ag^+ or $Ag(CSN_2H_4)_2^+$) and the cyanide complex of bivalent iron. They also derived the kinetic equation for this reaction, and calculated the rate constants (Table 1). At a pH of 3.7, and at 40°C, the rate constant of the reaction is equal to 0.016 ± 0.003 min^{-1} (Table 2). The authors determined the equilibrium constant of the conversion of the cyanide complex of silver into a thiourea complex in weakly acid solution. Silver can be quantitatively determined in concentrations of the order of

Kinetics and Mechanism of the Decomposition Reaction of the Hexacyanoferroate Ion in the Presence of Silver Compounds

S/153/60/003/004/014/040/XX
B020/B054

magnitude between 10^{-7} and 10^{-6} moles/l on the basis of light absorption measurements in solutions containing potassium hexacyanoferroate, an acetate buffer, a silver salt, and thiourea. There are 8 figures, 2 tables, and 14 references: 3 Soviet, 1 US, 4 British, 2 Yugo-Slav, 2 French, 1 Austrian, and 1 Dutch.

ASSOCIATION: Ivanovskiy khimiko-tekhnologicheskiy institut, kafedra analiticheskoy khimii (Ivanovo Institute of Chemical Technology, Department of Analytical Chemistry)

SUBMITTED: December 9, 1958

Card 4/4

YATSIMIRSKIY, K.B.; ORLOVA, M.N.

Kinetics and mechanism of the conversion of the hexacyanoferrate(II) ion in the presence of a gold-thiourea complex. Zhur. neorg. khim. 5 no.10:2184-2189 O '60. (MIRA 13:10)

1. Ivanovskiy khimiko-tekhnologicheskiy institut, Kafedra analiticheskoy khimii.
(Gold compounds) (Iron compounds)

CHICVA, M. N.

Cand Chem Sci - (diss) "Kinetics and mechanism of transformation of hexacyanoferroate ion in the presence of gold and silver compounds." Ivanovo, 1961. 15 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Ivanovo Chemical Technology Inst.); 150 copies; price not given; (KL, 5-61 sup, 177)

FIRYUBIN, B.V.; MOSHCHNYY, V.G.; OLLOVA, M.N.

Evaporation rate of droplets of aqueous solutions of surface-active agents. Probl. fiz. atm. no.2:142-150 '63.
(MIRA 17:5)

LIKHTENSHTEYN, Ye.A., starshiy nauchnyy sotrudnik; ORLOVA, M.P., nauchnyy sotrudnik

X-ray diagnosis of metastases and growth of malignant tumors in the mandible. Stomatologiia 39 no.1:31-36 Ja-F '60. (MIRA 14:11)

1. Iz rentgenodiagnosticheskogo otdeleniya (zav. - prof. Ye.E. Abarbanel') Gosudarstvennogo onkologicheskogo instituta imeni P.A.Gertsena (dir. - prof. A.N.Novikov, nauchnyy rukovoditel' - prof. A.I.Savitskiy).
(JAWS--CANCER) (JAWS--RADIOGRAPHY)

A.C.S. ORLOVA, M.P.

Glass

Improving the light transmission of Fourcault glass. I. S. Shapiro and M. P. Orlova. *Steklo i Keram. Prom.*, 1956, No. 1/2, pp. 4-6.—To increase the transparency of glass and to diminish its coloration, it is prerequisite to keep the Fe content in the glass as low as possible and to transform the little that must be included into Fe_2O_3. The latter is favored by (*a*) maintaining oxidizing conditions during melting, (*b*) maintaining as low a temperature as possible during melting, and (*c*) shortening the time during which the melt is exposed to high temperatures. These conditions are readily satisfied when the work is carried out in pot furnaces operating periodically. They are harder to realize in tank furnaces, because of the longer period the mix spends in the furnace and the higher operating temperatures. The continuous operation of the furnace also limits the variety of components that can be used in the batch. The investigation was concerned with selecting a batch composition for a continuous furnace that would yield a glass at least as transparent as that obtained in pot furnaces. It was required to obtain in a Fourcault furnace a transparency of 88% at a sheet thickness of 25 mm. There were two objectives: (1) to obtain a glass with a minimum of Fe oxides, and (2) to create such conditions that the equilibrium $Fe_2O_3 \rightleftarrows 2FeO + 0.5O_2$ within the melting mass would be shifted to the left. To reduce the Fe content, the sand was cleaned on a Wilfley table. This alone reduced the Fe oxide content by 50% or more. Furthermore, the iron drums used for drying the washed sand were replaced by a hot-floor furnace, which eliminated the contact of the sand with iron. The dolomite and limestone used in the batch were carefully graded and, after being ground twice, were passed through a magnetic separator to remove any iron picked up in the grinding. The combined effect of these operations reduced the Fe_2O_3 content in the glass from 0.12 to 0.06%. Several experimental melts were made in pots to establish the most propitious oxidizing conditions. The following agents were used to increase the O pressure within the melt and thus prevent the dissociation of Fe_2O_3: (1) sulfate, (2) sulfate + KNO_3, (3) sulfate + KNO_3 + CaF_2, (4) sulfate + As_2O_3 + KNO_3, (5) sulfate + K_2CO_3, and (6) sulfate + As_2O_3 + K_2CO_3. The experimental melts show that glasses containing a high percentage of K_2O introduced as KNO_3 clarify slower and therefore must stay longer in the furnace. An addition of KNO_3 in quantities up to 3% and an addition of KNO_3 with 0.25 to 0.5% of As_2O_3 hasten clarification somewhat. Of all the batches tested, the highest light transmission and the lowest coloring were found with the batch containing 3% of K_2O added as KNO_3 and 0.25 to 0.5% of As_2O_3. The new composition of the glass was chosen as SiO_2 71.5, R_2O_3 0.5, CaO 8.0, MgO 3.5, Na_2O 15.5, K_2O 1.0, and As_2O_3 0.25. The glass was made from a batch of sand 200, limestone 16.6, dolomite 60.4, soda 74.5, sulfate 5.77, saltpeter 9.8, and As_2O_3 1.0 kg. The ratio of raw material to cullet was at all times 70:30. Within the furnace, temperatures were maintained as follows: at the first pair of burners 1440° ± 10°, beyond the second pair of burners 1420° ± 10°, and in the cooling zone 1300° ± 10°. The batch fed into the doghouse melted within 20 min. Beyond the second pair of burners the glass was free of bubbles and striae. After 4 days of feeding this batch, the glass pulled from the working end and made into 25-mm. sheets had a transmission of 87% and a very satisfactory weak yellowish color. M.Mo.

ORLOVA, M. P. Engineer

" Method for Determining the Homogeneity of Certain Physical Properties of Glass." Thesis for degree of Cand. Technical Sci Sub 30 May 50, All-Union Sci Res Inst of Glass, Ministry of the Construction Materials Industry USSR

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950

ORLOVA, M.P., kandidat tekhnicheskikh nauk; SESOROVA, V.N., kandidat tekhnicheskikh nauk; TYKACHINSKIY, I.D., kandidat tekhnicheskikh nauk.

Investigating the performance of the VVS machines at high speeds in the Bytoshevskiy and Chagodoshchenskiy glass works. Trudy VNII-Stekla no.36:82-94 '56. (MLRA 9:11)
(Glass manufacture) (Furnaces)

ORLOVA, M.P.; POLLYAK, V.V.; TYKACHINSKIY, I.D.

Speeding up the melting process is a powerful means for increasing the productivity of glass furnaces. Stek. i ker. 14 no.9:1-4 S '57. (MIRA 10:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut stekla.
(Glass manufacture)

ORLOVA, M.P.

72-2-3/20

AUTHORS: Engver, Ye.A., Chief Engineer of the "Proletariy" Works, Katayeva, G.V., Orlova, M.P., Collaborators of the Institute for Glass

TITLE: The Practical Application of Ammonium-Sulfate for the Acceleration of the Process of Glass Smelting (Praktika primeneniya sul'fata ammoniya kak uskoritelya varki stekla).

PERIODICAL: Steklo i Keramika, 1958, Nr 2, pp. 6-7 (USSR)

ABSTRACT: The staff of the "Proletariy" works, together with the working group of the Institute for Glass, carried out a practical test with the continuous glass-smelting furnace Nr 2 having a total surface of 141.6 m. A.L. Nikanorova participated in this work. The authors further describe the temperature conditions of the furnace, the chemical composition of the glass, and the composition of layers. The correlation of the Na_2O-quantities, which were introduced by soda and sulfate into the layer, was 90:10, the moisture content of the layer 0.5%. 20-25% of scrap was added. Before the use of ammonium-sulfate the layer contained 0,15% F', which exercises no noticeable influence on the acceleration of glass smelting. This quantity was, however, left in the layer also further. After the introduction of

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The Practical Application of Ammonium-Sulfate for the Acceleration of the Process of Glass Smelting 72-2-3/20

3% ammonium-sulfate, smelting and refining of the glass mass improved considerably. The entire heat conditions of the furnace as well as the technological process remained unchanged, only the means of reduction (coal) was increased from 8 to 11% of the weight of the ammonium-sulfate introduced. The characteristic values of work before and after introduction of the ammonium-sulfate are shown in a table. There are 1 table and 2 Slavic references.

ASSOCIATION: Zavod "Proletariy" (Proletariy" Works), Institut stekla (Institute for Glass)

AVAILABLE: Library of Congress

Card 2/2

SOV/[illegible]-58-8-[illegible]

AUTHORS: Berlinskaya, I. V., [illegible]olova, V. [illegible], Georgiyevskiy, V. N., Smirnov, E. [illegible], Shilkin, I. P.

TITLE: **Industrial Experiment in Replacing Sodiumsulphate by Astrachanite** in the Melting of Glass (Promyshlennyy opyt zameny sul'fata natriya astrakhanitom pri varke stekla)

PERIODICAL: Steklo i keramika 1958, Nr 8, pp. 3 - 5 (USSR)

ABSTRACT: The possibilities of using astrachanite in the melting of glass were investigated at the Institute of Glass (Institut stekla) by [illegible]a Raf in 1940 - 1953, as well as at the Belorussian Polytechnical Institute (Belorusskiy politekhnicheskiy institut) by A. [illegible]. Gazoury in 194[illegible]. Besides, the all-Union Institute of Halurgy (Vsesoyuznyy institut galurgii) carried out investigations on the working up of astrachanite from 1947 to 1954. The great attention which was attracted by this mineral may be explained by the fact that huge deposits may be found in the area of the Aral and Caspian Seas (Aral'skoye i Kaspiyskoye morya), the lower Volga (Nizhnyaya Volga) and at a number of other places. The fol-

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Industrial Experiment in Replacing Sodiumsulphate by Astrachanite in the Melting of Glass

lowing formula holds for the composition of astrachanite: $A = 278x/(100 + B)$, where x denotes the percentage of MgO_4 and B the percentage of H_2O. Earlier papers showed that astrachanite may be used only after its homogeneity had been improved (Ref 1). At the end of 1954 a working team of the Institute of Glass together with the collective of the krasnousol'sk glass factory carried out a continuous experiment of glass melting in a tank furnace with astrachanite. More than 400 t of this mineral were used. Its chemical composition and the sample taking are given and described. Its working up was carried out according to scheme (Fig), and this process is then described in detail. By the introduction of astrachanite into the charge the properties of glass melting are not changed. The comparative data concerning work may be seen from Table 2. I. G. Druzhinin (Ref 2) showed in his paper that astrachanite melts at a temperature of 67°.

