

USSR

KASATKIN, B. S., et al., *Avtomaticheskaya Svarka*, No 7 (244), Jul 73, pp 4-8

welding method promising for industrial use in producing metal constructions from high-strength bainite steels. Recommendations are given for selecting optimum welding conditions for heat-treated low-alloy steels. Five figures, one table, seven bibliographic references.

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UDC: 621.791.947

USSR

NAZARENKO, O. K., KAYDALOV, A. A., AKOP'YANTS, K. S., LOKSHIN, V. Ye.

"Periodicity of Transfer of Metal During Cathode Ray Welding"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 73, pp 75-76.

Abstract: The following mechanism is proposed for metal transfer during cathode-ray welding. The primary force acting on the liquid metal is the recoil reaction arising upon partial evaporation of the metal by the electron beam. Since the recoil reaction is directed perpendicular to the surface of the melted metal, its motion along the walls of the channel is possible only when the surface is curved so that a sufficient tangential component of recoil reaction arises. Curvature of the surface of the melted metal occurs as follows. At a certain film thickness of liquid metal on the leading wall of the channel, waves arise on the free surface of the film, the amplitude of the waves increasing as film thickness increases. At a certain critical thickness, the area of the curved surface is sufficient for the recoil reaction along the forward wall to cause movement of a given metal located below. The amplitude of the wave increases, accelerating the

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USSR

Nazarenko, O. K., Kaydalov, A. A., Akop'yants, K. S., Lokshin, V. Y.e, Kiev, Avtomaticheskaya Svarka, No 8, Aug 73, pp 75-76.

movement. This wave is the main motive force of metal transfer.

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USSR

UDC 621.791.72.061.3

NAZARENKO, O. K.

"Conference on Electron-Beam Welding"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 72, p 77

Abstract: A brief review is given of some reports made at the Third Conference on Electron-Beam Welding, 14-15 October 1971, sponsored by the Institute of Electric Welding imeni Ye. O. Paton and the Moscow Power Engineering Institute. Two hundred and fifteen delegates from more than 120 organizations and industrial enterprises participated. Academician B. Ye. Paton opened the Conference and reported on "The Current State and Problems of Electron-Beam Welding." He indicated experiences in developing the technology of electron-beam welding of high-melting and rare metals and high-strength and heat- and corrosion-resistant alloys and steels. N. A. Ol'shanskiy et al. reported on the welding technology of metals, $\delta \leq 150$ mm, with powerful electron guns of low voltage. The development of electron guns was reported by O. K. Nazarenko. A. V. Gerasimenko reported on electron-beam welding equipment, and I. Yu. Zybko reported on electron-beam welding of powerful turbine parts. A series of reports dealt with electron-beam welding power sources, physical and automation problems, and welding guns with gas-discharge cathodes. Results in welding pipes, high-melting metals, stainless steels, 1/2

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NAZARENKO, O. K., Avtomaticheskaya Svarka, No 2, Feb '72, p 77

and titanium and aluminum alloys were reported. Practical recommendations for a broad introduction of electron-beam welding were given, and the publication of a manual on electron-beam welding was recommended.

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USSR

UDC: 621.791.72

PATON, B. Ye., NAZARENKO, O. K., LOKSHIN, V. Ye., AKOP'YANTS, K. S.,
Ye. O. Paton Electric Welding Institute imeni Ye. O. Paton, Academy of
Sciences, UkrSSR

"Features of Cathode Ray Welding in Various Spatial Positions"

Avtomaticheskaya Svarka, No 6, June 1972, pp 1-4

Abstract: The present study was designed to determine the effect of joint orientation relative to the direction of the force of gravity on cathode ray welding with a sharply focussed beam for metals up to 30-40 mm thick without finishing of edges. Experiments were performed on stainless steel specimens using a type U-212 cathode ray welder with U-250A power supply and U-530M welding gun in a vacuum of $5 \cdot 10^{-5}$ - $1 \cdot 10^{-4}$ mm hg. The direction of the force of gravity affects seam strength only when welding in the "ceiling" position. The stability of the welding bath in this position depends to a great extent on the viscosity of the liquid metal, rate of crystallization, and relationship between surface tension across the outside of the bath and pressure produced by the weight of the liquid metal in the bath. These factors are of little significance for horizontal seams welded onto a vertical surface. For the metal in question, the maximum melting depth, beginning at which drops are formed when
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USSR

PATON, B. Ye., et al., Avtomaticheskaya Svarka, No 6, June 1972, pp 1-4

seams are welded across a ceiling, is inversely proportional to melting width. The width can be decreased by increasing the welding rate and decreasing the radius of the electron beam. Series-produced equipment with beam powers of 15 kw and mean diameter 0.5 mm can achieve stable melting of seams to up to 20 mm deep.

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UDC 621.791.85.03

USSR

NAZARENKO, O. K., ZHUVAZA, L. I., OBOLONSKIY, A. P., BARANOV, G. V., Institute of Electric Welding imeni Ye. O. Paton of the Ukrainian SSR Academy of Sciences

"Cathode-Ray Unit with Programmed Control and Television Observation of the Welding Process"

Kiev, Avtomaticheskaya Svarka, No 7, 1971, pp 53-54

Abstract: A cathode-ray device of the U-342 type in which all the basic welding operations have been automated is described. The device was built at the Institute of Electric Welding imeni Ye. O. Paton. It permits preliminary and subsequent heat treatment of the products and welding of them. Five basic parameters of the operating conditions are recorded during the welding process: the beam current, the accelerating voltage, the current of the magnetic focusing system of the gun, the welding speed, and the vacuum in the welding chamber. The electric circuit of the device permits programming for automatic execution of three operations: preliminary treatment of the weld by a sharply focused low-power beam to remove contamination from the edges, welding by a sharply focused beam, and repeated welding by an unfocused beam of lower power with simultaneous transverse scanning of it with a frequency of 50 hertz. The device has been introduced into industrial use on automated lines.

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Acc. Nr.: AP0041097

N

Ref. Code: UR 0084
UDC: None

USSR

SKRIPNIK, F., Senior Flight Safety Engineer-Inspector, NAZARENKO, E., Graduate of Technical Sciences, TRESKUNOV, Zh., Engineer of "October" Plant.

"The An-2 Should Fly Longer"

Moscow, Grazhdanskaya Aviatsiya, No. 1, 70, p. 23

Abstract: A description of the work done on the An-2 to protect it from the ravages of organic poisons and fertilizers which are soluble in water and thus generate an electrolytic aggressive substance attacking the structural elements in aircraft. Thus, the An-2 aircraft, used in agricultural work, must be written off after about 6000 hours when it should fly for some 12,000 hours. The authors analyzed the An-2 planes which came into their plant (No. 420) for repairs and diagnosed more than 100 cases of faults requiring careful repair, such as corrosion of the upper and lower skins of the fuselage. In the plant, experimental work was done to find a protective coating that would defeat these chemical effects. The authors report that their investigations showed that

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polyetherurethan coatings can be used successfully at those points of aircraft construction most susceptible to the attacks of poisons in agricultural work from the air.

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USSR

UDC: 629.78.002.3

NAZARENKO, P. V., BABAYAN, Kh. A., KOROLENKO, Yu. I.

"Wear Resistance of Multilayered Deformed Metals"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collected Scientific Works of Kiev Institute of Civil Aviation Engineers), 1971, vyp. 2, pp 26-28 (from RZh-Raketostroyeniye, No 10, Oct 72, abstract No 10.41.141)

Translation: This article publishes the results of an investigation of the wear resistance of single-component and two-component multilayered metals deformed to large degrees and annealed at various temperatures. The experiments were done on 99.99% pure silver, and on multiple-layer silver-copper and silver-iron specimens. One illustration, bibliography of two titles. Résumé.

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USSR

UDC: 621.891: 662.75

NAZARENKO, P. V., GRIGOR'YEV, N. F. and KOROLENKO, YU. I.

"Increasing the Wear Resistance of Friction Pairs Operating in Hydrocarbon Mediums by Surface Modification"

Sb. nauch. tr. Kiev. in-t inzh. grazhd. aviatsii (Symposium of Scientific Works of Kiev Institute of Civil Aviation Engineers) 1971, vyp 2, pp 36-38 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, No 7, 1972, Abstract No 7.34.106)

Translation: It is pointed out that preliminary friction working of the surface in the presence of trialkoxy-organosilane, with and without addition of solid lubricants, more than doubles the wear resistance of the specimens in the jet fuel medium. Absorption of silane molecules forms a coating on the friction surface of metal in the preliminary working process. Molybdenum disulfide, boron nitride and graphite are used as fillers. The boron nitride increases the wear under certain conditions of friction in fuel medium. Friction in different kinds of fuel with coated surfaces does not produce appreciable difference in wear (1 illustration, 2 references, Resume).

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USSR

UDC: 662.75 : 539.622

NAZARENKO, P.V. and KOZACHENKO, A.I.

"Effect of Jet Fuel Additives on Deformation of Rubbing Bodies"

Sb. nauch. tr. Kiev. in-t inzh. grazhd. aviatsii (Symposium of Scientific Works of Kiev Institute of Civil Aviation Engineers) 1971, vyp 2, pp 70-72 (from Referatsionnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, No 7, 1972, Abstract No 7.34.108)

Translation: It is shown that adding 0.01% by weight of TP and PMAM-2 antiwear additives to T-7 fuel causes a reduction of tangential friction forces and an increase of metal surface layer deformation, which is due to its surface activity. Adding of chromium oleate decreases the deformation of metal surface layers (4 illustrations, 4 references, resume).

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USSR

UDC 629.78.002.3

NAZARENKO, P. V., KOZACHENKO, A. I.

