"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAROVICH, M. P.; CHURAYEV, N. V.

"Research on the Hydrophysical Characteristics of Peat and on the Processes involved in the Movement of Moisture in Peaty soils" To be presented at the Symposium on the Use of Radioisotopes in Soil-Plant Nutrition Studies, Bombay, 26 February - 2 March 1962.

Kalinin Peat Institute, USSR

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

MINKOV, B.Ya., kand. tekhn. nauk; SYSOYEV, A.A., inzh.; CHURAYEV, N.V., kand. tekhn. nauk

Using nuclear radiation for determining the volumetric weight and moisture of peat. Trudy VNIIGiM 38:13-27 '62. (MIRA 16:7)

1. Kalininskiy torfyanoy institut.
(Radioisotopes) (Peat—Testing)

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VOLAROVICH, M.P., doktor fiziko-matematicheskikh nauk; GAMAYUNOV, N.I., kand. tekhn. nauk; CHURAYEV, N.V., kand. tekhn. nauk

Using radioactive indicators for studying the moisture characteristics, structure, and moisture movement in peat. Trudy VNIIGiM 38:97-115 '62. (MIRA 16:7)

1. Kalininskiy torfyanoy institut.
(Peat—Testing) (Radioactive tracers)

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VOLAROVICH, M.P., doktor fiziko-matem. nauk; IL'IN, N.I., inzh.; CHURAYEV, N.V., kand. tekhn. nauk

Investigating water translocation in peat layers by the method of radioactive tracers. Trudy VNIIGiM 38:116-131 '62. (MIRA 16:7)

1. Kalininskiy torfyanoy institut.
(Radioactive tracers) (Peat) (Moisture)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Radiotracer method for studying the mechanism of moisture transport in drying. Inzh.-fiz.zhur. 5 no.12:41-47 D '62. (MIRA 16:2)

1. Kalininskiy torfyanoy institut, Moskva.
(Drying) (Radioactive tracers)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAROVICH, M.P.; LISHTVAN, I.I.; CHURAYEV, N.V.

Immobilization of a dispersion medium under the influence of structure-forming additions. Dokl. AN SSSR 143 no.5:1135-1138 Ap '62. (MIRA 15:4)

1. Kalininskiy torfyanoy institut. Predstavleno akademikom P.A.Rebinderom.

(Disperse systems)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N. V.; VOLAROVICH, M. P.

"The modern condition and methods of physics and physical chemistry of peat."

Report submitted for the 2nd International Peat Congress, Leningrad, 15-22 Aug 63.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Mechanism underlying moisture transfer in the drying of colloidal capillary-porous bodies. Inzh.-fiz.zhur. 6 no.2:31-37 F '63. (MIRA 16:1)

1. Kalininskiy torfyanoy institut, Moskva.
(Capillarity) (Drying)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAROVICH, M.P.; CHURAYEV, N.V.

Determining the moisture content of peat by the neutron method discussed by N.I.Skvortsova and IA.E.Chudars. Inzh.-fiz.zhur. 6 no.3:124-126 Mr '63. (MIRA 16:4)

1. Torfyanoy institut, g. Kalinin.
(Peat—Testing) (Neutrons)
(Skvortsova, N.I.) (Chudars, IA.E.)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

IL'IN, N.I.; CHURAYEV, N.V.

Experimental investigation of moisture transfer in the capillary border area. Inzh.-fiz.zhur. 6 no.10:115-120 O '63. (MIRA 16:11)

1. Kalinskiy torfyanoy institut, Moskva.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V., doktor tekhn.nauk

Changes occurring in the water properties and atructure during the pressing of slightly decomposed peat. Torf.prom. 40 no.1:17-19 '63. (MIRA 16:5)

1. Kalininskiy torfyanoy institut.
(Peat—Testing)

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IL'IN, M. I., kand. tekhn. nauk; CHURAYEV, N. V., doktor tekhn. nauk

Use of combined drainage in upland type peat deposits. Torf. prom. 40 no.3:10-12 '63. (MIRA 16:4)

1. Kalininskiy torfyanoy institut.

(Drainage) (Peat bogs)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Mechanism of moisture transfer in capillary-porous bodies. Dokl. AN SSSR 148 no.6:1361-1364 F '63. (MIRA 16:3)

1. Kalininskiy torfyanoy institut. Predstavleno akademikom A.N.Frumkinym.

(Moisture) (Porous materials)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V., doktor tekhn. nauk

Qualitative characteristics of raw peat. Torf. prom. 40 no.7: 19-23 '63. (MIRA 17:1)

1. Kalininskiy torgyanoy institut.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Effect of soil aggregation processes on the filtration of water in disperse systems. Koll.zhur. 25 no.6:718-721 N-D '63. (MIRA 17:1)

1. Kalininskiy torfyanoy institut.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Effect of the drying of peat on its aqueous and structural-mechanical properties. Trudy Kal. torf. inst. no.13:29-38 '63. (MIRA 17:12)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAROVICH, M.P.; MINKOV, B.Ya.; RODE, L.G.; SYSOYEV, A.A.; [illegible], N.V.

Developing field instruments for the technological monitoring of the quality of milled peat using nuclear studies. Trudy Kal. torf. inst. no.13:39-50 '63. (MIRA 17:12)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

GAMAYUNOV, N.I.; IL'IN, N.I.; CHURAYEV, N.V.

Studying the water and heat regime of the upper layers of a peat bog. Trudy Kal. torf. inst., no.13:64-78 '63.

(MIRA 17:12)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAROVICH, M.P.; LISHTVAN, I.I.; CHURAYEV, N.V.

Methods of controlling the structural and rheological properties of semisolid peat. Koll.zhur. 25 no.3:286-290 My-Je '63. (MIRA 17:10)

1. Kalininskiy torfyanoy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

GAMAYUNOV, N. I.; LIBEVAN, I. I.; CHURAYEV, N. V.

"Processes of structural change with heat and mass transfer in collodial capillary-porous bodies."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Kalinin Peat Inst

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

NERPIN, S. V.; CHURAYEV, N. V.

"Kinetics of moisture evaporation from capillary-porous bodies."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Agri Physics Sci Res Inst, Kalinin Peat Inst.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

LISHTVAN, I.I.; MAMTSIS, A.M.; CHURAYEV, N.V.

Studying the cation composition of the absorbing complex of lowland peats. Pochvovedenie no.7:60-67 Jl '64. (MIRA 17:8)

1. Kafedra fiziki Kalininskogo torfyanogo instituta.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

DERYAGIN, B.V.; NERPIN, S.V.; CHURAYEV, N.V.

Theory of vaporization of liquids from capillaries. Koll. zhur. 26 no.3:301-307 My-Je '64 (MIRA 17:9)

1. Institut fizicheskoy khimii AN SSSR, Moskva, Agrofizicheskiy institut, Leningrad i Kalinskiy torfyanoy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

NERPIN, S.V.; CHURAYEV, N.V.

Kinetics of moisture evaporation from capillary porous bodies. Inzh.-fiz. zhur. 8 no.1:20-26 Ja '65. (MIRA 18:3)

1. Torfyanoy institut, Kalinin.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.; YAKOVLEV, A.I.; VOLOROVICH, M.P.; FLEKSER, N.Ya.; VARTAZAROV, S.Ya.

Use of isotopes and radiation sources in hydrology and hydrogeology. Atom. energ. 18 no.3:264-268 Mr '65.

(MIRA 18:3)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VOLAKOVICH, M.P.; GAMAYUNOV, N.I.; POLYANICHEVA, A.P.; CHURAYEV, N.V.

