USSR

NAVROTSKIY, I. V., and TOMENKO, YU. S., Zavodskaya Laboratoriya, Vol 39, No 1, 1973, pp 84-87

coefficient and the fracture transition temperature, the resistance to direct pull and the resistance to shear are in the investigated temperature interval on the bonding plane of the layers not lower than the corresponding characteristics of the less durable and more cold short metal component (St.2kp). Six figures, one table, seven bibliographic references.

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USSR

UDC 669-419:669.14

NAVROTSKIY, I. V., TOMENKO, YU. S., and DOLZHENKOV, F. YE., Khar'kov

"Rupture of Multilayered Steel During Dynamic and Static Application of Loads"

Moscow, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 132-136

Abstract: This article contains a study of the relation of the number and arrangement of layers of multilayered steel to its ductile properties. The basic factor here is not only the ductility level at room temperature but also the nature of its variation at lower temperatures. It is important that the types of steel selected as the component metal differ essentially with respect to their resistance to cold. Samples of 3-, 5-, and 7-layer material made of St.2kp and 1Kh18N10T steels were tested to study this problem. The test were performed in the temperature range from +20°C to -100°C. The impact toughness was also determined at the boiling point of liquid nitrogen. By comparing the temperature discontinuity of the impact toughness, it is clear that the amount of ductile steel 1Kh18N10T in the multilayered sample is not the defining factor for cold resistance. The number of layers in the strip has a much greater effect. Within the limits of each group, with an increase in the number of layers, the temperature discontinuity of the impact toughness drops noticeably, i.e.,

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USSR

NAVROTSKIY, I. V., et al, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 132-136

the cold resistance of the material increases. High values of impact toughness are noted for very low temperatures.

When testing layered materials using samples with a notch through the outside layer, the crack intersects each layer on being propagated. With a certain combination of metal component properties, the propagation of the crack can take place discontinuously, stopping at the boundary of the ductile layer with generation of a new crack. This nature of rupture requires additional energy absorption, which explains the very high absolute values of the impact toughness obtained when testing such samples. It is pointed out that the more frequently the layers of the tested types of 1Kh18N10T and St2kp steels are alternated and the more layers there are in the sample, the more uniformly the St2kp steel is strained in the multilayer object. The surface of the notch in a 7-layer sample is coated with a network of fine cracks which go from one steel to another. Against the background of this grid, several well-developed cracks are to be seen, and the opening of the cut is appreciably greater than in samples made of 3-layer steel.

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USSR

NAVROTSKIY, I. V., et al, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 132-136

Thus, by creating multilayer compositions it is possible to lower, appreciably, the threshold temperature of cold brittleness of brittle steel. The resistance to brittle fracture of the multilayered sample depends to a significantly greater extent on the number of layers and their arrangement than on the total content of ductile steel. This is connected with variation of the kinetics of formation of the main crack and an increase in the plasticity of the brittle component. Significant savings of nickel steel (up to 50-60%) are possible as a result of formation of interstitial layers in them of ferrite class steel while retaining sufficiently large energy capacity of the metal at low temperatures.

3/3

USSR

UDC 621.396.622:621.382

VORONENKO, V.P., VYSTAVKIN, A.N., NAVROTSKIY, V.I.

"Concerning Frequency Conversion Of Millimeter And Submillimeter Bands Based On A Volumetric Semiconductor Nonlinear Element"

V sb. Poluprovodnikovyye pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Moscow, Izd-vo "Sovetskoye Radio," No 25, 1971, pp 329-356

Abstract: An analysis including theory is conducted of the operation of a mixer based on a volumetric inertial semiconductor nonlinear element, specifically of n-InSb at helium temperature. A computation is made of the conversion losses for some characteristics of the operating conditions of a mixer, taking account of the distribution of the field of the heterodyne and signal in the volume of the specimen, and various conditions of absorption of the heterodyne and signal. (A block diagram is shown of a device for measuring conversion losses.) An optimization of the material parameters is conducted. Preliminary results are given of an experimental investigation of an InSb converter in the 2- and 4-mm wave band. 7 fig. 1 tab. 20 ref.

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USSR

UDC 621.374.44

HAVROTSKIY, V. I., VIZEL', A. A., VORONENKO, V. P.

"Experimental Investigation of Frequency Multipliers Based on Semiconductor Diodes in the 18-70 GHz Frequency Range"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices and Their Application--collection of works), Vyp. 23, Moscow, "Sov. radio", 1970, pp 246-260 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D26)

Translation: The authors give the results of an experimental investigation of some types of germanium and gallium arsenide diodes for the case of operation in the frequency doubling, tripling and quadrupling mode in various waveguide multiplier designs: "in-line", with parallel waveguides, and "crossed and overlapped." Relationships are given for the output power of the harmonics as a function of the input power and as a function of the input signal. Bibliography of twelve titles. Authors' abstract.

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USSR

UDC 621.374.4.029.65:621.382.2

VIZEL', A.A., [redacted], BERLIN, A.S., VORONINA, L.A., VORONENKO, V.P.

"Frequency Multipliers Based On GaAs Diodes For Millimeter Wavelengths"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1337-1339

Abstract: The results are presented of a study of frequency triplers and quadruplers of millimeter wavelengths (27-36 GHz) based on GaAs diodes. The subject of the study was diffusion diodes with junction capacitance $C_{-6v} = 0.24$--0.4 pf, $\tau_{-6v} = (C_{p-n} \cdot R_s) = 0.6$--0.8 nsec and a breakdown voltage of 40-60 v in an ordinary metalceramic casing; and also diodes with a metal-semiconductor barrier with $C_{0V} = 0.5$--1.0 pf, $\tau_{-2v} = 0.5$--0.8 nsec and a breakdown voltage of 12-24 V (in a small-size metalceramic casing). The experimental study of the diodes was conducted in a frequency multiplier of the waveguide "cross overlap" [krest vnakhlest] type, with open circuits which have a high efficiency and a satisfactorily high output power. It is shown that on the base of GaAs diodes with a metal--semiconductor barrier and also of diffusion GaAs diodes it is possible to create effective frequency multipliers for millimeter wavelengths. The principal results of the work were reported at the 1971 European Microwave Conference. 3 fig. 3 ref. Received by editors, 9 September 1971.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

Amplifiers

USSR

UDC 612.374.4.029.6

KOZLOV, V. A., NAVROTSKIY, V. I., and VIZEL', A. A.

"Study of the Operation of a Varactor Frequency Doubler at the Temperature of Liquid Nitrogen"

Moscow, Radiotekhnika i Elektronika, Vol XVI, No 3, March 1971, pp 441-443

Abstract: This paper contains the results of an experimental study of the operation of a germanium diffusion diode frequency doubler with an output of 20 gigahertz at 77°K. The frequency doubler was designed as a cross wave guide overlapping a diode operating under no-load conditions. The amplitude characteristics of an ordinary diode frequency doubler and one made of diodes operating at low temperatures are compared, and the output power of the frequency doubler is presented as a function of temperature. From these data it is clear that no improvement of the characteristics of the ordinary doubler is observed on lowering the temperature to 77°K. The conclusion is drawn that ordinary parametric germanium diodes can be used to develop cooled signal sources if the frequency multiplier can be tuned at 77°K, and their efficiency in this case is approximately equal to the efficiency of a multiplier at room temperature. The efficiency of the frequency doubler with diodes designed

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USSR

KOZLOV, V. A., et al., Radiotekhnika i Elektronika, Vol XVI, No 3, March 1971, pp 441-443

for operation under cooling conditions increases by 4-5 times at 77°K by comparison with the efficiency for these diodes at room temperature; further tuning is not required in this case. In addition, it is theoretically possible to supply more power to the frequency multiplier submerged in liquid nitrogen.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STATISTICAL ANALYSIS OF WIND VELOCITY MEASUREMENTS IN THE NEAR WATER LAYER, STATISTICAL ANALYSIS OF WIND VELOCITY MEASUREMENTS IN NEAR

AUTHOR-(02)-NAVROTSKI, V.V., FILYUSHKIN, B.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIVA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I OKEANA, VOL VI, NO 3, 1970, PP 292-298

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ATMOSPHERIC SCIENCES

TOPIC TAGS--WIND VELOCITY, OCEAN, OCEANOGRAPHIC BUOY, ANEMOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1554 STEP NO--UR/0362/70/006/003/0292/0298

CIRC ACCESSION NO--AP0114144

UNCLASSIFIED

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0114144 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER GIVES AN ANALYSIS OF TEMPORAL WIND VELOCITY FLUCTUATIONS RECORDED IN AUGUST 1966 IN THE BLACK SEA FROM A FROUDE BUOY. THE BUOY WAS A CYLINDRICAL BODY 15 CM IN DIAMETER AND 10 M LONG IMMERSED VERTICALLY BY A WEIGHTING DAMPING DEVICE TO A DEPTH OF 9.5 M. ON THE UPPER PART OF THE BUOY THERE WAS A DURALUMIN MAST 4 M HIGH TO WHICH FOUR ANEMOMETERS WERE ATTACHED. THE ANEMOMETERS HAD A TIME CONSTANT OF 0.8 SEC. WIND VELOCITY WAS REGISTERED CONTINUOUSLY AT FOUR HORIZONS ON THE TAPE OF A LOOP OSCILLOGRAPH. OBSERVATIONS WERE MADE 100 M FROM THE WINDWARD SIDE OF THE SHIP. THE BUOY WAS CONNECTED TO THE VESSEL BY A MULTISTRAND CABLE AND A CAPRON LINE. THE ENTIRE SYSTEM WAS AT DRIFT. THE TESTS, MADE WITH PRESSURE SENSORS SUSPENDED TO THE BUOY AT A DEPTH OF 40 M, REVEALED THAT A FROUDE BUOY VIRTUALLY DID NOT MOVE VERTICALLY WITH WAVES UP TO 1.5 M. WIND VELOCITIES WERE DETERMINED AT FOUR FIXED HORIZONS 0.5, 2, 4, 2 AND 4 M FROM MEAN SEA LEVEL. TWO SPECTRAL REGIONS WERE INVESTIGATED: FROM 2 TO 10 SECONDS AND FROM 20 TO 100 SECONDS. THE STATISTICAL CHARACTERISTICS OF WIND VELOCITY FLUCTUATIONS AT DIFFERENT HORIZONS FOR DIFFERENT MEAN WIND VELOCITIES ARE COMPARED. FACILITY: INSTITUTE OF OCEANOLOGY.

