25055
S/080/60/033/010/002/029
D216/D306

Extraction of uranium ...

then centrifuged off and after repulping purified. The organic phase is freed from fluorine ions which could be done in mixer settler or absorption columns. The washing was done with an equal volume of a 15 % solution of sulphuric acid. The washed ester after refreshing with fresh ester is re-used for further extraction. There are 7 figures, 2 tables and 21 references: 6 Soviet-bloc and 15 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: B.F. Greek, O.W. Allen and D.E. Tynan, Ind. Eng. Chem., 4, 616, 1957; A.V. Henrickson, The mines magazine, 9, 20, 1959; C.S. Croman, Chem. Eng, 4, 96, 1959; C.F.Beas, R.A. Zingaro, C.F. Coleman, J. Phys. Chem., 62, 129, 1958.

SUBMITTED: April 11, 1960

Card 6/6

VAYNBERG, M.Sh.; KRONGAUZ, A.N.; MIL'SHTEYN, R.S.; TRYAPITSIN, V.I.; FROLOVA, A.V.; SMIRNOV, V.F., red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Practical work on dosimetric devices for roentgen and nuclear radiation] Praktikum po dozimetricheskim priboram dlia rentgenovskogo i iadernykh izluchenii By M.Sh.Vainberg i dr. Moskva, Medgiz, 1961. 188 p. (MIRA 15:2)
(RADIATION—MEASUREMENT)

DMOKHOVSKIY, Vladimir Vladislavovich; SMIRNOV, V.F., red.; ROMANOVA, Z.A., tekhn. red.

[Principles of X-ray technic] Osnovy rentgenotekhniki. Moskva, Medgiz, 1961. 351 p. (MIRA 14:11)
(RADIOLOGY, MEDICAL) (X RAYS—EQUIPMENT AND SUPPLIES)

LASKORIN, B.N.; KHLUDENEV, I.K.; SMIRNOV, V.F.; KRASOV, V.G.

Methods for designing a mix-and-settle extractor. Ekstr.; teor.,-prim.,app. no.2:264-283 '62. (MIRA 15:9)
(Extraction apparatus)

LASKORIN, B.N.; PUSHLENKOV, M.F.; BERESTOVOY, A.M.; SMIRNOV, V.F.; SHCHEPETIL'NIKOV, N.N.

Horizontal mix-and-settle extractor. Ekstr.; [illegible]or.,prim.,ap[illegible] no.2:347-360 '62. (MIRA 15:9)
(Extraction apparatus)

LASKORIN, B.N.; SMIRNOV, V.F.; KRASOV, V.G.

ER-350 countercurrent rotary extractor and means for increasing its efficeincy. Ekstr.; teor.,prim.,app. no.2:361-371 '62. (MIRA 15:9)

(Extraction apparatus)

LASKORIN, B.N.; SALAMATOV, I.I.; KRASOV, V.G.; SMIRNOV, V.F.

TSE-60 centrifugal tubular superextractor for the extraction recovery of nonferrous metals. Ekstr.; teor.,prim.,app. no.2.372-378 '62. (MIRA 15:9)

(Nonferrous metals) (Extraction apparatus)

ISAKORIN, B.N.; YAKUBOVICH, I.A.; ZUYEV, G.P.; KRASOV, V.G.; SMIRNOV, V.F.; PIVOVAROV, F.Ya.

Mix-and-settle apparatus for the extraction of uranium and rare metals from aqueous solutions. Atom. energ. 12 no.6:503-513 Je '62. (MIRA 15:6)

(Extraction apparatus)

SMIRNOV, V.F.; LASKORIN, B.N.

Nephelometric method of determining the losses of the extraction agent in aqueous solutions. Zav.lab. 28 no.4:416 '62. (MIRA 15:5)
(Nephelometric analysis) (Extraction (Chemistry))

MAYDEL', M.B.; GRITCHIN, V.V.; SMIRNOV, V.F.

Electrochemical painting of steel components. Energ. i elektrotekh. prom. no.3:37 Jl-S '63. (MIRA 16:10)

L 58891-65

ACCESSION NR: AP5018993 UR/0286/65/000/012/0013/0013
621.7.044.2.07
621—462

10
B

AUTHOR: Smirnov, V. F.

TITLE: A device for forming ridges on pipes by the hydroexplosive method. Class 7, No. 171845

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 13

TOPIC TAGS: pipe manufacture, explosive forming

ABSTRACT: This Author's Certificate introduces: 1. A device for forming ridges on pipes by the hydroexplosive method. The device includes a mechanism for fastening the pipes at the ends, a die in which the ridges are formed and a detonation mechanism which contains a detonation chamber, charge and tubular section with a power transfer channel. The unit is designed for automating the process of making ridges on long pipes without making the pipe wall thinner. The detonation mechanism is kinematically connected with the die and with the mechanism for fastening the pipes at the ends, e.g. by mounting these mechanisms on stands which move along a lead screw which is rotated by a reversible drive. 2. A modification of

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L 58891-65

ACCESSION NR: AP5018993

this device which is designed for pulsed motion of the stands which carry the clamps for fastening the pipes at the ends. The clamps are connected by brackets to the rods of hydraulic cylinders with a free play equal to one half the length of a ridge. 3. A modification of this device in which the ridges are formed on a long pipe in an automatic cycle. The die is made in the form of two movable jaws with replacable inserts which move in various directions in a single plane along guides. These inserts are moved by a mechanical drive. The jaws are located on a single stand which is mounted on the lead screw. 4. A modification of this device which is designed for more efficient transmission of the explosive power. A head is rigidly fastened to the tubular section. The head is tightly mounted inside the pipe in the deformation zone and equipped with radial channels which connect the deformation zone with the power transfer channel.

ASSOCIATION: none

SUBMITTED: 04Jul63 ENCL: 00 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

Card 2/2

L 11195-66 EWT(m)/EPF(n)-2/FCC/EWP(t)/EWP(n)/EWP(b) IJP(c) JD/WW/JG

ACC NR: AP5025656 SOURCE CODE: UR/0080/65/038/010/2232/2236

32

AUTHOR: Laskorin, B. N.; Smirnov, V. F.

ORG: none

TITLE: Extraction of uranium and thorium from phosphate solution by means of mixtures of acidic and neutral alkylphosphate compounds

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 10, 1965, 2232-2236

TOPIC TAGS: uranium, thorium, phosphate, phosphonic acid, metal extracting, ACID BASE EQUILIBRIUM, CHEMICAL SEPARATION

ABSTRACT: The study was conducted in order to examine the feasibility of extracting uranium and thorium from phosphate solutions by mixtures of acidic and neutral alkylphosphate compounds. The extraction experiments were conducted at 21°C using normal hexane as a diluent and various concentrations of tributylphosphate, diamylmethylphosphonic acid, and triorthophosphoxide in di-2-ethylhexylphosphonic acid. It was found that the addition of neutral alkylphosphate compounds to an acidic phosphate solution in normal hexane considerably increases the coefficient for the separation of uranium and thorium from their phosphate solutions. Application of such an alkylphosphate mixture yields uranium and thorium virtually free of rare earth elements, iron, and aluminum. Orig. art. has: 4 figures, 4 tables.

UDC: 66.061.5+546.791+546.841

Card 1/2

L 10985-66 EWT(m)/EPF(n)-2/EWP(j)/EWP(t)/EWP(b) IJP(c)/RPL ES/JD/WW/JG/RM

ACC NR: AP6000003 UR/0080/65/038/011/2439/2443

AUTHOR: Laskorin, B.N.; Smirnov, V.F.

ORG: None

TITLE: Extraction of uranium and certain associated elements with di-2-ethylhexylpyrophosphoric acid

SOURCE: Zhurnal prikladnoy khimii, v.38, no.11, 1965, 2439-2443

TOPIC TAGS: uranium, phosphoric acid, thorium, iron, aluminum

ABSTRACT: The article presents the results of an incestigation of the effect of the molecular weight of alkylpyrophosphate, its concentration in the organic phase, and the concentrations of the element being extracted and of phosphoric acid in the liquid phase on the value of the distribution coefficient for uranium, thorium, iron, and aluminum between their phosphoric acid solutions and a solution of di-2-ethylhexylpyrophosphoric acid in n-hexane. In addition, it considers the re-extraction of uranium and thorium from the organic phase. A figure shows the dependence of extraction of uranium (VI) by alkylpyrophosphoric acid on the number of atoms in the alcohol. The extraction was carried out in a 0.1 molar solution of alkylpyrophosphate in n-hexane. The figure shows that with an increase in the number of oxygen atoms in the alkyl radical,

Card 1/2

UDC: 66.061.5+546.791

Card 2/2

ACC NR: AP7005680 SOURCE CODE: UR/0413/67/000/002/0155/0155

INVENTOR: Smirnov, V. F.; Khrenova, M. V.; Kalyukina, O. A.

