USSR

MAKARA, A. M., et al., Avtomaticheskaya Svarka, No 3, Mar 73, pp 1-4

of heat-affected zone ruptures during electroslag welding is reduced after the steels have been remelted. 4 tables, 2 bibliographic references.

UDC: 621.791.011

USSR

GORDAN', G. N., DZYKOVICH, I. Ya., MAKARA, A. M., MOSENDZ, N. A., and SARZHEVSKIY, V. A.

"High-Temperature Chemical Inhomogeneity in the Weld-Affected Zone"

Moscow, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 114-119

Abstract: An analysis is presented of regularities in the development of high-temperature chemical microinhomogeneities on heating specimens of heat-resistant steels. The heating was carried out in welding thermal cycles to temperatures observed in the weld-affected zone of real welds. The steels involved were 30KhGSNA, 42Kh2GSNMA, 28Kh3SNMVFA, and others. The specimens measured 5 x 5 mm. The magnitude of the chemical inhomogeneity formed on high-temperature heating of rolled steels the inhomogeneity of the weld-affected zone of real welds appear to be comparable to that of a dendritic inhomogeneity which generally develops in the crystallization of welds and ingots of a similar composition. The formation of a chemical inhomogeneity along the grain boundaries on high-temperature heating of steels, and the redistribution and the changes in the shape of the nonmetallic

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USSR

GORDAN', G. N., et al, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 114-119

inclusions have an adverse effect on the properties of the weld-affected area adjoining the weld promoting the generation and propagation of micro cracks.

2/2

USSR

UDC 621.791.756.011

MAKARA, A. M., YEGOROVA, S. V., NOVIKOV, I. V., Institute of Electric Welding imeni Ye. O. Paton, and BRONSHTEYN, L. M., Petrov Volgograd Plant

"Increase in Seam Impact Toughness With Electroslag Welding"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 70, pp 43-46

Abstract: This paper describes experiments conducted for improving the shock resistance of the metal ring seams made in the manufacture of oil apparatus vessels made of 16Gs steel (GOST standard 5520-62) the specifications for which are given. The various methods tested were alloying the seam metal within definite limits with elements reducing the cold brittleness of steels, abrupt cooling of the welded metals, and various techniques of electroslag welding involving the use of fluoride flux AN-8, made up of 60-70% CaF_2 and 30-40% Al_2O_3, to reduce the gas and nonmetallic contents of the seam, using a shallow slag bath, and using electrode wires of 5 mm in diameter applied to the weld zone with roller clamps. A table is given of the various alloys tried by the authors, and there is a second table of the characteristics of alloys involving the use of welding wire Sv-10G2. Photographs of the weld microstructure are also given. The authors promise another article in which the causes of the [illegible] made in the metal of the weld by their techniques will be discussed.
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USSR

UDC 621.791.756

MAKARA, A. M., YEGOROVA, S. V., and KOVIKOV, I. V., Electric Welding Institute imeni Ye. O Paton, Academy of Sciences UkrSSR

"Increasing the Output of Electroslag Welding"

Kiev, Avtomaticheskaya Svarka, No 7, Jul 70, pp 39-42

Abstract: The present study discusses the potentials of increasing the output of the electroslag process and improving the quality of welds by regulating the heat distribution in the welding pool in such a manner that the major portion of the thermal output is liberated in zones of maximum heat transfer in the immediate vicinity of the water-cooled forming devices. The experiments were conducted on steels 16GS (elongation at rupture = 50 mm), 09G2S (elongation at rupture = 90 and 120 mm [GOST 5520-62]), and 22K (elongation at rupture = 105 mm [TU OKP 1-55]). The significant change in the shape of the metal pool by heat redistribution is illustrated in a figure. Electroslag welding with two wires in fixed position at the sliders appears to be the optimum welding. The conditions which arise at this point are favorable to the crystallization of the metal pool, which promotes higher resistance to hot cracks. The use of filler wire without current raises the resistance of

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USSR

MAKARA, A. M., et al, Avtomaticheskaya Svarka, No 7, Jul 70, pp 39-42

welds to hot cracking. Figures in the original article show crystallization layers indicative of changes in the shape to match the thickness of the metal to be welded.

2/2

USSR

UDC 612.826.4:616.831.4

MAKARCHENKO, A. F.