Conclusions:

1) Astrachanite may be used to replace sodiumsulfate.
2) This increases a little the costs of the charge.
3) To use this material successfully a respective preparation must be organized at its place of finding.

Card 2/3

glass and ceramics. Finally it is stated that the reorganization and improvement of the periodical cannot be solved by the editors alone. It needs the active participation of collaborators in the glass- and ceramic industry.

1. Glass industry--USSR 2. Ceramic materials--USSR 3. Periodicals

Card 3/3

LOPUK, I.G.; ORLOVA, M.P.

Use of petrolatum in the drying and impregnation of materials for the manufacture of containers. Trudy NIItary no.2:71-80 '58.
(MIRA 13:12)

(Petrolatum) (Wood--Preservation)
(Lumber--Drying)

ORLOVA, M.P.

Standardization of containers made of plywood. Trudy MIL Tary no.4:44-49 '60. (MIRA 14:12)
(Containers—Standards)
(Plywood)

OHLOVA, M.P.

Plywood drums. Standartizatsiia 24 no.7:38-39 Jl '60.
(MIRA 13:7)
(Drums (Containers))

L 39557-66 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c. JD/
ACC NR: AP6008780 SOURCE CODE: UR/0115/66/000/001/0057/0057

AUTHOR: Orlova, M. P.; Kats, G. A.; Astrov, D. N.; Belyanskiy L. B.; Shibayeva, O. A.; Shubin, V. E.

ORG: none

TITLE: Alloyed germanium for low-temperature thermometry

SOURCE: Izmeritel'naya tekhnika no. 1, 1966, 57-61

TOPIC TAGS: thermometry, germanium alloy, thermometer

ABSTRACT: The results are reported of an experimental investigation of the galvanomagnetic properties of Ge doped with various amounts of Sb, As, In, Ga, the Ge properties were studied in a range of temperatures from room to [illegible] helium in order to find out the best impurity and its concentration [illegible] low-temperature thermometers. Most measurements were made with Sb-[illegible]

Card 1/2 UDC: 546.289.001.5:536.[illegible]

L 39557-66
ACC NR: AP6008780

whose Nd was $4.6 \times 10^{16} < Nd < 1 \times 10^{17}$ per cm^3 ; the resistivity was [illegible] to be 0.00042—0.00046 ohm·m at 20—4.2K; acceptor-impurity concentration Na < 0.1 Nd. A few thermometers were made from Sb-doped Ge (Nd = [illegible] per cm^3, K = 6%) for the 40—4.2K range; their resistivity was 0.[illegible]25—[illegible] at boiling-helium temperature. The relation lg ρ (1/T) was satisfactory [illegible] thermometers only under 7K. A relatively high value of magnetoresistance in doped Ge is noted. Orig. art. has: 4 figures, 4 formulas, and 4 tables.

SUB CODE: 20, 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: [illegible]

Card 2/2 HS

ORLOVA, M.P.; ORZHDESTVINSKIY, Yu.P.; BARANOVA, Ye.N.

Mineralogy of the rare-metal carbonatites of the Sallanlatvinskii Massif (northern Karelia). Trudy VSEGEI 96:3-20 '63.
(MIRA 17:9)

ORLOVA, M.P.

Some problems of the petrochemistry and petrology of the Caledonian complex of alkali-ultrabasic rocks of the Kola Peninsula. Trudy VSEGEI 96:65-103 '63. (MIRA 17:9)

ORLOVA, M.P.

Alkali basaltoid rocks in the Daubaba Valley (Talas Ala-Tau).
Inform.sbor. VSEGEI no.16:87-95 '59. (MIRA 15:3)
(Daubaba Valley--Basalt)

ORLOVA, M.P.

Alkaline gabbroid instrusions in the northwestern spurs of the Talas Ala-Tau. Uch. zap. LGU no.291:91-121 '60.
(MIRA 13:7)

(Talas Ala-Tau--Gabbro)

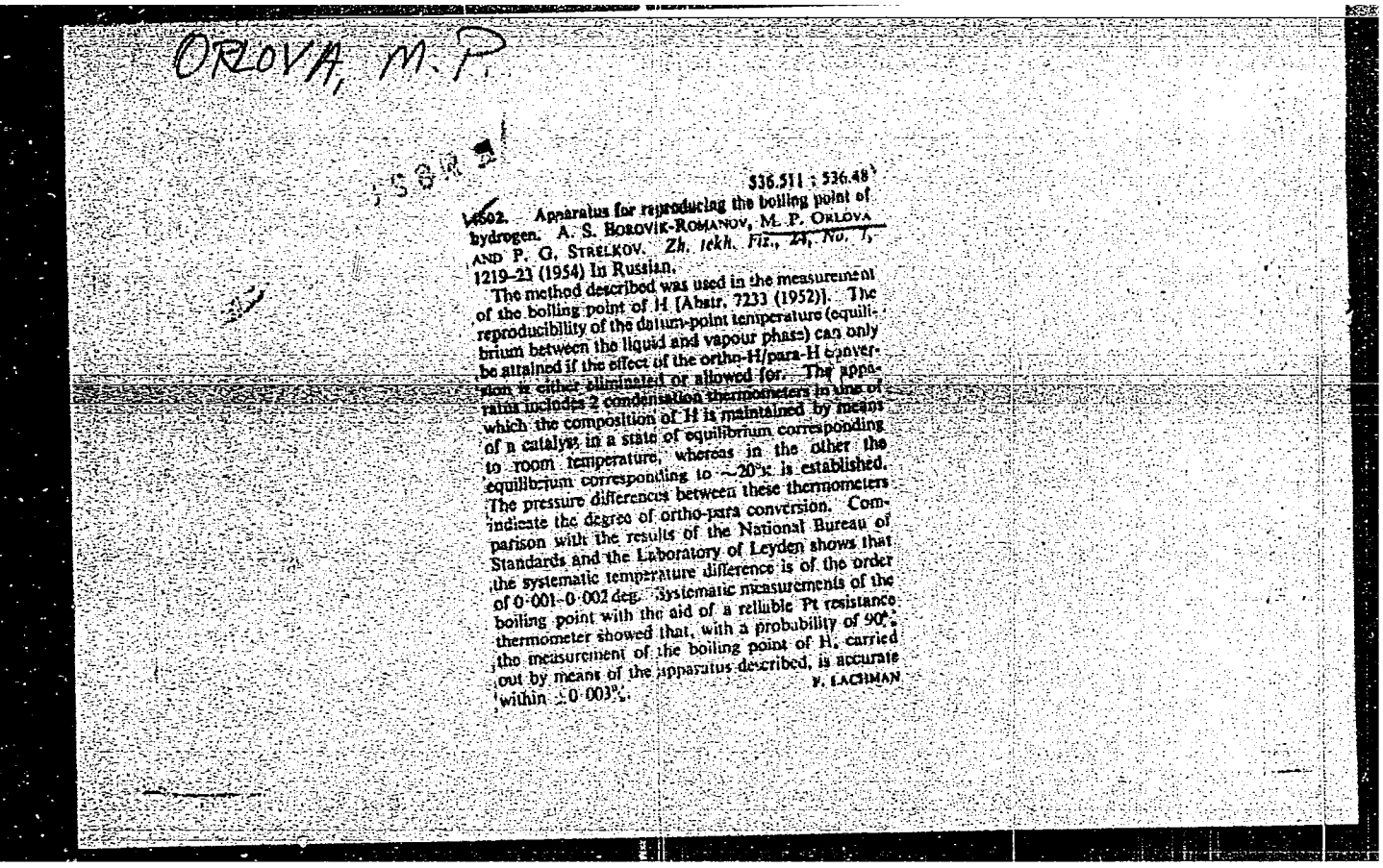
ORLOVA, M.P.; KUKHARENKO, A.A.

Melilite from alkali-ultrabasic massifs of the Kola Peninsula. Uch.zap. LGU no.312:173-189 '62. (MIRA 15:6)
(Kola Peninsula—Melilites)

ORLOVA, M. I.

Dissertation: "Investigation of the Possibility of Reproduction of Temperature Phase Conversions in Solid Oxygen." Cand Tech Sci, All-Union Sci Res Inst of Metrology, Leningrad, 1954. Referativnyy Zhurnal—Khimiya, Moscow, No 7, Apr 54.

SO: SUM 284, 26 Nov 1954



ORLOVA, M. P.

USSR

536.511 : 536.48

4502. Apparatus for reproducing the boiling point of hydrogen. A. S. BOROVIK-ROMANOV, M. P. ORLOVA AND P. G. STRELKOV. *Zh. tekh. Fiz.*, 24, No. 7, 1219–23 (1954) In Russian.

The method described was used in the measurement of the boiling point of H [Abstr. 7233 (1952)]. The reproducibility of the datum-point temperature (equilibrium between the liquid and vapour phases) can only be attained if the effect of the ortho-H/para-H conversion is either eliminated or allowed for. The apparatus includes 2 condensation thermometers in one of which the composition of H is maintained by means of a catalyst in a state of equilibrium corresponding to room temperature, whereas in the other the equilibrium corresponding to ~20°K is established. The pressure differences between these thermometers indicate the degree of ortho-para conversion. Comparison with the results of the National Bureau of Standards and the Laboratory of Leyden shows that the systematic temperature difference is of the order of 0·001–0·002 deg. Systematic measurements of the boiling point with the aid of a reliable Pt resistance thermometer showed that, with a probability of 90%, the measurement of the boiling point of H, carried out by means of the apparatus described, is accurate within ±0·003°.

V. LACHMAN

ORLOVA, M. P.

62

Magnetic and thermal properties of the three modifications of solid oxygen. A. S. Borovik-Romanov, M. P. Orlova, and P. G. Strelkov (State Inst. of Measures and Measuring Apparatus, Moscow). *Doklady Akad. Nauk S.S.S.R.* 99, 699–702(1954); cf. *C.A.* 46, 10725b.—Solid O exists in 3 modifications: α (below 23.88°K.), β (23.88–43.80°K.), and γ (from 43.80° to the triple point, 54.37°K.). The heat capacity was measured in the region of the transition points. The data show that the $\beta \rightarrow \gamma$ transition is of the first order and the $\alpha \rightarrow \beta$ transition is of the second order. The magnetic permeability ψ of solid O was measured between 20.5 and 77.5°K. For the γ-modification (as for liquid O) ψ obeys the Curie-Weiss law. Upon transition to the β-modification, ψ decreases sharply and continues to decrease with decreasing temp. This is characteristic of antiferromagnetic substances. The large heat effect of the $\beta \rightarrow \gamma$ transition is attributed to the change to the antiferromagnetic state.

J. Reyter Lasch

(2)

ORlovA, M.P.

USSR/Physics - Measuring Instruments

Card 1/1 Pub. 147 - 22/27

Authors : Strelkov, P.G.; Borovik-Romanov, A.S.; and Orlova, M.P.

Title : Thermodynamic investigations at low temperatures. Part 1.-Measurement of temperatures between 12 and 300° K.