"Effect of Jet Fuels, the Component Parts and Admixtures on the Deformability of Thin Surface Layers of Metal in the Presence of Sliding Friction"

V sb. Kontaknogo gidrodinamich. teoriiya smazki i yeye prakt. primeneniye v tekhn.
(Contact-hydrodynamic Theory of Lubrication and Its Practical Application in Engineering--collection of works), Kuybyshev, 1972, p 78 (from RZh-Raketostroyeniya, otdel'nyy vypusk, No 12, Dec 72, Abstract No 12.41.252)

Translation: During the operation and maintenance of jet equipment, it has been established that the wear of the fuel system parts depends on the chemical composition of the fuel. In this paper a study has been made of the effect of the chemical composition of the fuels on the deformability of metals in the presence of friction. The magnitude of the elastic-plastic flow was determined by the polarization-optical method with respect to the intensity of illumination of double-refraction bands on a friction device with linear contact of the specimens at a sliding rate of 0.002 m/sec. By the studies it was established that the greatest deformations developed during friction in hydrofined T-7 fuel and the least, in distilled T-1 fuel. It was also established that the lubricating properties of the fuels were determined by the presence
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USSR

NAZARENKO, P. V., et al., Kontaknogradinamich. teoriya smazki i yeye prakt. primeneniye v tekhn., Kuybyshev, 1972, p 78

in them of surface-active substances and do not depend on the viscosity of the fuel. A study was made of the effect of oxygen dissolved in the fuels on the deformability of the metals -- the decrease in the oxygen content promotes an increase in the degree of deformability of the metals in the presence of friction. The effect of the hydrocarbon composition of the fuel on the development of elastic-plastic flows in the metals during the friction process was also investigated. It was found that the friction in aromatic hydrocarbons is accompanied by smaller deformations of the surface layers in magnitude and less depth of their propagation than in paraffinic hydrocarbons. A study was made of the effect of the hetero-organic compounds entering into the fuel composition on the deformability of the metals. It was established that certain nitrogen-containing compounds, sulfides and resinous compounds promote a decrease in deformability of the metals. The oxygen-containing compounds, unsaturated hydrocarbons and some mercaptan compounds promote an increase in the degree of deformation of the surface layers of the metal.

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USSR

UDC 539.621

ZAYTSEV, O.V. and NAZARENKO, P.V.

"External Friction Upon Change From Static to Kinetic"

Moscow, Mashinovedeniye, No 3, May-Jun 71, pp 76-80

Abstract: The conclusions of a polarized-light-refraction analysis of microscopic frictional phenomena in NaCl crystals under normal and tangential forces are as follows. Formation of frictional forces occurs in close relation to elastic-plastic deformation of surface layers. Static friction in the contact zone is manifested primarily in elastic-plastic compressive deformation localized in a relatively thin layer which decrease sharply with depth. The change from static friction to kinetic friction is characterized by a sharp increase to a maximum compressive deformation level at contact followed by a jumpwise decrease to a relatively low level. A sharp decrease in compressive deformation occurs during contact followed by a buildup of tensile deformation to a maximum at the start of kinetic friction. This then decreased jumpwise. The jumpwise change in frictional force depends upon an analogous change in elastic-plastic deformations in the contact zone.

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1/2 032 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--EFFECT OF OXIDE FILMS ON THE CHANGE IN DISLOCATION STRUCTURE AND
 EXTERNAL FRICTION FORCE -U-
 AUTHOR--(02)--NAZARENKO, P.V., KOROLENKO, YU.I.
 N
 COUNTRY OF INFO--USSR
 SOURCE--FIZIKO KHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 2, 1970, P.
 75-77
 DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
 TOPIC TAGS--CRYSTAL DISLOCATION, BIBLIOGRAPHY, OXIDE FILM, PLASTIC
 DEFORMATION, FRICTION COEFFICIENT, SURFACE AREA

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3001/0059

STEP NO--UR/0369/70/006/002/0075/0077

CIRC ACCESSION NO--AP0125894

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 032

CIRC ACCESSION NO--A0125894

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDY OF THE EFFECT OF OXIDE FILMS AND LIQUID MEDIA ON THE FRICTION COEFFICIENT, THE SURFACE RELIEF, AND THE DISTRIBUTION OF DISLOCATION DENSITY ALONG THE DEPTH. IT IS SHOWN THAT AT A CERTAIN VALUE OF THE OXIDE FILM, THE FRICTION COEFFICIENT ATTAINS A MAXIMUM. IT IS SUGGESTED THAT THIS PHENOMENON IS CONNECTED WITH THE CHARACTERISTICS OF THE PLASTIC DEFORMATION PROCESS AND THE FORMATION OF A RELIEF ON THE FRICTION SURFACE.

FACILITY:

KIEVSKII INSTITUT INZHENEROV GRAZHDANSKOI AVIATSII, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

172 . 036 UNCLASSIFIED PROCESSING DATE--11SEP70
 TITLE--EFFECT OF LIQUID MEDIA ON THE DEFORMATION OF SURFACE LAYERS OF A
 POLYMER METAL PAIR DURING BEARING CONTACT --U--
 AUTHOR--NAZARENKO, P.V., SKRIPNIK, F.I.
 COUNTRY OF INFO--USSR
 SOURCE--MEKH. POLIM. 1970, 6(1) 147-9
 DATE PUBLISHED-----70



SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS
 TOPIC TAGS--FRICTION COEFFICIENT, ZINC, LUBRICATING OIL, LITHIUM FLUORIDE,
 AVIATION GASOLINE, JET FUEL, ALCOHOL, GLYCEROL, AIRCRAFT LUBRICANT,
 PLASTIC DEFORMATION, POLYURETHAN RESIN, PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1989/1529

STEP NO--UR/0374/70/006/001/0147/0149

CIRC. ACCESSION NO--ARO107949
 UNCLASSIFIED

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Z/2 036

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--ARO107949

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEFORMATION (EPSILON) OF POLYURETHANE (I) RINGS IN FRICTIONAL CONTACT WITH A RIGID SUPPORT (LIF OR CRYST. ZN) DEPENDS ON THE TYPE OF LUBRICANT. WHEN AVIATION OILS WERE USED AS THE LUBRICANTS MAX. EPSILON WAS SMALLER THAN OR EQUALS TO 0.3PERCENT; WITH THE AVIATION FUELS OR ALC., GLYCEROL MIXTS. MAX. EPSILON WAS 0.53-0.83PERCENT. THERE IS AN INCREASE OF EPSILON TO A LIMITING (MAX.) VALUE WITH THE DISTANCE TRAVELLED BY THE RING ON THE SUPPORT. THE FRICTION COEFF. (MU) ALSO INCREASES WITH THE DISTANCE TRAVELLED TO A MAX. LEVEL. THE TYPE OF LUBRICANT HAS AN EFFECT ON MU. THE LARGEST MU VALUE (0.45) WAS OBTAINED WITH GASOLINE AS THE LUBRICANT. LIF AND ZN ALSO DEFORM DURING FRICTION AGAINST I. THE DEFORMATION EXTENDS 10-20 MU M BELOW THEIR SURFACE AT 0.3 KG FRICTIONAL LOAD.

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UNCLASSIFIED

USSR

UDC 532.517.4

FRENKEL', L. I., NAZARENKO, S. B., PANKOV, B. V.

"Instrument for Measuring Turbulence in Heterogeneous Flows"

Tr. Tambov. in-ta khim. mashinostr. (Works of the Tambov Institute of Chemical Machine Building), 1971, vyp. 7, pp 22-25 (from RZh--Metrologiya i Izmeritel'naya Tekhnika, No 3, Mar 72, Abstract No 3.32.788)

Translation: An instrument is described which permits measurement of the instantaneous velocity components of a gas in heterogeneous flows. The primary advantage of the instrument is the possibility of measuring the pulsation components of the velocity in a large frequency range (to 100 kilohertz). There are 4 illustrations and the bibliography has 3 entries.

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USSR

UDC 546.821:(546.882+546.883):543.7.063

NAZARENKO, V. A., and SHUSTOVA, M. B., Institute of General and Inorganic Chemistry, Academy of Sciences UkrSSR, Laboratories in Odessa

"Extraction-Photometric Determination of the Microadmixture of Titanium in Niobium and Tantalum"

Moscow, Zavodskaya Laboratoriya, No 2, 1971, pp 146-147

Abstract: Complexing agents bonding niobium and tantalum are used to increase the selectivity of titanium extraction by acid alkyl-phosphoric ethers. Titanium separates from the base by extraction of oxalate solutions by a mixture of acid isoamyl-phosphoric ethers. The tetrad titanium-salicyl-fluoron-antipyrine-perchlorate complex is measured with a photometer directly in the extract. The method is applied for the determination of titanium in pentochlorides of niobium and tantalum. The sensitivities of Ti in $NbCl_5$ and $TaCl_5$ are $1.5 \times 10^{-5}\%$ and $2 \times 10^{-4}\%$, respectively.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--REACTION OF GERMANIUM (IV) WITH 3,5-DINITROPYROCATECHOL -U-
AUTHOR--(03)-NAZARENKO, V.A., LEBEDEVA, N.V., VINAROVA, L.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 643-7
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GERMANIUM COMPOUND, ORGANIC NITRO COMPOUND, PYROCATECHOL,
POTENTIOMETRIC TITRATION, SPECTROPHOTOMETRIC ANALYSIS, COMPLEX COMPOUND,
IONIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1636 STEP NO--UR/0078/70/015/003/0643/0647
CIRC ACCESSION NO--AP0125258
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125258

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF GE(IV) WITH 3,5-DINITROPYROCATÉCHOL (L) WAS STUDIED SPECTROPHOTOMETRICALLY AND POTENTIOMETRICALLY. AT A GE:L CONCEN. RATIO OF 1:3, A COMPLEX FORMED WHICH HAD PROPERTIES OF A STRONG DIBASIC ACID WITH A 2ND IONIZATION CONST. OF (1.24 PLUS OR MINUS 0.10) TIMES 10 PRIME NEGATIVE2. THE INSTABILITY CONST. OF THE COMPLEX IS (1.42 PLUS OR MINUS 0.29) TIMES 10 PRIME NEGATIVE48. AT IONIC STRENGTH 0.1 AND 25PERCENT, THE IONIZATION CONSTS. OF L ARE: K SUB1 EQUALS 4.1 TIMES 10 PRIME NEGATIVE4 AND K SUB2 EQUALS 9.3 TIMES 10 PRIME NEGATIVE11. FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REACTION OF BORIC ACID WITH HYDROXYANTHRAQUINONES -U-
AUTHOR--(02)-NAZARENKO, V.A., VINKOVETSKAYA, S.YA.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(2), 115-20
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BORIC ACID, HYDROXYL RADICAL, ANTHRAQUINONE, SULFONIC ACID,
SPECTROPHOTOMETRIC ANALYSIS, COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1059 STEP NO--UK/0073/70/036/002/0115/0120
CIRC ACCESSION NO--AP0128486
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128486
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC STUDY OF THE
 COMPLEXES FORMED BETWEEN H SUB3 BO SUB3 AND 1,2,DIHYDROZYANTHRAQUINONE
 (I), 1,2,DIHYDROXYANTHRAQUINONE,3,SULFONIC ACID (II),
 1,4,DIHYDROXYANTHRAQUINONE (III), AND
 1,4,DIHYDROXYANTHRAQUINONE,2,6,DISULFONIC ACID (IV), AND
 1,5,DIHYDROXYANTHRAQUINONE AT VARIOUS PH AND H SUB3 BO SUB3 CONCNS.
 SHOWS THAT ALL FORM 1:1 COMPLEXES WHICH ARE BELIEVED TO HAVE STRUCTURE
 V. THE COMPLEXES INVOLVING II AND IV ARE ANIONIC, THE REST ARE NEUTRAL.
 THE FOLLOWING LAMBDA SUBMAX. IN NM ARE REPORTED FOR THE COMPLEXES: I,
 540; II, NEGATIVE; III, 550; IV, 630. FACILITY: LAB., INST.
 OBSHCH. NEORG. KHIM., ODESSA, USSR.