UNCLASSIFIED

USSR UDC: 534.232.082.73--416

ZYURYUKIN, Yu. A., NAYANOV, V. F., and POLOTNYAGIN, V.A.

"Excitation of Hypersonic Waves by Piezoelectric Converters"

Moscow, Radiotekhnika i Elektronika, No. 5, 1970, pp 1059-1067

Abstract: This article is a continuation of an earlier one published by the authors named above in this same journal (1970, vol. 15, No. 4, p 797). The present article is an analysis in support of the method proposed in the earlier article with regard to piezoelectric thin film converters applied directly or through a fine metallic sublayer to a sonic conductor. The converters are sources of acoustical waves of the first and second type. Because of its simplicity, the method of partial regions of solution of the electromagnetic equations is used; however, the problem can be solved also by the equivalent circuit method as well as by the theory of cavity resonator excitation. In addition to their own method, the authors develop the equivalent circuit and the elec-

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USSR

ZYURYUKIN, Yu. A., et al, Radiotekhnika i Elektronika, No. 5, 1970, pp 1059-1067

trodynamic methods. The results of these methods are compared. And finally, general formulas are obtained for analyzing the reverse transformation and determining optimal conditions.

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USSR

UDC 51.621.391

BUZURKHANOV, V., NAYANZIN, N. G.

"Second Order Boolean Differences"

Vopr. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 42, Tashkent, 1971, pp 13-18, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V577 by N. Katerinochkina).

Translation: The concept of the second order Boolean difference is introduced. A number of its properties are established, the use of which accelerates the process of calculation of these differences.

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USSR

UDC 536.46:533.6

ITIN, V. I., NAYBORODENKO, Yu. S., KOZLOV, Yu. I., USHAKOV, V. P.

"Gasless Combustion of a Mixture of Metal Powders"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 142-147 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B962)

Translation: This paper is concerned with the study of the gasless combustion of mixtures of nickel-aluminum and copper-aluminum powders, the kinetics of reaction diffusion in these mixtures and the increase in volume of brickets due to the formation of new phases. Equations are obtained describing thermal and volume effects in a mixture of metal powders. Authors' abstract.

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AA0052384 Nayda, M.A. UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

243505 FABRIC HEAT TREATMENT DEVICE comprising nozzle with heating elements and perforated tube inside it to supply the treatment agent. The heating elements are placed between the outlet aperture of the nozzle and the perforated tube. This improves the quality of the fabric. The device consists of metal body 1 with slit nozzle 2. It is covered in insulation 3. Within is distributor tube 4 with apertures getting larger towards the middle. In the nozzle part, divided by ribs 5, is heating element 6. The tube is connected to air pressure hoses 7, with cocks 8. The body is held by two clips pivoted to brackets. Handle 11 may be set in two positions - with the slit of nozzle 12 close to fabric 13 (working position) and away from it (non-working position). The body is fixed in the working position by bolts and

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AA0052384

Gordeyev, V. A.; Shirokov, D. V.; Nayda, M. A.; Sechin, N. A.
Leningradskiy Institut Tekstil'noy i Logkoy Promyshlennosti im. S. M. Kirova

fabric movement upwards is limited by a pressure plate. The air output temperature is measured by thermo-couples 16 and maintained by a thermal generator. Cold air from the compressor enters the distributor tube and the air chamber is mixed, passes through the electric heater and meets the surface of the fabric at identical parameters all along the nozzle slit. 13.1.67. as 1125940/28-12. GORDEEV, V.A. et al. Kirov Leningrad Textiles and Light Industry Inst. (22.9.69.) Bul.16/5.5.69. Class 86a. 8b. Int.Cl. D02h, D06c.

2/2

19820979

Powder Metallurgy

USSR UDC 621.762.224

NICHIPORENKO, O. S., NAYDA, Yu. I., and KOCHERGIN, A. V., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Production of Nickel Powder by Spraying"

Kiev, Poroshkovaya Metallurgiya, No 12, Dec 70, pp 1-4

Abstract: A study was made of the possibilities for producing nickel powder with predetermined form and particle size by spraying. Powders with both spherical and nonspherical particles were produced experimentally. The technological and physical properties of powders of both types were analyzed. The required powder form was produced by adjusting the relationship between spheroidization time and cooling time, with spherical particles resulting when the spheroidization time was less than the cooling time. In the experimental portion of the study, the metal was sprayed through a circular slit 0.8 mm in width at a pressure of 2.5 atm. The resulting nickel powder had a spherical particle form when sprayed without additives, and a nonspherical form when 0.05 wt % aluminum was added. Particle diameters for both types of particles averaged 250-350 microns.

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USSR

UDC 621.762.224

NAYDA, YU. I., NICHIPORENKO, O. S., and MEDVEDOVSKIY, A. B., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Aerodynamic Characteristics of Nozzles for Spraying Molten Metal"

Kiev, Poroshkovaya Metallurgiya, No 5, May 73, pp 94-100

Abstract: A study is made of existing nozzles for spraying molten metal, and the design of a new nozzle is proposed which eliminates the sticking of metal during operation in any modes as well as providing effective use of gas flow energy. A diagram of the new nozzle design is given. This design is based on mathematical formulas of aerodynamics for determining critical parameters of optimum shape, flow channel length, metal flow rates, etc. The new nozzle sprays metal with 64% of the particles less than 0.05 mm in size, as compared with three other nozzles in which the percentages of particles less than 0.05 mm are 5, 40, and 35%. 4 figures, 3 tables, 15 bibliographic references.

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USSR UDC 532.694:669.046.542

KRIVOGLAZ, M. A., NAYDEK, V. L., OSINOVSKIY, M. YE., and PERELOMA, V. A., Institute of Metal Physics, Academy of Sciences Ukr SSR and Institute of Foundry Problems, Academy of Sciences Ukr SSR

Kiev, Metallofizika, No 39, 1972, pp 26-37

Abstract: A drop of liquid with a low boiling point in a fused metal is surrounded by a gas layer of their vapors, owing to vaporization. A liquid-gas inclusion is formed. The mechanisms of heat exchange between the metal and inclusion are discussed. It is shown that the basic mechanism of heat transfer through the gas layer can be determined by the turbulence which occurs near the boiling drop. Boundary conditions for the surface problem of thermal conductivity were formulated. The distribution of temperatures around the rapidly moving inclusion, having the shape of an arbitrary rotating figure, at these boundary conditions was determined. The case of a sphere and a strongly flattened ellipsoid were investigated in more detail. The effect of the surface-active film on the movement of an inclusion and heat exchange is discussed. Diffusion of impurity atoms from the fused metal to an inclusion and the chemical reactions at the inclusion-metal interface was examined. The results obtained were used for investigating the interaction of a drop of liquid oxygen with molten Fe-C alloys. 6 bibliographic references.
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USSR

UDC 616.981.452-022.39-036.23-078.7(479)

CHERCHENKO, I. I., OGANYAN, Ye. F., YUNDIN, Ye. V., NAYDEN, P. Ye., YEMEL'YANOV, P. F., GOLUBEV, P. D., FILIMONOVA, Yu. A., GONCHAROV, A. I., LABUNETS, N. F., BABAYEV, M. R., ANANYAN, Ye. L., and KHANGULYAN, E. K., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, and Antiplague Stations, Azerbaydzhan SSR and Armenian SSR

"Experience in Serological Detection of Plague in Rodent Nest Substrate and in Predatory Bird Pellets Under Field Conditions in Natural Foci of the Caucasus"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

Abstract: Use of the antibody neutralization reaction (ANR) employing plague antigenic erythrocyte diagnosticum was studied as a serological alternative to detection of plague by bacteriological analysis, for which it is not always possible to gather test material in the field. The study was based on the experimental finding that plague F1 antigen persists in the environment long after an epizootic has subsided. In the first phase, three areas in the Caucasus in which epizootics had been registered previously were studied in 1969-1971. Samples of rodent nest substrate were found to contain F1 antigen by the ANR, whereas bacteriological methods were generally unsuccessful,

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

(8)

USSR

CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

indicating the usefulness of this method for retrospective analysis. In the second phase an area in which epizootics had not been recorded previously was studied in 1970-1971. While the ANR revealed the presence of F1 antigen in rodent nest substrate, bacteriological analysis did not produce such evidence until 4 months later. This result indicated that the method is also preferential for early detection of plague epizootics. In the final phase pellets regurgitated by predatory birds feeding on plague-carrying rodents were subjected to the ANR. Once again F1 antigen was detected in areas without previous epizootic history up to 2 months prior to detection by bacterial analysis. As a control pellets from an area known to be free of plague for 40 years was subjected to the ANR, and the results were negative. Thus the ANR is shown to be a suitable and preferential method for retrospective and early field detection of natural plague foci.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NEUTRON DIFFRACTION STUDY OF MAGNETIZATION IN LITHIUM FERRITE ALUMINATES -U-

AUTHOR-(02)-NAYDEN, YE.P., ZHILYAKOV, S.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4), 983-7

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY, MATERIALS

TOPIC TAGS--NEUTRON DIFFRACTION, MAGNETIZATION, FERRITE, ALUMINATE, LITHIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0938 STEP NO--UR/0181/70/012/004/0983/0987

CIRC ACCESSION NO--AP0121540

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE METHOD OF NEUTRON DIFFRACTION, TEMP. DEPENDENCES WERE INVESTIGATED OF SUBLATTIC MAGNETIZATIONS IN THE SYSTEM LI SUB0 TIMES 5 FE SUB2 TIMES 5-X AL SUBX O SUB4 FOR COMPNS. WITH X EQUALS 0, 0.2, 0.6, AND 1.0. MEASUREMENTS WERE CARRIED OUT AT 80-650DEGREESK. FOR LOW SUBSTITUTION OF FE PRIME3 POSITIVE BY AL PRIME3 POSITIVE, CONSIDERATION OF BIQUADRATIC EXCHANGE IMPORVES THE AGREEMENT BETWEEN THEORY AND EXPT. FOR LARGE SUBSTITUTIONS (X EQUALS 0.6 AND 1.0), CONSIDERATION OF BIQUADRATIC EXCHANGE IS NOT NECESSARY. THE MAGNETIC MOMENTS OF TETRAHEDRAL AND OCTAHEDRAL SUBLATTICES WERE MEASURED AT 80DEGREESK. A STRONGER DECREASE OF THE MAGNETIC MOMENTS ON ADDN. OF DIAMAGNETIC IONS WAS OBSD. THAN EXPECTED FROM THE NEEL THEORY. THE INDICATED VARIATION OF THE MAGNETIC MOMENTS CANNOT BE EXPLAINED IN TERMS OF THE THEORY OF GILLEO. FACILITY: TOMSK. GOS. UNIV., TOMSK, USSR.