ORG: None

TITLE: A method of making folded smoke filters. Class 61, No. 190781

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 155

TOPIC TAGS: gas filter, gas mask component, smoke, respirator

ABSTRACT: This Author's Certificate introduces a method of making folded smoke filters for compact gas masks (respirators) with a box of circular cross section by forming sheet material into a conical shape with subsequent folding. A cement-free airtight joint is made by winding a filtering material (e. g. made from synthetic fibers type FPA, FPP-15, etc.) on a tapered mandrel into two or more layers which overlap at the joint. The resultant shape is pressed by placing a second hollow tapered mandrel over it and applying a pressure of 8-10 kg.

SUB CODE: 13, 06/ SUBM DATE: 20Jul61

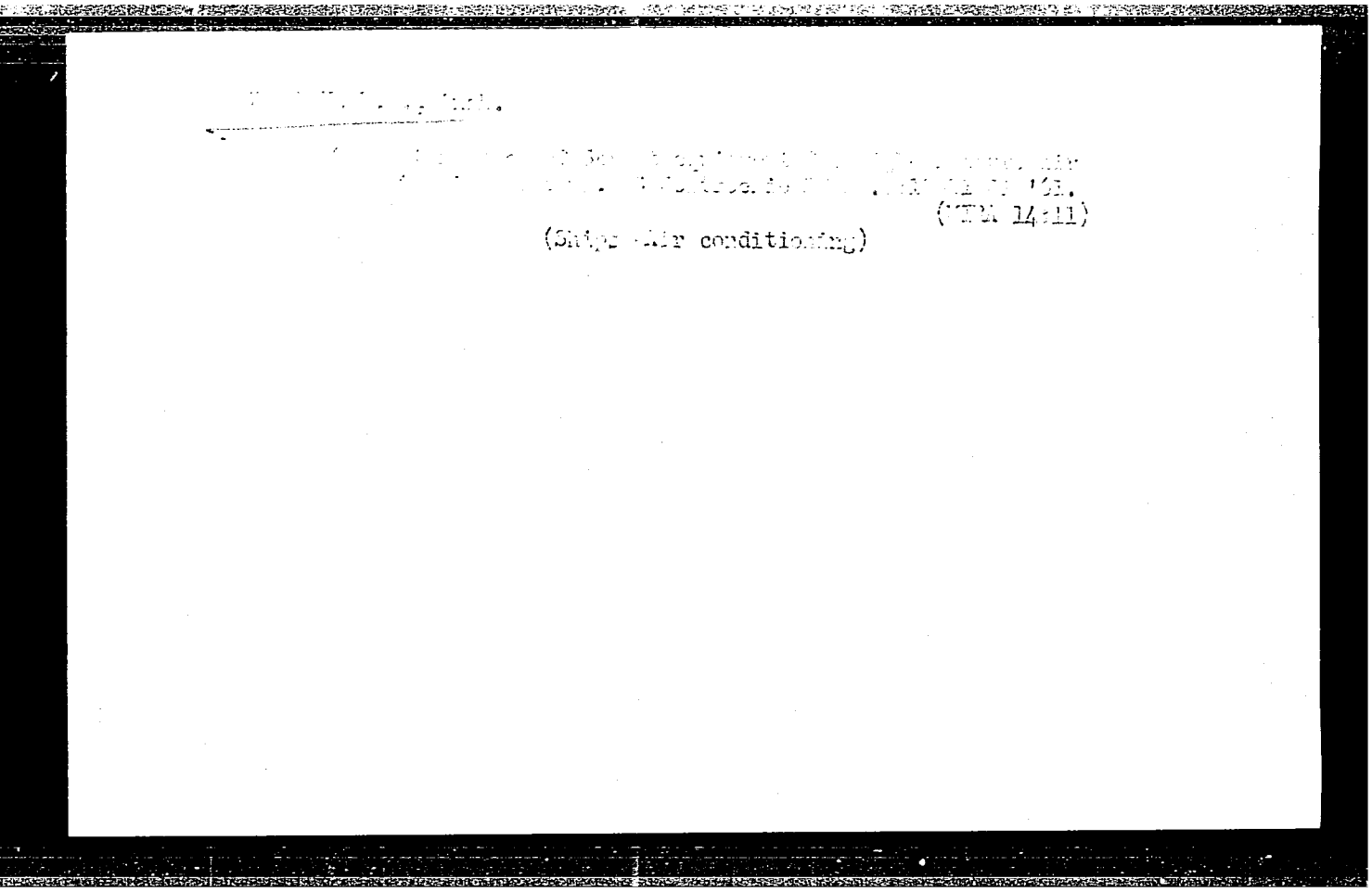
UDC: 614.894

Card 1/1

SMIRNOV, V.G.

Cytoplasmic male sterility in corn. Issl. po gen. no.1:55-78 '61.
(MIRA 15:1)

(STERILITY IN PLANTS) (CORN BREEDING)



(TTA 14:11)

(Ships air conditioning)

AFANAS'YEV, V.N., kand.tekhn.nauk; BALYUK, F.B., inzh.; BERIN, A.L., inzh.; VASIL'YEV, A.G., kand.khimicheskikh nauk; GRUZIN, P.L., doktor tekhn.nauk; KOROBEYNIK, V.F., inzh.; POLOVCHENKO, I.G., kand.tekhn. nauk; SMIRNOV, V.G., inzh.; UZLYUK, V.N.

Control of the level of the blast furnace charge by means of gamma rays. Trudy Ukr. nauch.-issl. inst. met. no.7:51-80 '61. (MIRA 14:11)

(Blast furnaces--Equipment and supplies)
(Gamma rays--Industrial applications)

SMIRNOV, V.G.

Laboratory work in electrical engineering. Politekh. obuch. no.9:49-52 S '58. (MIRA 11:10)

1. Ryazanskiy pedagogicheskiy institut.
(Electric engineering--Study and teaching)

SMIRNOV, V.G. (Ryazan')

Studying the relays in the electric engineering classes. Fiz.v shkole 21 no.4:64-69 Jl-Ag '61. (MIRA 14:10)
(Electric relays)

27556
S/170/61/004/010/011/019
B108/B102

26.2532

AUTHORS: Ozhigov, G. Ye., Smirnov, V. G., Sokovishin, Yu. A.

TITLE: Production of a thermopile and a method to determine its time constant experimentally

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 10, 1961, 90-96

TEXT: Following a suggestion by B. G. Smirnov, the authors prepared 2 - 4μ thick and some 0.3 mm wide thermocouples by electroplating. A stainless steel cylinder with a spiral engraved at a pitch of 0.3 mm was plated with copper on one and with nickel on the other half. The spiral groove was previously filled with shellac so that the plating would come off readily in the form of a wire, half copper and half nickel. The resistance of each of these thermocouples (16 mm long) was 0.6 ohm. Thermopiles consisting of 5 to 25 junctions were assembled. The hot junctions were blackened with antimony or bismuth. The sensitivity of one junction to steady radiation is between 0.23 and 0.31 mv.cm^2/watt, the relaxation time $\theta_{0.63}$ = 0.02 sec. R. R. Kharchenko ("Elektrichestvo", 11,

Card 1/2

SMIRNOV, V.G., inzh.

Equipment for high-pressure air conditioning systems. Sudostroenie 27 no.2:13-17 F '61. (MIRA 16:7)

(Ships—Air conditioning)

SMIRNOV, V.G., inzh.

Simplified method of checking calculations for the selection of surface heat exchangers for air conditioning systems. Sudostroenie 28 no.9:17-20 S '62. (MIRA 15:10)
(Ships—Air conditioning) (Heat exchangers)

GRUZIN, P.L.; AFANAS'YEV, V.N.; ZEMSKIY, S.V.; SMIRNOV, V.G.; ANDREYENKO, Z.D., red.

[Use of radioisotopes for the control of the open-hearth process] Primenenie radioaktivnykh izotopov dlia kontrolia domennogo protsessa. Moskva, Atomizdat, 1964. 169 p. (MIRA 17:5)

ACCESSION NR: AP4043983 S/0089/64/017/002/0094/0097

AUTHOR: Koryakin, Yu. I.; Batov, V. V.; Smirnov, V. G.