Periodical : Zhur. fiz. khim. 28/2, 345-352, Feb 1954

Abstract : A technique was developed for the manufacture of thermometers with international scale graduation. The technique of calibrating thermometers, at a temperature corresponding to the boiling point of hydrogen, is described. A simple way of fixing the scale of a platinum resistance thermometer, by reducing it to the standard table, is explained. The technique described can also be applied in measuring the temperatures between 12 and 300° K with deviations from the thermodynamic scale of about 0.03 - 0.04°. Fifteen references: 8-USSR; 3-USA; 2-German and 2-English (1929-1952). Tables; drawings.

Institution : State Institute of Measures and Measuring Instruments, The S.I. Vavilov Institute of Physical Problems, Moscow

Submitted : June 8, 1953

ORLOVA,M.P. and BOROVIK-ROMANOV,A.S.

"Magnetic Properties of Co and Mu Carbona tes and MU-Oxydes"
Moscow

Conference on Physics of Magnetic Phenomean,
May 1956, Sverdlovsk, USSR

ORLOVA, M. P.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1780
AUTHOR BOROVIK-ROMANOV, A.S., ORLOVA, M.P.
TITLE The Magnetic Properties of the Carbonates of Cobalt and Manganese.
PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.4, 579-582 (1956)
Issued: 1 / 1957

Here the temperature dependence of the magnetic susceptibility of $MnCO_3$ and of a waterless $CoCO_3$ preparation is investigated within the temperature range of from 14 to 300°. Three different $MnCO_3$ samples were investigated: an undried industrial preparation, and the same preparation dried at 160° C; the third preparation was made by the authors themselves by means of the heating for 20 hours (at 160° C) of a saturated solution of $MnCl_2$ with $CaCO_3$ in a sealed test glass. The values obtained in the case of the first and third sample were always lower than in the case of the second. This is due to the presence of water in the first sample and of $CaCO_3$-remains in the second sample. After the necessary corrections the susceptibilities of all three samples were in agreement within the limits of measuring errors throughout the entire temperature range.

Further, two samples of waterless $CoCO_3$ were examined, which had been produced, like the $MnCO_3$, by the heating of $CoCl_2$ and $CaCO_3$ in a sealed ampule. The results obtained for both samples were in agreement within the limits of measuring errors. Susceptibilities were measured by FARADAY'S method. The temperature dependence of the magnetic susceptibility of both carbonates at higher temperatures satisfies

Žurn.eksp.i teor.fis,31,fasc.4,579-582 (1956) CARD 2 / 2 PA - 1780

the law by CURIE-WEISS $\chi_m = C_M(T + \Theta)$. The values of the constants C_M and Θ are shown in a table. The same table contains the values of μ_{eff} computed from the here measured values of C_M and the theoretical values of μ_{eff} computed on the assumption of the total "freezing in" of the orbital moments.
Below a certain critical temperature T_c permeability increases sharply and depends considerably on field strength. Also a slight hysteresis is found. At temperatures of less than T_c and at field strengths of more than 600 Ørsted the dependence of the magnetic moment M on the field strength H can be represented as the sum of two terms $M = M_o + \chi'H$. Similar isothermes were obtained also for $CoCO_3$. The temperature dependence of M_o in the case of $MnCO_3$ and $CoCO_3$ has the shape which is characteristic of the "settling curve". However, at $T \rightarrow 0$ the value of M_o tends towards a considerably lower value than might be expected in the case of ferromagnetic saturation: For $MnCO_3$: $M_o = 68$, $M_{ferr} = 32000$, for $CoCO_3$: $M_o = 400$ to 1000, $M_{ferr} = 27200$. The results obtained can be explained qualitatively by assuming that an antiferromagnetic process occurs in manganese- and cobalt manganate below T_c.

INSTITUTION: All-Soviet Institution for Physical, Technical, and Radiotechnical Measuring.

ORLOVA, M.P.

AUTHOR: BOROVIK-ROMANOV, A.S., ORLOVA, M.P. 56-5-49/55

TITLE: The Magnetic Properties of Manganese Oxides at Temperatures of 20 - 300° K. (Magn'tnyye svoystva kislorodnykh soyedineniy margantsa pri temperaturakh ot 20 do 300° K, Russian)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 5, pp 1255- 1256 (U.S.S.R.)

ABSTRACT: In connection with the anomalous magnetic behavior of manganese carbonate below 31° K becoming known the following manganese oxides were investigated with a temperature range of 20 - 300° K, on which occasion the following was found with respect to their magnetic behavior.

1.) Mn_3O_4 has ferromagnetic properties below 42,5° K,

2.) Mn_2O_3 remains a paramagnetic substance within the entire investigated temperature domain of 20-300° K.

ASSOCIATION: All-Union Scientific Research Institute for Physical-Technical and Radiotechnical Measurements

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress

Card 1/1

ORlova M.P.

56-3-49/59

AUTHORS Astrov, D.N., Borovik-Romanov, A.S., Orlova, M.P.

TITLE The Magnetic Properties of Cobalt Fluoride in the Antiferromagnetic State.
(Magnitnyye svoystva ftorida kobal'ta v antiferromagnitnom sostoyanii) (Letter to the Editor)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki,1957,Vol 33,Nr 3,pp 812-814(USSR)

ABSTRACT From the measured dependence of reciprocal susceptibility on temperature a minimum for CoF_2 at 38°K is observeable which occurs simultaneously with the jump on the occasion of the measuring of heat capacity. The magnetic susceptibility obeys the Curie-Weiss relation above 55°K with the constants $\Theta = -5°$ and Cm = 0,875 (per mol.) A strong anisotropy of the Co++ -ions in the paramagnetic state was further observed as a peculiarity for CoF_2. There are 2 figures.

ASSOCIATION All-Union Institute for Physical -Technical and Radiotechnical Measurements. (Vsesoyuznyy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy).

SUBMITTED June 20, 1957

AVAILABLE Library of Congress.

Card 1/1

ORLOVA, M.P.

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No.2 (Scientific Research Abstracts; Collection of Articles, Nr 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, research engineers engaged in developing standards, measures, and gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of the Institutes of the Komitet standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards of Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva (All-Union Scientific Research Institute of Measurements) in Leningrad; Sverdlovsk branch of this institute; VNIIK - Vsesoyuznyy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements) in Moscow; KhGIMIP - Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments); and MGIMIP - Novosibirskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments). No personalities are mentioned. There are no references.

Card 1/2

SOV/115-59-5-14/27

24(8)

AUTHOR: Orlova, M.P.

TITLE: How to Attain the Boiling Temperature of Oxygen

PERIODICAL: Izmeritel'naya Tekhnika, 1959, Nr 5, pp 23-25 (USSR)

ABSTRACT: The reference point at the bottom of the international temperature scale is the temperature prevailing at the equilibrium of fluid oxygen and saturated steam, which is determined by the formula (1). In the course of the development it became desirable to attain this point with the greatest possible accuracy. In the years between 1948-1949, the laboratories of the MGIMIP developed the following method. Oxygen condensating thermometer: (cf. Fig.1) In order to determine the purity of oxygen of different fillings in regard to the difference in the solidity of the vapors, two oxygen condensating thermometers a) and b), which are protected by vacuum covers, were used. The glass of the thermometer contained platinum foils. A description follows. It was found out that a possible impurity causes an error of less than 2.10^{-3} degrees. The thermal process in the oxygen tank was investigated. Good results were

Card 1/2

How to Attain the Boiling Temperature of Oxygen

gained, when heat exchange with the walls was avoided. The following part of the article describes the principle of measurement in connection with the instrument in fig.1. Fig.2 shows two diagrams of a tank under certain test conditions. Fig.3, as fig.2, shows the difference of temperature of the oxygen and the atmosphere outside, i.e. the balance temperature which corresponds to the atmospheric pressure. The graphs show results of tests with an error calculation. There are 1 diagram, 5 graphs, 1 table, and 1 Soviet reference.

SOV/115-59-8-14/33

24(5), 28(2)

AUTHOR: Astrov, D. N., Orlova, M. P., Strelkov, P. G., and Sharevskaya, D. I.

TITLE: Comparing Low-Temperature Scales of Platinum Resistance Thermometers

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 8, p 29 (USSR)

ABSTRACT: At the 1958 session of the Konsul'tativnyy komitet po termometrii (Advisory Committee of Thermometry), a comparison of platinum resistance thermometers at temperatures below 90°K was recommended. Complying with this recommendation, the Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radioteckhnicheskikh izmereniy (All-Union Scientific Research Institute of Physical Engineering and Radio Engineering Measurements) and the National Physics Laboratory compared their platinum thermometers. The British platinum thermometer was sent to the USSR, where the authors performed this comparison at 35 temperature points ranging from 10 to 90°K. The comparison was performed in an adiabatic cryostat with a temperature change of 1.10^{-4} degree/minute. The experimental characteristics of the

Card 1/3

Comparing Low-Temperature Scales of Platinum Resistance Thermometers

British thermometer with the calibration of the scale of the National Physics Laboratory was compared to the IKh-6 scale. The scale of the British thermometer was obtained by calculations using the "Z-function" tables of the US National Bureau of Standards [Ref 1] and their corrections [Ref 2]. This method is fully satisfactory for the given types of platinum. Although it decreases the range of platinum brands which are applicable in this temperature range . For example, the Soviet industrial platinum "Pobeda" is about equal in purity to the British platinum ($R_{100^\circ C}/R_{0^\circ C}$ = 1.39243 for the "Pobeda" and 1.39250 for the British platinum), and does not satisfy the additional criterion. For this reason, individual calibrations of such platinum thermometers cannot be calculated by the method suggested by the National Physics Laboratory. In addition, the aforementioned method was developed for temperatures of 90-20°K, while presently a scale is

Comparing Low-Temperature Scales of Platinum Resistance Thermometers

required reaching below 20°K. The deviation between the practical scale IKh-6 and the calibration of the thermometer of the National Physics Laboratory in the range of 90 and 20°K is about 0.01° according to the authors' data. For completing the comparison of temperature scales below 90°K, direct comparisons of the scales of the National Bureau of Standards and the Soviet scale are required, since these two scales are based on primary measurements with gas thermometers. There are 1 table and 2 references, 1 of which is American and 1 Soviet.

Card 3/3

SOV/115-60-1-16/28

AUTHOR: Borovik-Romanov, A.S., Orlova, M.P. and Strelkov, P.G.

TITLE: Establishing a Practical Temperature Scale for the 10-90° K Range. Deviations of the International Temperature Scale From the VNILFTRI Group Standard Scale and the Thermodynamic Scale Near the Oxygen Point.