UNCLASSIFIED

USSR UDC: 621.317.755(088.8)

YEFIMCHIK, M. I., NAYDENOV, A. I.

"A Device for Stroboscopic Oscillographic Registration"

USSR Author's Certificate No 267741, filed 16 Aug 68, published 20 Jul 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A387 P)

Translation: It is pointed out that conventional devices for stroboscopic oscillographic registration containing a mixer, strobing oscillator, delay line, trigger circuit, time function oscillator and registration device have a limited frequency range. Moreover, time scanning in the registration device is done in the signal time scale, which precludes the use of "slow-action" registration devices (such as pen recorders). The proposed device contains a number of changes which eliminate these drawbacks. E. L.

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USSR UDC: 621.391.8:519.27

CHELNOKOV, B. A., NAYDENOV, A. I.

"Linear Conversion of a Spectrum of Amplitude-Modulated Waveforms"

Tr. Nauchn.-tekhn. konferentsii "Radioelektronika". T. 6 (Works of the Scientific and Technical Conference on Radio Electronics. Vol. 6), Kaunas, 1970, pp 23-28 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A53)

Translation: Spectral diagrams are used to examine transformation of the time scale of AM signals with retention of their shape in linear circuits with variable parameters. Some types of distortions of the converted signal are considered. Resumé.

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USSR UDC: 621.317.343

CHUPRROV, I. I., ZUBKA, A. I., NAYDENOV, A. Ye., SVESHNIKOV, P. A.

"Measuring the S-Parameters of Remote Objects"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 62-63 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A348)

Translation: In developing panoramic instruments for measuring the parameters of remote objects, particular attention is given to selecting the scheme for connections of SHF units for simultaneous minimization of additional error and maximization of operational convenience. From the operational standpoint, the most suitable scheme is connection of remote objects through a section of high-uniformity cable whose electric length is compensated by introducing another cable in the reference arm of the meter, but in this case an error arises. More accurate but much less convenient is a circuit with a decoupling attenuator. Additional errors (on a fixed frequency) are almost completely eliminated when a double coupler (reflectometer) is brought out from the instrument to the object; the singularties of this method are pointed out. Bibliography of three titles. E. L.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PREDICTION OF F SUB0 F2 USING EXPANSION INTO NATURAL ORTHOGONAL COMPONENTS -U-

AUTHOR-(02)-DVINSKIKH, N.I., NAYDENOVA, N.YA.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 543-546

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MATHEMATICAL SCIENCES

TOPIC TAGS--F LAYER, DIURNAL VARIATION, ORTHOGONAL FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0538 STEP NO--UR/0203/70/010/003/0543/0546

CIRC ACCESSION NO--AP0132726

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134726

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD FOR PREDICTING F SUB0 F2 CAN BE BROKEN DOWN INTO THE FOLLOWING STEPS: 1) EXPANSION OF THE DIURNAL VARIATIONS OF MONTHLY F SUB0 F22 MEDIANS FOR A PERIOD OF YEARS FOR ONE STATION INTO NATURAL ORTHOGONAL COMPONENTS; 2) SECONDARY EXPANSION OF EACH OF THE COEFFICIENTS OF THE FIRST EXPANSION INTO COMPONENTS; 3) DETERMINATION OF THE COEFFICIENTS OF THE SECONDARY EXPANSION FOR THE CONSIDERED YEAR BY SOLVING THE SYSTEM OF EQUATIONS GIVEN IN THIS ARTICLE FOR CERTAIN MONTHS OF THE YEAR; 4) COMPUTATION OF F SUB0 F2 USING THE FORMULA (SHOWN ON MICROFICHE). THE COORDINATE FUNCTIONS X SUBJK (TAU) REPRESENT THE ANNUAL VARIATION OF V SUBJ AND THE COEFFICIENTS V SUBJK (TAU) SHOW THE YEAR TO YEAR CHANGE IN X SUBJK (TAU). DUE TO THE STABILITY OF THE COORDINATE FUNCTIONS X SUBJ AND X SUBJK, EXPANSION INTO NATURAL ORTHOGONAL COMPONENTS NEED BE DONE ONLY ONCE EVERY FEW YEARS. THEN ASSUMING THE COORDINATE FUNCTIONS TO BE KNOWN, THE EXPANSION COEFFICIENTS FOR SUBSEQUENT MONTHS CAN BE FOUND USING TEH EXPRESSION (SHOWN ON MICROFICHE), WHERE F(T, TAU, T) ARE THE KNOWN DIURNAL VARIATIONS OF THE MONTHLY F SUB0 F2 MEDIANS FOR THESE MONTHS. FACILITY: SIBERIAN INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

Acc. Nr.: AP0031964 Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 1, pp 95-96

ON THE PROCEDURE FOR ISOLATION OF MICROLYMPHOCYTES FROM THE PERIPHERAL BLOOD

Bazarnova, M.A.; Naydenova, R.I.

Kharkov Research Institute of General and Emergency Surgery - and Ukrainian Institute of Post-Graduate Medical Training

Two procedures (that of Coulson and Chalmers and of Holub as modified by N. A. Kraskina and the coauthors) were employed successively isolating microlymphocytes from the peripheral blood with a view to utilizing them for preparation of the lymphocytorhexic serum. This method enables obtaining from 300 ml of blood an amount of cells reguired for immunization of 4—5 rabbits, reckoned on the basis that 1 ml of of physiological saline contains suspended in it 5×10^6 of small lymphocytes. The bulk of the blood can be given back to the patient, provided complete sterility is observed.

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REEL/FRAME

19700095

USSR

UDC 621.382.002(088.8)

YATSENKO, N.G., SHAPOSHNIK, K.I., MAYOROV, T.D., SAVAL'SKIY, YU.P.

"Control And Conditions Of Selective Etching Of Silicon By Anhydrous Hydrogen Chloride"

Elektron. tekhnika. Nauch.-tekhn.sb. Upr.kacheatvom i standartiz (Electronics Technology. Scientific-Technical Collection. Quality Control And Standards), 1971, Issue 1(7), pp 91-97 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B451)

Translation: The dependence of the rate of etching of Si by anhydrous HCl at temperatures of 1100--1260° C on the basic thermodynamic and kinetic parameters is obtained. A course of reactions in the diffusion region is possible at temperatures of 1190--1260° C and in the kinetic at 1100--1160° C. The apparent energy activation of the surface of reaction computed from the relation lg V = f (1/T) is equal to 85 kcal/mole. During selective etching thermal SiO_2 is the most resistant to the effect of the gaseous medium. The surface of Si after processing with anhydrous HCl has a high degree of cleanliness and perfection. The optimum regime of etching Si is: temperature 1170° C, concentration of HCl in gas carrier (H_2) 0.019 percent, speed of gas flow in chamber 4 l/min. 7 ill. 2 ref. I.M.

1/1

USSR

VALITOV, R. A., NAYDEROV, V. Z., BARZHIN, V. YA., KULIK, A. A.

Generatory Stimuliruyushchikh Signalov dlya Avtomaticheskikh Sistem Kontrolya (Stimulating Signal Generators for Automated Monitoring and Control Systems), Moscow, ENERGIYA, Biblioteka po Avtomatike, No 461, 1972, 65 pp

Translation: A classification of stimulating signal generators and the requirements imposed on them are presented in this booklet. The principles of constructing stimulating signal generators for controlling the characteristics of radiotechnical channels are discussed.

The booklet is designed for engineers working in the field of automation of control of the operation of radioelectronic devices.

CONTENTS

USSR

VALITOV, R. A., et al., Generatory Stimuliruyushchikh Signalov dlya Avtomaticheskikh Sistem Kontrolya, Moscow, ENERGIYA, Biblioteka po Avtomatike, No 461, 1972, 65 pp

2/2

USSR

UDC 612.143-06:612.592.1

DVURECHENSKAYA, G. YA., NAYDICH, B. G., and KHABENSKIY, B. YA., Department of Normal Physiology, Kemerovo Medical Institute, and Laboratory of Experimental Cardiology, Institute of Normal and Pathological Physiology, Academy of Medical Sciences, Moscow

"Dynamics of Arterial Pressure, Pressure and Metabolic Reactions to Norepinephrine During Adaptation to Cold"

Moscow, Kardiologiya, No 9, 1971, pp 58-63

Abstract: Rats were exposed 6 hours daily for 45 days to temperatures ranging from 6 to 9° and 0 to 5° C. Although arterial pressure was considerably higher at the end of the experiment, each daily exposure to cold lowered it to the pre-experimental level. There was no difference between the experimental animals and the controls in the metabolic test (oxygen consumption) before or after the injection of norepinephrine on day 15 of exposure. On days 30 and 45 there was also no difference in oxygen consumption before the injection of norepinephrine, but oxygen consumption increased significantly after it in both groups. Pressor reactions to norepinephrine intensified on day 15 and then weakened as adaptation proceeded.

1/1

USSR UDC 666.764:532.696.1

NAYDICH, YU. V. and ZHURAVLEV, V. S., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"Adhesion, Wetability and Interaction of Titanium-Containing Melts with Refractory Oxides"

Moscow, Ogneupory, No 1, 1974, pp 50-55

Abstract: This article describes the study of the capillary properties and contact reactions of the titanium-containing melts Cu-Ti, Au-Ti, Sn-Ti and Ni-Mo-Ti to refractory oxides: Al_2O_3 single crystals with the crystallographic planes (0001), $(11\bar{2}0)$, $(10\bar{1}0)$, A-995 ceramic, MgO -- (001) single crystal, and quartz glass. Titanium is a strong interphase active element in all of the systems studied, but its activity depends on the second component of the melt (Cu, Au, etc.). An improvement in wetability was observed with decreasing free energy of formation of the oxide wet. Roughness of the substrate worsens wetting, with the exception of the area of extremely low values of contact angles. A

USSR

NAYDICH, YU. V., and ZHURAVLEV, V. S., Ogneupory, No 1, 1974 pp 50-55

method is suggested for preparation of specimens for determination of the phase composition of the transition layers by X-ray phase analysis. In all the systems studied, the transition layer consisted of the oxides of titanium TiO or Ti_2O_3. In systems in which a lower oxide of titanium TiO was formed, with "metallic" properties, the work of adhesion and wetability were significantly higher than in systems forming les: "metallic" Ti_2O_3 in the interphase zone.