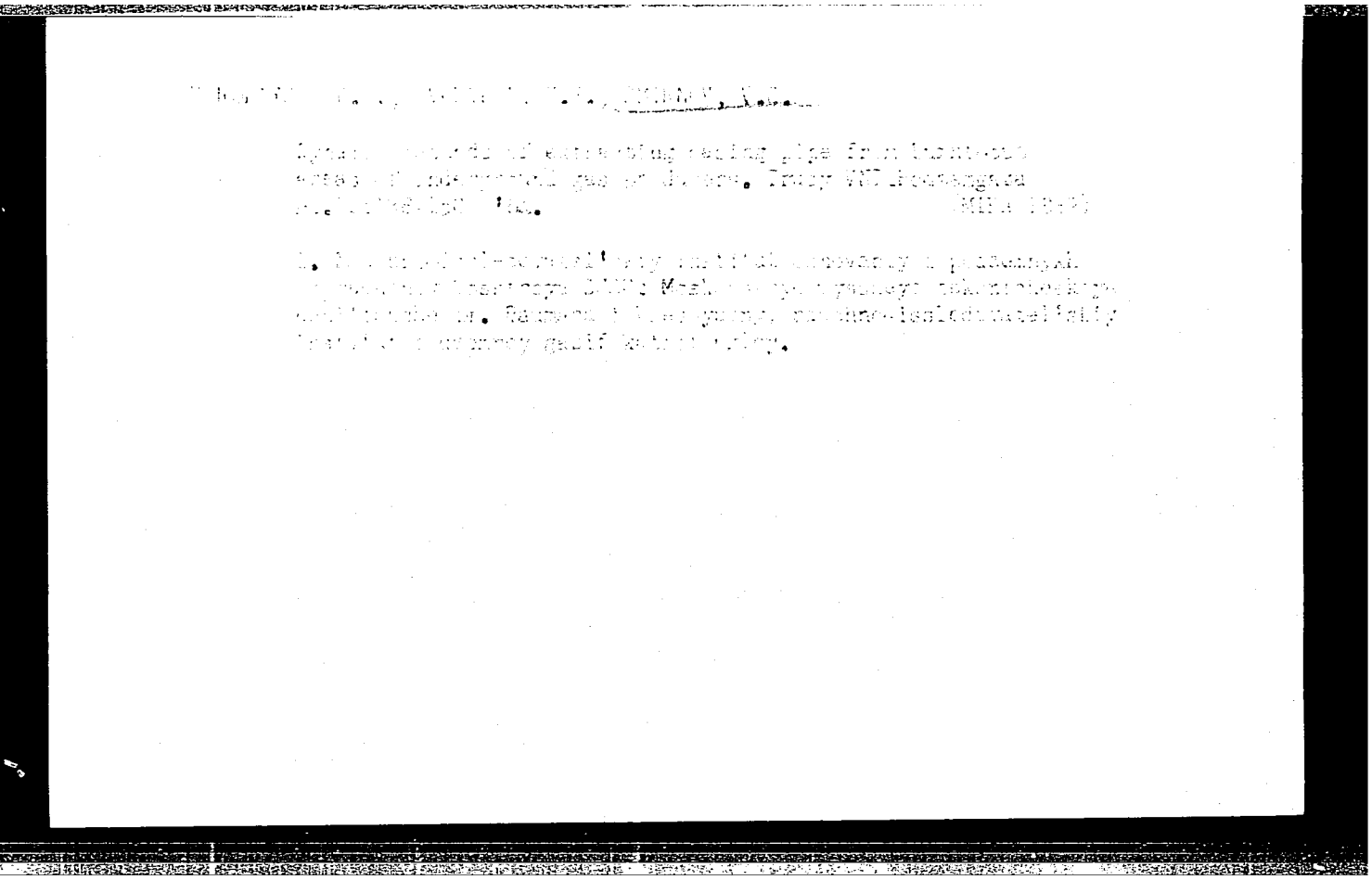
TITLE: Determination of the optimal depth of utilization and of the power intensity of nuclear fuel by the method of cost computation

SOURCE: Atomnaya energiya, v. 17, no. 2, 1964, 94-97

TOPIC TAGS: nuclear reactor fuel cost, nuclear fuel utilization depth, nuclear reactor power intensity, Beloyarskaya Nuclear Power Establishment

ABSTRACT: The paper deals with the development of a computational method for the determination of the economical efficiency of nuclear fuel utilization in reactors. The method is demonstrated on the example of the Beloyarskaya atomic power establishment in terms of the power intensity and depth of fuel utilization. The latter is defined as the ratio of the product of the useful power times the duration of the campaign, and the fuel charge. For a given fuel type (i. e.

Card 1/2



REVVA, M.A.; [illegible], [illegible], kand. tekhn. nauk; SMIRNOV, V.G.

Investigating the process of underground gasification of coal in Poland. Trudy VNIIPodzemgaza no.12:161-163 '64.
(MIRA 18:9)

SMIRNOV, V.G.; PETROVICHEVA, V.M.

Review of machinery and tools used in the United States for boring curved and horizontal boreholes. Trudy zem.gaz.ugl. no.1:89-97 '57. (MLRA 10:7)

1. VNIIPodzemgaz.
(United States--Boring machinery)

SMIRNOV V.G.

2

2351. DRILLING IN THE GASIFIED ZONE WITH EXTRACTION OF DRILL CORES. Smirnov, V.G. and Vasilevich, I.A. (Podzem. Gazif. Uglya Undergr. Gasif. Coal, Moscow, 1957, (2), 58-61; abstr. in Glückauf, 26 Oct. 1957, vol. 93, 1368). To determine how completely the coal had been gasified drill cores were extracted. Features of bore samples in parts of the seam that have been gasified are discussed. Variations of the seam profile due to gasification are exemplified by two cores.

1/1

SMIRNOV, V.G.; PETROVICHEVA, V.M.

Selection and investigation of properties of cement and clay emulsions for plugging the space between the borehole and the air-blast casing. Podzem.gaz.ugl. no.3:65-69 '57. (MIRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Coal gasification, Underground)

Smirnov, V.G

SMIRNOV, V.G.

Equipment for drilling vertical and inclined holes for underground gasification of coal. Podzem.gaz.ugl. no.4: 51-54 '57. (MIRA 11:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Boring machinery)

SMIRNOV, V.G.; TROYANSKIY, S.V., prof.; FISENKO, N. Ye.

Gas producer drainage in the Dnieper Lignite Basin by means of inclined level drains. Podzem. gaz. ugl. no. 2:64-67 '58. (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Dnieper Basin—Lignite)
(Mine drainage)

SMIRNOV, V.G.

Vertical borehole drive pipe behavior in underground lignite gasification. Podzem. gaz. ugl. no.4:56-59 '58. (MIRA 11:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Coal gasification, Underground--Equipment and supplies)
(Deformations (Mechanics))

SMIRNOV, V.G.; VASILEVICH, Yu.A.

Using a cumulative expolding pipe cutter for the underground repair of boreholes. Podzem. gaz. ugl. no.1:62-64 '59. (MIRA 12:6)

1. VNIIPodzemgaz.
(Gas producers--Maintenance and repair)
(Pipe cutting)

SMIRNOV, V.G.

Feasibility of using rapid turbodrills for boring inclined directional holes in the coal seam. Podzem.gaz.ugl. no.2:58-61 '59. (MIRA 12:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Turbodrills) (Boring)

SMIRNOV, V.G.

Drilling inclined boreholes along the coal seam with small turbo drill and flushing. Podzem.gaz.ugl. no.3:50-54 '59. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Boring) (Turbodrills)

SMIRNOV, V.G.

Calculation of thermal stresses in the casing of gas evacuation galleries. Podzem.gaz.ugl. no.4:46-48 '59.
(MIRA 13:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Coal gasification, Underground) (Thermal stresses)

BOGDANOVA, V.V.; SMIRNOV, V.G.

Results of industrial testing of the UGR-40 apparatus for hydraulic fracturing of a coal seam at the Moscow underground gasification station. Nauch. trudy VNIIPodzemgaza no.8:69-73 '62. (MIRA 16:6)

1. Laboratoriya napravlennogo bureniya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.
(Moscow Basin—Coal gasification, Underground—Equipment and supplies)

SMIRNOV, V.G.; PAN'KOVSKIY, V.I.