PERIODICAL: Izmeritel'naya tekhnika, 1960, Nr 1, pp 34-35 (USSR)

ABSTRACT: The VNIIFTRI temperature scale for the 10-95° K range coincides with the International Scale ("MShT") at the boiling-point of oxygen (-182,97°C) except for a discrepancy of 0.01° in the 90-95° K range, which means that the interpolation formula is only suitable for temperatures near 90° K. Former comparisons made by Heuse and Otto [Ref. 3], Keesom and Dammers [Ref. 4], and Bricwedde and Hoge [Ref. 5]

Card 1/3

Establishing a Practical Temperature Scale for the 10-90° K Range. Deviations of the International Temperature Scale From the VNIIFTRI Group Standard Scale and the Thermodynamic Scale Near the Oxygen Point

appear to be insufficiently accurate. The authors suggest a better practical scale for the 90-273° K range. Use of the interpolation power formulas is not advised and recommendations are made to establish a scale according to the principle suggested by Strelkov and Sharevskaya /Ref. 6/. The VNIIFTRI group standard thermometers were compared at the boiling-point of "natural composition" hydrogen, which was determined as

$$T = 20.39 \pm 0.003$$

This value can differ from the thermodynamic temperature of boiling hydrogen by the value

$$20.39 \left[\frac{TO_2}{90.19} - 1\right] \pm 0.006^\circ K$$

Card 2/3

SCV/115-60-1-16/28

Establishing a Practical Temperature Scale for the 10-90° K Range. Deviations of the International Temperature Scale From the VNIIFTRI Group Standard Scale and the Thermodynamic Scale Near the Oxygen Point

The article includes a temperature table of the boiling-point of "natural composition hydrogen", measured by different authors, after the phenomenon of ortho-para conversion became known. There are 3 graphs, 1 table and 12 references, of which 5 are Soviet, 4 German, 1 Dutch and 2 unidentified.

Card 3/3

ORLOVA, M.P.

Reproducing temperatures of phase transitions in solid oxygen. Izm.tekh. no.2:21-23 F '61. (MIRA 14:2)
(Oxygen)

ORLOVA, M. P.; ASTROV, D. N.

"Le thermometre a tension de vapeur de l'helium de condensation pour la realisation de l'echelle T_{58} "
Report presented at the 6th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 62

Institut national des Recherches Scientifuqes pour les Mesures Physiques et Radiotechniques (U. R. S. S.)

ASTROV, D. N.; [illegible]

"Réalisation de l'échelle Internationale Pratique de Température au-dessous de - 182,97° C (90,18°K)"
Report presented at the 5th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 67

Institut National des Recherches Scientifiques pour les Mesures Physiques et Radiotechniques (N. R. S. S.)

CHAREVSKAYA, D. I.; ASTROV, D. N.; BOROVIK-ROMANOV, A. S.;
ORLOVA, M. P.; STRELKOV, P. G.

"Realisation de l'echelle pratique de temperature dans le domaine de 10 a 90°K,"
Report presented at the 6th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 1962.

Institut des Mesures physicotechniques (U. R. S. S.)

ORLOVA, M. P.; ASTROV, D. N.

"L'echelle de termperature dand le domaine de 4,2 a 10^{0} K"
Report presented at the 6th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 62

Institut national des Recherches Scientifuques pour les Mesures Physiques et Radiotechniques (U. R. S. S.)

S/181/62/004/004/035/042
B102/B104

AUTHORS: Astrov, D. N., Kytin, G. A., and Orlova, M. P.

TITLE: Shift of Curie point of manganese and cobalt carbonates in uniform compression

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1055-1057

TEXT: The Curie points of $MnCO_3$ and $CoCO_3$, which are weak ferromagnetics, were determined from gravimetrical measurements of the magnetic susceptibilities (Faraday method). The pressure (1900±100kg/cm^2) was exerted according to the Lazarev method (ZhETF, 14, 470, 1944) in a water-filled autoclave of beryllium bronze. The specimens were pressed from powder and coated with a waterproof film of polymerized BF-4 (BF-4). The measurements were carried out in fields of ~ 1800 oe. Correction was made for the susceptibilities of the autoclave and the water. The measuring error was less than ±1.5%. From the $\chi_m(T)$ curves plotted with and without compression applied to the specimen, the Curie point shift

Card 1/2

ORLOVA M.P.

37952

24.7700 [illegible] S/181/62/004/005/[illegible]
B162/B108

AUTHORS: Giterman, [illegible], Krol', L. Ya., Medvedev, V. [illegible], Orlova, [illegible], [illegible], V. [illegible]

TITLE: Impurity [illegible] conductivity in n-type [illegible]

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1383-[illegible]

TEXT: Results are given of measurements of the resistivity ρ, the Hall coefficient [illegible] and the magnetic resistance $\frac{\Delta\rho}{\rho}$ on single crystals of n-type [illegible] with impurity concentrations of 10^{16} - 10^{17} cm^{-3}, at which interaction between the impurities and formation of an impurity band not [illegible] with the conduction band can be expected. The specimens were produced by zone melting in a horizontal boat of an ingot of chemically pure [illegible]. Analysis of the data shows that the single crystal [illegible] at temperatures below [illegible]°K display conductivity in the impurity band. This effect is absent in the more contaminated single-crystal and polycrystalline specimens. The Hall mobility in the conduction band

Card 1/

[illegible] conductivity in ... [illegible]/62/004/[illegible]
B162/B108

is [illegible] to four times greater than in the impurity band. [illegible] magnetic [illegible] of the single-crystal specimens measured in a field of [illegible] negative at temperatures below [illegible] ^{o}K, and for a polycryst[illegible] over the whole range of [illegible] ^{o} - 300 ^{o}K. The conductivity in the [illegible] band [illegible] does not lead to a change in the sign of the Hall effect at the low[illegible] temperatures, as might have been expected for [illegible] in the impurity band.

[illegible]: Institut fiziko-tekhnicheskikh i radiotekhnicheskikh [illegible] (Institute of Physicotechnical and Radiotechnical Measurements), Moscow

[illegible]: November [illegible], 1961 (initially)
February 14, 1962 (after revision)

Card 2/2

ORLOVA, M.P.; ASTROV, D.N.

Measuring temperatures below 10^0 K. Izm.tekh. no.8:37-38 Ag '62. (MIRA 16:4)
(Thermometry)

in;

ACCESSION NR: AP4018401 S/0120/64/000/001/0230/0232

AUTHOR: Orlova, M. P.; Astrov, D. N.; Medvedeva, L. A.

TITLE: Germanium resistance thermometer for low temperatures

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 230-232

TOPIC TAGS: thermometer, germanium thermometer, low temperature thermometer, Sb alloyed Ge thermometer

ABSTRACT: The thermometer was prepared from Ge alloyed with Sb; the measured carrier concentration was from 5×10^{16} to 1×10^{17} cm^{-3}. Au-Sb alloy was used for contacts. For 4 months, six thermometers were tested for stability by comparing them with the reference Pt resistance thermometers and with an H condensation-type thermometer at the H-boiling temperature. Nonreproducibility of indication was ± 0.001 to 0.002K. The developed Ge thermometer is recommended for a temperature range of 1-35K; it has a small size, good accuracy,

Card 1/2

ACCESSION NR: AP4018401

high sensitivity, and sufficient ruggedness. However, it is sensitive to magnetic fields, difficult to manufacture with identical characteristics, and there is, as yet, no formula which would establish the resistance-temperature relation. "The authors are thankful to G. A. Kats and O. I. Shibayeva who developed the method and grew Sb-alloyed Ge single crystals, and also to V. I. Petrov for his part in preparing the thermometers." Orig. art. has: 4 figures.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific-Research Institute of Physico-Technical and Radio-Technical Measurements)

SUBMITTED: 21Dec62 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 003

Card 2/2

ORLOVA, M.P.

Session of working groups of the Consultative Committee on Thermometry.
Izm.tekh. no.2:50-51 F '64. (MIRA 17:4)

L 11393-63 BDS

S/120/63/000/002/034/041 .50

AUTHOR: Orlova, M. P., Astrov, D. N., and Medvedeva, L. A.

TITLE: An idium resistance thermometer for 3.4-300°K temperatures

PERIODICAL: Pribory i tekhnika eksperimenta, March-April 1963, v. 8, no. 2, 160-163

TEXT: The article describes resistance thermometers using extremely pure metallic indium; these instruments have a higher resistance (10-25 ohms at 0°C) and are less cumbersome than earlier instruments. The measurement range of these thermometers is 3.4-300°K and their stability is at least 0.0015°K. The authors give suggestions for calibrating the thermometers without comparison with primary instruments over a small temperature interval. There are eight figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute for Physicotechnical and Radiotechnical Measurements)

SUBMITTED: April 12, 1962

Card 1/1 Ja/CK

ORLOVA, M.P.

Development of the research in the field of low-temperature measurements in the U.S.S.R. and abroad. Izm.tekh. no.6:22-29 Je '64.
(MIRA 17:12)

L 34868-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AI6014518 SOURCE CODE: UR/0115/65/000/011/0008/0010

AUTHOR: Orlova, M. P.; Konoplev, V. A.; Sharevskaya, D. I.; Astrov, D. N.; Al'shin, B. I.; Medvedeva, L. A.

ORG: none

TITLE: New commercial resistance thermometer

SOURCE: Izmeritel'naya tekhnika, no. 11, 1965, 8-10

TOPIC TAGS: resistance thermometer, temperature measurement, low temperature research / PTS-100 resistance thermometer

ABSTRACT: As the PTS-100 standard platinum resistance thermometer (10—300K, ± 0.01K) is suitable only for operating under laboratory conditions, two new high-accuracy designs have been developed by the authors for industrial uses. In the first design (see Figure 1), coil 1 is fastened by the glass coating of straight platinum wire 2. Four such vitrified coils constitute the sensor of the thermometer. Platinum supporting wires are used as lead-ins 4 in envelope 3 filled by

Card 1/2 UDC: 536.531

L 34868-66

ACC NR: AP6014518

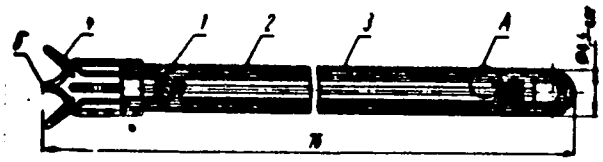


Fig 1

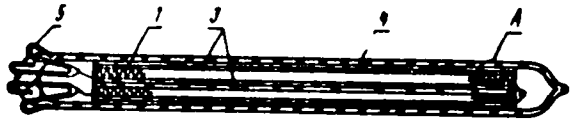


Fig 2

helium through throat 5. In the second design (see Figure 2), a straight 0.1-mm glass thread 2 is placed inside platinum coil 1. The latter is mounted in glass capillary 3; envelope 4 and platinum lead-ins 5 are conventional. The above designs were tested for vibration (50—3000 cps) and temperature stability (250, 100, 0C; H boiling and triple points). Their thermal inertia was 5—8 sec. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20, 14 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 002

Card 2/2 vmb

ORLOVA, M.P.; KONOPLEV, V.A.; SHAREVSKAYA, D.I.; ASTROV, D.N.; AL'SHIN, B.I.; MEDVEDEVA, L.A.

New industrial resistance thermometers. Izm. tekh. no.11: 8-10 N '65. (MIRA 18:12)

ORLOVA, M.T.

Accessory minerals of the ancient mute strata of the western slope of the Southern Urals. Mat.VSEGEI.Ob.ser. no.28:31-43 '60. (MIRA 14:6)

(Ural Mountains—Mineralogy)

MOSKALEVA, S.V.; ORLOVA, M.T.

Genesis of garnetiferous pyroxenite of the Krak massif in the Southern Urals. Mat.VSEGEI.Ob.ser. no.28:143-147 '60. (MIRA 14:6)

(Ural Mountains--Garnet) (Ural Mountains--Pyroxenite)

ORLOVA, M.V.