Radioactive tracer study of the mechanism of drying of disperse materials in the process of moisture exchange with the underlying soil. Koll. zhur. 27 no.4:505-509 Jl-Ag '65. (MIRA 18:12)

1. Kalininskiy torfyanoy institut. Submitted February 20, 1964.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, N.V.

Effect of film movement on moisture vaporization from porous bodies. Koll. zhur. 27 no.6:908-915 N-D '65. (MIRA 18:12)

1. Kalininskiy torfyanoy institut. Submitted October 2, 1964.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

GLAGOLEV, Nikolay Sergeyevich; GALOV, Yevgeniy Aleksandrovich; TOPAZOV, Nikolay Gennadiyevich; DE-PEL'POR, Georgiy Yevgen'yevich; CHURAYEV, P., red.; SELIVERSTOVA, A., red.izd-va; VORONINA, R., tekhn. red.

[Mathematics for technical correspondence schools] Matematika dlia zaochnykh tekhnikumov. Moskva, Vysshaia shkola. Pt.1.[Algebra and simple functions] Algebra i prosteishie funktsii. 1963. 481 p. (MIRA 17:2)

1. Zaveduyushchiy kafedroy matematiki Moskovskogo arkhitekturnogo instituta (for Churayev).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

GLAGOLEV, N.S.; ORLOV, Ye.A.; TOPAZOV, N.G.; DE-PEL'POR, G.Ye.; CHURAYEV, P.N., red.; SELIVERSTOVA, A.I., red.izd-va; VORONINA, R.K., tekhn. red.

[Mathematics for correspondence technical schools] Matematika dlia zaochnykh tekhnikumov. Moskva, Vysshaia shkola. Pt.2. [Geometry] Geometriia. 1963. 219 p. Pt.3. [Elements of higher mathematics] Elementy vysshei matematiki. 1963. 430 p. (MIRA 17:2)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, P.V.

DANKOV, P.D., and P.V. CHURAEV.

Effekt deformatsii poverkhnostnogo sloia metalla pri okislenii. (Akademiia Nauk SSSR. Doklday. Novaia seriia, 1950, v. 73, no. 6, p. 1221-1224, tables, diagrs.)

Title tr.: Deformation of the surface layer of a metal during oxidation

AS262.S3663 1950, v.73

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHUMAEV, P. V.

"Effect of the Deformation of a Surface Layer of Metal During Oxidation." Cand Phys-Math Sci, Inst of Physical Chemistry, Acad Sci USSR, 18 Feb 54. Dissertation (Vechernyaya Moskva Moscow, 8 Feb 54)

SO: SUM 186, 19 Aug 1954

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, P. V.

CHURAYEV, P. V.- "Effect of Deformation of the Surface Layer of a Metal During Oxidation," Acad Sci USSR, Inst of Physical Chemistry, Moscow (DNI) 1953 (Dissertations For the Degree of Candidate of Physicomathematical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 192 (USSR) SOV/137-57-11-22007

AUTHOR: Churayev, P. V.

TITLE: Experimental Investigation of Mechanical Stresses, Arising in the Surface Layer of Metal Upon Oxidation (Eksperimental'noye issledovaniye mekhanicheskikh napryazheniy, voznikayushchikh v poverkhnostnom sloye metalla pri okislenii)

PERIODICAL: Uch. zap. Rostovsk.-n.-D, gos. ped. in-t, 1957, Nr 1, pp 143-157

ABSTRACT: Thin layers of metal obtained by means of spraying under vacuum (10^{-6} mm Hg) onto thin strips of mica or celluloid which are attached at one end were subjected to oxidation. The character of the stresses arising in the oxide (O) of the metal was established by the deflection of the free end. It was discovered that upon oxidation in an atmosphere of pure, dry air or in O_2 at 10-12 mm Hg compressive stresses were observed in O layers on Fe and Ni and tensile stresses in MgO. Upon contact of oxide films with moist air the character of the stresses in Fe oxide films remained the same, whereas in MgO a decrease of the stresses was observed. The appearance of stresses and their character is explained by the difference in the volumes per atom of

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metal in the fundamental lattice of the metal and its O or hydroxide which might form upon the interaction of the surface with moist air. Thus in the formation of Fe and Ni O the molecular volume of O is observed to increase 3.25 and 2.7 times, respectively, as compared to the atomic volume of the metals. For Mg, on the contrary, the volume of MgO is 60% less than the volume of the metal.

Yu. P.

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CHURAYEV, P.V. (Moskva)

Obtaining electron photomicrographs of a given area on polished specimens being studied. Izv. AN SSSR. Otd. tekh. nauk. Met.i topl. no.5:221-223 S-O '60. (MIRA 13:11)
(Photomicrography) (Electron microscope)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

IGNATOV, D.V.; CHURAYEV, P.V.

Increasing the heat-resistance of EI-867 alloys by means of aluminum coatings. Issl. po zharopr. splav. 9:187-189 '62. (MIRA 16:6)

(Nickel-chromium alloys) (Aluminum coating)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, Sh., YEMASOV, D. and BAISHEV, T.

"Russian-Bashkir Terms on Physics", (in the Bashkir language). Compiled by Sh. Shurayev under editorship of D. Yemanov, T. Baishev. Ufa: Bashkir State Press, 32 pp, 1949.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

VAVULO, V.A., inzh.; RUSAKOV, V.V., inzh; TSVYLEV, I.S., inzh.; CHURAYEV, S.P., inzh.

Peat cutting machines. Mekh.i avtom.proizv. 14 no.9:34-36 S '60. (MIRA 13:9)

(Peat machinery)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, V.

The triumph of Lenin's teaching on trade unions. Sov.profsoiuzy 16 no.7:7-14 Ap '60. (MIRA 13:4)

1. Zaveduyushchiy otdelom partiynykh organov TsK KPSS po soyuznym respublikam.
(Trade unions) (Lenin, Vladimir Il'ich, 1870-1924)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, V.

Source of the vitality of Soviet trade unions. Sov. profsoiuzy 16 no.20:4-10 O '60. (MIRA 13:11)

1. Zaveduyushchiy otdelom partiynykh organov TSentral'nogo Komiteta Kommunisticheskoy partii Sovetskogo Soyuza po soyuznym respublikam.

(Trade unions)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

SAFRONOV, B.G.; CHURAYEV, V.A.; AZOVSKIY, Yu.S.; ASEYEV, G.G.; VOYTSENYA, V.S.

[Distribution of a variable magnetic field in solid single-loop coils] Raspredelenie peremennogo magnitnogo polia v massivnykh odnovitkovykh katushkakh. Khar'kov, Fiziko-tekhn. in-t, 1960. 106-133 p. (MIRA 17:1)

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S/057/62/032/009/004/014
B125/B186

AUTHORS: Azovskiy, Yu. S., Guzhovskiy, I. T., Safronov, B. G., Churayev, V. A.