Universal rig for drilling vertical holes and retrieving casing pipes. Nauch. trudy VNIIPodzemgaza no.8:73-79 '62. (MIRA 16:6)

1. Laboratoriya napravlennogo bureniya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley i Podmoskovnaya stantsiya "Podzemgaz".
(Moscow Basin--Coal gasification, Underground--Equipment and supplies)
(Boring machinery--Testing)

SMIRNOV, V.G.; PETROVICHEVA, V.M.

Possibility and expediency of drilling vertical holes with water flushing. Nauch. trudy VNIIPodzemgaza no.9:74-80 '63. (MIRA 16:11)

1. Laboratoriya napravlennogo bureniya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

SMIRNOV, V.G.; ZHUKOV, V.V., kand. tekhn. nauk

Ways of improving drilling technology and borehole construction of underground gas producers of the Angren Station "Podzemgaz." Nauch. trudy VNIIPodzemgaza no.9:91-97 '63. (MIRA 16:11)

1. Laboratoriya napravlennogo bureniye i laboratoriya gornogeologicheskaya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

PSHENICHNYY, A.Ya.; KALININ, M.N.; SMIRNOV, V.G.; AKIMOV, Ye.T.; SEMENYUTA, N.N.

Shaft sinking with the use of a shaft lining formwork. Gor.zhur. no.4:32-36 Ap '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy institut tsvetnykh metallov (for Pshenichnyy, Kalinin, Smirnov). 2. Trest Svinetsshakhtostroy (for Akimov). 3. Glubochanskoye shakhtostroyupravleniye (for Semenyuta).

GRACHEV, K.I.; ANSIMOV, V.V.; BOYARSKIKH, G.K.; VERESHCHAKO, I.A.; MIN'KO, V.A.; MIRONOV, Ya.K.; SITNIKOV, V.G.; SHAMES, D.Z.; IOMINA, I.N., vedushchiy red; CHOCHIA, N.G., red.

[Geological and economic efficiency in prospecting for oil and gas in the West Siberian Plain.] Geologo-ekonomicheskaia effektivnost' geologopoiskovykh i razvedochnykh rabot na neft' i gaz v Zapadno-Sibirskoi nizmennosti. Leningrad, Gostoptekhizdat, 1963. 199 p. map (insert. Leningrad. Vsesoiuznyi i neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy, no.206). (MIRA 17:10)

AVDEYEV, Yu.G.; VORONIN, V.S.; KOROSTYLEV, N.P.; SMIRNOV, V.G.; PUSTOVALOV, A.I.; CHEBOTYREV, B.A.; ZENKOV, B.N.; KARABACH, T.L.

Determining the efficiency of various ways of charging boreholes along the contour of a mine working. Shakht. stroi. 8 no.10: 19-21 O '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy metallurgii (for Avdeyev, Voronin, Korostylev, Smirnov). 2. Rudnik imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza Zyryanovskogo kombinata (for Pustovalov, Chebotyrev, Zenkov, Karabach).

SMIRNOV, V.G., doktor sel'skokhoz. nauk

Developing new winter wheat varieties by the method of remote crossing and conditioned development of hybrids in Kirov Province. Agrobiologiia no.5:681-691 S-O '65. (MIRA 18:9)

1. Kirovskiy sel'skokhozyaystvennyy institut, kafedra selektsii i semenovodstva.

SMIRNOV, V.G., prof.; [illegible], L.K.

Transpollination of plants grown from seeds produced under various conditions as a method of increasing the productivity and improving the grain quality of Vyatka rye. Agrobiologiia no.4:513-517 Jl-Ag '64. (MIRA 17:12)

1. Kirovskiy sel'skokhozyaystvennyy institut.

SMIRNOV, V.I., nauchnyy sotrudnik.

Technique of developing new weaves. Tekst. prom. 17 no.3:35-38 Mr '57. (MLRA 10:4)

1. Ivanovskiy nauchno-issledovatel'skiy tekhnologicheskiy insitut.
(Weaving) (Textile design)

PLAKSIN, S.A., nauchnyy sotrudnik; PLATONOV, M.F., nauchnyy sotrudnik; SMIRNOV, V.I., nauchnyy sotrudnik; KUMOSHENSKIY, M.D., nauchnyy sotrudnik.

Increasing the size of bales of unbleached fabric. Tekst.prom. 17 no.10:59-60 O '57. (MIRA 10:12)

1.Ivanovskiy nauchno-issledovatel'skiy tekstil'nyy institut.
(Cotton fabrics)

SMIRNOV, V.I.

Manufacture of patterned fabrics on dobby looms. Nauch.-issl.trudy IvNITI 23:65-78 '59. (MIRA 14:4)
(Weaving)

SMIRNOV, V.I.

Studying the structure of linen-weave fabrics. Nauch.-issl.trudy IvNITI 23:79-104 '59. (MIRA 14:4)
(Weaving)

SMIRNOV, Vladimir Il'ich; KUTEPOV,O.S., retsenzent; NIKITIN,M.N., retsenzent; AKSENOVA,I.I., red.; KNAKNIN,M.T., tekhn.red.

[Theoretical study of the structure of linen-weave fabrics] Teoreticheskie issledovaniia stroeniia tkani polotnianogo perepleteniia. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 99 p.

(MIRA 14:5)

(Weaving) (Textile fabrics)

SMIRNOV, V.I., starshiy nauchnyy sotrudnik [deceased]

Analytical determining of the curving wave height of warp and weft yarns in linen-weave fabrics. Tekst. prom. 23 no.12:33-38 D '63. (MIRA 17:1)

1. Ivanovskiy nauchno-issledovatel'skiy tekstil'nyy institut (IvNITI).

SHITIKOV, V.I.; BUKHTYUKOV, V.M.

Criteria relationship effect on the diameter of drops in the atomization of liquids by means of centrifugal jets. Izv. vys. ucheb. zav.; tekh. tekst. prom. no.4:122-126 '65.
(MIRA 18:9)

1. Ivanovskiy tekstil'nyy institut imeni Frunze.

SMIRNOV, V. I.

Atomization of the liquid cylindrical jet in a space limited by a stationary wall. Izv. vys. ucheb. zav.; tekh. tekst. prom. no.4:105-110 '62. (MIRA 15:10)

1. Ivanovskiy tekstil'nyy institut imeni M. V. Frunze.

(Atomization)

SMIRNOV, V.I.

The breakup of a liquid cylindrical stream in a space limited by a stationary wall taking the viscosity into account. Izv.vys.-ucheb.zav.; tekh.tekst.prom. no.5:122-129 '62. (MIRA 15:11)

1. Ivanovskiy tekstil'ny/ institut imeni M.V.Frunze.
(Fluid dynamics)

YAROSLAVTSEV, A.S.; KHUDYAKOV, I.F.; SMIRNOV, V.I., akademik

Kinetics of sphalerite oxidation in an autoclave. Dokl. AN SSSR 158 no.2:456-459 S '64. (MIRA 17:10)

1. Ural'skiy politekhnicheskiy institut im. Kirova. 2. AN KazSSR (for Smirnov).

TIKHONOV, A.I.; CHUCHMAREV, S.K.; SMIRNOV, V.I., akademik

Kinetic regularities in the oxidation of lower nickel sulfide in a fluidized bed. Dokl. AN SSSR 163 no.3:686-689 Jl '65. (MIRA 18:7)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova. 2. AN KazSSR (for Smirnov).

SMIRNOV, V.I.

Forecasting the speed of icebreaker passage through compact ice.
Probl.Arkt.i Antarkt. no.5:27-30 '60. (MIRA 14:4)

(Ice-breaking vessels)

SMIRNOV, V., aspirant

Forecasting the passage of icebreakers through solid ice.
Mor.flot. 20 no.8:17-18 Ag '60. (MIRA 13:8)

1. Arkticheskiy i Antarkticheskiy nauchno-issledovatel'skiy institut.
(Ice-breaking vessels)

9,9500
9,9110

S/169/62/000/008/061/090
E032/E114

AUTHOR: Smirnov, V.