NEKRASOV, V.P.; ORLOVA, M.V. (Moskva)

Family epidemic of acute pancreatitis. Klin.med. 36 no.2:124-127 F '57. (MIRA 11:4)

1. Iz Glavnogo voyennogo gospitalya imeni akad. N.N.Burdenko (nach. N.M.Nevskiy)

(PANCREATITIS, case reports
acute, familial (Rus))

ASHMARIN, Yu.R., kand.med.nauk; ORLOVA, M.V. (Moskva)

Case of combined herpes zoster and chickenpox. Klin.med. no.3: 143-146 '62. (MIRA 15:3)
(CHICKEN POX) (HERPES ZOSTER)

ORLOVA, M. Ye.

Orlova, M. Ye. "Experience in using purified gonococcus antigenes in diagnosing female gonorrhea" (From a candidate's dissertation,) Sbornik nau . tr . . (Rost. obl. nauch.-issled. a ushers c-ginekol. in-t), Issue ?, 194?, p. ?-?.

So: U-3?61, 10 April 19?3 (Letopis 'Zhurnal 'nykh Statey, No. 1?, 194?).

CRLOVA, M. Ye.

Zalesskaya, M. A. and Orlova, M. Ye. "Cytobacteriscopy of cervical canal discharges in gonorrhea", Sbornik nauch. trudov (Rost. obl. nauch.-issled. akushersko-ginekol. in-t), Is ue 8, 1948, p. 56-60.

So: U- 261, 10 April 19[illegible] (Letopis 'Zhurnal 'nykh Statey, No. [illegible], 1949(.

OrLOVA, M. Ye.

Orlova, M. Ye. "The de ene at on of the gonococcus in discharges fro the ...ale sexual organs", Sbornik nauch. trudov (Rost. g l. nauch.-issled. akusherske-ginekol. in-t), Issue 8, 1948, . 72-76.

So: U-3201, 10 April 1953 (Letopis 'Zhurnal 'nykh St tey, No. 12, 1940).

ORLOVA, M.Ye.

Evolution of sex chromatin in the neutrophils of the blood; preliminary report. Probl.gemat.i perel.krovi no.7:24-28 '62. (MIRA 15:9)

1. Iz Rostovskogo-na-Donu respublikanskogo nauchno-issledovatel'skogo instituta akusherstva i pediatrii (dir. F.S. Baranovskaya, nauchnyy rukovoditel' - prof. T.V. Loverdo) Ministerstva zdravookhraneniya RSFSR.
(LEUCOCYTES) (CHROMATIN)

ORLOVA, N., kand.med.nauk

Beware of grippe! Okhr. truda i sots. strakh. 6 no.12:19-22 D '63. (MIRA 17:2)

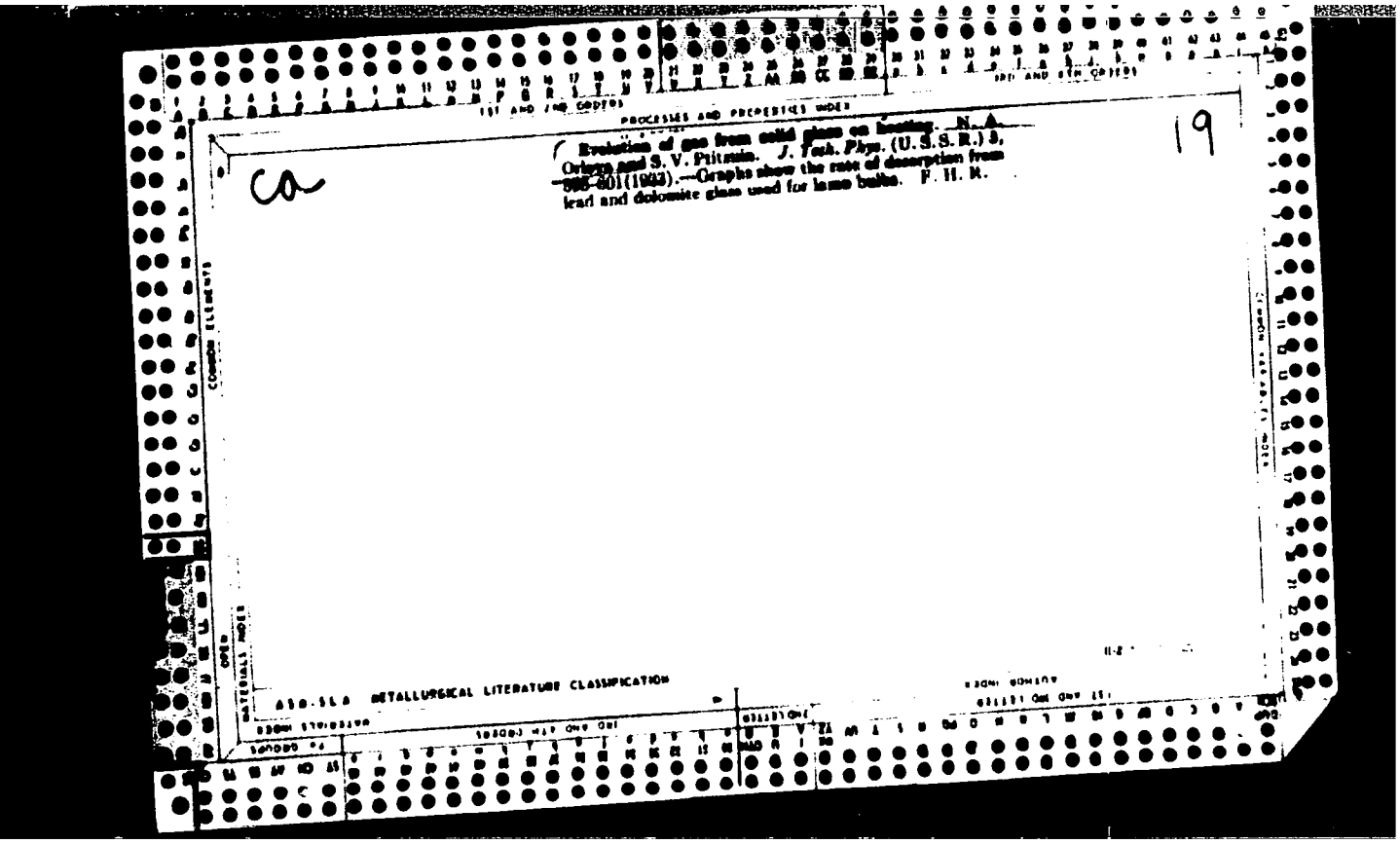
1. Zaveduyushchaya laboratoriyey profilaktiki zabolevaniy dykhatel'nykh putey Instituta virusologii AMN SSSR.

GAN, P.A.; DZHANAYEVA, V.M.; KARAFA-KORBUT, I.G.; KRIVOSHEYEVA, L.S.; KUNCHENKO, A.I.; ORLOVA, N.A.; PROTOPOPOV, G.F.; PRUTENSKIY, D.I.; TKACHENKO, V.I.; SOROKHAYEVA, M.V., red. izd-va; POPOVA, M.G., tekhn. red.

[Trees and shrubs of Kirghizia]Derev'ia i kustarniki Kirgizii. Frunze, Izd-vo Akademii Kirgizskoi SSR. No.2. [Families: Liliaceae-Moraceae]Semeistva lileinye-tutovye. 1961. 211 p. (MIRA 15:10)

1. Akademiya nauk Kirgizskoy SSR, Frunze. Institut botaniki. Sektor lesa.

(Kirghizistan--Angiosperms)

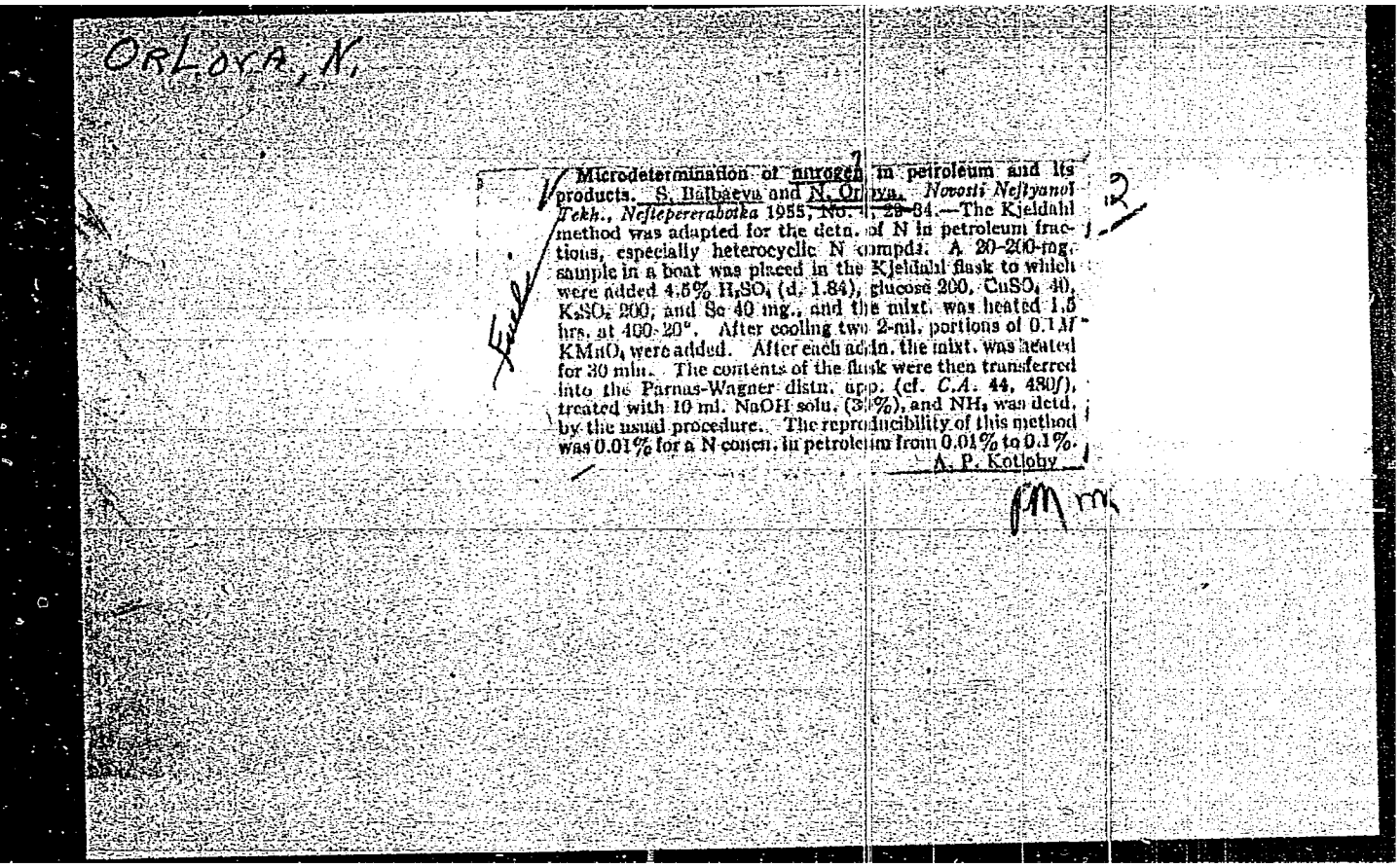


Evolution of gas from solid glass on heating. N. A. Orlova and S. V. Pritimin. *J. Tech. Phys.* (U.S.S.R.) 3, 595-601 (1933).—Graphs show the rate of desorption from lead and dolomite glass used for lamp bulbs. F. H. M.