2/2

Powder Metallurgy

USSR UDC 621.762.4.001

NAYDICH, YU. V., LAVRINENKO, I. A., YEVDOKIMOV, V. A., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Study of Compacting During Liquid-Phase Sintering Under Pressure In the W-Cu System"

Kiev, Poroshkovaya Metallurgiya, No 1, Jan 74, pp 34-39

Abstract: Results are presented from studies of liquid-phase sintering under pressure (LPSP) and the compacting processes which take place at high liquid phase content -- 30-60 vol % in the W-Cu system. Data from the tests showed the same relationship of effect of applied pressure on sample shrinkage (compaction) for different starting granularities, volume content of liquid phase, and sintering temperature. This relationship was that the finer the granularity of the powders, the higher the liquid-phase content, and the higher the sintering temperature, the greater is the degree of compaction. A rise in the degree of solid-phase wettability by the liquid phase promotes improved penetration of the liquid into the particle boundaries, thus improving shrinkage and compaction. It was established that shrinkage and compaction in LPSP are independent or depend very little on solid-phase particle size in systems where there is a notable absence of component

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

USSR

NAYDICH, YU. V., et al., Poroshkovaya Metallurgiya, No 1, Jan 74, pp 34-39

solubility and an inelastic solid-phase constituent. A specified plasticity of the solid phase and its incomplete wetting by the liquid phase leads to a certain decrease of shrinkage with increased particle size, and this effect is increased with increased pressure. The obtained results provide the fundamentals for selecting optimum modes which will ensure complete compaction of the sintered composites. Three figures, one table, eight bibliographic references.

2/2

USSR

UDC 669.24'784:669.25'784:523.612

NAYDICH, YU. V., PEREVERTAYLO, V. M., and NOVODNIK, G. M.

"Surface Properties of Ni-C and Co-C Melts"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 72, pp 87-90

Abstract: Surface tension and density of Ni-C and Co-C melts were determined by the "large drop" method. Electrolytic nickel and cobalt, previously remelted in a vacuum with an electron beam, were placed in Al_2O_3 or BeO cups which contained a graphite substrate. Carbon from the substrate mixed with the molten nickel or cobalt to form a hypereutectic concentration from which the equilibrium concentration of carbon along the liquidus line could be calculated in the 1310-1600°C interval.

Polytherms of the investigated melts showed that carbon significantly lowers the surface tension of both Co-C and Ni-C melts. This lowering of surface tension for metals of the iron group was attributed to the molecular-statistical theory of adsorption. The following ratios were extracted from plotted data: 370/5.5, 327/3.6, 341/2.8, where the first number is the magnitude of surface tension lowering (dynes/cm) and the second number is the percent of carbon introduced into the melt for Fe, Co, and Ni, respectively. One figure, 11 bibliographic references.

1/1

UDC 541.183+669.245

USSR

NAYDICH, Yu. V., PEREVERTAYLO, V. M., and NEVODNIK, G. M., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"Study of the Wettability of Graphite by Nickel in Connection With the Process of Carbon Solution in the Liquid Phase"

Kiev, Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 58-61

Abstract: A study was made of the wettability in the system made up of graphite, nickel, and carbon melt as a function of the carbon concentration in the liquid phase from zero to equilibrium and also as a function of widely varying temperatures. The experimental procedure is described, and the results are discussed. By studying the concentration and temperature dependence of wettability of graphite by liquid nickel-carbon alloys in the trans-eutectic region, it was demonstrated that the degree of deviation of the system from equilibrium has a significant effect on wettability of the solid state. The quantitative nature of this relation was established. Wettability is appreciably higher in the nonequilibrium contact system than at equilibrium. Graphs are presented showing the contact wetting angles of graphite with nickel (I) and saturated Ni-C alloys in the trans-eutectic

USSR

NAYDICH, Yu. V., et al, Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 58-61

region as a function of temperature from 1,300 to 1,600°C, the concentration dependence of the wetting contact angle of graphite by nickel-carbon alloys at 1,250°C, and the relation of the degree of wettability to the deviation of the system from the equilibrium state. With an increase in carbon content in liquid nickel from zero to saturation (2.68 wt %), the values of the wetting contact angles increase from 49 to 115° at 1,550°C. Addition of carbon to ~1 wt % has practically no effect on the magnitude of the wetting angle, and only further addition of carbon in the melt causes a sharp increase in this angle. Thus, the high degree of wetting of graphite by nickel is caused by the process of carbon solution in the liquid metal under the effect of the difference in chemical potentials of the carbon in the solid and liquid phases in accordance with the general interpretation of such phenomena.

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UDC 669.71.008

USSR

NAYDOVICH, I. S.

"Dynamics of the Change of Electrical Power Consumption in Aluminum Production"

Sb. materialov Vses. seminara energetikov predpriyatiy tsvetn. metallurgii po ekon. elektroenergii (All-Union Seminar of Electrical Engineers of the Enterprises of Non-ferrous Metallurgy on the Question of Economizing on Electrical Power -- collection of transactions), Moscow, 1970, pp 156-163 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G92)

Translation: At the Volkhovskiy Aluminum Plant the cost of power consumption for black aluminum is 39.6% and 64.9% for Al_2O_3.

A detailed examination is made of the planned consumption norms of power, fuel, and heat approved by different establishments (Gosplan, Glavalyuminiy, Director of the Plant). The contemporary structure of the norms hinders objective deviation from the state of power consumption and is contrary to the economic law requirements.

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Alkaloids

UDC 615.31:582.675.347.074

USSR

NAYDOVICH, L. P., ROSTOTSKIY, B. K., and KIBAL'CHICH, P. N., All-Union Scientific Research Institute of Medicinal Plants, Moskovskaya Oblast, Ministry of Health USSR

"Alkaloids of Certain Cultivated Species of the Berberidaceae Family"

Moscow, Farmatsiya, Vol 91, No 5, Sep-Oct 70, pp 47-49

Abstract: Alcoholic extracts of the roots of Mahonia aquifolia Nutt (Berberis aquifolia Pursh.) from the Berberidaceae family, which was cultivated in the All-Union Institute of Medicinal Plants Botanical Garden, yielded berbamine and berberine. The highest yield of berberine chloride was obtained from the roots, 1.5 g of the product from 100 g of the starting material; the stems gave 0.55 g and the leaves produced 0.35 g of the alkaloid. A crystalline fraction of reduced bases was obtained and according to chromatographic data consisted of four alkaloids. Berberine chloride was also obtained from the roots, leaves and stems of Berberis vulgaris L., -- 100 g of the starting material gave 0.64, 0.4 and 0.3 g of the alkaloid respectively.

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UDC 547.92

USSR

NAYDOVICH, L. P., FESENKO, D. A., and ROSTOTSKIY, B. K., All Union Scientific Research Institute of Medicinal Plants

"On Alkaloids of Mahonia Aquafolia"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 6, 1970, p 775

Abstract: Berberine and berbamine were isolated from the roots of the shrub Mahonia aquafolia. Zinc dust reduction of the quaternary alkaloid fraction in acid yielded one phenol base and two nonphenol bases. The phenol base is identified as tetrahydrojatrorrhizine (k,l-corypalmine), and one of the nonphenol bases is identified as d,l-canadine (tetrahydroberberine). The structure of the other nonphenol base is under investigation.

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USSR UDC 621.382.5

MARTYNOVSKIY, V.S., NAYER, V.A., KHIRICH, I.YA., KRAVCHENKO, P.N.

"Low-Temperature Thermoelectric Microrefrigerator"

V sb. Niskotemperaturn. termoelektrich.materialy (Low-Temperature Thermoelectric Materials--Collection Of Works). Kishinev, 1970, pp 165-168 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B191)

Translation: The construction is described of a 3-stage thermoelectric microrefrigerator. Electric power supply of the thermopile was accomplished by a circuit with current splitting. Consumable power did not exceed 20 watt. The device makes it possible to reduce the temperature to 122 degrees with a heat transfer temperature of 303° K. 2 ill. 1 tab. 2 ref. Author's Abstract.

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NAYER, V. A.

USSR
(REFRIGERATION)

Lundi, 2 Septembre 14.30 – 18.00 h Monday, September 2

3. Session — Thermoelectric Refrigeration, Absorption

Chairman: H. L. von Cube (Germany)

III-17 E. B. Penrod (USA)
Performance Characteristics of a Thermoelectric Refrigerator as a Function of Characteristic Parameters

III-22 T. M. Elfving (USA)
Thermoelectric Refrigeration — Possibilities and Problems

III-28 V. S. Martinovsky, V. A. Naer and S. A. Rozhentseva (USSR)
Thermoelectric Refrigeration and Prospects for its Wide Scale Technical Application

III-10 K. Syrovy (Czecho-Slovakia)
Diagrams of Dimensionless Equations Determining Two Basic Working Regimes of Peltier Heat Pumps

III-1 W. F. Stoecker and J. B. Chaddock (USA)
Transient Temperatures in a Thermoelectric Refrigerator Following a Step Change in Current

Int. Congress Refrigeration, 12 Aug - 4 Sept 63, Munich, Germany

USSR

UDC 621.762.002.5(088.8)

BERUL', G. M., and NAYGUZ, N. I., Odessa Press Plant

"Method of Automatic Hydraulic System Control"

USSR Authors' Certificate No 266565, Cl. 59a, 19, (F 04 b), filed 19 Oct 65, published 14 Jul 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G473P by G. Derkacheva)

Translation: A method is suggested for automatic control of a P/M hydraulic press system through the use of a pump of variable efficiency and a valve to support pressure. In order to increase efficiency of the system while preserving constancy of pressure, system control is effected by comparing the amount of consumption in the overflow main of the supporting valve with that prescribed, by means of the comparator controlling the pump regulator.