TITLE: Airplane measurements of the drift and dimensions of E-layer irregularities in central Arctic

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 2, abstract 8 G 16. (In the Symposium: 'Ionosfern. issledovaniya no.9' ('Ionosphere Studies no.9'), M., AN SSSR, 1961, 14-17). (abstract in English)

TEXT: Reports two cases of measurements of the velocity and direction of drift of ionospheric E-layer irregularities which were carried out during the flight of an airplane over central Arctic using the method suggested by Gassman (R.zh.Gfiz., no.4, 1957, 3301). An ionospheric automatic recorder was mounted on the airplane together with an attachment capable of recording the amplitude of the reflected signal at fixed frequencies in the range 0.5 - 10 Mc/sec. The flight path was circular and had a diameter of ~ 20 km. The time to traverse the circle was 10 min. During this interval a continuous recording of the amplitudes of signals reflected from the E-layer was carried out at a

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frequency close to the gyromagnetic frequency. These amplitudes were then used to calculate in each case the average rate of fading of the signal amplitude as a function of the course of the airplane. Graphs were then used to find the course of the airplane for which the rate of fading was a maximum. The direction of motion of the irregularities was defined as being opposite to the computed course of the airplane. The rate of drift in the two cases was found to be equal to 50 and 69 m/sec respectively, and the direction of the motions 345° and 100° respectively. At the beginning of the experiments and after their termination the airplane flew along a straight-line path and the recorder registered the h'f-characteristics (ionograms). When the airplane moved in the direction of the drift of the irregularities the critical frequency of the E-layer remained practically constant over a period of the order of one hour, while when the airplane moved in any other direction there was a fluctuation in the values of this frequency. In this connection it is noted that if the period of these fluctuations and the relative velocity of motion of the airplane and the irregularities are known, then the

Airplane measurements of the drift... S/169/62/000/008/061/090
E032/E114

dimensions of the irregularities may be calculated. In one case the dimensions of the irregularities were found to be of the order of 60 km.

[Abstractor's note: Complete translation.]

Card 3/3

40246

S/169/62/000/007/126/149
D228/D307

AUTHOR: Smirnov, V. I.

TITLE: Quantitative characteristics of ice as a material

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 72, abstract 7V426 (Tr. Arkt. i antarkt. n.-i. in-ta, 256, 1961, 40-46)

TEXT: A decrease in the temperature (t_{ice}) of ice from -2 to -25° induces considerable changes in the compressive stress of ice (σ_{com}) when its salinity S_{ice} equals 0.1 - 0.3‰. When $S_{ice} > 0.3$‰ σ_{ben} (bending) is less liable to thermal influence, as is σ_{ten} (tension) if $S_{ice} > 0.7$‰. At specified values of S_{ice}, σ_{ben} and σ_{ten} are characterized by a negligible increase when t_{ice} decreases. This increase is most marked if t_{ice} varies from -10 to -15°. The increase of S_{ice} from 0.1 - 0.2 to 5.2‰ and more is accompa-

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Quantitative characteristics ...

nied by the decrease of σ. For σ_{ben} and σ_{ten} this relation can be traced throughout the range over which the salinity of ice varies; for σ_{com}, however, it is observed only when $S_{ice} > 1.5‰$. It is characteristic that when t_{ice} is -15° to -25°, σ is higher by an average of 3 - 5 kg/cm^2 than when $t_{ice} = -2^{\circ}$ to -10° for $S_{ice} >$ 1.5‰. The sharpest decrease occurs when S_{ice} increases from 0.1 to 0.7‰ (on an average by 5 - 8 kg/cm^2 per 0.1‰). If $S_{ice} > 0.7‰$ this decrease of σ comprises 0.1 - 0.15 kg/cm^2 wnen S_{ice} increases by 0.1‰. It should be borne in mind that if t_{ice} increases and S_{ice} decreases (the spring-summer period), the data for the change in σ show an inverse trend. It is desirable, however, to carry out further detailed investigations for the same ice when its t_{ice} and S_{ice} are variable. In addition to this it is necessary to use the amount of brine in the ice or, in an extreme case, the chlorine

SMIRNOV, V.I.

Methodology of short-range forecasting of littoral opening up of ice in the Chukchi Sea. Trudy AANII 256:34-39 '61. (MIRA 15:8)

(Chukchi Sea--Sea ice)

SMIRNOV, V.I.

Modernizing the differential dilatometer with a mechanical recording of curves. Trudy LPI no.211:135-154 '60. (MIRA 13:11)
(Dilatometer)

89002

S/119/61/000/001/006/013
B019/B067

9.8300

AUTHORS: Smirnov, V. I., Engineer, and Khazen, A. M., Engineer

TITLE: Magnetic Gas Discharge Commutator for Weak Currents

PERIODICAL: Priborostroyeniye, 1961, No. 1, pp. 15 - 17

TEXT: Mechanical commutators are not sufficiently reliable in remote measuring systems and multipoint recorders. It is therefore necessary to develop better commutators. In the magnetic gas discharge commutators described, a magnetic block is used which is shown in Fig. 1. This block consists of the oppositely connected coils 1 and 2 which are fed with high-frequency current. The control coil 3 is fitted to the two cores above coils 1 and 2. The output coil 4 is mounted above the other three and simultaneously serves as backcoupling coil. In each of the core pairs a magnetic field with different sign is generated by the high-frequency current. If d. c. passes through the control coil an emf is generated in the output coil, whose frequency is twice that in coils 1 and 2. Since the supply voltages are applied only to the coils of one pair the output

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Magnetic Gas Discharge Commutator for Weak Currents

S/119/61/000/001/006/013
B019/B067

voltage is proportional to the input voltage only in one channel. A cold-cathode thyratron is used for the commutation of the high-frequency voltage. This thyratron at the same time serves as key element of the commutator and as distributing element of the measuring channels. Fig. 2 shows the basic circuit of the commutator. M_1 is the magnetic field pick-up, M_2 - M_6 are the magnetic blocks which are illustrated in Fig. 1. Dp_1 are chokes. This circuit offers several advantages. Tube noise is weakened by the backcoupling, temperature influences only little the resonant frequency. The use of the above described magnetic blocks with double output frequency required the use of one of the pick-ups as magnetometers with double output frequency, which was directly connected instead of one of the ring pairs. The use of the double output frequency warranted a low threshold of sensitivity. Such a commutator with five measuring points and one magnetic field pick-up was produced in the laboratory. For this purpose permalloy cores 0.03 mm thick, with a cross section of 0.5 mm^2, were used. Frequency must be considerably increased to obtain especially quick operation. No reciprocal influence of the

ACCESSION NR: AR4022434 S/0058/64/000/001/A028/A028

SOURCE: RZh. Fizika, Abs. 1A268

AUTHORS: Meshkov, N. V.; Nesterov, P. V.; Smirnov, V. I.; Shimanskiy, A. M.

TITLE: Memory unit for multidimensional 16000 channel analyzer

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektronike. T. 2, Ch. 2. M., Gosatomizdat, 1963, 62-71

TOPIC TAGS: memory unit, ferrite core memory, multidimensional analyzer, magnetic tape data reduction, ferrite core matrix, reading amplifier, magnetic commutator, address current

TRANSLATION: A 16,000 address ferrite-core memory has been developed. This memory can be used in a multidimensional analyzer or serve as a sorting block for the reduction of information from a magnetic

Card 1/2

L 10106-63 EDS

ACCESSION NR: AP3002722 S/0120/63/000/003/0072/0078

AUTHOR: Yekatov, A. B.; Matalin, L. A.; Semenkov, V. F.; Smirnov, V. I.; Chubarov, S. I.; Shimanskiy, A. M. 53

TITLE: Multirange analyzer

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 72-78

TOPIC TAGS: pulse analyzer, description of input units, system of recording

ABSTRACT: A multirange pulse analyzer with a magnetic-core memory system has been designed for the investigation of distribution which depend on two or three variables. The device has 16,383 channels, each with a 16-digit binary number. The analyzer not only sorts pulses into the proper channels, but can also perform preliminary processing of recorded information. The recording system is equipped with an address system which allows various input circuits to be used without changing the memory system. Two amplitude-to-digital converters are used as the basic input circuits. The converters have coders (16 inputs) operating in the two-dimensional amplitude-measurement mode;

Card 1/2

Card 2/2

L 2552-66 EWT(d)/EED-2/EWP(1) IJP(c) BB/GG

ACCESSION NR: AP5021338 UR/0120/65/000/004/0094/0100
539.1.075

AUTHORS: Yekatov, A. B.; Ivchenko, V. Ye.; Matalin, L. A.; Meshkov, N. V.; Smirnov, V. I.; Chernukhin, V. L.