TITLE: Conical source of plasma clouds

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 9, 1962, 1050 - 1054

TEXT: Two conical plasma sources are studied comparatively in a glass-enclosed vacuum chamber. One of the sources was provided with a spiral (Fig. 1), the other was not. The plasma in the sources was produced by discharging a condenser bank, the breakdown was initiated by injecting the plasma from a "spark source". This design permits of using of the source within the vacuum system without an additional discharge exciter. The plasma consisted of decomposition products from the organic glass of which the tube was produced such as H, O, C ions. The parameters of the plasma bunches were measured with a magnetic probe and an ФЭУ-19М (FEU-19M) photomultiplier, and by using the microwave signal "out-off" method (ZhETF, 36, 411, 1959). Fig. 3 shows the typical time dependence l = f(t) for the plasma cloud position in the tube. The plasma clouds ejected by

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electromagnetic forces from a source with a spiral in the first and second half-cycles of the discharge are highly ionized. The density of the charged particles in the first cloud is $>10^{12}$ cm^{-3}, in the second one it is greater by one order of magnitude. In the third and subsequent half-cycles, the source with a spiral emits a weakly ionized ($>10^{12}$ cm^{-3}) gas jet. The magnetic flux of the induced current is proportional to the initial voltage of the condenser bank. The source without spiral emits a high-density cloud in the first half-cycle without induction of currents in the cloud. A weakly ionized gas jet is emitted in the second and subsequent half-cycles. Conclusion: The efficiency of a conical source is much increased by a spiral inverse current conductor. The pulsed input of gas to the source with spiral may permit the production of relatively dense and pure plasma clouds with velocities above $1 \cdot 10^7$ cm/sec. There are 5 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov (Physico-technical Institute AS UkrSSR, Khar'kov)

SUBMITTED: June 17, 1961 (initially)
February 6, 1962 (after revision)

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S/057/62/032/009/004/014
B125/B186

Fig.1. Conical source with spiral. Legend: (1) Discharge chamber; (2) cylindrical electrode; (3) "spark source"; (4) annular electrode; (5) tube.

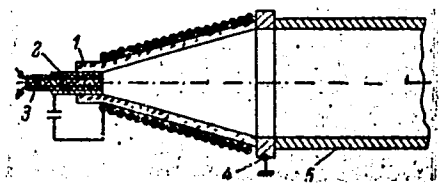
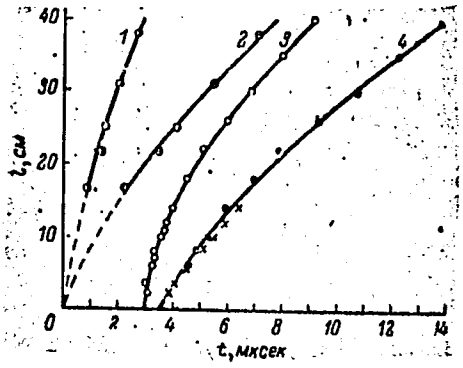


Fig. 3. Typical delay curves. Source with spiral, battery no. 3. 1,3 - U = 20 kv, 2,4 - U = 5 kv.



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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, V.A.

ACCESSION NR: AT4036066 S/2781/63/000/003/0237/0250

AUTHORS: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Mazalov, Yu. P.; Mank, V. V.; Safronov, B. G.; Churayev, V. A.

TITLE: Inductive conical plasmoid source

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 237-250

TOPIC TAGS: plasmoid, plasma source, plasma radiation, plasma research, microwave plasma, charged particle concentration, plasma density, ionized plasma

ABSTRACT: An inductive plasmoid source with a conical single-turn coil was investigated, and the plasmoids produced by it were studied

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ACCESSION NR: AT4036066

by recording the visible radiation of the plasmoids with a photomultiplier and by recording the plasmoid currents with magnetic probes. The plasmoid velocity was determined from the Doppler effect produced when microwave radiation is reflected from the front of the plasmoid. The charged-particle density in the plasmoid was determined by the microwave-signal "cutoff" method (I. S. Shpigel', ZhETF, 36, 411, 1959), and the mass composition of the plasmoid was determined with a Thomson mass analyzer (parabola method). The conclusions drawn from the results are as follows: 1. The sources produce hydrogen plasmoids with density exceeding 2×10^{14} cm^{-3} at an average velocity 3×10^5 m/sec (450 eV) and a total number of particles 10^{19} (approximately 0.5 cm^3). The total plasmoid energy is of the order of 1,000 J (25% of the energy fed to the coil and 8% of the capacitor-bank energy). The currents circulating in the plasmoids are of the order of 10^4 A and attenuate far away from the source. The plasma impurities amount to about 10% (only 1% in the front part of the plasmoid) and the plasmoid length is relatively

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ACCESSION NR: AT4036066

large (6--8 meters). The source efficiency can be increased by pre-ionization of the neutral gas. "The authors are grateful to Ye. F. Malayev for help in the erection of the apparatus, to I. Yu. Adamov, A. I. Skibenko, and V. I. Privezentsev for measuring the particle density, and to V. S. Voytsena for useful advice in the mass analysis of the plasmoids. Orig. art. has: 10 figures, 1 formula, and 2 tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 01

SUB CODE: ME NR REF SOV: 008 OTHER: 011

Card 3/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEV, V. A.

1 short 3

ACCESSION NR: AT4036067 S/2781/63/000/003/0250/0255

AUTHORS: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Safronov, B. G.; Churayev, V. A.

TITLE: Conical plasmoid source

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 250-255

TOPIC TAGS: plasmoid, plasma source, plasma radiation, plasma research, microwave plasma, plasmoid acceleration, plasma density

ABSTRACT: Plasmoids produced by a conical source were investigated in an experimental setup consisting of a plasma source and a vacuum chamber. The conical plasma source was similar to that described

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ACCESSION NR: AT4036067

elsewhere (Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza, no. 2, Izd-vo AN UkrSSR, 1963) but had different dimensions. The vacuum chamber was a glass tube with inside diameter 60 mm. The initial pressure in the vacuum system did not exceed 2.7×10^{-3} m/m^2 (2×10^{-5} mm Hg). The plasmoid parameters were investigated with the following equipment: 1. Photomultiplier to register the glow of the ionized gas. 2. Magnetic probe to register the variation of the external magnetic field due to the plasmoid motion (or the magnetic field of the plasmoid currents in the absence of an external field). 3. The velocity of the plasmoid layer with density 1×10^{12} cm^{-3} was determined by the microwave signal "cutoff" method with a signal of frequency 9.5×10^9 cps. Oscillograms of all these data were used to determine the delay curves, the dependence of the plasmoid velocity on the initial capacitor bank voltage, and the dependence of the plasmoid velocity on the energy fed to the plasma source. The investigation confirmed the previously obtained results. To ascertain the effect of different parameters of the discharge circuit on the source

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ACCESSION NR: AT4036067

operation, several capacitor banks were used with different ratios of the total circuit inductance to the source inductance. Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 02

SUB CODE: ME NR REF SOV: 002 OTHER: 002

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ACCESSION NR: AT4036078 S/2781/63/000/003/0348/0353

AUTHORS: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Dushin, L. A.; Privezentsev, V. I.; Churayev, V. A.

TITLE: Microwave methods of plasmoid diagnostics

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 348-353

TOPIC TAGS: plasmoid, plasmoid acceleration, plasma source, plasma density, plasma wave reflection, plasma wave absorption, Doppler effect

ABSTRACT: Several microwave methods used to determine the density and translational velocity of charged particles in a plasmoid. The

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ACCESSION NR: AT4036078

plasmoids were obtained with a conical source from a 6.1 μF capacitor bank. The plasmoid propagated in a glass tube 60 mm in diameter and 1.2 meters long. The pressure in the vacuum system did not exceed 2.7×10^{-3} n/m^2. The electron density was determined from the "cutoff" of the microwave signal, corresponding to the critical density for the given frequency. The plasmoid velocity was determined by the Doppler effect, except that the velocity of the layer with low electron density (10^{10}--10^{11} cm^{-3}) was determined by measuring the detuning of a cavity resonator. The tests have shown that different layers of the plasmoid move with different velocities and this causes the leading front of the plasmoid to become less steep as it moves. "The authors are grateful to B. G. Safronov for a discussion of the results and to O. G. Zagorodny*y for useful advice during the measurements with the cavity resonator." Orig. art. has: 7 figures and 2 formulas.