UNCLASSIFIED

Acc. Nr:

AP0048936

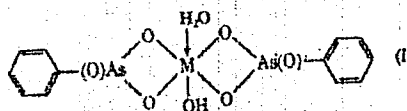
Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

4R 0075

104501s Reaction of niobium and tantalum with phenylarsonic acid. Tsvkhanskii, V. D.; Nazarenko, V. A.; Shergina, N. I.; Konusova, V. V. (Inst. Geokhem., Irkutsk, USSR). *Zh. Anal. Khim.* 1970, 25(1), 97-102 (Russ). When Nb and Ta phenylarsonates are formed under conditions eliminating the hydrolysis of the metal ions, the ppt. has a compn. corresponding to the formula I. In practice, when the pptn. is carried out by heating the solns. the ppts. are contaminated with hydrolysis products, esp. when the concns. of the substances eliminating the hydrolysis are insufficient. The coordinating Nb and Ta ions in their phenylarsonates are the 4 charged $M(OH)^{4+}$ cations and the coordinated ions are the doubly charged anions of phenyl-



arsonic acid. The soly. products for Nb and Ta phenylarsonates are 8.02×10^{-67} and 7.34×10^{41} , resp. (ionic strength = 1.0, $25 \pm 1^\circ$).
Chaim Weiner

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REEL/FRAME
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Television

USSR

UDC: 621.317:621.397.132

GULEVICH, V. L., NAZARENKO, V. G., Taganrog Radio Engineering Institute

"A Device for Checking the Tuning Accuracy of a Coding Module and Measuring the Frequencies of Subcarriers of the Color Signal in the 'SECAM-III' System"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291373, Division H, filed 23 May 69, published 6 Jan 71, p 161.

Translation: This Author's Certificate introduces a device for checking the tuning accuracy of a coding module and measuring the frequencies of subcarriers of the color signal in the "SECAM-III" system with transmission of a vertical test bar color signal. The device contains a frequency meter, high-frequency oscillator with phase AFC, time selector, and module for shaping selector pulses with a switch for selecting the color bar to be studied. As a distinguishing feature of the patent, the accuracy of subcarrier frequency measurements is improved by connecting the time selector to the phase AFC circuit of the high-frequency oscillator through a commutator which eliminates the sign alternation of the phase.

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Soviet Inventions Illustrated, Section II Electrical, Derwent

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240324 GAS ANALYZER based on heat conductivity principles includes thermoelements which receive exponentially rising current pulses with a time constant greater than that for heating the thermoelements. When the latter have reached a steady state, the temperature is measured. The electric supply to the thermoelements is cut off as soon as a certain voltage has been reached. 29.5.67 as 1160301/26-25. V.I. NAZARENKO. (20.8.69) Bul 12/21.3.69. Class 421. Int.Cl. G 01 n.

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19761870

1/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--CEMENTING WELLS OF THE WEST SUSNOVKA AREA -U-

AUTHOR--(04)-VEREZHNOY, A.I., NAZARENKO, V.L., MOSKOVKIN, I.V., VOLOSHIN,

A.A.
COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(2), 9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PHENOL FORMALDEHYDE RESIN, CEMENT, HARDNESS, WELL DRILLING
MACHINERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/2042

STEP NO--UR/0492/70/015/002/0009/0009

CIRC ACCESSION NO--AP0122271

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 015

CIRC ACCESSION NO--AP0122271

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF 2 WT. PERCENT OF AN AQ. PHENOL FORMALDEHYDE RESIN SLOWED THE HARDENING, INCREASED THE STRENGTH, AND REDUCED THE GAS PERMEATION OF THE CEMENT.

UNCLASSIFIED

USSR

UDC 533.6.013.2.011.35:629.7.025.73

NAZARENKO, V. V., NEVEZHINA, T. P., Moscow

"Measurement of Pressure on a Vibrating Aileron in a Transonic Flow"

Moscow, Mekhanika zhidkosti i gaza, No. 2, Mar/Apr 72, pp 179-185

Abstract: The pressure was measured on a vibrating aileron in a plane-parallel transonic flow. The measurements were made using pressure transducers in a forced vibration regime at $M = 0.974$. The characteristics of the aileron deformation were evaluated considering the highly nonlinear effects associated with the compression shock during the vibration and a possible mechanism accounting for self-oscillations of the control unit is suggested. It is noted that self-oscillations of control units of aircraft at Mach number close to unity are termed "buzz" in Western literature. The experiments were conducted on a wing model of symmetric profile with relative thickness $c = 8.6\%$. The aileron was fastened to the wing on an elastic seal. The calculation of the operation of pressure forces on the vibrating aileron shows that the displacement of the zone of interaction of the shock with the boundary layer can lead to damping of vibrations. This result was used as the basis of the following scheme for the formation

1/2

USSR

NAZARENKO, V. V., NEVEZHINA, T. P., Mekhanika zhidkosti i gaza, No. 2,
Mar/Apr 72, pp 179-185

of self-oscillations set up under conditions of mixed flow over the aileron. Since nonstationary aerodynamic forces arise in the supersonic zone of flow over the aileron which lead to negative damping, randomly occurring oscillations of the aileron will be maintained by these forces under certain conditions. Oscillations cause displacement of the pressure jump along the surface of the aileron. A rise in the amplitude will occur until the displacement of the compression jump occupies a fairly large segment of the surface. Since nonstationary aerodynamic forces arising in this zone are basically damping forces, there arises at a certain amplitude a dynamic "equilibrium" of forces of positive and negative damping and self-oscillations are set up.

2/2

USSR

UDC 621.397:535.67

AKSENTOV, Yu. V., NAZARETSKIY, A. I., STRIGIN, V. A.

"Possibility of Applying a Comb Filter for Separating the Brightness Signal from the Complete SECAM Signal"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute Vyp. 3), Leningrad, 1970, pp 24-28 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G113)

Translation: This article contains a study of the possibility of separating brightness and color signals in the SECAM system on the basis of the spectral difference of these signals. Some requirements imposed on the signal separation device are determined. The results of experimental testing of this device are presented.

1/1

USSR

UDC 621.315.592

NAZAROV, A., MAMAYEV, S., (DECEASED), and KARYMASHAKOV, R. , A. F. Ioffe
Physico-Technical Institute and Turkmenistan Physico-Technical University

"Some Optical Characteristics of Solid Solution 2GaAs-AnSi As₂ Layers"

Ashkhabad, Izvestiya Akademii nauk Turkmenskoy SSR -- Seriya fiziko-
tekhnikeskikh, khimicheskikh i geologicheskikh nauk, No. 5, 1972, pp 36-40

Abstract: The purpose of this paper is to examine the coefficient of reflection in 2GaAs-AnSiAs₂ crystals as a function of the wave-length in the 2-15 micron range, at 290⁰ K, and the spectral variation of the absorption factor of the crystals in the extreme region of the characteristic absorption at 83 and 290⁰ K, obtained by the gas-transport reaction method. The electrical measurements showed that all the different samples investigated were of hole-type conductivity and had high hole concentrations. Curves for the spectral variations of the reflection and absorption factors are plotted, and charts are given of the characteristics of various combinations of 2GaAs and ZnSiAs₂.

The optical width of the forbidden zone in the 2GaAs-ZnSiAs₂ crystals and in the original ZnSiAs₂ was also found.

1/1

NAZAROV, A. A.

A.A.

SPRS 59208
6-73

XII-14. EFFECT OF AN EXCESS OF ARSENIC IN THE PROCESS OF GROWING CRYSTALS ON THE ELECTRICAL PROPERTIES OF SOLID SOLUTIONS OF $Zn_{1-x}As_x$

Article by A. Nazarov, Turkean Polytechnic Institute, Ashkhabad; Novosibirsk, III Simpozium po Fizicheskoi Khimii i Statisticheskoi Mekhanike, Novosibirsk, 1972, p. 178

In order to give amorphous samples of solid solutions, the method of gas transport reactions in a closed system was used. The $Zn_{1-x}As_x$ crystals obtained from the stoichiometric composition have a high hole concentration ($p > 10^{19} \text{ cm}^{-3}$) which was explained by the amphoteric behavior of silicon.

It was found that the application of the excess of arsenic in the process of growing single crystals by the method of gas transport reaction will lead to a decrease in hole concentration in the alloys and increase the mobility of the charge carriers by several times.

USSR

UDC 669.15.018.8:620.194.2:621.785.78

NAZAROV, A. A., SMIRNOV, B. N., FILIMONOV, G. N.

"Phase Composition of Kh18N10T Steel and Its Corrosion Resistance"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 90-93 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G618)

Translation: The effect of aging at 340-750° for from 5 to 10,000 hours on the corrosion resistance of Kh18N10T steel in environments with a high chloride content is investigated. It was established that the variation in phase composition during aging has no effect on the tendency of the steel toward stress corrosion cracking. The defining factors in stress corrosion cracking are the tensile stresses and the environment. There are 4 illustrations and 1 table.

1/1

USSR

UDC 669.15.018.8:620.194.2

NAZAROV, A. A., SHCHERBININ, V. F.