TITLE: Multidimensional analyzer with preliminary data processing and combined memory

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 94-100

TOPIC TAGS: computer, computer control, computer input device, computer memory, computer storage device, memory core, reactor, nuclear energy, neutron radiation, radiation measurement

ABSTRACT: The functional characteristics of a multidimensional analyzer are described. The analyzer was created for studying energy and angular distribution of slow neutrons; however, it may also be used for other multidimensional measurements with corresponding input devices. The storage unit of the device consists of a memory having ferrite cores and a magnetic tape 6.25 mm wide with four recording channels. The combination of integral and nonintegral memory units allows a flexible memory system both in terms of size and in terms of on-line control during

ACCESSION NR: AP5021338

2

the conduct of an experiment. Preliminary automatic data processing includes the functions of collection, sorting, certain calculations, and translation for computer input or from printer and oscillograph output. Basic units of the hardware are: a) the input unit, b) core memory, c) magnetic tape memory, and d) the output and data processing unit. All units are built from semiconductor and magnetic elements. The basic core memory has a capacity of 2048 16-bit words and is provided with a speed monitor feature to give a slower recording rate at input loading. Block diagrams are included, showing the flow of information through the composite system during data collection, sorting, transformation, and continuous process control. Particular information on cycle times and recording speeds is given. For neutron tracking experiments, data pass through detection, signal amplification, phasing, and time conversion into machine code. The passage of information from each detector is parallel and independent. Specific information on measurement time interval limitations is given. Functional block diagrams of the input unit, high speed intermediate memory, and magnetic tape recording unit are shown and discussed. Data may be processed prior to output for obtaining the double differential section of neutrons. The formulae used in the calculations are given. The authors thank A. V. Andriashin, B. Ya.

4

34779-66 EWT(m)

ACC NR: AR6017200 SOURCE CODE: UR/0058/65/000/012/A033/A033

AUTHOR: Andriashin, A. V.; Gerasimov, B. Ya.; Yekatov, A. B.; Ivchenko, V. Ye.; Nesnkov, N. V.; Smirnov, V. I.; Chernukhin, V. L.

TITLE: Multidimensional analyzer with preliminary processing of the information and with combined-type memory

SOURCE: Ref. zh. Fizika, Abs. 12A317

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 2. M., Atomizdat, 1965, 147-159

TOPIC TAGS: multichannel analyzer, slow neutron, neutron spectrum, angular distribution, ferrite core memory, magnetic recording tape, computer component, NEUTRON ENERGY DISTRIBUTION

ABSTRACT: The authors describe a multidimensional analyzer, intended for the investigation of energy and angular distributions of slow neutrons. The recording unit of the analyzer consists of a ferrite-core memory and a magnetic-tape of 6.25 mm width with four-track recording. The combination of integrating and non-integrating memory devices makes it possible to construct a flexible memory system having large capacity as well as permitting the exercise of control over the course of the experiment, preliminary adjustments, preliminary processing of information, etc. The analyzer consists of the following fundamental units, constructed entirely of semiconductor and magnetic elements: a) input unit; b) ferrite-core memory; c) magnetic-tape memory; d) equalizing unit (intermediate ferrite memory); e) unit for insertion and processing

Card 1/2

L 34779-66

ACC NR: AR6017200

of data. Depending on the chosen operating conditions, the functional connection between the blocks is changed by means of switches. The analyzer is constructed in the form of four individual racks with individual power supplies and control panels. L. S. [Translation of abstract]

SUB CODE: 20, 09

Card 2/2

L 10298-66 EWT(d)/EWT(l)/EEC(k)-2 IJP(c) WW/GG
ACC NR: AP6000021 SOURCE CODE: UR/0368/65/003/005/0410/0414

AUTHOR: Zhukov, A. G.; Smirnov, V.I. 44,55 44,55

61
B

ORG: None

TITLE: Polarization properties of wire gratings in a longwave infrared region

SOURCE: Zhurnal prikladnoy spektroskopii v. 3, no. 5, 1965, 410-414

21,44,55

TOPIC TAGS: wire, wire product, IR grating, IR grating measurement, light polarization, IR measurement

ABSTRACT: The authors investigate wire gratings with relationships b/t = 0.73 and 0.87 (where b is the width of the clearance between the wires, and t is the spacing) in the wavelength region of 60—650 μ. The measurements were performed with a longwave IR spectrometer. The gratings consisted of square metal frames, one side of which was strung with tungsten wire coated with a gold layer 0.5 μ thick. On the basis of experimental data obtained, the authors conclude that the polarizing capabilities of the wire grating studied is at least 95% in the 300--650 μ wavelength. The employment of two gratings in one polarizer in the 150--650 μ wavelength makes it possible to obtain almost complete polarization. The transmission coefficient of

Card 1/2 UDC: 535.5

Card 2/2

L 23088-66 EWT(1)/EWA(h)

ACC NR: AP6010791 SOURCE CODE: UR/0106/66/000/002/0075/0078

AUTHOR: Smirnov, V. I.

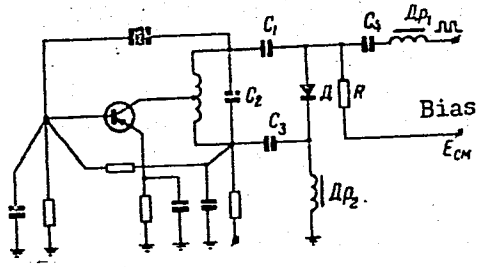
ORG: none

TITLE: Some possibilities of using capacitive properties of four-layer NPNP diodes

SOURCE: Elektrosvyaz', no. 2, 1966, 75-78

TOPIC TAGS: semiconductor diode, frequency control, frequency multiplication

ABSTRACT: The use of NPNP diodes for frequency keying and frequency multiplication is discussed. A D227 diode is proposed for frequency keying of a quartz oscillator (see figure); keying frequencies up to 50 kc are held possible. These distinctive features are claimed: (1) No stabilization of the bias voltage is needed if the operating point is set on the flat portion of the diode I-V characteristic; (2) Large frequency deviations are possible (e.g., 0.05%); (3) Less rigorous requirements of pulse-height stability and pulse shape are acceptable. A frequency tripler was experimentally investigated; input, 15 Mc, 10 w;



UDC: 621.372.57:621.382

Card 1/2

L 05208-67 EWT(1)/
ACC NR: AP6031627 SOURCE CODE: UR/0108/66/021/009/0077/0078

19
B

AUTHOR: Smirnov, V. I.

ORG: none

TITLE: Powerful frequency multipliers in the ultrashort wave band based on nonlinear capacitance

SOURCE: Radiotekhnika, v. 21, no. 9, 1966, 77-78

TOPIC TAGS: frequency multiplication, frequency doubling, ultrahigh frequency

ABSTRACT: A varactor frequency multiplier (see Fig. 1) is described which has low input and ouput impedance and operates at an input frequency (f_1) of 30 Mc. Resonant circuits L_1C_1 and L_2C_2 are tuned to f_1, and L_4C_4, to the output frequency (nf_1), where $n = 2, 3,$ or 4. The resonant circuit L_3C_3, not included when $n = 2$, is tuned to $2f_1$ for output frequencies of $3f_1$ and $4f_1$. The output-to-input power ratio (η) is thereby

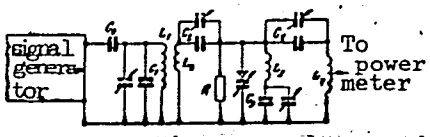


Fig. 1. Varactor frequency multiplier

Card 1/2 UDC: 621.374.4

ACCESSION NR: AT4011395 S/2789/63/000/047/0033/0054

AUTHOR: Smirnov, V. I.