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USSR UDC 616.988.75+616.2-036.11-022.6]-097.3

SHADRIN, A. S., YAKUBENKO, A. A., MALYSHEVA, A. M., MAYKHIN, A. N., GROMOVA, M. I., RUMEL', N. B., and SMORODINTSEV, A. A., All-Union Scientific Research Institute of Influenza, Leningrad

"The Effect of Serum Antiviral Inhibitors on Resistance to Influenza and Acute Respiratory Diseases"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 582-586

Abstract: A study conducted on about 1000 men, women, and children living in Leningrad and Murmansk and on 129 volunteers revealed that the presence of beta-inhibitors in the blood significantly reduces the proportion of clinically severe forms of influenza and parainfluenza (a fall by a factor of 2.5), decreases the frequency of severe forms of experimental influenza (down by a factor of 2), and slows the development of immune response to vaccination with highly attenuated influenza strains. Beta-inhibitors do not exert an anti-infectious effect, that is, they do not prevent contraction of the diseases. Their protective value stems from their antitoxic effect, that is, reduction of the severity of influenza and parainfluenza without hindering the body's specific reaction to the infection.

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USSR

UDC 681.2.087.92+62-83

BUDANOV, A. S., GRIGORYAN, V. G., NAYMARK, A. M.

"Elements of a System for Regulation of the Instantaneous Speed of a Synchronous Micromotor"

Elementy Tsifr. Sistem upr. [Elements of Digital Control Systems], Leningrad, Nauka Press, 1971, pp 104-108, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A137 from the Resume).

Translation: The operation of a phase detector and Kipp oscillators with adjustable delay is studied. These elements are used in a system for stabilization of the instantaneous velocity of a synchronous micromotor.
3 Figures; 1 Biblio. Ref.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CLINICAL PICTURE AND DIAGNOSIS OF PULMONARY CYSTS -U-

AUTHOR-(02)-NEYMARK, I.I., NAYMARK, D.A.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 2, PP 33-36

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LUNG, CYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1620 STEP NO--UR/0504/70/042/002/0033/0036

CIRC ACCESSION NO--AP0101680

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101680

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS OBSERVED 50 PATIENTS WITH GENUINE PULMONARY CYSTS (4.2PERCENT CHRONIC SUPPURATIVE DISEASES). 18 PATIENTS HAD SINGLE CYSTS, 32 MULTIPLE. COMBINATION OF MEDIASTINAL AND PULMONARY CYSTS WAS DETECTED IN ONE PATIENT. PECULIARTIES OF THE CLINICAL PICTURE AND DIAGNOSIS OF PULMONARY CYSTS ARE ANALYZED IN THE ARTICLE. THE AUTHORS SUPPOSE THAT MULTIPLE CYSTS ARE CAUSED BY A DEFECTIVE DEVELOPMENT OF THE BRONCHIAL TREE IN THE POSTNATAL PERIOD.

UNCLASSIFIED

USSR

UDC 612.014.426

MIKHAYLOVA-LUKASHEVA, V. D., SKRIPAL', A. V., MEL'NIKOV, V. P., KOROTKIY, V. P., NAYMITENKO, L. V., Gerontology Section of the Belorussian SSR Academy of Sciences

"Study of the Effect of Weak Electromagnetic Field Gradients on Man"

Minsk, Doklady Akademii nauk, BSSR, 1972, Vol 16, No 12, pp 1147-1149

Abstract: The gerontology section jointly with the Electronics Laboratory of the Academy of Sciences Belorussian SSR has begun studies of the effect of weak electromagnetic field gradients on the functional activity of a number of systems of the organism of man and various animals. To detect the reaction of man and animals to weak electromagnetic fields, pulses of exponential shape were used with a frequency corresponding to the rhythms of the physiological processes characterizing the functional state of the organism (f = 0.5-30 hertz) and a frequency of 200-400 hertz corresponding to the rhythms of the excited receptors. The goal was to detect the reaction to the weak electromagnetic field gradients not only of the coherent electromagnetic radiation but also energy gradients of the interference type, white noise, which was created in the 50 hertz to 6 megahertz band. Electroencephalograms, electrocardiograms, phonocardiograms, rheovasograms, plethysmograms and recordings of the arterial pressure and respiration were taken. Electromagnetic energy

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USSR

MIKHAYLOVA-LUKASHEVA, V. D., Doklady Akademii nauk, BSSR, 1972, Vol 16, No 12, pp 1147-1149

(1)

gradients from 0 to $27 \cdot 10^{-24}$ joules were created. The experimental setup and means of calculating the gradients are described in detail in this paper and the variations in the physiological functions will be discussed in later reports.

2/2

USSR

UDC: 621.396.677

NAYMUSHIN, M. P.

"Mutual Impedance of Dipoles of Unequal Length"

V sb. Antenny (Antennas--collection of works), vyp. 10, Moscow, "Svyaz'", 1971, pp 82-86 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B32)

Translation: The method of induced electromotive forces is used for calculating the mutual impedances of parallel and perpendicular dipoles with various distances between them. The length of one dipole is 0.5λ, and the length of the other is from 0.1λ to 2.0λ. Seven illustrations, bibliography of ten titles. Author's abstract.

1/1

USSR

UDC: 621.396.677.71

NAYMUSHIN, M. P.

"Radiation From a Longitudinal Slot in a Rectangular Waveguide"

Tr. Ural'skogo politekhn. in-ta (Works of the Ural Polytechnical Institute), 1970, sb. 183, pp 12-16 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B38)

Translation: The author calculates the radiation pattern of an infinite longitudinal slot in a rectangular waveguide by the method of integral equations. The results of the computation are given in the form of graphs illustrating the dependence of the radiation pattern on the geometry of the system. Three illustrations, bibliography of two titles. N. S.

1/1

UDC: 621.396.677.71

USSR

NAYMUSHIN, M. P.

"Effect Which the Form of the Screen and the Boundary Conditions on the Surface Have on the Emission of a Slot"

Tr. Ural'skogo politekhn. in-ta (Works of the Ural Polytechnical Institute), 1970, sb. 183, pp 5-11 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B37)

Translation: The author considers radiation from a slot located in a screen of small electrical dimensions taking the form of a bent plate. This type of system forms a compact weakly directional antenna. It can be used as a reflector or as an independent radiator. The integral equation of the antenna is derived and used to calculate the radiation patterns for antennas with different geometric parameters. It is shown that introduction of a capacitive impedance from the unexposed side of the screen improves its shielding action. The principal factor is the transverse dimension of the screen rather than its shape. Three illustrations, bibliography of three titles. N. S.

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USSR

UDC 621.314.14(088.8)

NAYMUSHIN, V.A., NIKOLAYEV, A.G., KNYSH, V.A., KONCHENKOV, P.YE.

"Device For Increase Of A-C Voltage Without A Transformer"

USSR Author's Certificate No 261472, filed 7 June 68, published 28 May 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B533P)

Translation: A source of a-c voltage is connected with a load across an inductive-capacitance converter. There is a rectifier bridge, the input diagonal of which is connected in parallel to one of two series-connected capacitors of the converter, and the output is connected between the collector and emitter of a transistor. Between the inductive element of the filter and the emitter of the transistor, a network [tsepochka] is connected of a series-connected transistor and a variable resistor, the movable arm of which is connected across a stabilitron with the transistor base. After breakdown of the stabilitron, the transistor is opened and shunting of the capacitor connected with the bridge takes place. The oscillation frequency of the converter and its Q-factor are reduced, which is accompanied by a reduction of the voltage at the load. As a result, the average value of the voltage at the load is maintained constant. Regulation of the output voltage of the device is also possible. 1 ill. V.Sh.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--AL'FIYA, A NEW HIGH QUALITY LIQUID SYNTHETIC DETERGENT -U-

AUTHOR-(05)-BOLYANOVSKIY, O.M., GETMANSKIY, I.K., LOGUINOVA, N.I., NAYMUSHINA, A.A., KUDYASHOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (3), 34-5

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MATERIALS

TOPIC TAGS--BIODEGRADABLE DETERGENT, AMIDE, FATTY ACID, PHOSPHATE, UREA, BLEACHING AGENT/(U)ALFIYA DETERGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0441 STEP NO--UR/0318/70/000/003/0034/0035

CIRC ACCESSION NO--AP0128011

UNCLASSIFIED

2/2 CC9 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPONENTS OF AL'FIYA ARE PRIMARY ALKYL SULFATES 8-13. SEC-ALKYL SULFATES 3-8, SYNTHONAL DT-7 (A PRODUCT OF OXYETHYLATION OF C SUB10 NEGATIVE13 PRIMARY ALCS.) 0-3, SYNTHAMID,5 (MONOETHANOLAMIDES OF SYNTHETIC FATTY ACIDS) 4, NA HEXANETAPHOSPHATE 4, UREA 13, ISO-PROH 1, BLEACHING AGENT 0.15, PERFUME 0.1, AND H SUB2 O TO 100PERCENT. ALL THE COMPONENTS OF AL'FIYA ARE BIODEGRADABLE. THE WASHING POWER OF A 0.125PERCENT SOLN. OF AL'FIYA IN HARD WATER (15DEGREES) AT 50DEGREES WITH WOOL IS 124-130PERCENT OF THAT OF NA LAURYL SULFATE. AL'FIYA CAN BE USED EFFECTIVELY ALSO FOR SILK AND SYNTHETIC FABRICS. THE STABILITY OF AL'FIYA AGAINST TURBIDITY AT 10DEGREES LASTS GREATER THAN 24 HRS.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PRESENCE OF METABORIC ACID IN THE METABORIC ACID-SULFURIC ACID-WATER SYSTEM AT 25, 30 AND 35DEGREES. III -U-

AUTHOR-(03)-BEREMZHANOV, N.A., NAYMUSHINA, R.F., KARAZHANOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--IAV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 6-12

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SULFURIC ACID, BORIC ACID, SOLUBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1330 STEP NO--UR/0360/70/020/002/0006/0012

CIRC ACCESSION NO--AP0121823

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121823

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITIONS WERE DETD. FOR THE EXISTENCE OF HBO SUB2 IN AQ. SOLNS. OF H SUB2 SO SUB4 AT DIFFERENT TEMPS. BY THE ISOTHERMAL SOLN. METHOD. THE SOLY. WAS DETD. IN SOLNS. OF 0-70PERCENT H SUB2 SO SUB4 AT 25, 30, AND 35DEGREES. IN SOLNS. CONTG. LARGER THAN 30PERCENT SO SUB3, HBO SUB2 IS THE STABLE SOLID PHASE. AT SIMILAR TO 48PERCENT SO SUB3, HBO SUB2 CRYSTALS BECOME VERY FIND. AS THE TEMP. INCREASES THE POINT FOR THE TRANSITION OF THE HBO SUB2 AND INTO H SUB3 BO SUB3 SHIFTS TOWARDS LOWER SO SUB3 CONCNS.: AT 25DEGREES, 30.10PERCENT AND AT 30DEGREES, 18.89PERCENT. IN CONCD, SOLNS. THE HBO SUB2 REACTS WITH THE H SUB2 SO SUB4 TO FORM A COMPD. IN THE SOLID PHASE WITH THE COMPN. 4HBO SUB2 .H SUB2 SO SUB4 .7H SUB2 O. FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC 632.95.028

NAYSHTEYN, S. Ya., and MERENYUK, S. V.