"Effect of Cold Deformation on the Tendency of OKh18N10T Stainless Steel Toward Stress Corrosion Cracking"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 94-100 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G617)

Translation: A study was made of the effect of cold deformation of rolled products and tension on the corrosion resistance of OKh18N10T steel in distilled water containing a different amount of chlorides under the conditions of constant and variable wetting of the steel surface with water. It is demonstrated that in water containing 0.02-7 mg/liter of O₂ and with a low chloride content, the strength of the cold-deformed steel differs little from the strength of austenitic steel tested over a period of 1,000 hours. There are 2 tables and 4 illustrations.

1/1

USSR

UDC 669.15.018.8:620.196.2

MALYSHEV, V. N., NAZAROV, A. A.

"Thermodynamic Evaluation of the Effect of Titanium and Niobium on Suppressing the Inclination of Chromium-Nickel Steels toward Intercrystalline Corrosion"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 101-108 (from RZh-Metallurgiya, No 4, Apr 71, Abstract Mo 4G615)

Translation: A study of the conditions of eliminating the tendency toward intercrystalline corrosion of Cr-Ni steel types Kh18N10 and Kh20N25 with stabilization of them by Ti or Nb was made from the thermodynamic point of view. It was proposed that intercrystalline corrosion is caused by precipitation of the chromium carbides $Cr_{23}C_6$. The amounts of Ti and Nb, respectively, required to suppress the tendency of these steels toward intercrystalline corrosion was determined on the basis of the calculated activity coefficients of Ti in Kh18N10 steel and Nb in Kh20N25 steel considering the initial heat treatment temperature. The article contains 1 illustration, 2 tables, and a 17-entry bibliography.

1/1

1/2 040 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--MEASUREMENT OF THE SPATIAL TEMPORAL STRUCTURE OF THE HIGH FREQUENCY
COMPONENTS OF WIND SWELL -U-
AUTHOR--(02)-KUMYAYEV, K.V., NAZAROV, A.A. *N*
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, FIZIKA ATMOSFERY I DKEANA, VOL 6,
JAN. 1970, P 104-110
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--ANTENNA ARRAY, HIGH FREQUENCY, WIND DIRECTION, ATMOSPHERIC
WIND, WAVE PROPAGATION, SPACE TIME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1989/1908 STEP NO--UR/0362/70/006/000/0104/0110
CIRC ACCESSION NO--AP0108239
UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--Q2DCT70

CIRC ACCESSION NO--AP0108238

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF THE USE OF A TWO DIMENSIONAL ANTENNA ARRAY TO MEASURE THE HIGH FREQUENCY COMPONENTS OF WIND SWELL ON A BACKGROUND OF STRONG LOW FREQUENCY COMPONENTS. THE EXPERIMENTAL ARRAY STRUCTURE CONSISTED OF STRING TYPE WIRE SENSORS ARRANGED IN EIGHT ROWS OF 12 SENSORS EACH. THE ARRAY WAS FED BY DC SIGNALS, AND SPECTRAL ANALYSIS OF WIND SWELL WAS PERFORMED BY USING BOTH THE SIGNALS FOR THE ENTIRE ARRAY AND FOR AN INDIVIDUAL SENSOR. MEASUREMENTS WERE PERFORMED IN A WEAK, RELATIVELY CONSTANT WIND WHOSE DIRECTION COINCIDED WITH THAT OF WAVE PROPAGATION. GRAPHICAL DATA ARE GIVEN FOR THE ENERGY SPECTRA OF ARRAY SIGNALS AT DIFFERENT ORIENTATIONS AND WAVELENGTHS.

UNCLASSIFIED

USSR

UDC 621.039.534.44:620.193.23

MARTYNOVA, O. I., NAZAROV, A. I., CHECHETKIN, Yu. V., KOZAR', I. G.,
SAMOYLOV, Yu. F., and PETROVA, I. I.

"Transition of Zinc Corrosion Products From Boiling Water Into Steam and
Distribution of the Active Component on the Circuit of the VK-50 Boiling
Water Reactor"

Moscow, Atomnaya Energiya, Vol 29, No 2, Aug 70, pp 82-86

Abstract: Values are presented for the distribution coefficient (K_d) of Zn corrosion products at 180 atm (355°C) and 100 atm (310°C) and are compared with experimental data of the visible Zn distribution coefficient in the VK-50 boiling water reactor according to measurements with the Zn^{65} isotope. Insofar as K_d ($K_d = 11.6$ at 70 atm) and the half-life of Zn^{65} ($T_{1/2} = 245$ days) are very high, the Zn^{65} activity is assumed to represent the principal part of the activity of corrosion products in the steam-condensate cycle of the VK-50 reactor. This is shown from data on the activity of several blocks of the steam-condensate cycle. Steam washing and replacing brass parts in the turbine condenser and preheaters with parts made from other alloys are considered effective means for reducing Zn activity.

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SELECTIVE REMOVAL OF DISPERSED PARTICLES INTO A STEAM AREA -U-
AUTHOR--(03)-MARTYNOVA, O.I., NAZAROV, A.I., CHECHETKIN, YU.V.
COUNTRY OF INFO--USSR
SOURCE--TEPLOENERGETIKA 1970, 17(3), 51-4
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PARTICLE DISTRIBUTION, IMPURITY LEVEL, SURFACE ACTIVE AGENT,
STEAM BOILER, MASS TRANSFER/(U)VK50 REACTOR LOOP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0386 STEP NO--UR/0096/70/017/003/0051/0054
CIRC ACCESSION NO--AP0111579
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0111579

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTAMINATION OF STEAM WITH SOLID PARTICLES, CARRIED ON BUBBLES, WAS STUDIED BY THE USE OF RADIOSOTOPES ON A VK-50 BOILING WATER REACTOR LOOP OPERATING AT STEAM PRESSURES OF 70 KG,CM PRIME2. VARIOUS ACTIVITY DISTRIBUTION DETNS. SHOWED THAT THE CONTAMINATION WAS NOT PROPORTIONAL TO THE STEAM MOISTURE. THE PRESSURE OF SURFACE ACTIVE AGENTS IN THE BOILING LIQ. (HEAT TRANSFER AGENT), AND THEIR EFFECT ON THE SELECTIVE TRANSFER OF DISPERSED PARTICLES INTO THE STEAM WAS OBSD. FACILITY: MOSK. ENERG. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

BOL'SHESOL'SKIY, P. P., NAZAROV, A. M., and KHOROV, V. P. UDC: 62-55

"Nonlinear Correction Device"

USSR Author's Certificate No 287158, filed 22 Jan 69, published 14 Jan 71 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No. 12, 1971, Abstract No. 12A155P)

Translation: The proposed device can be used in deviation automatic control systems. Known correcting devices contain parallel-connected capacitors and resistors. Correcting devices of this type do not provide adequate control quality in a broad range of controlled quantity variation. The proposed correcting device is distinguished from the known systems in that it contains 2 oppositely connected stabilitrons at the input, which are connected in series with a scaling resistor and shunted to the zero potential bus by an additional resistor, the scaling resistor being made in the form of series-connected resistors whose connecting point is tied to the zero potential bus through an additional circuit containing a resistor and a connected diode. These differences raise the quality of the control because of the automatic change in the control law depending on the input signal level, thus stabilizing the operating threshold of the control circuit.

Resume
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USSR

UDC 621.396.6-181.48

NAZAROV, A. S.

"Optimization of Technological Operation Tolerances of Hybrid Film Microcircuits by the Method of Statistical Monitoring and Control"

V sb. Metody mat. i fiz. modelir. optimiz. parametrov radioelektron. apparatury. No 2 (Methods of Mathematical and Physical Simulation and Optimization of the Parameters of Radio Electronic Equipment. No 2 -- collection of works), Moscow, 1972, pp 75-78 (from RZh-Radiotekhnika, No 7, Jul 72, Abstract No 7V255)

Translation: A study was made of the accuracy of the technological process and the possibility of optimizing its minimum percentage rejects caused by drift of the output parameters by comparison with the admissible values. A quantitative estimate of the effect of the operations on the output parameters is made by the statistical method. The proposed optimization technique was tested on a microcircuit of the multivibrator type; the yield of suitable assemblies was raised by 8% when using the method. There is 1 illustration.

1/1

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USSR

UDC 546.26:546.161-32

OPALOVSKIY, A. A., NAZAROV, A. S., and UMINSKIY, A. A., Institute of Inorganic Chemistry, Siberian Branch Acad. Sc. USSR, Novosibirsk

"Laminar Compounds of Graphite With Hydrogen Fluoride"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72, pp 1214-1216

Abstract: A desorption insobar of the system graphite-HF has been reported in temperature range 0-115°C and pressure of HF at 4.23 mm Hg. The ability to form compounds of graphite with inorganic fluorides was thus shown; the composition of the products was C_nHF where $n = 4, 5, 6, 7, \text{ or } 8$. In analogy with other graphite compounds with inorganic materials it has been assumed that the graphite-Hf compounds are of the laminar type.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THERMOGRAPHIC STUDY OF THE LOWER FLUORIDES OF XENON -U-
AUTHOR--(03)-NIKOLAYEV, A.V., OPALOVSKIY, A.A., NAZAROV, A.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. SIB. OTD. AKAD. NAUK SSSR, SER. KHIM. NAUK 1970, (1), 171
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THERMOGRAPHIC ANALYSIS, FLUORIDE, XENON COMPOUND, INERT GAS,
ENDOTHERMIC EFFECT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1517 STEP NO--UR/0289/70/000/001/0171/0171
CIRC ACCESSION NO--AP0120298

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT71

CIRC ACCESSION NO--A0120298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMOGRAPHIC METHOD FOR CHARACTERIZATION OF THE LOWER FLUORIDES OF XENON (XEF SUB2, XEF SUB4) WAS USED. THERE ARE TWO MIN. ON THE DIFFERENTIAL CURVES CORRESPONDING TO THE ENDOTHERMIC EFFECTS. THE 1ST MIN. 136 PLUS OR MINUS 3DEGREES FOR XEF SUB2 AND 117 PLUS OR MINUS 3DEGREES FOR XEF SUB4 CORRESPOND TO THE M.P.S. OF THE COMPOS. THE 2ND MIN. OF THE CURVE 155 PLUS OR MINUS 3DEGREES XEF SUB2 AND 146 PLUS OR MINUS 3DEGREES FOR XEF SUB4 CORRESPOND TO THE QUICK PROCESS OF EVAPN. OF THE MELTED FLUORIDES ACCOMPANYING BY HIGH HEAT ABSORPTION. THE LARGE HEATS OF EVAPN. OF FLUORIDES ARE IN GOOD AGREEMENT WITH THE TEMP. OF THEIR ENDOTHERMIC EFFECTS.
FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