TITLE: The generalized Boltzmann equation and certain equations for the kinetics of semidisperse systems

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy*, no. 47, 1963. Fizika oblakov, 33-54

TOPIC TAGS: Boltzmann equation, semidisperse system, aerosol, coagulation, gradient coagulation, gravitational coagulation, relaxation time

ABSTRACT: A study was made of the kinetics of semidisperse systems (in effect, aerosols). The kinetics of semidisperse systems containing any number of particles are described, and a generalization of the well-known concept of the distribution function, is presented. A generalized kinetic Boltzmann equation is derived for semidisperse systems, with allowance for collisions leading to coagulation; it is assumed that the particles have a spherical form and interact only at the time of direct contact. A kinetic equation is also derived for systems in a random field of force. Certain ways to simplify the generalized equation are indicated. A Boltzmann equation has been derived as a special case of the generalized

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ACCESSION NR: AT4011395

equation. An equation for growth of particles under influence of the medium (especially as a result of condensation) is derived. It is shown that the basis for derivation of the kinetic equations for coagulation, cited in the text, is the assumption that the relaxation time for motion of particles in the medium is small in comparison with the mean time between collisions. The derivation of the known equation of gravitational coagulation is given; an equation for gradient coagulation is given. The Fuks conclusion that Smolukhovskiy's equation for "slow coagulation" is incorrect is confirmed. A value for the coagulation constant in a gas-kinetic regime is derived, equal to the value determined by Fuks. Certain aspects of coagulation in a vacuum are also discussed. "The author thanks A. Kh. Khrgian and I. P. Mazin for interest in the work and valuable discussion". Orig. art. has: 54 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 00 DATE ACQ: 24Feb64 ENCL: 00

SUB CODE: PH, AS NO REF SOV: 011 OTHER: 006

Card 2/2

ACCESSION NR: AT4046030 S/2789/64/000/055/0086/0100

AUTHOR: Smirnov, V. I.

TITLE: Value of the constant of Brownian coagulation

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy*, no. 55, 1964. Voprosy* fiziki oblakov (Problems of cloud physics), 86-100

TOPIC TAGS: meteorology, atmospheric physics, cloud, Brownian coagulation, aerosol, turbulent coagulation

ABSTRACT: The author solves the problem of stationary diffusion of particles in infinite space when there is a sphere of an arbitrary radius with a coefficient of particle absorption less than unity (a "gray" sphere). It is shown that the solution essentially involves the solution of the problem for a "black" sphere, obtained by B. Davison (Proc. Phys. Soc., A. 64, 881, 1951). This method can be useful in solving a nonstationary problem, and also a problem involving bodies of other configuration than a sphere which absorb particles. A new expression has been derived for the constant of Brownian coagulation. In one extreme case this leads to the well-known expression for a diffusion regime obtained by M. Smolukhovskiy (Brounovskoye dvizheniye, Sbornik statey, ONTI, 1936) and in another extreme case to the expression obtained from the kinetic theory of

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ACCESSION NR: AT4046030

gases. It is shown that the probability of fusion of particles during collision enters into the criterion determining extreme cases. The limits of applicability of the theory have been found. A comparison with the Fuks theory (Mekhanika aerosoley, AN SSSR, 1955) is made. The discovered discrepancy between the coagulation constants does not exceed 6% for the following case: an oily aerosol with drops having a radius not less than 10^{-7} cm at normal temperature and pressure. For a monodisperse aerosol with particles of an arbitrary radius the difference in the values of the coagulation constant do not exceed 5%. The coagulation constant expression proposed in this paper simplifies the computation method somewhat. It is shown that the determination of the value δ_r in the Fuks theory can be made more precise. The results obtained by the author with respect to the diffusion of particles can be applied not only in coagulation theory (especially for the case of turbulent coagulation), but also in all problems of the diffusion of particles in the presence of "gray" bodies: in the theory of neutron transport, in astrophysics and optics (light diffusion in a turbid medium), in evaporation theory, etc. "The author wishes to thank I. P. Mazin and A. Kh. Khrgian for discussion of the study and critical comments". Orig. art. has: 68 formulas, 1 figure and 2 tables.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

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L 16031-65 EWT(1)/FCC AEDC(a)/ASD(f)-2/AFETR GW
ACCESSION NR: AT4046029 S/2789/64/000/055/0079/0085

B+1

AUTHOR: Smirnov, V. I.

TITLE: Spatial-time correlation function in a viscous isotropic sublayer of turbulence 12

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy*, no. 55, 1964. Voprosy* fiziki oblakov (Problems of cloud physics), 79-85

TOPIC TAGS: spatial time correlation function, turbulence, viscous turbulence

ABSTRACT: The linear equation for the Euler spatial-time correlation function derived by A. I. Ivanovskiy and I. P. Mazin for a field of velocities is analyzed and refined for the viscous turbulence sublayer. Green's function derived for the equation is solved in quadratures. The equation is also solved for a particular spatial correlation function (a Gaussian curve) for a viscous sublayer used as the initial condition. The author thanks A. I. Ivanovsky for guidance on the Green function theory and I. P. Mazin for critical comments. Orig. art. has: 33 formulas.

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L 4147-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) DM

ACCESSION NR: AP5023773 UR/0089/65/019/003/0269/0292
621.384.611

AUTHOR: Danilov, V. I.; Yenchevich, I. B.; Zamolodchikov, B. I.; Polferov, E. A.; Rozanov, Ye. I.; Smirnov, V. I.; Testov, V. G.

TITLE: The increase in pulse duration of the 680 MEV OIYaI synchrocyclotron particle beam

SOURCE: Atomnaya energiya, v. 19, no. 3, 1965, 289-292

TOPIC TAGS: synchrocyclotron, ion acceleration, ion accelerator, MEV accelerator

ABSTRACT: In synchrocyclotrons ions are accelerated in bunches, the shape and dimensions of which are determined by radial-phase and betatron oscillations. The present authors describe a method for pulse extension which was tested on the OIYaI synchrocyclotron and yielded results summarized in Fig. 1 of the Enclosure. The method is based on the analysis of the approximate expressions for pulse duration.

$$T = \int_{r_m - \delta r}^{r_m} \frac{dr}{\dot{r}_0(t) + \dot{q}_{0,m}(t)}.$$

Card 1/4

where the speed of equilibrium orbit widening is given by

$$\dot{r}_s = \frac{r_s}{1-n} \cdot \frac{1}{E_s \beta_s^2} \cdot \frac{\omega_s}{2\pi} e_0 V_0 \sin \varphi_s = -\frac{r_s}{1-n} \cdot \frac{1}{K_s \beta_s^2 \omega_s} \cdot \frac{d\omega}{dt};$$

$f_{B.M.}(t)$ is velocity of displacement of the equilibrium orbit at the γ_n azimuth caused by the excitation of the first harmonics of the magnetic field;

$$n = -\frac{r}{H} \cdot \frac{\partial H}{\partial r}; \quad K = 1 + \frac{n}{1-n} \cdot \frac{1}{\beta^2}; \quad \beta = \frac{v}{c};$$

v, ω, E are velocity, rotational frequency, and total energy of the particle, respectively; eV_0 - maximum possible energy increment per turn; subscripts s characterize equilibrium values;

$\delta r = q_0 + q_s$ with $q_{s-n} = 0$;
$\delta r = q_0 + 2q_s$ with $\dot{r}_s = 0$

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L 4147-66

ACCESSION NR: AP5023773

and $\mathcal{Y}_f$, $\mathcal{Y}_c$ is the maximum amplitude of radial betatron and radial-phase oscillations respectively. It is shown that the length of the pulse may be extended by increasing the interval of radial oscillation amplitudes and by decreasing the beam velocity along the radius (this can be achieved by increasing, in time, the forced radial oscillations for $f_s = 0$). A brief description of the design and operation of the necessary circuits is also given. Orig. art. has: 9 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 06Feb65 ENCL: 01 SUB CODE: NP, MA

NO REF SOV: 001 OTHER: 006

Card 3/4

SMIRNOV, V. I.

"The Temperature Drop in Enclosed Electric Heating Elements," Vest. Elektro-Prom., No.12, 1949

Cand. Tech. Sci.
All-Union Sci. Res. Inst. for the Electrification of Agriculture.

SMIRNOV, N.I.

Electrical Engineering Abstracts
May 1954
Engineering.

1851. Calculation of the resistance between electrodes for some potential fields. N. I. SMIRNOV. *Elektrichestvo*, 1953, *No.* 9, 55–61. *In Russian.*

The problem treated occurs in the design of resistance and induction heating installations for many materials (concrete, wood, liquids, soil, some foodstuffs, etc.) and is here solved for plane-parallel fields between arc-shaped, flat and angular electrodes put on homogeneous bodies of the shape of circular cylinders or rectangular parallelopipeds. The method used is that of conformal representation which leads to elliptic integrals of the first kind (in the case of cylinders). Two variants of the method are used for the principal step of the transformation, one of which uses a Moebius-transform for the representation of the field on the upper half-plane, the other representing the top half-plane on a polygon in the z-plane by a Schwarz–Christoffel transform. The formal solutions for 33 practically important cases, i.e. special electrode arrangements, are tabulated, a table of the required relations between the elements of the elliptic integrals being added for convenience. Nine mathematical appendices give the theoretical derivation of every special case treated. B. F. KRAUS

8-13-54

SMIRNOV, V.I.