19

Ca

A50-5L0 METALLURGICAL LITERATURE CLASSIFICATION

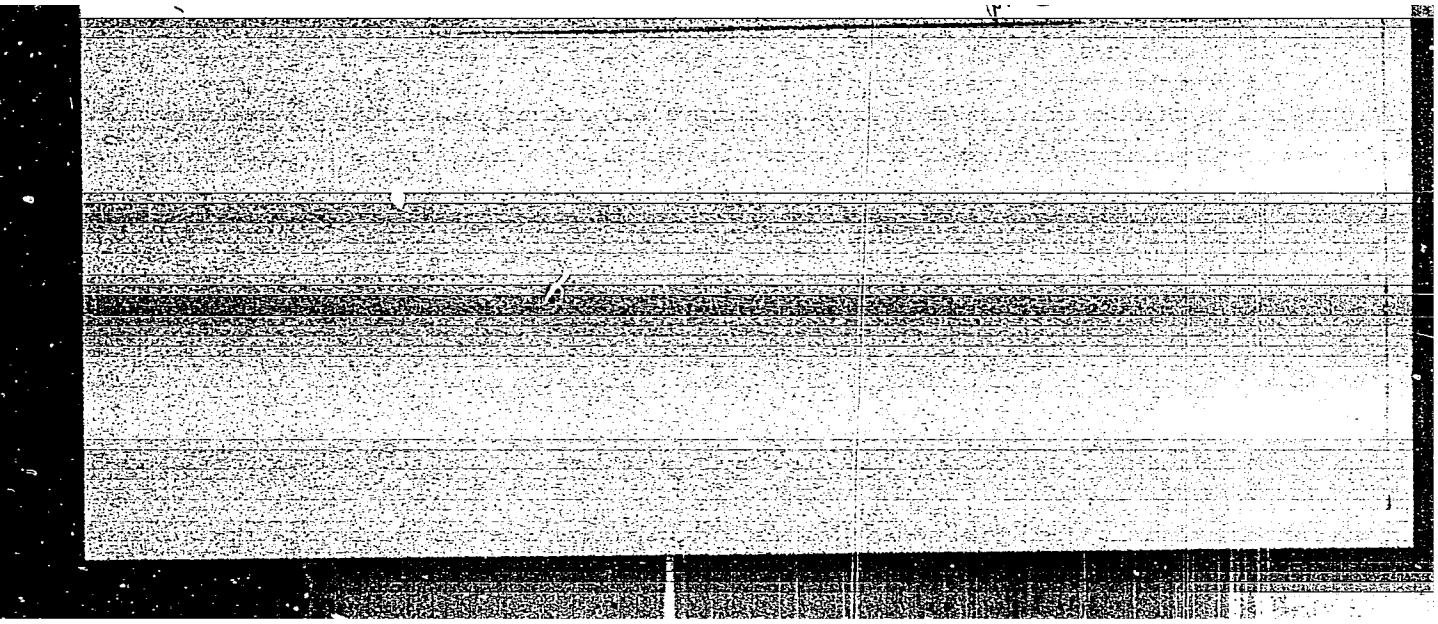


ORLOVA, N.

Microdetermination of nitrogen in petroleum and its products. S. Balbaeva and N. Orlova. *Novosti Neftyanoi Tekh., Neftepererabotka* 1955, No. 1, 29–34.—The Kjeldahl method was adapted for the detn. of N in petroleum fractions, especially heterocyclic N compds. A 20–200-mg. sample in a boat was placed in the Kjeldahl flask to which were added 4.5% H_2SO_4 (d. 1.84), glucose 200, $CuSO_4$ 40, K_2SO_4 200, and Se 40 mg., and the mixt. was heated 1.5 hrs. at 400–20°. After cooling two 2-ml. portions of 0.1 *M* $KMnO_4$ were added. After each addn. the mixt. was heated for 30 min. The contents of the flask were then transferred into the Parnas-Wagner distn. app. (cf. *C.A.* 44, 480*f*), treated with 10 ml. NaOH soln. (3:1), and NH_3 was detd. by the usual procedure. The reproducibility of this method was 0.01% for a N concn. in petroleum from 0.01% to 0.1%.

A. P. Kotlobay

ORLOVA, N. A. Cand Tech Sci -- (diss) "Salification as a means of antifiltration for small irrigation canals of the southern Ukraine." Kiev, 1956. 14 pp 20 cm. (Min of Agr USSR. All-Union Sci Res Inst of Hydraulic Engineering and Improvement VNIIGIM), 100 copies. (KL, 13-57, 99)



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001238

ORLOVA, N. A.

USSR/Chemistry - Catalysis

Card 1/2 Pub. 22 - 17/43

Authors : Bashkirov, A. N.; Khotimskaya, M. I.; and Orlova, N. A.

Title : Oxygen-containing compounds formed during the synthesis of hydrocarbons from carbon monoxide and hydrogen over an iron catalyst

Periodical : Dok. AN SSSR 106/1, 65-68, Jan 1, 1956

Abstract : Experiments were conducted to separate and identify oxygeneous compounds contained in the hydrocarbon part of a product formed during the synthesis from CO and H over an iron catalyst at an average pressure and 1 : 1 ratio of the CO to H in the initial gas. The acid, hydroxyl, carbonyl and ether numbers of the hydrocarbon fraction investigated are listed. Neutral

Institution : Acad. of Sc., Institute of Petroleum

Presented by: Academician A. V. Topchiyev, May 27, 1955

Card 2/2 Pub. 22 - 17/43

Periodical : Dok. AN SSSR 106/1, 65-68, Jan 1, 1956

Abstract : oxycompounds were separated from the investigated product by means of chromatographic adsorption on a ASM-silica gel contact with the grain dimension of 60 - 100 mesh and activity of 17.1. The ketones contained in the product were separated through semicarbazones. Four references: 2 USSR and 2 Eng. (1949-1954). Tables.

ORLOVA, N.A.

KAGAN, Yu.B.; BASHKIROV, A.N.; ZVEZDKINA, L.I.; ORLOVA, N.A.; KLIGER, G.A.

Influence of reduction conditions on the properties of molten iron catalysts used in alcohol synthesis from carbon monoxide and hydrogen. Trudy inst. nefti. 10:262-268 '57. (MIRA 11:4)
(Alcohols) (Carbon monoxide) (Hydrogen)

AUTHORS: Kagan, Yu. B., Bashkirov, A. N., SOV/62-58-12-11/25
Kryukov, Yu. B., Loktev, S. M., Orlova, N. A.

TITLE: On the Mechanism of the Catalytic Efficiency of Fused Iron Catalysts in the Synthesis of CO and H_2 (O mekhanizme kataliticheskogo deystviya plavlenykh zheleznykh katalizatorov sinteza iz CO i H_2)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1274 - 1275 (USSR)

ABSTRACT: In an earlier paper the authors showed that immediately after the reduction (by hydrogen at 1000°) fused iron catalysts in the hydrocarbon synthesis of CO and H_2 are not active any more. Only under the working conditions of the synthesis when the gas mixture $CO+H_2$ is passed through the catalyst gradually becomes active (for 10-20 hours). This phenomenon may be explained by a number of simultaneous reactions competing with each other. Due to the course of these reactions competing with each other the metallic iron re-generates often (under the conditions of the synthesis) from its

Card 1/2

On the Mechanism of the Catalytic Efficiency of Fused SOV/[illegible]
Iron Catalysts in the Synthesis of CO and H_2

compounds, and at the surface of the operating catalyst the dynamic equilibrium of the surface processes of different chemical structure is obtained. As a consequence of these processes the activation of the catalyst occurs. Neither the iron itself nor compounds that might be formed from it are the reason for the activation of the catalyst surface. The hypothesis formed for the main mechanism of the catalytic efficiency of iron catalysts (according to which the synthesis of CO and H_2 is caused by the reactions of carbon and hydrogen monoxide with iron and its compounds on the surface of the operating catalyst) was described in detail by the authors. There are 1 table and 1 reference, which is Soviet.

ASSOCIATION: Institut nefti Akademii nauk SSSR (Petroleum Institute AS USSR)

SUBMITTED: April 8, 1958
Card 2/2

KAGAN, Yu.B.; BASHKIROV, A.N.; ZVEZDKINA, L.I.; ORLOVA, N.A.

Fused iron catalysts in the synthesis of higher alcohols from carbon monoxide and hydrogen. Trudy Inst.nefti 12:200-212 '58.
(MIRA 12:3)

(Alcohols) (Catalysts)

KAGAN, Yu.B.; BASHKIROV, A.N.; LOKTEV, S.M.; MOROZOV, N.G.; ORLOVA, N.A.

Effect of the introduction of ferroalloys on the activity and stability of fused iron catalysts for synthesis based on CO and H_2. Trudy Inst. nefti 12:228-239 '58. (MIRA 12:3)

(Catalysts) (Iron alloys) (Chemistry, Organic--Synthesis)

3(5)

AUTHORS: Chepikov, K. R., Corresponding Member SOV/20-125-5-39/61
AS USSR, Yermolova, Ye. P., Orlova, N. A.

TITLE: Epigene Minerals as Time Indicators of the Petroleum Appearance in Sandy Reservoirs Capable of Exploitation (Epigennyye mineraly kak pokazateli vremeni prikhoda nefti v peschanyye promyshlennyye kollektory)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 1097-1099 (USSR)

ABSTRACT: The problem of the time indication mentioned in the title is of great significance both practically and theoretically. In order to determine this, the authors have studied the character of the correlation between petroleum and the epigene minerals. Samples of petroleum containing rocks of the largest petroleum fields in the Volgo-Ural'skaya (Volga-Ural) region served for this purpose: Romashkino, Bavly, Tuymazy, in addition to the Yablonovyy and Zol'nyy ravines. From there came the quartz sandstones of the Pashiyskaya suite, while samples of Lower Carboniferous rocks came from Mukhanovo. The clastic material of the sand and "aleuritic" rocks is almost exclusively formed by quartz (95-98 %). Only non-clayey varieties were studied

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whose cement consists of epigene minerals. Most of the reservoirs investigated had high effective porosity values (P_{eff} = 17-22 %). There were also, however, sandstones with a slight P_{eff} value, and even impermeable varieties. The roll played by the individual epigene minerals in the cementation of the non-clayey varieties of sandstone and "aleurite" is different. Regenerated quartz takes the first and most important place; it generally penetrates through the entire rock. Other epigene minerals occur only as local precipitations and have a limited distribution. The epigene quartz is mostly precipitated as a regeneration overgrowth of various thicknesses. It often binds only the clastic grains and only slightly fills the pore space. Carbonates (calcite and dolomite) as well as anhydrite, cement the sandstones and "aleurites" only superficially. As a rule, all of the minerals mentioned corrode the clastic and regenerated quartz. Often they replace it completely, in which case they indicate a basic cementation type. The genesis of the epigene minerals is briefly discussed. If pyrite, whose genetic conditions deviate from those of the

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other minerals, is excluded from the observed formation sequence - quartz, pyrite, carbonate, anhydrite - the sequence of the precipitation of the remaining minerals agrees well with their increasing solubility. The regeneration process is discussed. The analysis of the formation sequence of the epigene minerals in quartz sandstones and "aleurites" has shown that the last minerals precipitated (the carbonates and anhydrites) represent new formations which originated at considerable depths. Petroleum filled all of the freely interconnecting pore channels in all samples of sandstones and "aleurites" which were already earlier cemented by epigene minerals. The form of the petroleum inclusions is determined here by the morphology of the pore space. As a rule, epigene minerals contain no petroleum inclusions; at most they have thin petroleum films on the contact of the quartz grains with the epigene carbonate and anhydrite cement in fractures and individual calcite, dolomite, and anhydrite crystals. This can be utilized as an indication that the petroleum has not filled the pore spaces until after the precipitation of the entire complex of epigene minerals. Consequently the petroleum has a younger age. By comparison

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of the assemblage and the intensity degree of the ... mineral formation in water and petroleum ... the same assemblage of epigene minerals is encountered again and again; additionally, their precipitation is always the same (Mukhanovo), however, the precipitation of calcite and dolomite in water bearing rocks is more intense. This is due to the fact that the formation of these minerals had come to a stand still in petroleum bearing rocks, while it continued for a time in the water bearing rocks.