172 008 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FLUORINE-19 NMR SPECTRA OF SOLUTIONS OF XENON TETRAFLUORIDE IN
IODINE PENTAFLUORIDE -U-
AUTHOR-(04)-NIKOLAYEV, A.V., OPALOVSKIY, A.A., NAZAROV, A.S., TRETYAKOV,
G.V.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 629-31
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--XENON COMPOUND, FLUORIDE ISOTOPE, IODINE COMPOUND, NMR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1071 STEP NO--UR/0020/70/191/003/0629/0631
CIRC ACCESSION NO--AT0119930
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119930

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. PRIMEI9 F CHEM. SHIFTS AND
LINEWIDTHS OF NMR SIGNALS OF SOLNS. OF XEF SUB4 IN IF SUB5 AT 30DEGREES
ARE GIVEN. ABSENCE OF LOW FIELD MULTIPLETS OF IF SUB5 WAS PROBABLY DUE
TO RAPID EXCHANGE OF THE AXIAL F ATOMS IN IF SUB5 WITH THE EQUATORIAL F
ATOMS IN THE PRESENCE OF XEF SUB4. THE RESULTS POINT TO A MOL. NATURE
OF THE SOLN. OF XEF SUB4 IN IF SUB5 AND TO STRONGER INTERACTION BETWEEN
COMPONENTS OF THE XEF SUB4 IF SUB5 SYSTEM COMPARED WITH XEF SUB4 HF.
FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

TECHNICAL TRANSLATION

FORM | FSTC-HT-23-2015-12

39 Nov '82

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYH IZLUCHENIEM

AUTHOR: I. A. BERYGIN, ET AL.

SUBJECT: KIEV ORDER OF LENIN STATE UNIVERSITY
IHEMI T.C. SCHERCHENKO

Translated for FSTC by ACS1

NOTICE

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- Note Page -

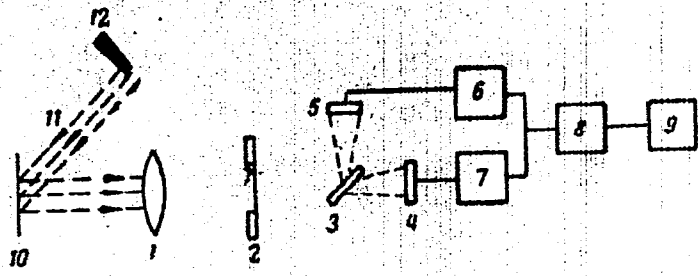
AA0047089 - Nazarov, B. N.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

241751 LOGARITHMIC PYROMETER. It is an optical instrument with a fast shutter and a memory. The memory is connected between the logarithmic amplifiers and a measuring device. The shutter is placed in front of a light divider. The instrument is capable of indicating the instantaneous temperatures.



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27.5.67 as 1160915/18-10.V.T.NEGRUTSAK et al.
(29.9.69) Bul 14/18.4.69. Class 421. Int.Cl.G 01 k.

19790571

AA0047089

AUTHORS: Negrutsak, V. T.; Nazarov, B. N.; Trubitsin, Ye. V.; Mikhaylov, V. F.

19790572

2/2

1/2 011
 TITLE--ALL ABOUT SPACE -U-
 UNCLASSIFIED
 PROCESSING DATE--11SEP70
 AUTHOR--NAZAROV, G. N
 COUNTRY OF INFO--USSR
 SOURCE--KNIZHNOYE OBOZRENIYE, JUNE 12, 1970, NR 24, P 1, COL 1
 DATE PUBLISHED--12JUN70
 SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
 TOPIC TAGS--S AND T PUBLICATION, AEROSPACE PERSONNEL
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1987/1175
 STEP NO--UR/0567/70/000/024/0001/0001
 CIRC ACCESSION NO--AN0104541
 UNCLASSIFIED

PROCESSING DATE--11SEP70

UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--AN0104541
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE "SOVETSKAY ENTSIKLOPEDIYA" AND THE "MIR" PUBLISHING HOUSES ARE SOON TO COMPLETE THE PRINTING OF A NEW EDITION OF THE "KOSMONAVTIKA" REFERENCE BOOK. ITS EDITORIAL PANEL CONSISTS OF LEADING EXPERTS IN ROCKETRY, SPACE TECHNOLOGY AND SPACE RESEARCH. IT IS HEADED BY PROFESSOR G. V. PETROVICH.

UNCLASSIFIED

UDC: 517.948

USSR

NAZAROV, F., Mathematics Division and Computer Center, Tadjhik SSR

"Notes on a Theorem of Functional Analysis"

Dushanbe, Doklady Akademii Nauk Tadjhikskoy SSR, No 12, 1972,
pp 3-5

Abstract: As is known, many characteristics of nonlinear operators can be studied by setting up a connection between them and linear operators: i.e., by using the local approximation of the two types of operator. It is also known that if the operator is differentiable by the Fréchet, it is differentiable also by the Gateau method. The inverse, however, is not true. The purpose of this article is to develop several theorems by examining the following question: By what hypotheses regarding the differentiability by the Gateau method will it follow that differentiability by the Fréchet method exists? The author begins by letting E and F be arbitrary, real Banach spaces, and $L(E,F)$ be the space of linear operators acting from E to F . He expresses his thanks to Professor V. Ya. Stetsenko for his advice on the article.

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- 7 -

Acc. Nr:

AP0044695

Ref. Code: UR 0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 24-28

CONSERVATIVE THERAPY OF OBLITERATING DISEASES
OF THE EXTREMITIES

G. D. Nazarov, G. P. Lesnyak

The authors depict the results of plethysmographic control of the character of changes of the arterial tone of the upper and lower extremities under the influence of parenteral administration of vasodilating agents, employed for the treatment of obliterating diseases. It was established that commonly there is observed regional dilatation of arterial channels; 7 types of vascular reactions are singled out. Not in all patients the employment of one and the same vasodilator causes a reduction of the arterial tone. The most rational is the selection of vasodilating agents which cause regional dilatation of arteries of the lower extremities. Prior to administration of the vasodilator it is necessary to estimate the individual reaction of the patient to this preparation.

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UDC: 621.396.6-181.48

USSR

NAZAROV, G. V., NIKITIN, V. G., TSAR'KOV, A. N., MEDVEDEV, Yu.

"Group Mounting of Suspended Elements and External Leads on Integrated Circuit Boards"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 95-99 (from R7h-Radio-tekhnika, No 8, Aug 72, Abstract No 8V271)

Translation: The paper analyzes the basic technological and design requirements for methods of group welding and soldering. Research results are presented on devices developed for group mounting of microcircuit crystals with rigid (ball) leads on substrates. Recommendations are formulated on selecting methods of mounting leads, crystals and substrates for various combinations of materials. Resumé.

1/1

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USSR

UDC 621.396.6-181.5

NAZAROV, G. V., SOKOLOV, A. V., KOZHEVNIKOV, A. P., SHANOV, A. M., NIKITIN, V. G., SAFONOV, V. A., SEREGIN, V. P., BASHARIN, V. I.

"Development of Equipment for Assembling Integrated Circuits by Welding with Pulsed Indirect Heating and Ultrasound"

Elektron. tekhnika. Nauchno-tekhn. sb. Mikroelektronika (Electronic Engineering. Scientific and Technical Collection. Microelectronics), 1970, vyp. 3 (24), pp 70-76 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4V287)

Translation: A study was made of the advantages of welding by pulsed indirect heating and ultrasonic welding when assembling microcircuits. The technical characteristics of the developed equipment and the structural design of the operating tool are presented. The results of experimental operation of the devices are discussed.

1/1

USSR

N

BUGAYEV, N. F., SIMONOV, K. V., V'YUNNIKOVA, YE. I. ("Magnezit"
Plant), NAZAROV, K. S. (Magnitogorsk Metallurgical Combine)

"Periclase Spinellide Manufactured Articles Based on Magnesite
Powder From Caustic Dust"

Moscow, Ogneupory, No 5, May 70, pp 12-13

Abstract: The results are given of a study of the characteristics of manufactured objects made from powder obtained by roasting caustic magnesite in a rotating oven with sintering additives. The objects were tested while in actual use. A table gives the chemical composition of the powders. Another table gives the characteristics of the manufactured articles. The objects tested satisfied all requirements, except that of thermal stability, of GOST (All-Union State Standard) 10888-64.

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1/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--RADIOACTIVE AEROSOL DISTRIBUTION IN THE MIDDLE AND UPPER TROPHOSPHERE OVER THE USSR IN 1963-1968 -U-

AUTHOR--(05)-NAZAROV, L.E., KUZENKOV, A.F., MALAKHOV, S.G., VOLOKITINA, L.A., GAZIEV, YA.I.

COUNTRY OF INFO--USSR

SOURCE--J. GEOPHYS. RES. 1970, 75(18), 3575-88

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVE AEROSOL, TROPOSPHERE, FISSION PRODUCT, STRATOSPHERE, JET STREAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0933

STEP NO--US/0000/70/075/018/3575/3588

CIRC ACCESSION NO--AP0136364

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136364

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DISTRIBUTION OF RN DAUGHTERS AND CONC. OF AEROSOL FISSION PRODUCTS IN THE TROPOSPHERE WERE MEASURED OVER THE USSR DURING SEVERAL PERIODS FROM 1963 TO 1968. AN INTENSIVE FISSION PRODUCT TRANSPORT FROM THE STRATOSPHERE TO THE TROPOSPHERE OCCURS ON THE CYCLONIC SIDE OF THE JET STREAM. AS A RULE, THE INCLUSION OF THESE PRODUCTS IN THE SURFACE AIR IS OBSERVED ON THE ANTICYCLONIC SIDE OF THE JET STREAM. THE SIMPLEST THEORETICAL SCHEME IS GIVEN TO DESCRIBE THE VERTICAL DISTRIBUTION OF RN AND FISSION PRODUCT CONCNS. IN THE TROPOSPHERE; THE THEORY TAKES INTO ACCOUNT THE VERTICAL TURBULENT EXCHANGE COEFF. AND VERTICAL MOTION. THE DIRECTIONS OF VERTICAL MOTION, ESTD. FROM THE VERTICAL DISTRIBUTION OF BOTH RN AND FISSION PRODUCTS IN THE TROPOSPHERE, AGREE VERY CLOSELY WITH METEOROL. DATA.