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ACCESSION NR: AT4036078

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 02

SUB CODE: ME NR REF SOV: 003 OTHER: 001

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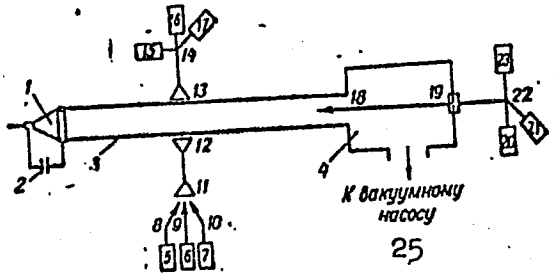
"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ACCESSION NR: AT4036078

ENCLOSURE: 01



Block diagram of set-up: 1 - conical source; 2 - capacitor bank; 3 - glass tube; 4 - vacuum chamber; 5, 6, 7, 21 - generators; 8, 9, 10, 18 - dielectric antennas; 11 - input horn of waveguide channels; 12, 13 - horns irradiating the plasma; 14, 22 - double waveguide tees; 15, 16, 17, 23 - detector heads; 20 - matching unit; 19 - vacuum seal, 25 - to vacuum pump

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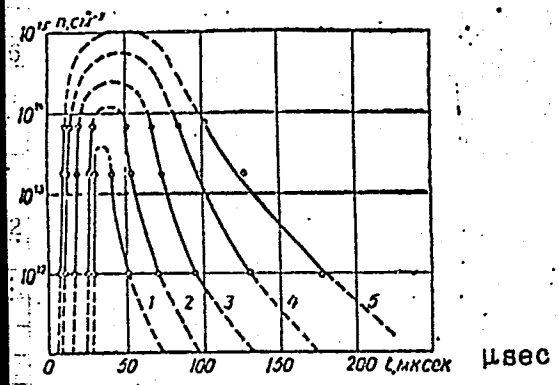
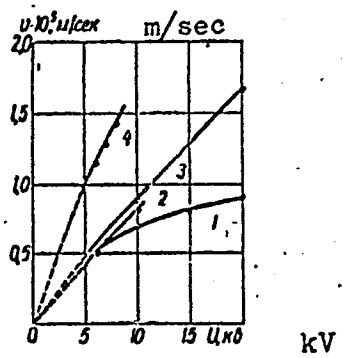
"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ACCESSION NR: AT4036078

ENCLOSURE: 02



Distribution of charged-particle density in plasmoids at different voltages (kv): 3 (1), 4 (2), 6 (3), 8(4), and 10 (5). Time measured from start of discharge



Dependence of initial velocity of different layers of the plasmoid on the initial capacitor-bank voltage; densities: 1 - maximum 2 - 10^{12} (Doppler effect), 3 - 10^{12} (hf signal cutoff), 4 - 5×10^{10} (cm^{-3})

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L 15596-63 EWT(1)/EWG(k)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
Pz-4/Pi-4/Po-4/Pab-4 AT/IJP(C)

ACCESSION NR: AP3006492 S/0170/63/006/009/0057/0060 81 80

AUTHOR: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Dushin, L. A.; Privezentsev, V. I.; Churayev, V. A.

TITLE: Microwave methods for diagnosing plasmoids

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 9, 1963, 57-60

TOPIC TAGS: plasmoid electron concentration distribution, plasmoid critical electron density, plasmoid sharp front boundary, plasmoid velocity measurement

ABSTRACT: This article describes microwave methods for diagnosing plasmoids. The distribution of electron concentration in a plasmoid was studied and the velocity of the plasmoid determined. Plasmoids were produced by means of the discharge of a capacitor bank (6 μf), through a conical source, and were propagated in a glass tube (6 cm in diameter and 120 cm in length) with a residual pressure not exceeding 2×10^3 newtons per square meter. Probing of plasmoids was carried out at three frequencies: 9×10^9, 37.5×10^9, and 75×10^9 cps, which correspond to critical electron densities of 10^{12}, 1.7×10^{13}, and 7×10^{13} cm^{-3}, respectively. The transmitting and receiving antennas were placed at a distance of 50 cm from the plasmoid source. It was found that plasmoids have a sharp front boundary.

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The plasmoid electron density at a 3-kv capacitor voltage was on the order of 10^{13} cm^{-3}. With an increase in voltage the electron density also increased to a value of 10^{15} cm^{-3} at a voltage higher than 10 kv. The velocities of plasmoids with electron densities of 10^{12} cm^{-3} have been measured by the Doppler effect. Velocity measurements of low-density plasmoids (10^{10}—10^{11} cm^{-3}) were made by a method which employs a cavity resonator (9.6 cm in diameter and 100 cm in length) in which the H_{11} mode was excited at a frequency of 2.3×10^9 cps. A plasmoid was simulated by means of a metallic rod inserted into a glass tube placed inside the resonator. The insertion of the rod resulted in the detuning of the resonator and, at points corresponding to the cavity resonance dimensions, resulted in a sharp increase in the indicator voltage. From readings taken at various voltages across the capacitor bank, graphs were plotted of distance versus time for plasmoids with a density of 5×10^{10} cm^{-3}. These graphs showed that different plasmoids moved with different speeds, which resulted in a decrease of the steepness of the plasmoid front as it moved along the tube. Orig. art. has: 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov (Physicotechnical Institute, AN USSR)

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AZOVSKIY, Yu.S.; GUZHOVSKIY, I.T.; MAZALOV, Yu.P.; MANK, V.V.; SAFRONOV, B.G.; CHURAYEV, V.A.

Conical induction source of plasma bunches. Zhur. tekh. fiz. 33 no.10:1149-1158 O '63. (MIRA 16:11)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

BRASLAVSKIY, Aleksandr Petrovich; SHERGINA, Klavdiya Borisovna; Prinimali uchastiye: KAPITANOVA, N.P.; NURGALIYEV, S.N.; CHURAYEV, V.F.; KOROTKIKH, G.V.; KRASNOV, B.A.; KOVALEVA, I.F., red.

[Water losses by evaporation from reservoirs of the arid zone of Kazakhstan; based on the example of the Kengir Reservoir] Poteri vody na isparenie iz vodokhranilishch zasushlivoi zony Kazakhstana; na primere Kengirskogo vodokhranilishcha. Alma-Ata, Nauka, 1965. 225 p. (MIRA 18:10)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

BRASLAVSKIY, Aleksandr Petrovich; SHERGINA, Klavdiya Borisovna; Prinimali uchastiye: KAPITANOVA, N.P.; NURGALIYEV, S.N.; CHURAYEV, V.F.; KOROTKIKH, G.V.; KRASNOV, B.A.; KOVALEVA, I.F., red.

[Water losses by evaporation from reservoirs of the arid zone of Kazakhstan, based on the example of the Kengir Reservoir] Poteri vody na isparenie iz vodokhranilishch zasushlivoi zony Kazakhstana, na primere Kengirskogo vodokhranilishcha. Alma-Ata, Nauka, 1965. 225 p. (MIRA 18:10)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

MALKOV, L.M., kand.tekhn. nauk; CHURAYEVA, A.I.

Investigating the drying of shredded peat in thin layers. Trudy VNIITP no.21:96-178 '63. (MIRA 17:3)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEVA, A.M.; RYBNIKOVA, A.I.

Effect of polyethylene glycols on the sensitivity of photographic emulsions. Trudy NIKFI no.51:10-19 '62. (MIRA 16:12)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEVA, A.M.; SHEBERSTOV, V.I.; POPOVA, O.V.