SUBMITTED: December 9, 1958

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CHEPIKOV, K.R.; YERMOLOVA, Ye.P.; ORLOVA, N.A.

Epigenetic minerals in arenaceous rocks of producing horizons and their effect on reservoir properties of rocks as revealed by the studies in Second Baku. Trudy Inst. geol. i razrab. gor. iskop. 1 '60. (MIRA 14:1)

(Second Baku--Petroleum geology)

BOGOMOLOVA, A.F. (Moskva); ORLOVA, N.A. (Moskva)

Quantitative characteristics of the structure of pore space. PMTF no.4:77-81 Jl-Ag '61. (MIRA 14:10)
(Porous materials)

BOGOMOLOVA, A.F.; ORLOVA, N.A.

Study of the structure of a porous area. Geol. nefti i gaza 5 no.12:46-49 D '61. (MIRA 14:11)

1. Institut geologii i razrabotki goryuchkikh iskopayemykh AN SSSR.
(Porosity)

CHEPIKOV, K.R.; YERMOLOVA, Ye.P.; ORLOVA, N.A.

Corrosion of quartz grains and cases of a possible effect of petroleum on the reservoir properties of sandy rocks. Dokl. AN SSSR 140 no.5:1167-1169 O '61. (MIRA 15:2)

1. Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR. 2. Chlen-korrespondent AN SSSR (for Chepikov).
(Petroleum geology)

CHEPIKOV, K.R.; YERMOLOVA, Ye.P.; ORLOVA, N.A.

Variations in the porosity of sandstones with depth. Dokl.AN SSSR 144 no.2:435-437 My '62. (MIRA 15:5)

1. Institut geologii i razrabotki goryuchikh iskopayemykh.
2. Chlen-korrespondent AN SSSR (for Chepikov).
(Sandstone)

CHEPIKOV, K. R.; YERMOLOVA, Ye. P.; ORLOVA, N. A.

"Authigenic minerals in oil-bearing terrigenous rocks."

report submitted for 22nd Sess, Int. Geological Cong, New Delhi, [illegible] Dec 1964.

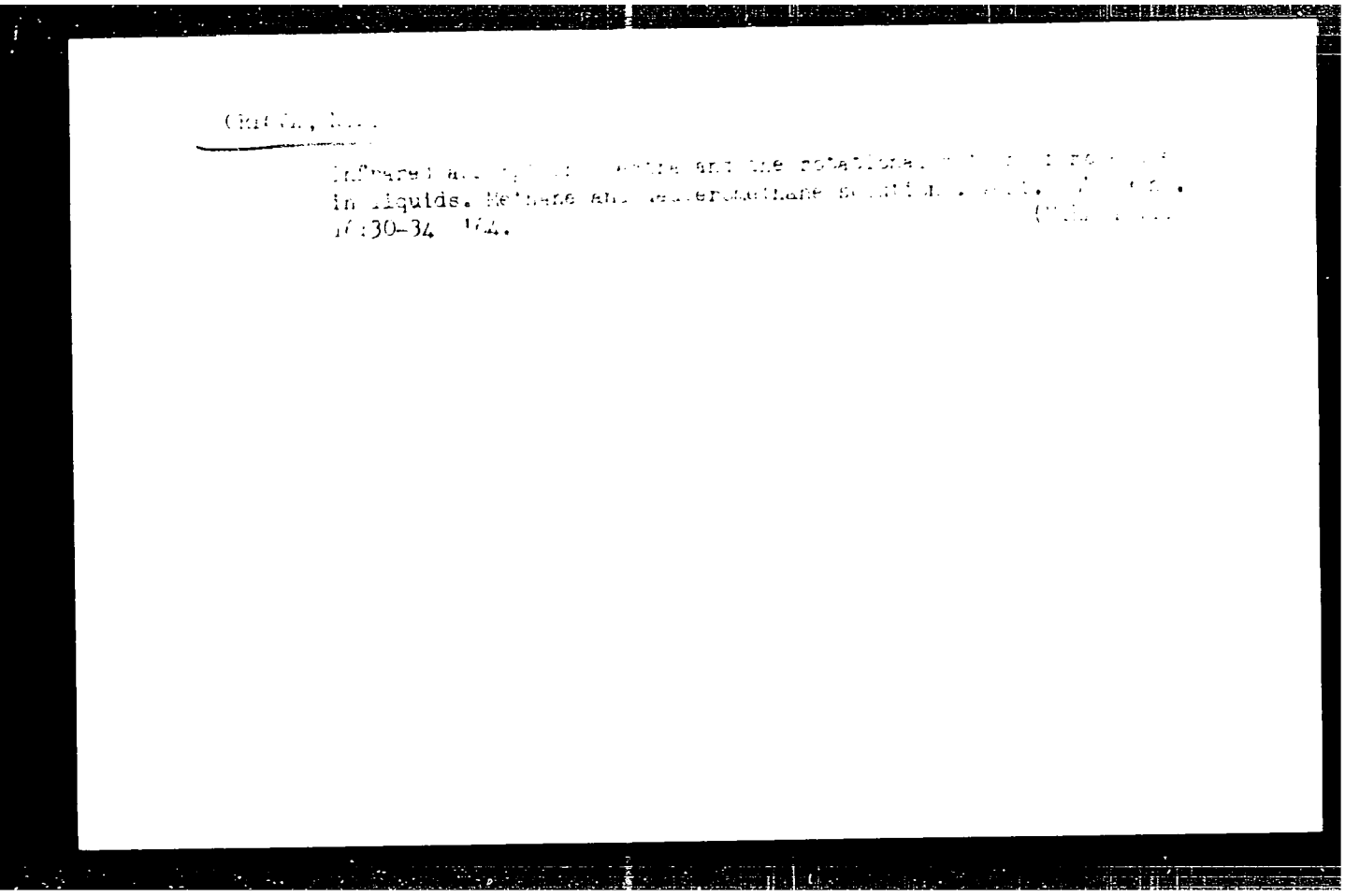
TYULENEV, N.A., doktor sel'khoz. nauk, [illegible] otv. red.; ALIAT'YEV, S.M., kand. sel'khoz. nauk, otv. red.; [illegible], kand. sel'khoz. nauk, red.; [illegible], kand. tekhn. nauk, red.; [illegible], kand. tekhn. nauk, red.; [illegible] VALENK[illegible], S.F., kand. sel'khoz. nauk, red.; [illegible], kand. tekhn. nauk, red.; [illegible]NIYAK, V.I., kand. tekhn. nauk, red.; [illegible]

[Materials [illegible] the Field of [illegible] and Hydraulic [illegible]] Materialy ob"edinennoi [illegible]-tekhnicheskoi konferentsii molodykh nauchnykh rabotnikov v oblasti melioratsii i gidrotekhniki. Kiev, Ur zhai. [illegible]

1. Ob"edinennaya [illegible] v oblasti melioratsii i gidrotekhniki [illegible] Korresp[illegible]

KAGAN, S.Z.; KOVALEV, Yu.N.; KAGAN, Yu.B.; ORLOVA, N.A.

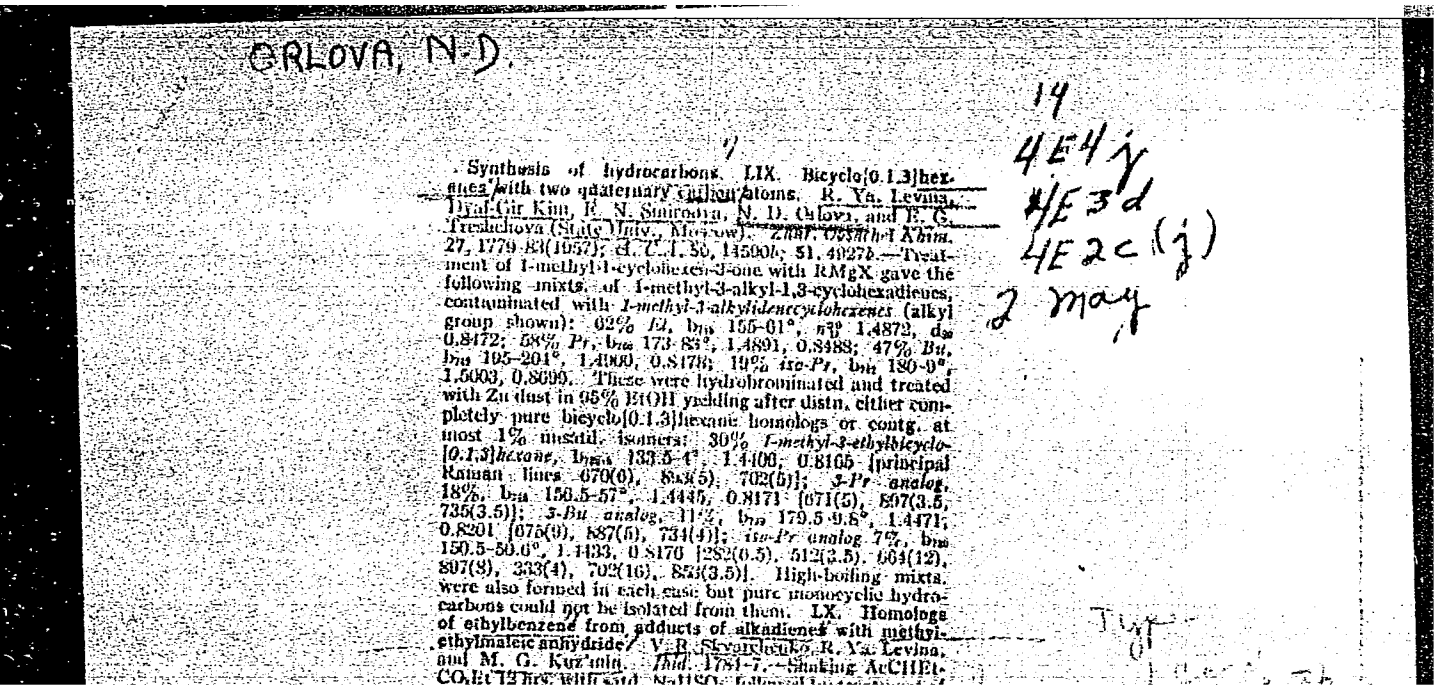
Studying the extraction of higher alcohols from their mixtures with hydrocarbons. Trudy MKHTI no.40:128-133 '62.
(MIRA 18:12)



LEVINA, R.Ya.; KIM DYAY GIR, SMIRNOVA, E.N.; ORLOVA, N.D.; TRESHCHOVA, Ye.G.