FACILITY: HYDROMETEOROL. SERV., INST. EXPTL. METEOROL.,

OBNIINSK, USSR.

UNCLASSIFIED

AA0043307

N

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

240739 TRANSFORMATION OF RADIO PULSES INTO VOLTAGE VIDEO PULSES is useful in measurement of the amplitude difference of the radio pulses. The radio pulses are detected by (1) and applied to the reading stage (3), which receives also the pulses from the detector (2) of the return path. Their difference is amplified and applied to the modulator (5). The carrier frequency is supplied by the generator (6). The modulated pulses are amplified (7), applied to the detector (2) and to the stroking amplifier (9) which is controlled by stroke forming pulses-stage (8). The output is detected by the detector (10).

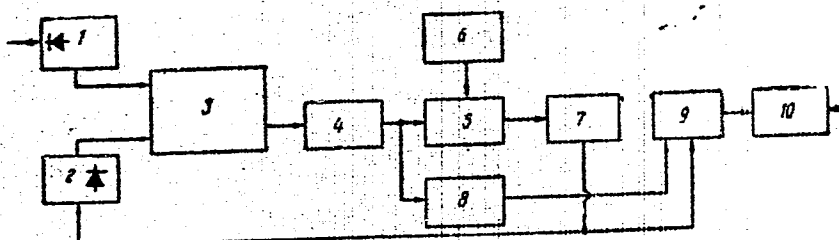
30.11.67 as 1200377/26-9, M. K. NAZAROV (14.8.69)
 Bul 13/1.4.69. Class 21a. Int. Cl. H 03k.

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19761509

AA0043307



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19761510

1/2 031

UNCLASSIFIED -U-

PROCESSING DATE--13NOV70

TITLE--THE THEORY OF SIGNAL TRANSMISSION

AUTHOR--(03)--NAZAROV, M.V., KUVSHINOV, B.I., POPOV, O.V.

COUNTRY OF INFO--USSR

SOURCE--THE THEORY OF SIGNAL TRANSMISSION (TEORIYA PEREDACHI SIGNALOV)
MOSCOW. SVYAZ. 1970. 367 PP.

DATE PUBLISHED-----70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--SIGNAL TRANSMISSION, MATHEMATIC ANALYSIS, SIGNAL CODING,
HANDBOOK

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1277

STEP NO--JR/0000/70/000/000/0001/0367

CIRC ACCESSION NO--AM0130262

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 031

CIRC ACCESSION NO--AM0130262
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TABLE OF CONTENTS: PREFACE 10.
INTRODUCTION 11. CHAPTER I MATHEMATICAL REPRESENTATION OF MESSAGES,
SIGNALS AND INTERFERENCES 15. II CONVERSION OF COMMUNICATIONS AND
SIGNALS 81. III MODULATED SIGNALS 112. IV CHANNELS OF INFORMATION
TRANSMITTERS 148. V FUNDAMENTALS OF THE THEORY OF INFORMATION
TRANSMISSION 174. VI TRANSMISSION OF DISCRETE COMMUNICATIONS 219.
VII CORRECTION CODES 269. VIII TRANSMISSION OF CONTINUOUS
COMMUNICATIONS 294. IX TRANSMISSION OF COMMUNICATIONS BY MULTICHANNEL
SYSTEMS 323. CONCLUSION 366. LITERATURE 367. THIS IS A TEXT BOOK
APPROVED BY THE MINISTRY OF COMMUNICATION OF THE USSR FOR STUDENTS AT
ELECTROTECHNICAL INSTITUTES OF COMMUNICATION. DISCUSSED ARE THE BASIC
POSITIONS OF THE THEORY OF TRANSMISSION OF CONTINUOUS AND DISCRETE
COMMUNICATIONS ALONG COMMUNICATION CHANNELS. EXAMINED ARE QUESTIONS ON
THE THEORY OF INFORMATION, THEORY OF POTENTIAL RESISTANCE TO
INTERFERENCE AND THE THEORY OF CODING.

UNCLASSIFIED

USSR

UDC 533.95

BAKAY, A. S., YERMAKOV, A. I., and NAZAROV, N. I., Physicotechnical Institute, Academy of Sciences Ukrainian SSR, Khar'kov

"Study of Low-Frequency Plasma Oscillations by Amplitude Modulation of Microwave Radiation"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 1, Jan 71, pp 12-18

Abstract: If, along with electronic Langmuir waves excited by the beam in a plasma-beam system waves propagate in the plasma whose frequencies are much less than the electronic plasma frequency, the Langmuir waves may be transformed into transverse waves with frequencies close to the electronic plasma frequency. The effective transformation of the Langmuir into transverse waves will take place on low-frequency waves which strongly disturb the plasma density. The plasma density fluctuations result not only in the transformation of the Langmuir into transverse waves but also in amplitude modulation of these waves. The Langmuir wave amplitudes and, together with them, the amplitude of the UHF emis- 1/2

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USSR

BAKAY, A. S., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 1, Jan 71, pp 12-18

sion from the plasma prove to be modulated low-frequency oscillations, so that a study of the amplitude modulation of the UHF emission from the plasma at close-to-electron-plasma frequencies makes it possible to judge the low-frequency oscillation spectrum of the plasma. An experimental study of wave transformation and interaction in a plasma-beam system was carried out on a device consisting of a solenoid, discharge tube, exciting coil, diamagnetic probe, microwave circuit, magnetic probe, x-radiation detector, Faraday cylinder, electrostatic analyzer, and electron gun. A comparison of the depths of amplitude modulation of the UHF emission on the frequency of a fast magneto-sound wave whose amplitude is known and on the frequency of ion-sound oscillations makes it possible to valuate the amplitude of the latter.

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USSR

UDC 533.916

BAKAY, A. S., YERMAKOV, A. I., NAZAROV, N. I.

"Study of Low-Frequency Oscillations on the Basis of Amplitude Modulation of Ultrahigh-Frequency Radiation From a Plasma"

Fiz. plazmy i probl. uprav. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 40-47 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G191)

Translation: It is shown that radiation from a plasma at the frequency ω_{ep} (where ω_{ep} is the electron plasma frequency), that appears upon the injection of an electron beam into a plasma in which a fast magnetosonic wave is excited, appears as a consequence of the nonlinear interaction of Langmuir and fast magnetosonic waves. Oscillations in plasma density lead not only to transformation of Langmuir waves into transverse waves but also to amplitude modulation of these waves. A study of amplitude modulation of ultrahigh-frequency radiation from the plasma at a frequency on the order of ω_{ep} makes it possible to determine the spectrum of low-frequency oscillations of the plasma (their frequency is considerably less than the electron

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USSR

BAKAY, A. S., et al, Fiz. plazmy i probl. upravl. termoyader. sinteza.
Resp. mezhved. sb., 1972, No. 3, pp 40-47

plasma frequency). In addition, one can evaluate the amplitude of low-frequency oscillations in the system on the basis of the depth of the amplitude modulation of the ultrahigh-frequency radiation.

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UDC: 681.325.3

USSR

NAZAROV, O. B.

"Analog Voltage-to-Digital Code Tunnel Diode and Transistor Converter"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1970, vyp. 200, PP 189-195 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep 70, Abstract No 9B553)

Translation: This article contains a description of a converter designed as a two-comparator circuit with time coding having the following technical characteristics: converted voltage range of +0.5-10 volts; nonlinearity of the conversion characteristics no greater than 0.1; conversion frequency, ≤ 3 kilohertz; repetition rate of the counter pulses, 10 megahertz. As a result of experimental checking of the thermal instability of the converter readings it was found that the instability coefficient of the conversion characteristic in the circuit without a thermally compensating circuit will not exceed 0.6 percent; and in a circuit with thermal compensation, 0.3 percent. There is one illustration and a three-entry bibliography.

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USSR

UDC 621.373.531.1

NAZAROV, O. P.

"Effect of the Parameters of the Trigger Signal on the Pulse Length of a Slave Multivibrator made of a Tunnel Diode"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1970, vyp. 215, pp 199-206 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G224)

Translation: The effect of the amplitude and length of the trigger pulse on the length of the output pulse of a slave multivibrator made of a tunnel diode is analyzed. Expressions are obtained for the laws of variation of the currents in the inductance of the circuit and also the relations defining the requirements on the maximum allowable amplitude of the trigger signal for two operating conditions of the multivibrator. Recommendations are made with respect to selecting the circuit parameters from the point of view of decreasing the effect of the trigger signal on the pulse length. The bibliography has one entry.

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USSR

UDC 541.183

CHUVELEVA, E. A., NAZAROV, P. P., CHMUTOV, K. V., Institute of Physical Chemistry, Academy of Sciences USSR

"Study of the Mechanism of Metal Ions Sorption on Phosphate Cation Exchangers"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 9, 1971, pp 2297-2301

Abstract: Interaction of uranyl, copper, and nickel ions with the styrene- and p-divinylbenzene phosphate cation-exchange resins was studied by the adsorption and potentiometric titration techniques. The experimental partition coefficients of the uranyl ion were found to be high at a low nitric acid concentration and those of Cu and Ni to increase steadily with the increase in pH and decrease in ionic strength of solution. In contrast to carboxylate resins, sorption of uranium on phosphate resins proceeds by a chemical reaction mechanism. The tabulated stability constants of the uranium complex formed indicate a strong affinity between uranyl ion and phosphate group of the resin, which indirectly

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USSR

CHUVELEVA, E. A., et al, Zhurnal Fizicheskoy Khimii, Vol 45,
No 9, 1971, pp 2297-2301

confirms the previously suspected existence of a covalent bond. In contrast the tabulated stability constants of Cu and Ni complexes indicate a relatively weak affinity between these metals and phosphate groups of the resins, apparently because they are bonded by electrostatic forces. The Cu complex contains only two phosphate groups.