Effect of polyethylene glycol on the induction period and subsequent speed of the photographic development. Zhur.nauch. i prikl.fot. i kin. 9 no.2:122-124 Mr-Ap '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEVA, A.M.; RYBNIKOVA, A.I.

Effect of polyethylene glycols on the emulsion sensitivity. Zhur. nauch.i prikl. fot. i kin. 6 no.2:139-140 Mr-Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Photographic emulsions) (Glycols)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAYEVA, A.M.; SHEBERSTOV, V.I.

Mechanism of the action of polyethylene glycols in the photographic developer. Zhur. nauch. i prikl. fot. i kin. 8 no.3: 212-214 My-Je '63. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

(Glycols)
(Photography—Developing and developers)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

BOGDANOV, N.A.; CHURAYEVA, M.N.

Paleozoic sediments in the Omulevka Mountains. Izv. AN SSSR. Ser. geol. 25 no.5:24-30 My '60. (MIRA 13:10)

1. Geologicheskiy institut AN SSSR, Moskva.
(Omulevka Mountains--Sediments (Geology))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

KATSOBASHVILI, Ya.R.; BELOVA, G.M.; CHURAYEVA, G.D.

Interaction of water vapor with coke deposits on catalysts for the process of destructive hydrogenation under low pressure. Zhur.-prikl.khim. 36 no.1:160-166 Ja '63. (MIRA 16:5)
(Coke) (Catalysts) (Hydrogenation)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ARTYUKHOVA, N.N.; BREMER, L.F.; GRIGORENKO, A.S.; IPATOVA, M.S.; KARBYSHEVA, T.D.; KOZLOV, V.M.; KOLYSHEVA, L.I.; KUCHUMOVA, N.A.; MAKAROVA, M.Ye.; PUCHKOVA, N.A.; SEKIRINA, Ye.T.; SOKOLOVA, T.S.; STATIYEVA, V.F.; TYUNYAYEVA, V.V.; KHRAMTSOVA, A.A.; CHURAYEVA, V.V.; FOKIN, D.F., red.

[Foreign trade of the U.S.S.R. for 1959-1963; a statistical abstract] Vneshniaia torgovlia Soiuza SSR za 1959-1963 gody; statisticheskiy sbornik. Moskva, Vneshtorgizdat, 1965. 483 p. (MIRA 18:7)

1. Russia (1923- U.S.S.R.) Ministerstvo vneshney torgovli. Planovo-ekonomicheskoye upravleniye. 2. Nachal'nik Planovo-ekonomicheskogo upravleniya Ministerstva vneshney torgovli SSSR (for Fokin).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAZOV, S.D.

Improving the body construction of the automobile "Moskvich." Avt.trakt. prom. no.10:14-16 O '53. (MLRA 6:11)

1. Moskovskiy zavod malolitrazhnykh avtomobiley. (Automobiles--Bodies)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

Churazov, S. D.

CHURAZOV, S.D.

Designing the body of Moskvich-402 automobiles. Avt.i trakt.prom. no.7:1-6 Jl '57. (MIRA 10:11)

1. Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles--Bodies)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAZOV, S. D.

ANDRONOV, A.F.; CHURAZOV, S.D.

The Moskvich-43 automobile with the Universal body. Avt.i trakt. prom. no.11:16-17 N '57. (MIRA 10:12)

1. Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles--Bodies)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

SOV/113-59-6-3/21

AUTHOR: Churazov, S.D.

TITLE: Body Improvements of the "Moskvich" Automobile Models 402 and 407

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 6, pp 5 - 8 (USSR)

ABSTRACT: The article describes improvements made to the body of the Moskvich-402 car. When driving the Moskvich-402 over rough roads at higher speeds, some body parts of the front end are subjected to considerable stresses, which lead to fatigue cracks under alternating vibratory loads and reduce the rigidity of the respective assemblies. In connection with the production shift to model 407, comprehensive constructional measures were taken for increasing the reliability of the automobiles. The thickness of the frame side members was enlarged. Front end side members were connected with the body by additional brackets. The mountings of the engine hood,

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SOV/113-59-6-3/21

Body Improvements of the "Moskvich" Automobile Models 402 and 407

the front and rear fenders were reinforced. These modifications are shown in Figures 1-3. The mountings of the door hinge straps were reinforced preventing sagging of the doors. Simultaneously, the rubber seals of the doors, the window crank and the door lock mechanisms were improved as shown in Figures 4, 6, 7, 8, and 10. The rain gutter at the roof was modified as shown in Figure 5. A new improved design of front door stop was introduced as shown in Figure 11. The cable for operating the baggage compartment lock was relocated. Measures were developed for protecting the interior of the body from dust entering thru any openings of the body. The sealing of the body joints was improved by using a special cement, which also increases the corrosion resistance. Additional drain holes were drilled in places where water accumulations were

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

SOV/113-59-6-3/21

Body Improvements of the "Moskvich" Automobile Models 402 and 407

observed. The interior trimming, seats and upholstery were improved. All "Moskvich" models will be equipped with rear-view mirrors identical to those of the "Volga" sedan and with seven-day clocks. Fundamental changes were introduced in painting the body. The assortment of colors was enlarged and even two-tone paint jobs are available. The new painting process consists of a sequence of chambers in which the body is automatically subjected to washing, pickling, drying and prime coating. Prior to prime coating, the body is treated with a phosphate compound improving the adhesion of the prime paint. All parts of the body are thoroughly cleansed prior to welding. All internal cavities, which become inaccessible after welding of the body is completed, are covered in advance with a special protective compound. The lower part of the body is prime-coated by submerging it in a tank containing

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SOV/113-59-6-3/21

Body Improvements of the "Moskvich" Automobile Models 402 and 407

prime paint. For improving the corrosion resistance, the lower parts of the body, including the fender bottoms, are coated with a special rubber cement which is sprayed on the prime coat. Detachable body parts are spray-painted in an electrostatic field. The work on further improvements of the "Moskvich" is being continued. There are 14 diagrams.

ASSOCIATION: Moskovskiy zavod malolitrazhnykh avtomobiley (Moscow Small Car Plant)

Card 4/4

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURAZOV, S.D.

Using plastics in the manufacture of automobile bodies. Avt. prom. 27 no.8:18-21 Ag '61. (MIRA 14:10)

1. Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles, Plastic)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

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7 1

ACC NR: AP6017986 (N) SOURCE CODE: UR/0413/66/000/010/0086/0086

INVENTOR: Bashilov, I. P.; Bulanzhe, Yu. D.; Dubovik, A. B.; Yerofeyev, V. I.; Kevlishvili, P. V.; Kobrin, L. V.; Kogan, B. Ya.; Kaz'min, A. I.; Popov, Ye. I.; Mikhaylov, N. N.; Churbakov, A. I.; Shileyko, A. V.

ORG: None

TITLE: An automatic device for determining acceleration due to gravity on a movable base. Class 42, No. 181833 [announced by the Institute of Physics of the Earth imeni O. Yu. Shmidt, AN SSSR (Institut fiziki Zemli AN SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 86

TOPIC TAGS: gravity, electron optics, electronic equipment, gravimeter

ABSTRACT: This Author's Certificate introduces an automatic device for determining acceleration due to gravity on a movable base, using a strongly damped elastic gravimeter system. The installation contains a meter for acceleration due to gravity, a system of mirrors, lens, light source, two condensers and a slotted prism. Accuracy of measurement is improved, and processing of the resultant information is sutomated by using an electron-optical converter which changes angles of turn of a pendulum to digital code. This converter is made in the form of a code mask with lenses attached. A prism is mounted behind the lenses with metallic mirrors and photocells.