"Behavior of a Number of Persistent Pesticides in the Soil"

Moscow, Zashchita Rasteniy, No 1, 1970, p 20

Abstract: There are numerous reports in the literature of the degree of contamination of the soil with various organochlorine pesticides, but at the same time data on the residual quantities of copper-containing preparations is absent. The degree of soil contamination with copper as a result of the application of Bordeaux mixture and cuprosan in treating orchards was determined.

The content of copper in the soil was increased with the application, repeated five times, of 0.6% suspension of cuprosan (30.75 kg/ha of copper) and 1% Bordeaux mixture (18.75 kg/ha) sprayed on apples planted in sandy soil. At the end of the treatment, copper concentration in a 0-10 cm layer of soil was 30 mg/kg when cuprosan was used, and 21.8 mg/kg when Bordeaux mixture was used. The copper content of control soil was 8.3 mg/kg. A certain in-

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

crease in copper concentration was also noted at a depth of 10-30 cm. In the subsequent period, one and four months after the last application, the content of the preparation at a depth of 0-10 cm had decreased and its content in other layers had increased. But still, the largest amount of copper remained in the surface layer.

To determine the persistence of copper sulfate in the surface (0-10 cm) soil layer, soil was watered with a solution containing 120, 360, 1120 and 1320 kg of the preparation per hectare. The average dose of the fungicide used in a single season is 120 kg of copper sulfate per hectare. Consequently, the expenditure of pesticide in the experiment increased 2.8 times and 11-fold, respectively.

Research has shown that copper sulfate shifts quite rapidly from the surface layers to the deeper layers in sandy soil. After three months, 23-31% of the quantity sown remained at a depth of 0-30 cm. The rate of penetration of the preparation was identical,

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NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Resteniy, No 1, 1970, p 20

regardless of the amount used, but its residues in the upper layers were proportional to the initial concentration. Most of the compound penetrated to a depth of up to one meter during third time.

The behavior of organochlorine pesticides (DDT and hexachlorocyclohexane) was studied under laboratory conditions. Potatoes planted in lysimeters with sandy, clay and chernozem soil, which did not contain the inidcated preparations prior to the experiment, were treated with a 12% dust of hexachlorane at 1,750 kg/ha and with a 1% and 5% mineral-oil emulsion of DDT, at 4,000 l/ha. Such increased quantities of pesticides were used to show the patterns of migration in soil and plants.

Samples were taken on the day treatment was begun, and then once every 1-1.5 months. The soil was taken from the surface layer (0-10 cm) and at depths of 10-20 and 20-30 cm.

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NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

In dusting potato plants, the surface of the soil is contaminated with hexachlorane. Even 1.5 months later, the pesticide was noted at depths up to 20 cm in all soils as a result of the washing action of rainwater. After 2.5 months, hexachlorane was not discovered in the 0-10 cm layer of sand; but amounted to 2.6 mg/kg in clay, and in chernozem dropped from 3.2 to 0.9 mg/kg (in 1.5 months). By that time the pesticide appeared in clay and sand at a depth of 20-30 cm, and not at all chernozem.

In a number of instances, the DDT content in the soil after three months had not onlt not diminished, but had even increased. DDT turned out to be a more stable compound than hexachlorane, and washing the pesticide off the plants could even have facilitated its accumulation in the soil.

After one month, DDT was discovered in significant amounts at a depth of 10-20 cm in all soils, and after three months -- at a depth of 20-30 cm in clay and sand. Like hexachlorane, DDT did

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NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

manage to penetrate to a depth of 0.3 m in chernozem during this time.

A comparison of residual amounts of hexachlorane and DDT in the soil indicates the high persistence of DDT. By the end of the experiment, clay had 18.3% of the hexachlorane, sand -- 8.8%, and chernozem -- 5.3%; for DDT the figures were: 81.2%, 20.1% and 100%, respectively.

The behavior of organochlorine and copper containing pesticides in the soil is practically identical. In the types of soil studied, they accumulated basically in the upper layer. In light soils, their migration was more significant. At the same time, the migrating capability of the preparations studied differed. Copper compounds -- cuprosan and copper sulfate -- penetrated the deep layers more quickly than hexachlorane and DDT.

Studies have shown that hexachlorane penetrates deep and

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NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

reaches tubers from the surface of the soil. Potatoes planted in sand contained 5.0 mg/kg of the preparation, and in chernozem -- 2.35 mg/kg, i.e., in both cases the amount of the pesticide exceeded the permissible concentration of hexachlorane accepted in the USSR (2 mg/kg). DDT was not found in potatoes.

The content of copper in onions planted in loamy chernozem contaminated with copper compounds was significantly higher than in controls.

On the basis of the data obtained, we can assume that the presence of DDT and hexachlorane in an amount of 0.1 mg/kg in a plowed layer does not cause intensive contamination of root crop. With regard to copper compounds, as tests showed, increasing the amount to 2-3 mg/kg of sandy soil does not cause changes in the biocenosis, and transfer of compound into plants will be insignificant.

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USSR

UDC: 51

LITVAK, B. G., NAYVEL'T, A. V.

"Concerning Solution of the Multidimensional Knapsack Problem With Additional Limitations"

Moscow, Issled. po diskretnoy mat.--sbornik (Studies in Discrete Mathematics--collection of works), "Nauka", 1973, pp 69-83 (from RZh-Matematika, No 8, Aug 73, abstract No 8V516 by M. Kazakova)

Translation: A combinatorial algorithm of the "branches and boundaries" type is proposed for solving the problem

$$L(X) = \sum_{j=1}^{n} c_j x_j \to \max,$$

$$\sum_{j=1}^{n} a_{ij} x_j \leq b_i, \quad i = 1, \ldots, m,$$

$$\sum_{j \in A_v} x_j \leq 1, \quad v = 1, \ldots, k,$$

$x_j \geq 0$, x_j is a whole number, $j = 1, \ldots, n$, and

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LITVAK, B. G., NAYVEL'T, A. V., Issled. po diskretnoy mat., "Nauka", 1973, pp 69-83

$A_{v_1} \cap A_{v_2} = \varnothing$ if $v_1 \neq v_2$. $\bigcup_{v=1}^{k} A_v = \{1, \ldots, n\}$. Lower and upper boundaries are sought for the values of the function L(x). In finding the upper boundaries, the authors use estimates for the one-dimensional knapsack problem ($l = 1$). Several possible methods are suggested for constructing these estimates.

2/2

USSR

LITVAK, B. G., NAYVEL'T, A. V.

"The Solution of the Multidimensional Knapsack Problem with Additional Limitations"

Issled. po diskretnoy mat. [Studies in Discrete Mathematics], Moscow, Nauka Press, 1973, pp 69-83 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V516 by M. Kazakova)

Translation: In order to solve the problem

$$L(X) = \sum_{j=1}^{n} c_j x_j \to \max,$$

$$\sum_{j=1}^{n} a_{lj} x_j \leq b_l, \quad l = 1, \ldots, m,$$

$$\sum_{j \in A_\nu} x_j \leq 1, \quad \nu = 1, \ldots, k,$$

$x_j \geq 0$, x_j is an integer, $j=1, \ldots, n$,

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USSR

LITVAK, B. G., NAYVEL'T, A. V., Issled. po diskretnoy mat., Moscow, Nauka Press, 1973, pp 69-83

where $A_{\nu_1} \cap A_{\nu_2} = \emptyset$, if $\nu_1 \neq \nu_2$, $\bigcup_{\nu=1}^{k} A_\nu = \{1, \ldots, n\}$, a combinatorial branchs and

bounds algorithm is suggested. The lower and upper boundaries of values of function L(x) are sought. In seeking out the upper bounds, estimates are used for the one-dimensional knapsack problem (l=1). Several possible methods of construction are suggested.

2/2

USSR

UDC 620.10

PROKOSHKIN, D. A., Doctor of Technical Sciences, Professor, BYKOV, Yu. A., Candidate of Technical Sciences, docent, SOKOLENKO, L. I., Graduate Student, and NAZARCHIK, N. A., Candidate of Technical Sciences, Senior Scientific Staff Member, Moscow Higher Technical School imeni N. E. Bauman

"The Influence of Residual Stresses Upon the Magnetic Properties of Hot-Pressed Ferrites"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 7, 1972, pp 107-110

Abstract: An investigation is made of the relationship of the magnetic properties of ferrites to internal stresses. It is established that the hot pressing and heat treatment of ferrites bring about the origination of considerable residual internal stresses. It is established that strongly stressed ferrites (hot-pressed, hardened) possess low values of initial magnetic permeability. As a result of the annealing of hot-pressed ferrites, the magnetic permeability increases, and the internal stresses decrease by a factor of about 6.5. 2 figures. 1 table. 3 references.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--KINETICS OF GRAIN GROWTH IN SAMPLES OF ALLOYED FERRITES -U-

AUTHOR-(03)-GORELIK, S.S., LEVIN, B.YE., NAZARCHIK, N.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 132-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GRAIN GROWTH, FERRITE, SOLID KINETICS, NICKEL COMPOUND, ZINC COMPOUND, IRON OXIDE, TUNGSTEN TRIOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0596 STEP NO--UR/0148/70/013/001/0132/0135

CIRC ACCESSION NO--AT0050603

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

2/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0050603

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF GRAIN GROWTH WERE STUDIED FOR NI SUB0.5 ZN SUB0.5 FE SUB2 O SUB4 WITH AND WITHOUT ALLOYING WITH WO SUB3 AND CUO. THE GROWTH PROCESS WAS STUDIED DURING ISOTHERMAL HOLDS AT 1200 ADN 1280DEGREES. CURVES FOR THE SIZE DISTRIBUTION OF THE GRAINS AND FOR THE DEPENDENCE OF THE MAX. SIZE ON THE HOLD TIME WERE FOUND. AS THE HOLD TIME IS INCREASED, THE AV. SIZE INCREASES FOR THE UNALLOYED SAMPLES, AND NEITHER VERY LARGE OR VERY SMALL GRAINS ARE PRESENT. FOR THE ALLOYED SAMPLES THE GROWTH PROCESS IS DIFFERENT. THERE IS AN UNEVEN GRAIN GROWTH WHICH IS NATURAL TO SECONDARY RECRYSTN. A SMALL PART OF THE CRYSTALLITES BEGINS TO GROW VIGOROUSLY, ABSORBING THE INITIAL GRAINS WHICH WERE EQUAL IN SIZE. AS THE HOLD TIME IS INCREASED, THE LARGE GRAINS BECOME LARGER, THEIR BOUNDARIES BECOME ALIGNED, AND THE SMALL GRAINS BETWEEN THEM ARE ABSORBED. THE SIZE DISTRIBUTION SHOWS 2 WIDELY SEPD. MAX.; CONSEQUENTLY, THERE ARE 2 GROUPS OF GRAINS WHICH DIFFER GREATLY IN SIZE. AS THE HOLD TIME IS INCREASED, THIS SIZE DIFFERENCE INCREASES. THUS, THE SECONDARY RECYRSTN. IS ACCOMPANIED BY A MARKED DIFFERENCE IN GRAIN SIZE, WHICH GRADUALLY DISAPPEARS IN THE COURSE OF THE PROCESS. A CALCN. MADE FOR FERRITES WITH THE COMPN. NI SUB0.5 ZN SUB0.5 FE SUB2 O SUB3 SHOWED THAT THE ACTIVATION ENERGY FOR GRAIN GROWTH IS 80 KCAL-MOLE.