Insulated electric water heater. Biul. nauch.-tekh. inform. po elek. sel'khoz. no.1:7-8 '56. (MLRA 10:9)
(Water heaters)

SMIRNOV, V.I., kandidat tekhnicheskikh nauk.

On the theory of electrode water heaters. Nauch.trudy VIESKH 2:123-138 '56. (MLRA 10:1)
(Water heaters)

EBIN, L.Ye.; GANELIN, A.M.; GILINSKIY, A.M.; GORNOVESOV, G.V.; ZLATKOVSKIY, A.P.; KAUFMAN, B.M.; KISELEV, N.A.; KULIKOV, P.Ye.; LEVIN, M.S.; SLAVIN, M.P.; SMIRNOV, B.V.; SMIRNOV, V.I.; SMIRNOVA, I.S.; TARASOVA, V.Ye.; CHEBOTAREV, V.I.; SHATS, Ye.L.; ENTIN, I.A.; IOSIPYAN, S.G., redaktor; SARKISYAN, A.M., redaktor; SMIRENSKIY, M.D., redaktor; TEPLITSKIY, Ya.S. redaktor; KOMAROVA, V.M., redaktor; GUREVICH, M.M., tekhnicheskiy redaktor.

[Rules for the operation of electric installations in rural areas] Pravila tekhnicheskoi ekspluatatsii sel'skikh elektroustanovok. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 183 p. (MIRA 10:4)

1. Russia (1923- U.S.S.R.) Glvanoye upravleniye sel'skikh elektrostantsii.
(Electric power plants) (Electricity in agriculture)

ANDRIANOV, V.N., doktor tekhn.nauk; BERSENEV, Ye.Ye., inzh.; BYSTRITSKIY, D.N., kand.tekhn.nauk; GREBENNIKOV, A.F., kand.tekhn.nauk; GRETSOV, N.A., kand.tekhn.nauk; ZUYEV, V.A., kand.tekhn.nauk; KLIMOV, A.A., kand.tekhn.nauk; KOROLEV, V.F., kand.tekhn.nauk; KUDRYAVTSEV, I.F., kand.tekhn.nauk; KULIK, M.Ye., kand.tekhn.nauk; NAZAROV, G.I., kand. tekhn.nauk; OLEYNIK, N.P., inzh.; OSETROV, P.A., kand.tekhn.nauk; PODSOSOV, A.N., inzh.; POPOV, S.T., inzh.; PRISHCHEP, L.G., kand. tekhn.nauk; PCHELKIN, Yu.N., inzh.; RUBTSOV, P.A., kand.tekhn.nauk; RUNOV, B.A., kand.tekhn.nauk; SAVINKOV, K.P., kand.tekhn.nauk; SAZONOV, N.A., prof., doktor tekhn.nauk; SERGEYEV, A.S., inzh.; SKVORTSOV, P.F., kand.tekhn.nauk; SMIRNOV, B.V., kand.tekhn.nauk; SMIRNOV, V.I., kand.tekhn.nauk; TYMINSKIY, Ye.V., inzh.; URVACHEV, P.N., kand.tekhn.nauk; SHTURMAN, B.A., inzh.; SHCHUROV, S.V., kand.ekon.nauk; RUNOVA, L.M., inzh.; VOL'FOVSKAYA, D.N., red.; NIKITINA, V.M., red.; BALIGD, A.I., tekhn.red.

[Manual on the use of electric power in agriculture] Spravochnik po primeneniiu elektorenergii v sel'skom khoziaistve. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 606 p. (MIRA 11:5)
(Electricity in agriculture)

SOV/120-58-2-10/37

AUTHORS: Blazhevich, I.N. and Smirnov, V.I.

TITLE: Measurement of the Quantity of Electricity in a Current Pulse (Izmereniye kolichestva elektrichestva v impul'se toka)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 44-46 (USSR)

ABSTRACT: A capacitative integrator of the relaxation type designed for measurements of the quantity of electricity in a current pulse from an ionisation chamber is described. For currents of the order of 10^{-8} to 10^{-4} amp measurements can be carried out to within 10^{-9} coulomb. The instrument may be used to measure the number of coulombs of a pulse 1.6 μsec or more long with an error of ± 5%. The instrument is based on the following principle. A known capacitor is charged by the current from the ionisation chamber, the capacitor is then discharged through an electronic circuit and the number of charge-discharge cycles is measured by a counting device. The basic circuit of the instrument is shown in Fig.1. The integrating condenser is 53 μμfarads (C_1) or 550 μμfarads (C_2). The circuit employs 8 tubes and its stability is 2% in 8 hours. There

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SOV/120-58-2-11/37

AUTHORS: Blazhevich, I. N. and Smirnov, V. I.

TITLE: Measurement of the Quantity of Electricity in a Short Current Pulse (Izmereniye kolichestva elektrichestva v korotkom impul'se toka)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 46-48 (USSR)

ABSTRACT: A description is given of an instrument used to measure the quantity of electricity in current pulses 10^{-6} - 10^{-3} sec long. The instrument works on the principle of ballistic amplification. The measured value is indicated on a special device, one division of which corresponds to 10^{-12} coulomb. The range of measurement per pulse is 10^{-11} to 10^{-10} coulomb. The error is less than 10% of the quantity measured. The instrument may also be used to measure the quantity of electricity in a series of pulses. The current pulse from a photomultiplier is fed into a circuit which transforms the amplitude of a subsequently formed voltage pulse into a number of standard pulses, the number being proportional to the amplitude of the voltage pulse. The block diagrams of the circuit of the instrument are given in Figs.1 and 3. The

Card 1/3 pulses from the photomultiplier are fed into the ballistic

Measurement of the Quantity of Electricity in a Short Current Pulse.

pulse at the output, the duration of which is proportional to the amplitude of the pulse at the output of the amplifier. After some further discriminating circuits which prevent the recording of some internally produced pulse the standard pulses are counted by a mechanical counter. There are 4 figures, no tables or references.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the Academy of Sciences of the USSR)

SUBMITTED: July 17, 1957.

Card 3/3 1. Electrical current--Measurement 2. Pulse analyzers--Applications

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[Invention and innovation in the Armed Forces of the U.S.S.R.] Izobretatel'stvo i ratsionalizatsiia v vooruzhennykh silakh SSSR. Moskva, Voenizdat, 1964. 93 p. (MIRA 17:12)

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"Kristallicheskaya struktura bafertisnta."

report submitted for 6th Gen Assembly Intl Union of Crystallography, Rome, 4 Sep 63.

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KOTELEV, V.V.; MEKHTIYEVA, Ye.A.; SMIRNOV, V.I.

Mineralization of phosphorus organic compounds by some soil micro-organisms. Izv. AN Mold. SSR no.7:34-42 '62. (MIRA 16:2)
(Soil micro-organisms)
(Phosphorus organic compounds)

SMIRNOV, V.I., inzh.; BAKHTYUKOV, V.M., inzh.; KOLOSOVSKAYA, A.K., kand.fiz.-matem.nauk

Determination of the length of a solid jet using a luminous jet. Izv.vys.ucheb.zav.; energ. 7 no. 4:99-102 Ap '64. (MIRA 17:5)

1. Moskovskiy institut khimicheskogo mashinostroyeniya. Predstavlena kafedroy obshchego mashinostroyeniya.

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AUTHOR: Smirnov, V. I. (Candidate of technical sciences); Bakhtyukov, V. M. (Engineer) 39 B

ORG: Moscow Institute of Chemical Equipment Construction (Moskovskiy institut khimicheskogo mashinostroyeniya)

TITLE: Splitting into drops of a twisted cylindrical jet in a dense medium

SOURCE: IVUZ. Energetika, no. 4, 1966, 55-60

TOPIC TAGS: hydrodynamic theory, jet flow, flow stability

ABSTRACT: Solution of the problem is by the method of small perturbations, based on the theory of hydrodynamic stability. An investigation is made of the appearance and development of unstable perturbations, which are a function of time and which lead to breakup of the jet. The problem is posed as follows. A continuous cylindrical jet of liquid with an axial velocity w issues from an orifice of radius a. As a result of twisting, the particles of the jet have a tangential velocity

$$v = \frac{c}{r},$$

UDC: 532.522

Card 1/2 [illegible] OTH REF: 001

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