Card 1/2 UDC: 531.768.08:528.026

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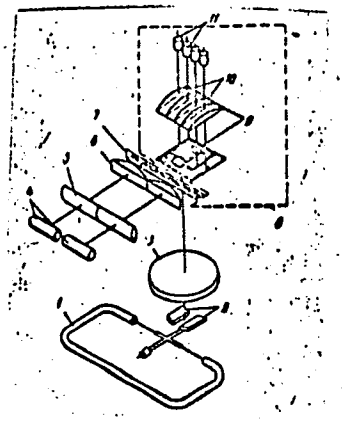
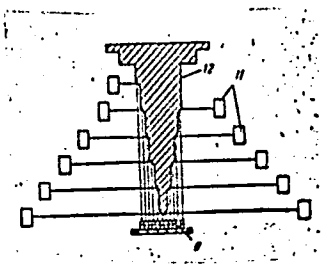
ACC NR: AP6017986





1—accelerometer; 2—system of mirrors; 3—objective lens; 4—light source; 5 and 6—condensers; 7—slotted prism; 8—electron-optical convert ; 9—code mask; 10—lenses; 11—photocells; 12—prism with metallic mirrors

SUB CODE: 09, 08/ SUBM DATE: 14May64

Card 2/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ACC NR: AP7010697 SOURCE CODE: UR/0077/67/012/001/0031/0033

AUTHOR: Churbakov, A. I.

ORG: Institute of the Physics of the Earth im. O. Yu. Shmidt (Institut fiziki zemli)

TITLE: High-speed shutter of the "Plume" Type

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii v. 12, no. 1, 1967, 31-33

TOPIC TAGS: high speed camera, camera component /ZhLV-1 high speed camera, SKS-1 high speed camera

SUB CODE: 14

ABSTRACT: In an effort to obviate the use of expensive optical glass in explosive types of high-speed photographic shutters, the author devised a principle and design of a high-speed shutter using as a light cut-off means the opaque "plume" (or cloud) formed by cavitation in a liquid during an explosive or spark discharge. It was found that using two or more spark discharges arranged uniformly in the optical aperture produced a faster forming and more uniform cloud to overlap the aperture. An experimental model (shown in two photos) using 0.15 gram of lead azide as a detonator and tap water as liquid, with the shutter

Card 1/2 UDC: 771.36 : 778.37

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ACC NR: AP7010697

activated by a simple thyratron circuit, was tested with the ZhLV-1 and SIS-1 high-speed cameras to give a comparative indication of the opacity, response time and duration of the "cloud". Since the opacity was over 99% in all cases, the response time within 12-40 microseconds and the duration over 0.1 second, the principle has been used in a shutter for the ZhLV-1 camera; it has a 36 x 38 millimeter aperture and a 28-second overlap response by two "clouds." Orig. art. has: 5 figures and 2 tables. [JPRS: 40,300]

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

Churbakov, A.I.

LEVCHENKO, G.I., admiral, otvetstvennyy red.; DEMIN, L.A., dots., kand. geogr. nauk, inzh.-kontr-admiral, glavnyy red.; FRUMKIN, N.S., polkovnik, zamestitel' otvetstvennogo red.; ABAN'KIN, P.S., admiral, red.; ALAFUZOV, V.A., prof., kand. voenno-morskikh nauk, admiral, red.; ANAN'ICH, V.Ye., kontr admiral zapasa, red.; ACHKASOV, V.I., kand. istor. nauk, kapitan 1 ranga, red.; BARANOV, A.N., red.; BELLI, V.A., prof., kontr-admiral v otstavke, red.; BESKROVNYY, L.G., prof., doktor istor. nauk, polkovnik zapasa, red.; BOLTIN, Ye.A., kand. voen. nauk, general-mayor, red.; VERSHININ, D.A., kapitan 1 ranga, red.; VITVER, I.A., prof., doktor geogr. nauk, red.; GEL'FOND, G.M., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red., GLINKOV, Ye.G., inzh.-kontr-admiral v otstavke, red.; YELISEYEV, I.D., vitse-admiral, red.; ZOZULYA, F.V., admiral, red.; ISAKOV, I.S., prof., Admiral Flota Sovetskogo Soyuza, red.; KAVRAYSKIY, V.V. [deceased], prof., doktor fiz.-mat. nauk, inzh.-kontr-admiral v otstavke, red.; KALESNIK, S.V., red.; KOZLOV, I.A., dots. kand. voenno-morskikh nauk, kapitan 1 ranga, red.; KOMAROV, A.V., vitse-admiral, red.; KUDRYAVTSEV, M.K., general leytenant tekhnicheskikh voysk, red.; LYUSHKOVSKIY, M.V., dots., kand. istor. nauk, polkovnik, red.; MAKSIMOV, S.N., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red.; OKUN', S.B., prof., doktor istor. nauk, red.; ORLOV, B.P., prof., doktor geogr. nauk, red.; PAVLOVICH, N.B., prof., kontr-admiral v otstavke, red.; PANTELEYEV, Yu.A., admiral, red.; PITERSKIY, N.A., kand. voenno-morskikh nauk, kontr-admiral, red.; PLATONOV, S.P., general-leytenant, red.; POZNYAK, V.G., dots., general leytenant, red.; SALISHCHEV, K.A., prof., doktor tekhn. nauk,

(Continued on next card)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

LEVCHENKO, G.I.---(continued) Card 2.
red.; SIDOROV, A.L., prof., doktor istor. nauk., red.; SKORODUMOV, L.A., kontr-admiral, red.; SNEZHINSKIY, V.A., prof., doktor voenno-morskikh nauk, inzh.-kapitan 1 ranga, red.; SOLOV'YEV, I.N., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red.; STALBO, K.A., kontr-admiral, red.; STEPANOV, G.A. [deceased], dots., vitse-admiral, red.; TOMASHEVICH, A.V., prof., doktor voenno-morskikh nauk, kontr-admiral v otstavke, red.; TRIBUTS, V.F., kand. voenno-morskikh nauk, admiral, red.; CHERNYSHOV, F.I., kontr-admiral, red.; SHVEDE, Ye.Ye., prof. doktor voenno-morskikh nauk, kontr-admiral, red.; CHUHBAKOV, A.I., tekhn. red.; VASIL'YEVA, Z.P., tekhn. red.; VIZIROVA, G.N., tekhn. red.; GOROKHOV, V.I., tekhn. red.; GRIN'KO, A.M., tekhn. red.; KUBLIKOVA, M.M., tekhn. red.; MALINKO, V.I., tekhn. red.; SVIDERSKAYA, G.V., tekhn. red.; CHERNOGOROVA, L.P., tekhn. red.; GUREVICH, I.V., tekhn. red.; BUKHANOVA, N.I., tekhn. red.; NIKOLAYEVA, I.N., tekhn. red.; RADOVIL'SKAYA, E.O., tekhn. red.; TIKHOMIROVA, A.S., tekhn. red.; BELOCHKIN, P.D., tekhn. red.; LOYKO, V.I., tekhn. red.; ROMANYUK, I.G., tekhn. red.; YAROSHEVICH, K.Ye., tekhn. red.

[Sea atlas] Morskoi atlas. Otv. red. G.I. Levchenko. Glav. red. L.A. Demin. [Moskva] Izd. Glav. shtaba Voenno-morskogo flota. Vol.3. [Military and historical. Pt.1. Pages 1-45] Voenno-istoricheskii. Zamestitel' otv. red. po III tomu N.S. Frumkin. Pt.1. Listy 1-45. 1958. _____ [Military and historical maps, pages 46-52]

(Continued on next card)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

LEVCHENKO, G.I.----(continued) Card 3.
Voenno-istoricheskie karty, listy 46-52. 1957. (MIRA 11:10)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony. 2. Nachal'nik Glavnogo upravleniya geodezii i kartografii Ministerstva vnutrennikh del SSSR (for Baranov). 3. Chlen-korrespondent Akademii nauk SSSR (for Kalesnik). 4. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Orlov).