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1/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--MECHANISM OF METAL ION ABSORPTION ON CARBOXYL CATION EXCHANGERS. V.
FORMATION OF H A SUB3 TYPE URANYL ION COMPLEXES --U--

AUTHOR--(03)--CHUVELEVA, E.A., NAZAROV, P.P., CHMUTOV, K.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 482-5

DATE PUBLISHED--70

N

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, CATION EXCHANGE RESIN, METAL,
CARBOXYLIC ACID, CHEMICAL BONDING, ORGANIC COMPLEX COMPOUND/(U)S61
CATION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2172

STEP NO--UR/0076/70/044/002/0482/0485

CIRC ACCESSION NO--AP0125752

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

GIRC ACCESSION NO--AP0125752

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS OF FORMATION OF URANYL COMPLEXES WITH 3 CARBOXYL GROUPS OF RESIN SG-1 ARE DESCRIBED. BASED ON RESULTS OBTAINED BY A PREVIOUS METHOD (P. P. NAZAROV, ET AL., 1969). BAR N, QUANTITY OF ADSORBENT FOR 1 ATOM OF METAL, WAS 3.0, AND ONLY THE 3RD COMPLEX WAS FORMED AT URANYL CONCNS. OF 0.0025 AND 0.005MU. REACTION EQUIL. CONSTS. AND STABILITY CONSTS. OF THE COMPLEXES ARE GIVEN. THE MEAN NO. OF COORDINATED GROUPS N IS APPROXIMATELY EQUAL TO 3, WHICH INDICATES THE PRIMARY FORMATION OF URANYL COMPLEXES WITH 3 CARBOXYL GROUPS. EXPTL. AND CALCD. DATA ARE COMPARED; THE BERRUM-GREGORS CALCN. METHOD COULD BE USED WHEN ONLY 1 COMPLEX COMPD. WITH A CONST. NO. OF LIGANDS WAS FORMED. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--MECHANISM OF METAL ION ADSORPTION ON CARBOXYLIC CATION EXCHANGERS.
 VII. ADSORPTION OF PRASEODYMIUM BY THE RESIN SG 1 -U-
 AUTHOR--(03)-CHUVELEVA, E.A., NAZAROV, P.P., CHMUTOV, K.V.
 COUNTRY OF INFO--USSR
 SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 966-9
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--ION EXCHANGE RESIN, PRASEODYMIUM, COMPLEX COMPOUND, CARBOXYLIC ACID/(U)SG1 ION EXCHANGE RESIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3004/1977 STEP NO--UR/0057/70/044/004/0966/0969
 CIRC ACCESSION NO--AP0132238
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 008

CIRC ACCESSION NO--AP0132238
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE PR PRIME3 POSITIVE ION EXCHANGER. K PRIMEH SUBPR3 POSITIVE, THE CONST. OF EXCHANGE H-PR PRIME3 POSITIVE VARIED FROM 5.6 TIMES 10 PRIME3 TO 2.3 TIMES 10 PRIME4 IN THE PH RANGE 2.66-4.04, WHILE K PRIMEA POSITIVE SUBPR3 POSITIVE WAS INDEPENDENT OF PH AND EQUAL TO 40. THE STABILITY CONST. K SUB3 OF THE PR-COOH COMPLEX, DETD. ACCORDING THE METHOD OF BJERRUM, IS 3.3 TIMES 10 PRIME6. THESE FIGURES DEMONSTRATE A RELATIVELY LOW AFFINITE OF PR PRIME3 POSITIVE IONS FOR THE CARBOXYLIC GROUPS OF THE RESIN. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--STUDY OF THE MECHANISM OF SORPTION OF METAL IONS ON CARBOXYLIC
 CATION EXCHANGERS. V. THE FORMATION OF COMPLEX URANYL COMPOUNDS OF THE
 AUTHOR--(03)-CHUVELEVA, E.A.; NAZAROV, P.P.; CHMUTOV, K.V.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. FIZ. KHIM.; 44: 482-5(FEB 1970)
 DATE PUBLISHED----FEB70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--URANIUM COMPOUND, CARBOXYLIC RADIACAL, CATION EXCHANGE RESIN,
 COMPLEX COMPOUND/(U)SG1 ION EXCHANGE RESIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3008/0966
 CIRC ACCESSION NO--AP0137994
 STEP NO--BU/2505/70/044/000/0482/0485
 UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137994

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE CONDITIONS OF FORMATION OF URANYL COMPLEXES WITH THREE CARBOXYLIC GROUPS OF THE SG-1 RESIN. THE PROBABILITY OF FORMATION OF COMPLEX COMPOUNDS WITH THE COORDINATION OF THE MAXIMUM NUMBER OF ACTIVE GROUPS OF THE RESIN INCREASED WITH DECREASING CONCENTRATION OF THE METAL IN THE INITIAL SOLUTION. FACILITY: INST. OF PHYSICAL CHEMISTRY, MOSCOW.

UNCLASSIFIED

172 011 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--MECHANISM OF METAL ION ADSORPTION ON CARBOXYLIC CATION EXCHANGERS.
 VI. ADSORPTION OF COPPER AND NICKEL IONS ON SG,1 RESINS -U-
 AUTHOR--(04)-YLFRYAKOVA, N.K., NAZAROV, P.P., CHUVELEVA, E.A., CHMUTOV,
 K.V.
 COUNTRY OF INFO--USSR
 SOURCE--Zh. Fiz. Khim. 1970, 44(3), 720-3
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--CATION EXCHANGE RESIN, ADSORPTION, COPPER COMPLEX, NICKEL
 COMPLEX, CARBONYL RADICAL, STABILITY CONSTANT/(U)SG1 ION EXCHANGE RESIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3002/1211 STEP NO--UR/0076/70/044/003/0720/0723
 CIRC ACCESSION NO--AP0128629
 UNCLASSIFIED

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2/2 011

UNCLASSIFIED

PROCESSING DATE--ZONGV70

CIRC ACCESSION NO--AP0128629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF 0.019 AND 0.038M CU(NO SUB3) SUB2 AND 0.0196M NI (CLO SUB4) SUB2 WITH THE CATION EXCHANGER SG,1 (PK SUBDISSOCN. 5.4 AND 5.52 IN NANO SUB3 AND NACLO SUB4 SOLNS., RESP.) WAS STUDIED BY MEASURING THE PH OF THE SG,1 SUSPENSION AND EXTENT OF CU PRIME2 POSITIVE AND NI PRIME2 POSITIVE ADSORPTION AFTER THE ADDN. OF VARIOUS AMTS. OF ALKALI. BOTH OF CU PRIME2 POSITIVE NI PRIME2 POSITIVE FORM A COMPLEX WITH 2 CARBOXYL GROUPS. CU IS MORE FIRMLY COMPLEXED, WITH A STABILITY CONST. K SUB2 TIMES 10 PRIME NEGATIVES EQUALS 0.93 AND 1.2 FOR THE CONCNS. 19 AND 38 MM-1., RESP., WHILE NI HAS K SUB2 EQUAL 0.013 TIMES 10 PRIME5 AT THE STUDIED CONCEN. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

N Ion Exchange

UDC 541.183

USSR

CHUVELEVA, E. A., NAZAROV, P. P., and CHMUTOV, K. V., Institute of Physical Chemistry, Academy of Sciences USSR, Moscow

"Mechanism of Sorption of Metal Ions on Carboxyl Cation Exchangers. V. Formation of Complexes of the Type $\overline{M(A)_3}$ by the Uranyl Ion"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 2, Feb 70, pp 482-485

Abstract: Adsorption of UO_2^{++} ions by the cation-exchange resin SG-1 with three COOH groups from solutions contains uranyl nitrate, NaOH, and $NaNO_3$ was studied. Data obtained on equilibria in the solution-resin system at pH 1.72-3.36 indicated that a complex of the type $\overline{UO_2(A)_3}$ formed on the resin and that this complex combined with Na^+ to form $Na\overline{UO_2(A)_3}$ in preference to binding H^+ with the formation of $H\overline{UO_2(A)_3}$. Experiments in which $NaNO_3$ containing ^{22}Na was used confirmed the results in regard to the adsorption of Na^+ . With increasing amounts of UO_2^{++} adsorbed on the resin, the adsorption of Na^+ increased because of formation of the compound $Na\overline{UO_2(A)_3}$.

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USSR

UDC 541.183

CHUVELEVA, E. A., NAZAROV, P. P., and CHMUTOV, K. V., Institute of Physical Chemistry, Acad. Sci. USSR, Moscow

"Kinetics of the Ionic Exchange on Complex Forming Resins. I. Sorption Kinetics of Uranyl, Sodium, and Barium Ions on Carboxyl and on Phosphate Resins"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 11, Nov 72, pp 2865-2869

Abstract: Sorption kinetics of uranyl, barium and sodium ions on the H-forms of the carboxyl cation exchange resins SG-1, Amberlite IRC-50 and the phosphate cation exchange resin of the KRF type has been studied as a function of the concentration of the metals in starting solution, as a function of graininess and the degree of crossgrafting of the ion exchange resins. The rate of uranium sorption increases with decreasing grain size of the exchange resin. The exchange rate of uranium increases with increasing concentration of uranium in the starting solution. Finally, the exchange of sodium takes place much faster on the phosphate resin than on SG-1 material.

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AA0051861 S. I. NAZAROV

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, ^{VAD}

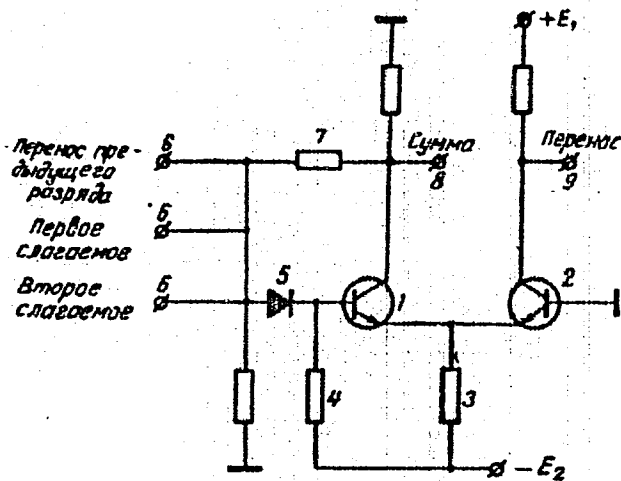
242497 BINARY SUMMATOR suitable for a digital computer has been designed and contains two resistors 1 and 2, the emitters of which are connected through a common resistor 3 to the displacement source - E2. The transistor base 2 is earthed and base of transistor 1 through resistor 4 is connected to the displacement source and through diode 5 to the entry of circuit 6 (through resistor 7).
21.12.67 as 1205608/18-24.A.P.BUDENNYI et al.
(5.9.59) Bul 15/25.4.69. Class 42m³. Int.Cl.G 06f. ⁴

AUTHORS: Budennyi, A. P.; Lutskiy, V. A.; Kontarev, V. Ya.;
Nazarov, S. I.; Kramarenko, O. L.; Shishkeyich, A.A.