UNCLASSIFIED

USSR

UDC 616.981.551-085.373.6-084

KOVTUNOVICH, L. G., KARAVANOV, A. G., and NAZARCHUK, L. V., Kiev Scientific Research Institute of Hematology and Blood Transfusion

"Obtaining Antitetanus Gamma-Globulin From Plasma of Immunized Donors"

Kiev, Vrachebnoye Delo, No 8, 1971, pp 140-144

Abstract: Since sera of noninoculated persons surviving tetanus contain no antitoxin, only the plasma from persons immunized with tetanus antitoxin can be used in preparing antitetanus gamma-globulin. In this study the first series of antitetanus gamma-globulin was prepared from plasma donors taken every 3, 5, 10 months after single inoculation of chemical sorbed thphoid-paratyphoid tetanus vaccine. The antitoxin level was determined in 38 individual sera at the same time by titration in white mice. Data showed that the antitoxin level in the sera was low, and in 21 out of 38 sera (in 55.4%), titers were below the protective level, that is, lower than 0.01 IU/ml. To prepare the next series of gamma-globulin, plasma was used from servicemen donors, taken during the first two months after the regular annual polyvalent inoculation. The induction of tetanus antitoxin in response to regular inoculation was fairly low. The titer was higher than 5 IU/ml in only 27.6% of sera tested, while most sera -- 60.6% -- contained antitoxin in a titer

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202210003-9"

USSR

KOVTUNOVICH, L. G., et al., Vrachebnoye Delo, No 8, 1971, pp 140-144

higher than 0.01, but less than 5 IU/ml. To obtain gamma-globulin of higher quality, plasma of inhabitants of Petropavlovskiy Rayon, Dnepropetrovskaya Oblast (twice immunized with sorbed tetanus antitoxin during 1965-1966, followed by revaccination after one year) was used. Individual sera and plasma for gamma globulin preparation were taken from 90 subjects in this group after a second revaccination. In 49.45%, the antitoxin level varied from 0.01 to 5 IU/ml, and in the same percentage -- from 5 to 100 IU/ml. It was found that the best antitetanus toxin levels are obtained upon re-vaccinating only persons with an initial high antitoxin level.

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PROCESSES FOR INITIATING COLUMN CHARGES OF THE SIMPLEST EXPLOSIVES -U-

AUTHOR-(06)-DYADECHKIN, N.I., LOSEV, V.G., ZHELTETSKIY, A.YE., BAYDA, V.I., NAZARCHUK, M.N., SEMKO, G.I.

COUNTRY OF INFO--USSR

SOURCE--GORN. ZH. 1970, 145(3), 36

DATE PUBLISHED--------70

SUBJECT AREAS--ORDNANCE

TOPIC TAGS--AMMONIUM NITRATE, DIESEL FUEL, DETONATION, COMMERCIAL EXPLOSIVE/(U)AS8 GRANULIT EXPLOSIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0763 STEP NO--UR/0127/70/145/003/0036/0036

CIRC ACCESSION NO--AP0136200

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136200

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COLUMN CHARGES OF IGDANIT (A MIXT. OF 7 L. DIESEL FUEL WITH 100 KG GRANULATED NH SUB4 NO SUB3), GRANULIT AS-8, AND ZERNOGRANULIT (THE COMPN. OF THE LAST TWO EXPLOSIVES IS NOT GIVEN) WERE INITIATED. TO AVOID DUST FORMATION WHEN FILLING THE BLAST HOLES WITH ZERNOGRANULIT, 4PERCENT WATER OR DIESEL FUEL WAS ADDED TO THIS EXPLOSIVE. THE EXPTS. WERE DONE IN MINES UNDERGROUND, IN STEEL PIPES 4-4.5 M TIMES 100 MM DIAM., WITH 2.5-MM WALLS. THE EXPLOSIVES DETONATED WHEN INITIATED BY 2 LINES OF DETONATING CORD PLACED ALONG THE WHOLE LENGTH OF THE CARTRIDGES, OR BY TWO DONOR CHARGES (MIN. WEIGHT OF 0.4 KG EACH), CONNECTED BY TWO LINES OF DETONATING CORD.

FACILITY: KRIVOROZH. GORNORUD. INST., KRIVOI ROG, USSR.

1/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--HEAT TRANSFER BY AN INCOMPRESSIBLE FLUID FLOW IN A THERMALLY INSULATED CHANNEL FOR NONSTATIONARY CONDITIONS AT THE INLET -U-

AUTHOR-(02)-DUNDUCHENKO, V.O., NAZARCHUK, M.M.

N

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR, DOPOVIDI, SERIIA A FIZIKO-TEKHNICHNI I MATEMATICHNI NAUKI, VOL. 32, APR. 1970, P. 373-376

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, INCOMPRESSIBLE FLUID, FLUID FLOW, LAPLACE TRANSFORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1808 STEP NO--UR/0441/70/032/000/0373/0376

CIRC ACCESSION NO--AT0125420

UNCLASSIFIED

2/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0125420

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPLICATION OF ALPLACE TRANSFORMS TO THE SOLUTION OF THE PROBLEM OF HEAT TRANSFER BETWEEN AN INCOMPRESSIBLE FLUID FLOW AND INSULATED CHANNEL WALLS, IN THE CASE WHERE THE TEMPERATURE AT THE CHANNEL INLET VARIES WITH TIME. THE PHYSICAL PROPERTIES OF THE MEDIUM ARE ASSUMED TO BE INDEPENDENT OF TEMPERATURE. THE ANALYSIS IS PERFORMED FOR THE ONE DIMENSIONAL CASE.

FACILITY: AKADEMIIA NAUK UKRAINS'KOI RSR, INSTITUT TEKHNICHNOI TEPLOFIZIKI, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

UDC 546.271

USSR

KUGAY, L. N., and NAZARCHUK, T. N., Institute of Problems of Material Sciences, Academy of Sciences, Ukrainian SSR

"The Chemical Resistance of Diborides of the Transition Metals of Groups IV-V in the Periodic Table"

Poroshkovaya Metallurgiya, No 3, Mar 71, pp 51-55.

Abstract: The authors studied the decomposition of diborides of the transition elements in Groups IV and V of the periodic table by several acids in a medium of nitrogen by determining the composition of the gaseous decomposition products and compared the chemical resistance of the diborides to the corresponding metals under the same conditions. Similar studies were performed in air. The diborides of the transition metals of Group IV were found to be less stable than those of Group V. The chemical stability in Group IV increased from hafnium to titanium. In Group V, stability increased with increasing ordinal number of the element from vanadium to tantalum. The decomposition of diborides by acids which are not oxidizers is accompanied by significant liberation of hydrogen, at 4-5 moles per mole of boride decomposed. The borides are strong reducers, stronger than elementary boron and the metal of which they are formed. They are less stable than the corresponding metals.

USSR

UDC 621.762:661.685:546.28

KOPYLOVA, V. P. and NAZARCHUK, T. N., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Decomposition of Powders of Group IV-VI Transition Metal Disilicides During Analysis

Kiev, Poroshkovaya metallurgiya, No 3, 1972, pp 71-74

Abstract: The study deals with the composition of the gaseous decomposition products of Group IV-VI transition metal disilicides by alkaline reagents as well as with finding the optimum reagent for maximum reproducibility. The use of sodium hydroxide, sodium carbonate, sodium peroxide, and fusions with a mixture of sodium carbonate and zinc oxide entails explosions and flashes that are attributed to the liberation of hydrogen and carbon monoxide. The most efficient decomposition of disilicides occurs by fusion with non-dehydrated sodium hydroxide in nickel crucibles. The fusion is nonviolent and is not followed by explosions or flashes since the melting temperature is about 300°C. The nickel of the crucible does not react with the molten sodium hydroxide and causes no loss of fusion. (2 tables, 5 bibliographic references)

1/1

USSR

UDC 546.271

KUGAY, L. N., and NAZARCHUK, T. N., Institute of Problems of Material Sciences, Academy of Sciences, Ukrainian SSR

"The Chemical Resistance of Diborides of the Transition Metals of Groups IV-V in the Periodic Table"

Poroshkovaya Metallurgiya, No 3, Mar 71, pp 51-55.

Abstract: The authors studied the decomposition of diborides of the transition elements in Groups IV and V of the periodic table by several acids in a medium of nitrogen by determining the composition of the gaseous decomposition products and compared the chemical resistance of the diborides to the corresponding metals under the same conditions. Similar studies were performed in air. The diborides of the transition metals of Group IV were found to be less stable than those of Group V. The chemical stability in Group IV increased from hafnium to titanium. In Group V, stability increased with increasing ordinal number of the element from vanadium to tantalum. The decomposition of diborides by acids which are not oxidizers is accompanied by significant liberation of hydrogen, at 4-5 moles per mole of boride decomposed. The borides are strong reducers, stronger than elementary boron and the metal of which they are formed. They are less stable than the corresponding metals.

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USSR

NAZARENKO, A. F.