(Ocean--Maps)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

S/077/63/008/002/004/009
A066/A126

AUTHORS: Belinskaya, G.I., Churbakov, A.I.

TITLE: Resolution of scanning systems

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematigrafii, v. 8, no. 2, 1963, 120 - 123

TEXT: Scanning systems (Fig. 1) consist essentially of a light source (6), a shutter (3) (scanning unit) with a narrow slit, an optical system (4), a scale (1) with alternating transparent and non-transparent elements, and a receiver (5). The image (2) of the slit appears on the scale. The shutter (3) and thus also the image of its slit are shifted relative to the optical axis by any effect under examination. As (5) is the cathode of a photoelectric device, the transparent parts of (1) give rise to current variations, which are recorded as scale readings. The variation in intensity of the light incident upon the photocathode is defined as the resolution of a scanning system. At a finite width of the scanning element, the ratio between the minimum and the maximum light current flowing to the photocathode is given by

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$$K' = \frac{M - N\int_0^\infty E'(x)\cos 2\pi\nu x dx}{M + N\int_0^\infty E'(x)\cos 2\pi\nu x dx} \qquad (6)$$

with

$$f = \int_0^\infty E'(x)\cos 2\pi\nu x dx, \qquad (7)$$

where E' (x) is the distribution of luminous energy for a rectangular pupil of the eye, G (u) = M + N cos $2\pi\nu u$ is the cosine law, and ν is the number of lines per mm of the scale. The latter may be regarded as an absolutely contrasted object. Then

$$K' = \frac{1 - f}{1 + f}. \qquad (8)$$

A comparison with experimental results shows that the calculated values are higher by 30%. The difference is due to the insufficient accuracy of the measuring

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Resolution of scanning systems

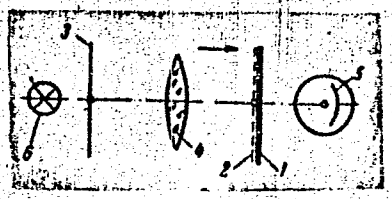
S/077/63/008/002/004/009
A066/A126

instrument. There are 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

SUBMITTED: January 31, 1962

Figure 1



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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

SHEVEKHMAN, D.; CHURAZOVA, Ye.

Use of washing machines in the glue industry. Mias.ind.SSSR 32 no.2:44-45 '61. (MIRA 14:7)

1. Mogilevskiy kleyevoy zavod.
(Mogilev—Glue) (Washing machines)

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CHURBAKOV, A.N.

PROCESSES AND PROPERTIES INDEX

ca

10

Synthesis of methyl vinyl ketone by hydration of vinylacetylene under pressure. A. N. Churbakov and V. N. Ryazantsev. *Org. Chem. Ind.* (U. S. S. R.) 7, 663-6 (1940); cf. *C. A.* 35, 3961[1].—(1) *Hydration at room temp.*—Vinylacetylene and a H_2SO_4 soln. of HgO were cooled to −10° and charged into a bakelite-lined Fe tube 203 mm. high and 40 mm. in diam. and shaken for 3 hrs. while hermetically sealed. The max. temp. did not exceed 40°. A max. yield of Me vinyl ketone of 65.8% was obtained under the following conditions: HgO 5.5, H_2SO_4 (d. 1.84) 64, vinylacetylene 26 and water 100 g. In the absence of HgO the vinylacetylene was not hydrated. (2) *Hydration at high temps.*—Reaction was carried out in a bakelite-lined autoclave which was heated by a water bath. The previously cooled compds. were charged into the autoclave, the temp. was raised to the desired point and the stirrer started. The temp. of the water bath varied from 42° to 58°. A max. yield of 77.2% Me vinyl ketone on the basis of the vinylacetylene was obtained under the following conditions: HgO 17 g., temp. of bath 55-58°, duration of reaction 165 min. The yield of Me vinyl ketone on HgO was greatest (19.1 g./g.) under these conditions: HgO 10 g., temp. of bath 46-48°, duration of reaction 345 min. On the basis of vinylacetylene the yield was 67.9%. On the basis of the HgO used the process is best carried out with HgO 10, H_2SO_4 (d. 1.84) 276, water 1000 and vinylacetylene 250 g., temp. of bath 50-58°, duration of reaction 333 min. The yield of ketone was 24.0 g./g. of HgO. B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

CHURBAKOV, A.N.

PROCESSES AND PROPERTIES INDEX

CA

10

α,β-Dichlorides of the allyl type. I. Action of phosphorus pentachloride on methyl vinyl ketone. A. N. Churbakov. *J. Gen. Chem.* (U. S. S. R.) 10, 977-81 (1940).—Reaction of 150 g. $CH_2:CHCOMe$ (I) with 400 g. PCl_5 at −10° formed 33% of *1,3-dichloro-3-butene* (II), 30% trichlorobutane and some chlorobutadiene (the structure of the last 2 compds. was not detd.). II is evidently formed by the allyl rearrangement of the expected 3,3-dichloro-2-butene. II, b_{50} 55-4°, b_{14} 127-8.5°, d_4^{20} 1.1582, n_D^{20} 1.4605, when saponif. in H_2O with Na_2CO_3, formed 3-chloro-3-buten-1-ol, b_{14} 92-3°, d_4^{20} 1.1128, n_D^{20} 1.4649, converted by refluxing with 10% H_2SO_4 to I.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURBAKOV, A.N.

CA

10

The synthesis of methyl vinyl ketone by hydration of vinylacetylene. A. N. Churbakov and V. N. Ryazantsev. *J. Applied Chem.* (U. S. S. R.) 13, 1464-9(in French, 1469)(1940).—The hydration of vinylacetylene was carried out by the Kucherov method (C. A. 3, 2002). The optimal conditions were: compn. of the hydration mixt. 1 g. $HgSO_4$, 3.4 g. H_2SO_4 (d. 1.84) and 51 g. water, and initial temp. of the reaction 60-62°, yielding 60% of Me vinyl ketone (by wt. of reacted vinylacetylene). The yield was increased to 83% by introducing $Fe_2(SO_4)_3$ in the ratio $HgSO_4:Fe_2(SO_4)_3$ = 1:3. The yield decreased on carrying out the reaction without an excess of vinylacetylene. Butanolone was identified in the by-products of the reactions. Hg formed by the reduction of $HgSO_4$ during the reaction can be recovered to the extent of 94% from the residue of the reaction. A. A. Podgorny

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CHURBAKOV, A.N.

PROCESSES AND PROPERTIES INDEX

a

10

High-temperature chlorination of the n-butenes. D. V. Tishchenko and A. N. Churbakov. *J. Applied Chem.* (U.S.S.R.) 19, 243-50(1946).--Chlorination of n-butenes took place at high temp., forming chlorobutenyls of the allylic type. Tables are given of the chlorination of 1-butenes and 2-butenes. Chlorination of butane-butene mixts. proceeded more rapidly than the chlorination of butane alone. The dichlorides formed were a mixt. of dichlorobutanes with dichlorobutenes. The vapor pressure of the mixt. of chlorobutenes was detd.; the values (in mm.) for the 59-90° fraction at the temps. −10, −6, 0, 5, 10, 18, 20, 25° are given. A. E. Karr

M

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURBAKOV, A.N.