V2

19820296

AA0051861



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19820297

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ANOMALOUS REACTION OF ARYLTHIOETHANOLS WITH PHOSPHORUS TRICHLORIDE
-U-
AUTHOR--(05)-KHOKHLOV, P.S., KALUTSKIY, L.A., NAZAROV, T.A., MOCHALKIN,
A.I., BLIZNYUK, N.K.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 795-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHANOL, PHOSPHORUS CHLORIDE, ORGANIC SULFUR COMPOUND, ARYL
RADICAL, ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1502 STEP NO--UR/0079/70/040/004/0795/0797
CIRC ACCESSION NO--AP0135163
UNCLASSIFIED

N

2/2 011

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 0.01 MOLE PCL SUB3 TO 0.03 MOLE PHSCH SUB2 CH SUB2 OH AND 0.05 MOLE ETHYLENE OXIDE IN MEPH AT 0-5DEGREES, HOLDING AT 10-15DEGREES UNTIL REACTIVE CL HAD BEEN CONSUMED, AND EVACUATING THE MIXT. SEVERAL HR AT 100DEGREES GAVE AFTER ADDN. OF 0.01 MOLE H SUB2 O AND HEATING TO 100DEGREES, A LITTLE PHSCH SUB2 CH SUB2 OH, B SUB2 110-17DEGREES, AND 80.9PERCENT (PHSCH SUB2) SUB2, M. 61-2DEGREES. SIMILARLY WERE PREPD. THE ANALOGS WITH ARYL GROUPS SHOWN: P-MEOC SUB6 H SUB4 (I) M. 102-3DEGREES; O,CLC SUB6 H SUB4, M. 75-6DEGREES; AND P,CLC SUB6 H SUB4, M. 87-8DEGREES. IF PCL SUB3 IS REPLACED BY PHCH SUB2 PCL SUB2 THE 1ST REACTION GAVE THE SAME PRODUCT BUT IN 61PERCENT YIELD; REPLACING ETHYLENE OXIDE BY ET SUB3 N GAVE A 68PERCENT YIELD OF THE SAME PRODUCT; IF HCL ACCEPTOR IS OMITTED, THE REACTION WITH PCL SUB3 GIVES MAINLY CLCH SUB2 CH SUB2 SPH. HEATING 3 MOLES PHSCH SUB2 CH SUB2 OH WITH 1 MOLE (ET SUB2 N) SUB3 P AT 120-30DEGREES WITH DISTN. OF ET SUB2 NH GAVE AFTER FINAL TREATMENT WITH 1 MOLE H SUB2 O AT 90-100DEGREES 2 HR, 77PERCENT (PHSCH SUB2) SUB2. HEATING 0.06 MOLE PHSCH SUB2 CH SUB2 OH WITH 0.03 MOLE H SUB3 PO SUB3 AND A TRACE H SUB2 SO SUB4 IN XYLENE 3 HR WITH SEPN. OF H SUB2 O GAVE 69PERCENT (PHSCH SUB2) SUB2. REACTION OF P,MEOC SUB6 H SUB4 SK WITH (BRCH SUB2) SUB2 IN ETOH GAVE 83PERCENT I; ANALOGS WERE PREPD. SIMILARLY FOR STRUCTURE PROFF. FACILITY: VSES. NAUCH.-ISSLED. INST. FITOPATOL., USSR.

UNCLASSIFIED

USSR

UDC: 539.3:534.1

KOTS, V. M., LIPOVSKIY, D. Ye., NAZAROV, V. A., TODCHUK, V. A. SHUN, V. M.

"Experimental Studies of Stability of Ribbed Cylindrical Shells and Results of their Statistical Processing"

4-Ya Vses. Konf. Probl. Ustoychivosti v Stroit. Mekh., Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability and Structural Mechanics, Abstracts of Reports -- Collection of Works], Moscow, 1972, pp 132-133 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12V303, by B. B. Kabanov)

Translation: Results are presented from an experimental study of the stability of reinforced circular cylindrical shells in axial compression. The influence of initial form imperfections, unevenness of loading and geometry of supports is explained. It is suggested that the critical compressive force be determined by the formula

$$N_* = kN_t, \quad k = 0.1 + 0.9e^{-\lambda A}$$

where N_t is the theoretical value of critical force; A is a geometric parameter.

Coefficient λ characterizes random perturbations and is determined by statistical processing of the results of experiments. Values of coefficient k

1/2

USSR

Kots, V. M., Lipovskiy, D. Ye., Nazarov, V. A., Todchuk, V. A., Shun, V. M.,
4-Ya Vses. Konf. Probl. Ustoychivosti v Stroit. Mekh., Tezisy Dokl., Moscow,
1972, pp 132-133.

produced in published experiments are presented. The significant influence of
initial imperfections and unevenness of application of compressive loads on
the stability of reinforced shells is noted.

2/2

- 132 -

Radiobiology

UDC 612.822.3.014.432:31

USSR

ANAN'YEV, V. M., VLASOVA, N. I., NAZAROV, V. A., SOBOLEVA, K. V., STEFASHKIN, Yu. P.

"Mutual Correlation Coefficients of the Electroencephalograms of Irradiated Rabbits"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1972, pp 51-53

Abstract: A study was made of means of dynamic characterization of the system of mutual relationships in the cortical electrical activity of rabbits by mutual correlation coefficients of the EEG. The experiments were performed on seven rabbits using the procedure described previously [V. M. Anan'yev, et al., Byull. eksper. biol., No 1, 91, 1966]. The nature of the variations of the mutual correlation coefficients of the EEG for background recordings lasting 28 seconds was studied. The dynamics of the variation of the mutual correlation coefficients averaged with respect to the entire cerebral cortex of rabbits irradiated by gamma-radiation in a superlethal dose of 1,500 roentgens are illustrated in graph form. The presented data indicate the effect of gamma-radiation on the cerebral cortex of the animals as a whole without space detailing. The mutual correlation coefficient of the EEG combined with the

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USSR

ANAN'YEV, V. M., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny,
No 3, 1972, pp 51-53

frequency and area indexes of the EEG is a sensitive indicator of the variations of the functional state of the cortex, and to a different extent it reflects the nature of the system of mutual relationships of the electrical activity of the cortex in its basic zones. It is expedient to use the generalized correlation index to characterize the reaction of the cortex to irradiation (to estimate the severity of damage to the cortex and the degree of restoration of the initial state).

USSR

UDC 621.315.592.3

2

RUDNEV, V. V., MASLENNIKOV, P. N., NAZAROV, V. A., ZOLOTAREVA, R. V.,
ANTROPOV, V. D.

"Ion Implantation -- New Method of Alloying Semiconductors"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Engineering.
Scientific and Technical Collection. Materials), 1970, vyp. 5, pp 148-149
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G483)

Translation: Results are presented of studying ion alloying of semiconductors on the basis of materials published in Soviet and foreign literature. The basic areas of application of ion beams in the technological process for manufacturing semiconductor instruments are investigated. The effect of penetration of the ions into amorphous and crystalline substrates is described in detail. The effect of the energy of the incident ions, the atomic mass of the substrate, and its crystallinity and orientation on the magnitude of the ion path in the solid state is investigated. A procedure for calculating the mean ion path is presented.

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USSR

UDC: 621.396.6.002:681.3

NAZAROV, V. A., SHCHERBAKOV, V. S.

"Determination of Dimensions in Unit-Modular Design With the Use of Mathematical Modeling"

Elektron. tekhnika. Nauch.-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), vyp. 2(42), pp 35-41 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V285)

Translation: This paper deals with the principles of creating a single system for coordination of dimensions in unit-modular design of equipment for production of articles in electronic technology. It is proposed that computers be used in determining the optimum dimensional parameters of individual units and modules. Requirements which affect optimization of dimensions are presented together with examples of finding the best design by using a mathematical model of the object. Resumé.

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USSR

UDC 8.74

KOSTETSKIY, E. A., NAZAROV, V. D., SAPRYKIN, V. I.

"Application of Combinatory Methods when Analyzing Multiposition Interchangeable Codes"

Fribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Instruments and Automation Systems. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 20, pp 87-89 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V567)

Translation: A mathematical model is presented for calculating the number of code combinations with constant weight as a function of the number of independent groups by which the sample is taken and the number of members of each group. An algorithm is proposed for constructing such codes on a computer. It is noted that the results of the calculations on the computer confirm the correctness of the developed mathematical model.

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1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SEALING OF APPARATUS FOR THE VAPOR TREATMENT OF A FIBER -U-
AUTHOR--(02)-NAZAROV, V.F., DEMEKHINA, N.I.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (3), 48-50
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--TEXTILE INDUSTRY MACHINERY, SYNTHETIC FIBER, GAS STATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/C10 STEP NO--UR/0183/70/000/003/0048/0050
CIRC ACCESSION NO--AP0140276
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 025

CIRC ACCESSION NO--AP0140276

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECTS OF VARYING CONSTRUCTIONAL PARAMETERS (E.G. DIMENSIONS AND NO. OF CHAMBERS, DISTANCE BETWEEN PARTITIONS, LENGTH OF THE CHANNEL) ON VAPOR LEAKAGE WERE STUDIED FOR THE SEALED PARTITIONS OF A MULTIPLE CHAMBER APP. FOR VAPOR TREATMENT OF FIBERS. FLAT PARTITIONS SEEMED SOMEWHAT PREFERABLE TO CONICALLY SHAPED ONES; 8-12 PARTITIONS GAVE LESS LEAKAGE THAN APP. WITH FEWER PARTITIONS. THE LENGTH OF THE CHANNEL PRACTICALLY DID NOT INFLUENCE THE DEGREE OF SEALING. THE HYDRAULIC STRENGTH OF THE APP. WAS IMPROVED BY DECREASING THE LENGTH OF EACH CHAMBER AND INCREASING THEIR NO.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ALLOY FOR ALLOYING STEEL -U-

AUTHOR--(05)-STROGANOV, A.I., POVOLOTSKIY, D.YA., NAZAROV, V.F., TULIN,
N.A., LYUBIMOV, V.N.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,889
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNVE ZNAKI 1970,
DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, STEEL CONSTITUENT, ALLOY STEEL, TUNGSTEN
STEEL, SILICON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1833

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132098

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