"Study of the Reflectors of Multirod Hydrodynamic Radiators"

Akust. i ultrazvukovaya tekhn. Resp. mezhved. nauchno-tekhn. sb. (Sonic and Ultrasonic Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp 5, pp 3-9 (from RZh-Mekhanika, No 11, Nov 70, Abstract No 11B264)

Translation: Experimental studies of reflectors executed in the form of paraboloid lunes are presented. It is revealed how the geometric dimensions of the lunes affect the magnitude of the sound pressure. The most effective magnitude of the paraboloid parameter of the lune is determined, and the dependence of the sound pressure on the distance between the ends of the nozzle and the reflector is defined. The results of the study can be used when planning and designing multirod hydrodynamic radiators of sonic and ultrasonic vibrations. The bibliography has 6 entries.

1/1

USSR

UDC 577.3:612.273.2

NAZARENKO, A. I., Department of Comparative Pathology, Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"Investigation of Oxidative Phosphorylation Processes During Circulatory Hypoxia in Liver and Brain Tissues of Albino Rats"

Kiev, Fiziologicheskiy Zhurnal, Vol 16, No 4, Jul/Aug 70, pp 519-522

Abstract: The effect of acute ischemia on oxidative phosphorylation and oxygen intake by mitochondria in liver and brain tissues was studied. Ischemia was induced in albino rats weighing 150-170 g by ligation of blood vessels of the organs studied. The mitochondria were isolated from organs by fractional centrifugation, using a sucrose solution as the medium. Oxygen intake was determined in a Warburg apparatus in air. The quantity of esterified inorganic phosphate was determined by the Fiske-Subarrow method. The intensity of oxidative phosphorylation was found from the coefficient of phosphorylation expressed in terms of the ratio P/O [ratio of the number of moles of inorganic phosphate raised to the high energy level to the number of oxygen atoms utilized]. Experiments were simultaneously conducted to determine shifts in oxidation and oxidative phosphorylation under conditions of lethal bleeding and subsequent clinical death.

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USSR

NAZARENKO, A. M., Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972 -- sb., pp 166-167

will primarily depend on the multiplication factor of the reference signal's frequency multiplier and the amplification factor of the video amplifier's indicating device. An experiment showed that this method makes it possible to determine a phase jump with an accuracy of 0.5°.

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UDC 621.376.52.08

NAZARENKO, A. M.

"A Method of Measuring the Phase Jump of a Phase-Manipulated Signal"

Khar'kov, Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972 -- sb. (Ukrainian Republic Scientific and Technological Conference Honoring the 50th Anniversary of the Ukrainian SSR's Metrological Service, 1972 -- Collection of Works), 1972, pp 166-167 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.119)

Translation: The essence of this method is that if a phase-manipulated signal is fed into one input of some accumulator, while a reference signal of the same frequency is fed through a phase commutator, attenuator, and phase shifter into a second input of this device, the result of the summation at the output will be an amplitude-manipulated signal that is induced on a cathode-ray tube's screen. The reference signal's phase and amplitude are chosen so as to produce a figure on the cathode-ray tube's screen that is specific for the amplitude manipulation and for which the amplitude of one of the phase-manipulated signal's sendings increases to a maximum, while the amplitude of the second converges to zero. The value of the phase jump is defined as the half-difference of the Φ_1 and Φ_2 readings, while the accuracy with which it is determined

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USSR UDC 621.791.011:669.715

MAKAROV, V. P., KOZLOV, I. T., IGNAT'YEV, V. G., NAZARENKO, A. N.

"Mechanical Properties of the Base Metal and Welded Joints of Alloys 01915 and AMg6 at Below-Freezing Temperatures"

Avtomaticheskaya Svarka, No 12, 1971, pp 62-63.

ABSTRACT: The new aluminum-zinc-magnesium alloy type 01915 has better characteristics for use in railroad car building than the traditional aluminum alloy AMg6. The new alloy is stronger, has a higher yield point and better pressing properties. Pressed shapes of 01915 alloy are approximately 10% less expensive than shapes of AMg6 alloy. Studies of the mechanical properties of base metal and welded joints of 01915 alloy were performed at +20, -20, -40 and -60°C. A table of the test results is presented. The results showed that the mechanical properties of the base metal and welded joints of both alloys remain practically unchanged in the temperature interval tested. The mechanical properties of welded joints of both alloys are lower than those of the base metal. The yield point of joints of 01915 alloy is 20 to 24% higher than that of joints of AMg6 alloy. The relative elongation is

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MAKAROV, V. P, et al., Avtomaticheskaya Svarka, No 12, 1971, pp 62-63

greater for AMg6 joints. The impact toughness of joint metal made by semi-automatic welding is lower than that of the base metal, while the impact toughness of joint metal produced by manual welding is higher than that of the base metal.

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USSR

UDC 632.954

MORDOVETS, A. A., NAZARENKO, G. I., Ukrainian Station of the Scientific Research Institute for Smartweed Control

"Effectiveness of Tordon 101 in Controlling Russian Sweet Sultan"

Moscow, Khimiya v sel'skom khozyaystve, Vol 9, No 8, 1971, pp 40-41

Abstract: Owing to its powerful root system going down to 12 m deep and its relatively short surface portion, Russian sweet sultan (Acroptilan repens) readily adapts itself to arid conditions. For viability it ranks first among the weeds. The objective of the study is the effectiveness of the herbicide Tordon 101 against Russian sweet sultan. The dosage was 0.1 to 7.2 kg act. ingredient /ha. The herbicide was applied by spraying winter wheat at the beginning of the heading stage. The weed was in its budding stage. The spraying was done in the morning hours. The herbicide solution was used at 800 l/ha. The treatment results show the optimum doses of Tordon 101 to range from 1.2-2.4 kg/ha. Variations of the doses yielded farm crop increments from 25 to 124 percent and almost complete supression of the weed for three years. It was

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MORDOVETS, A. A., et al, Khimiya v sel'skom khozyaystve, Vol 9, No 8, 1971, pp 40-41

found that corn, Sudan grass and millet are resistant to Tordon when applied in optimal doses at different times. It is suggested that winter wheat be planted three years after Tordon treatments in optimal doses. A table shows Tordon treatment results covering a period of three years.

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 022

TITLE--STATIC STRENGTH OF SPOT WELDED JOINTS OF VERY THICK STEELS -U-

AUTHOR--NAZARENKO, I.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 3, 1970, PP 29-32

DATE PUBLISHED-------70

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

TOPIC TAGS--SPOT WELDING, BIBLIOGRAPHY, GIRDER, METAL TEST, MECHNICAL STRENGTH, WELD JOINT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1434 STEP NO--UR/0135/70/000/003/0029/0032

CIRC ACCESSION NO--AP0123360

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0123360
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS EXPERIMENTAL DATA ON STATIC STRENGTH OF MULTIPLE SPOT WELDED JOINTS AND RECHECKS THE CURRENTLY ACCEPTED CALCULATED STRESSES IN TESTING GIRDER WELDS.

UNCLASSIFIED

USSR

UDC 533.9.08

NAZARENKO, L.A.

"Thermal Radiation Of Plasma Sphere"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific-Technical Collection), 1970, Issue 14, pp 40-42 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4A336)

Translation: The spectral density is investigated of the thermal radiated power of a homogeneous isotropic plasma sphere, with the spatial dispersion taken into account. A hydrodynamical model is used for consideration of the thermal velocity. Rayleigh's limiting case is considered in detail. The results can find application in diagnostics of plasma. 5 ref. Summary.

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USSR

UDC: 621.762:669.018.95

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"Influence of Metal Fillers on Friction Properties of Sital 3"

Kiev, Poroshkovaya Metallurgiya, No 7, Jul 73, pp 51-54.

Abstract: An earlier work showed that the material called Sital 3, consisting of the oxides SiO_2, Al_2O_3, TiO_2, B_2O_3, MgO and fluorides, can be used for the manufacture of parts for friction couples. The authors believe that introduction of metal fillers, causing intensive heat transfer from the contact zone into the depth of the material and formation of separating films on the surface of the material, could significantly improve the efficiency of Sital 3. Studies were performed in which from 10 to 90 wt. % metal powder was introduced to the material. The curve of coefficient of friction as a function of percent content of copper filler shows a minimum at 30-40%. The introduction of about 30% copper powder allows the material to be used for vacuum operation, which is impossible with pure Sital.

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Instrumentation and Equipment

USSR UDC 621.791.72.03

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"Classification of Electron-Beam Welding Guns"

Kiev, Avtomaticheskaya Svarka, No 12 (249), Dec 73, pp 34-41

Abstract: Electron-beam welding guns have been classified and diagrams have been constructed for the suggested classification as well as the area of technological possibilities for standard guns. The principle of constructing these guns has been described. As a result of the investigations a device has been created for shaping the accelerating voltage on electrodes using a column of water. Extended exploitation has confirmed the high degree of operating reliability. The basic models of standard welding guns have been thoroughly tested both under laboratory and industrial conditions and are recommended for commerical production. The article contains 7 figures, 3 tables, and 5 bibliographic references.

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USSR

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"Particulars and Principles of Conducting Ion-Beam Welding"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 73, pp 1-4

Abstract: The authors show the necessity to neutralize ion beams in order to achieve their high specific power. Neutralization methods are studied. The attainable specific power is calculated and experimentally verified. The ion welding beam is described and the possibility of its practical application indicated. The results of the study show that it is possible to weld with an axially-symmetric, electron compensated, helium ion beam with specific power in excess of 10^4 w/cm^2. The following attest to the prospective use of ion-electron beam welding: absence of x-ray radiation, low sensitivity to the effect of external magnetic fields, the possibility of welding products without electrical contact with the charged particle source, and welding dielectric.

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"Electron-Beam Welding of Low-Alloy 14Kh2GMR Steel"

Kiev, Avtomaticheskaya Svarka, No 7(244), Jul 73, pp 4-8

Abstract: A study was made of the characteristics of electron--beam welding of high-strength low-alloy 14Kh2GMR steel plates, 100 x 100 x8mm, at various heating conditions. High welding rates and small heating and cooling times result in size reduction of the metal structure in the thermal influence zone; this has a favorable effect on the strength and the impact ductility of the welded joint. At relatively high cooling rates, the joints do not show a tendency to the development of cold cracks. The mechanical properties of electron-beam welded joints are equal in quality to the initial material. The wide potentialities in varying the heat conditions in electron-beam welding make this

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