Hydrolysis of 1,2,3-trichlorobutane under pressure in the presence of potassium carbonate. A. N. Churbakov. *J. Gen. Chem. U.S.S.R.* 19, 277-9(1949)(Engl. translation).—See *C.A.* 43, 6567h. E. J. C.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

CHURBAKOV, A.N.

CA

PROCESSES AND PROPERTIES INDEX

10

Hydrolysis of 1,2,3-trichlorobutane in the presence of potassium carbonate under pressure. A. N. Churbakov. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 318-20 (1949). —EtCHClCH$_2$Cl (from the chlorination of 1-butene), b. 123-5°, d_4^{20} 1.1251, n_D^{20} 1.4450, was chlorinated in the liquid phase with illumination by an elec. light bulb, the resulting *1,2,3-trichlorobutane* (I), b$_{14}$ 65-7°. A rotating autoclave was charged with 45 g. I, 60 g. dry K_2CO_3, and 250 ml. H_2O and heated 25-30 hrs. at 100-70°; after Et_2O extn., the org. layer gave 50 g. mixed dichlorobutanol and chlorobutanediol, b$_{14}$ 82-7°; extn. with H_2O gave 25.3 g. *dichlorobutanol*, b$_{14}$ 82-5°, d_4^{20} 1.1911, n_D^{20} 1.4670, while the aq. layer gave 3 g. *chlorobutanediol*, d_4^{20} 1.0942, n_D^{20} 1.4575. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

On Methods of Applying the Substance to Be Investigated in X-Ray Spectrum Analysis of Minerals and Ores by Secondary Spectra SOV/32-25-3-21/62

of the type MSTR-3 with a working potential of 1400 v was used. There is 1 table.

ASSOCIATION: Tsentral'naya laboratoriya Kazakhstanskogo geologicheskogo upravleniya (Central Laboratory of the Kazakhstan Geological Administration)

Card 2/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

S/020/62/144/002/021/028
B101/B144

AUTHORS: Menkovskiy, M. A., Gordon, S. A., and Churbakov, V. F.

TITLE: Interaction of iron oxide with germanium dioxide

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 367-370

TEXT: The interaction of Fe_2O_3 with GeO_2, which bears upon problems associated with the geochemistry, chemistry, and technology of germanium, was studied by coprecipitation with NaOH or NH_4OH at molar ratios of $Fe_2O_3 : GeO_2 = 4 : 1$ (I); 3 : 2 (II); 2 : 3 (III); and 1 : 4 (IV). The Ge content was determined in the filtrate and wash-water which contained no iron. Results: At IV, 90.4 and 94.1% of Ge were coprecipitated with NaOH (a) and NH_4OH (b), respectively; at III, 96.9% with a, and 97.18% with b; at II, 99.72% with a, and 99.81% with b; at I, 99.86% with a, and 99.96% with b. Thermograms and X-ray patterns of the precipitates dried at 105-110°C were recorded. Results: (1) The thermogram of pure Fe_2O_3 displays dehydration effects at 150-200°C, and an exothermic effect at

Card 1/3

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~500°C, which, as confirmed by X-ray analysis, corresponds to the crystallization of α-Fe_2O_3, but GeO_2 showed only two dehydration effects in the range of 100-200°C. (2) Precipitate IV showed dehydration effects at 200-230°C and exothermic effects at 620 and 800°C. The X-ray pattern of the sample calcined at 620°C showed GeO_2 lines and also lines of a new phase, and, after calcination at 820°C, new lines differing from those of GeO_2 and Fe_2O_3. The formation of $2Fe_2O_3 \cdot 7GeO_2$ is assumed. (3) Precipitate III displayed dehydration effects at 200 and 400°C, exothermic effects at 610 and 680°C, and decomposed at 910°C. $2Fe_2O_3 \cdot 3GeO_2$, which forms in the range of 630-680°C, decomposes into $2Fe_2O_3 \cdot 7GeO_2$ and Fe_2O_3 at 900-910°C. (4) The thermograms of precipitates III and I are similar. Here again, $2Fe_2O_3 \cdot 3GeO_2$ forms (at 740-810°C in the case of III, and at about 100°C lower than this range in the case of I) and decomposes into $2Fe_2O_3 \cdot 7GeO_2$ and Fe_2O_3 at 910-915°C. (5) The X-ray patterns of mixtures of dry oxides (calcined at 700 and 900°C, 6-12 hrs) displayed only the lines of Fe_2O_3 and GeO_2, and their thermograms showed only dehydration effects.

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Hence, dry oxides do not react with one another. There are 4 figures and 2 tables.

ASSOCIATION: Moskovskiy gornyy institut (Moscow Mining Institute)

PRESENTED: January 9, 1962, by S. I. Vol'fkovich, Academician

SUBMITTED: January 7, 1962

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000509120020-2

ACCESSION NR: AP4029190 S/0078/64/009/004/0917/0920

AUTHOR: Gordon, S. A.; Menkovskiy, M. A.; Churbakov, V. F.

TITLE: Interaction of ferrous oxide and germanium dioxide

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 4, 1964, 917-920

TOPIC TAGS: divalent germanium ion, oxidation reduction reaction, excitation potential, atomic radius, germanium, iron, divalent germanium ion stability, spinel structure, FeO,GeO sub. 2, thermal stability

ABSTRACT: The possibility of the existence of divalent germanium ions and of the oxidation-reduction reaction $2Fe^{+3} + Ge^{+2} \longrightarrow 2Fe^{+2} + Ge^{+4}$ was evaluated. Comparison of the excitation potentials and atomic radii of Fe and Ge indicates the existence of Ge^{+2} is not only entirely possible but that the Ge^{+2} ion can be as stable as Fe^{+2}. The interaction of mixtures of the dry reactants FeO and GeO_2 as well as coprecipitation of the hydrate of FeO with GeO_2 results in an end product having a spinel structure which decomposes at 900-1000 C to form rhombohedric alpha-Fe_2O_3. X-ray data are given. The thermal stability of this

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$FeO.GeO_2$ spinel is much higher than of the $FeO.Fe_2O_3$ spinel (figs. 1, 2). It is suggested the partial reduction $2FeO + GeO_2 \longrightarrow Fe_2O_3 + GeO$ and the isomorphic substitution of the divalent Ge for the divalent Fe takes place: $FeO + GeO + Fe_2O_3 \longrightarrow (Fe,Ge)O.Fe_2O_3$. Orig. art. has: 3 tables and 2 figures.

ASSOCIATION: Moskovskiy institut radioelektroniki i gornoy elektromekhaniki (Moscow Institute of Radioelectronics and Mining Electromechanics)

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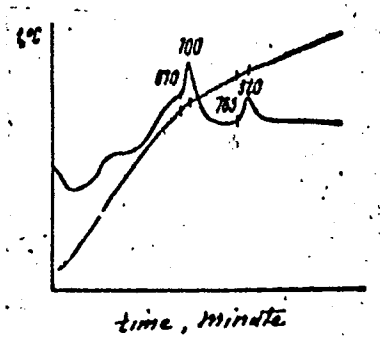

Fig. 1. Thermogram of mixture of FeO and GeO_2 (1:1)

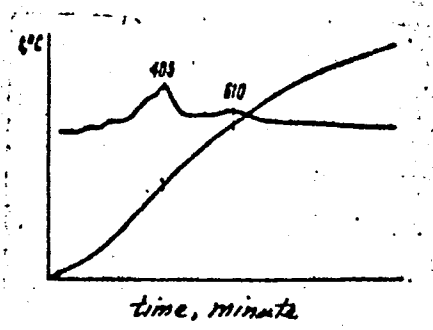

Fig. 2. Thermogram of mixture of FeO and Fe_2O_3 (1:1)

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