Synthesis of hydrocarbons. Part 59: (0,1,3)-bicyclohexanes with two quaternary carbon atoms. Zhur.ob.khim. 27 no.7:1779-1783 Jl '57. (MIRA 10:10)

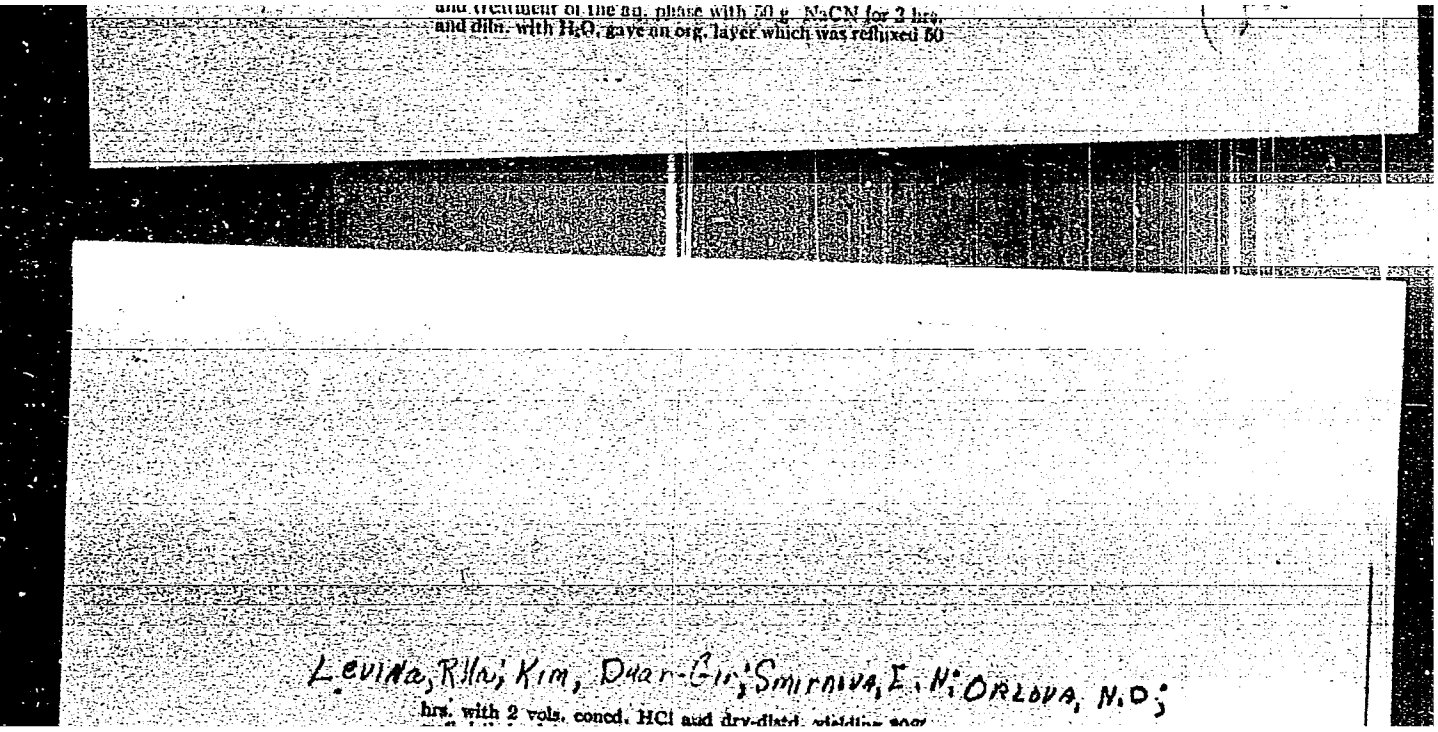
1.Moskovskiy gosudarstvennyy universitet.
(Bicyclohexane)



ORLOVA, N.D.

14
4E4j
4E3d
4E2c(j)
2 may

Synthesis of hydrocarbons. LIX. Bicyclo[0.1.3]hexanes with two quaternary carbon atoms. R. Ya. Levina, Dyal-Gir Kim, E. N. Smirnova, N. D. Orlova, and E. G. Treshchova (State Univ., Moscow). *Zhur. Obshchei Khim.* 27, 1779-83(1957); cf. *C.A.* 51, 14590b; 51, 4927b.—Treatment of 1-methyl-1-cyclohexen-3-one with RMgX gave the following mixts. of 1-methyl-3-alkyl-1,3-cyclohexadienes, contaminated with *1-methyl-3-alkylidenecyclohexenes* (alkyl group shown): 62% *Et*, b_{10} 155-61°, n_D^{20} 1.4873, d_{20} 0.8472; 58% *Pr*, b_{10} 173-83°, 1.4891, 0.8988; 47% *Bu*, b_{10} 195-201°, 1.4900, 0.8776; 19% *iso-Pr*, b_{10} 180-0°, 1.5003, 0.8699. These were hydrobrominated and treated with Zn dust in 95% EtOH yielding after distn. either completely pure bicyclo[0.1.3]hexane homologs or contg. at most 1% unsatd. isomers: 30% *1-methyl-3-ethylbicyclo[0.1.3]hexane*, b_{760} 133.5-4°, 1.4400, 0.8165 [principal Raman lines 670(6), 853(5), 702(5)]; *3-Pr analog*, 18%, b_{10} 156.5-57°, 1.4445, 0.8171 [671(5), 897(3.5, 735(3.5)]; *3-Bu analog*, 11%, b_{10} 179.5-9.5°, 1.4471, 0.8201 [675(9), 887(6), 734(4)]; *iso-Pr analog* 7%, b_{10} 150.5-50.6°, 1.4433, 0.8170 [282(0.5), 512(3.5), 664(12), 807(8), 333(4), 702(16), 873(3.5)]. High-boiling mixts. were also formed in each case but pure monocyclic hydrocarbons could not be isolated from them. LX. Homologs of ethylbenzene from adducts of alkadienes with methylethylmaleic anhydride. V. P. Skvarchenko, R. Ya. Levina, and M. G. Kuz'mina. *Ibid.* 1781-7.—Shaking AcCHEtCO$_2$Et 72 hrs. with sod. [illegible]



and treatment of the aq. phase with 50 g. NaCN for 2 hrs. and dilu. with H_2O, gave an org. layer which was refluxed 50

Levina, R.Ya.; Kim, Duan-Gir; Smirnova, E. N.; Orlova, N.D.;

hrs. with 2 vols. concd. HCl and dry-distd. vielding 90%

Orlova, N.D.

USSR/ Chemistry - Synthesis

Card 1/1 Pub. 22 - 28/54

Authors : Levina, R. Ya.; Shusherina, N. P.; Lurye, N. Yu.; Orlova, N. D.

Title : Cyanethylated ketones in the synthesis of unsaturated lactones. Delta lactones with semicyclic double bond

Periodical : Dok. AN SSSR 106/2, 279-282, Jan 11, 1956

Abstract : The synthesis of delta-lactones with semicyclic double bond from basic ketones (diisopropyl- and methylisopropyl ketone) is described. The lactones obtained were found to have a definite semicyclic bond inasmuch as their formation was due mainly to the ketoenol regrouping of the keto acids, the enol forms of which are formed only as result of the isopropyl group and methyl group, respectively. The chem. properties of synthesized lactones are described. Eight references: 4 USSR, 2 USA and 2 French (1899-1955).

Institution : Moscow State University im. M. V. Lomonosov

Presented by: Academician B. A. Kazanskiy, July 16, 1955

ORLOVA N.D.

AUTHOR: Bulanin, M.O. and Orlova, N.D.

TITLE: Investigation of the Changes of the Rotation-Vibration Spectrum of Certain Simple Molecules Upon Dissolution (Issledovaniye izmeneniy vrashchatel'no-kolebatel'nogo spektra nekotorykh prostykh molekul pri rastvorenii)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp [illegible] (USSR)

ABSTRACT: Transition from the vapour state to liquid or solution is normally accompanied by disappearance of the rotational structure of bands in the vibrational spectrum. This effect is ascribed to the absence of free rotation of molecules in liquids. The rotational motion is least affected on liquefaction of hydrogen halides. In liquid oxygen, nitrogen and methane the discrete rotational spectrum is absent (Ref 2) and only the form of bands in the Raman scattering indicates certain freedom of rotation of the respective molecules. No rotational structure was discovered so far in solutions. The present paper reports results of studies of the infrared absorption spectra of solutions of hydrogen halides (HCl, DCl, HBr, DBr, HF) and of water. The measurements were made using infrared spectrometers with LiF and NaCl prisms.

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Investigation of the Changes of the Rotation-Vibrational Spectra of Certain Simple Molecules Upon Dissolution

The spectrometers were calibrated using the absorption spectra of gaseous H_2O, CO, HBr, HCl and NH_3. The error in determination of frequency did not exceed 5 cm^{-1}. Thin layers of solutions were used (d = 0.05-8.0 cm). The spectra of the following solutions were obtained: HCl in CCl_4, $SiCl_4$, $TiCl_4$; DCl in CCl_4, $SiCl_4$, $TiCl_4$, $CHCl_3$; HBr and DBr in CCl_4; HF in C_5F_{12}; H_2O in $C_2Cl_2F_6$, $C_2Cl_3F_3$, CCl_4, C_2Cl_4, $CHCl_3$, CH_3NO_2 and D_2O in $C_2Cl_3F_3$, all at room temperature, as well as HCl and HBr in CCl_4 at 75°C and in CH_3NO_2 at 90°C. Some of the spectra obtained are shown in Figs 1-5. Figs 1, 2 and 3 show that the absorption bands of all hydrogen halides in solution consist of a central peak and additional maxima on both sides of the peak. The positions of the central peak and the two additional maxima, denoted by ν_0, ν_- and ν_+, are given in Table 1. In the spectra of solutions of water (Figs 4 and 5) two bands were observed, corresponding to symmetrical (ν_1) and antisymmetrical (ν_3) valence vibrations. The antisymmetrical band is more intense. It is concluded that the observed additional absorption bands in the substances studied are not due to internal molecular degrees of freedom. Comparison of the solution spectra with the spectra of gases indicates that the additional absorption bands are rotational

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Investigation of the Changes of the Rotation-Vibration Spectrum of Certain Simple Molecules Upon Dissolution

of rotational branches. This indicates that almost free rotation of the solute molecules is possible in solutions. On increase of interaction of the solute with the solvent rotation is transformed into librational motion. The author thanks V.M. Chulanovskiy who directed this work. There are 5 figures, 2 tables and 26 references, of which 10 are American, 6 English, 5 Soviet, 3 French, 1 German and 1 Canadian.

ASSOCIATION: Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta (Physical Institute, Leningrad State University)

SUBMITTED: July 5, 1957

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1. Molecules - Rotation - Vibration
2. Halides - Infrared absorption spectra
3. Spectrometers - Applications