"Role of the Hypothalamus in Regulating Autonomic and Cortical Functions"

Kiev, Fiziologichniy Zhurnal, No 5, 1973, pp 579-585

Translation of abstract: The article summarizes the results of the author's studies and those of a group of scientists that he headed in recent years. The experimental data obtained on changes in the EEG and cortical neuronal activity following electrostimulation and action of drugs on structures of the rabbit posterior hypothalamus indicate that the latter is functionally and neurochemically heterogeneous. Different kinds of changes were observed in the background activity of the visual cortex neurons in response to posterior hypothalamic and reticular actions. Information was also obtained concerning the role of the various structures of the posterior hypothalamus in the neurochemical mechanism of its influence on the thermostability of serum proteins. Differences were detected in the nature of the influences of the hippocampus and reticular formation on the functioning of the hypothalamic-pituitary neurosecretory system. Based on clinical-physiological and biochemical studies on patients with the autonomic vascular diencephalic syndrome, the author conjectures that the sympathetic and parasympathetic tendency of

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USSR

MAKARCHENKO, A. F., Fiziologichniy Zhurnal, No 5, 1973, pp 579-585

the autonomic reactions depends on the tone of the neurohumoral systems (sympatheticoadrenal and hypothalamicpituitary-adrenal). In line with this assumption, he distinguishes two forms of the syndrome, hypotonic and hypertonic, and suggests differentiated therapy.

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USSR

UDC 591.185.5:577.37:599.423

STOSMAN, I. M. and KONSTANTINOV, A. I., Leningrad University

"Characteristics of Evoked Potentials in the Colliculus Inferior of the Developing Horseshoe Bat Rainolophys ferrum-equinum During Exposure to Ultrasound"

Leningrad, Zhurnal Evolyutsionnoy Biokhimii i Fiziologii, No 6, 1972, pp 612-616

Abstract: The first high-threshold low-amplitude evoked potentials were recorded in 7-day-old R. ferrum-equinum, and 2 to 3 days later the frequency-threshold curves ranged from 10 to 50 kHz. At age 12 to 16 days the band of frequencies perceived widened to 60 to 70 kHz. By day 21 the audiogram was indistinguishable from that recorded in the colliculus inferior of adult animals. The development of the echolocation system proceeds more quickly and is completed sooner in horseshoe bats than in other forms of the Vespertilionidae, a phenomenon consistent with other aspects of their development. The period of embryonal development is much longer than in other bats, but the late birth of young R. ferrum-equinum is compensated by more rapid postnatal growth. After 1 month they are able to fly and catch insects, a stage not reached by, e.g., Myotis oxygnathus until 2 months after birth.
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UDC 612.8.015.1

USSR

MAKARCHENKO, A. F., ROYTRUB, B. A., ZLATIN, R. S., GENIS, [illegible] and KOSTYUK, O. I., Institute of Physiology imeni A. A. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"Acetylcholinesterase Activity in Hypothalamic and Cortical Structures During the Action of Pharmacological Agents"

Kiev, Neyrofiziologiya, Vol 5, No 1, Jan/Feb 73, pp 47-53

Abstract: Acetylcholinesterase (AChE) activity in rat brain was recorded continuously by the automated electrometric method. In intact rats aged 1 month, AChE activity is highest in the sensory and motor cortex, while various lower levels are assumed in the posterior hypothalamus, anterior hypothalamus, and hippocampus. With advancing age (6, 12, and 24 months), the center of AChE activity is shifted to the posterior hypothalamus, and there is a general decrease in AChE activity per gram of tissue. Adrenaline, injected subcutaneously in a dose of 300 mcg/kg, redistributes AChE activity within 15 min, shifting the maximum to the anterior hypothalamus. An identical dose of chloral hydrate reduces AChE activity and equalizes it in all these structures. The histochemical method, though good for determining the location of AChE in cell organelles, is unable to detect small variations in AChE activity. Since

Graphite

USSR

UDC 661.666.2.002.3:539.431.1

VIRGIL'YEV, YU. S., KUROLENKIN, YE. I., MAKARCHENKO, V. G., and PEKAL'N, T. K., Moscow

"Dependence of the Strength Properties of Graphite On the Processing Temperature"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 43-46

Abstract: The article deals with the change of some strength properties of three carbon materials in relation to the processing temperature. The first two tested materials, GMZ and KPG, are based on KNPS petroleum coke. GMZ was baked at 1300°C, and KPG was unbaked. The third material, ER, is a composition of natural graphite with semicoke. The charge compositions of the first two materials are similar with respect to coarseness, but the structural features of KPG, owing to the use of unbaked coke, predetermined its higher strength characteristics in comparison to GMZ. A study was made of the temperature relationships, in the region of processing temperatures of 1300-3000° C, of the strength characteristics: compression strength, the modulus of elasticity, and the hardness of carbon materials, and the relationship of these characteristics to the crystalline structure. Decreased values of the indicated parameters were noted as the processing temperatures rose. A relationship was established between the strength and the diameter of the

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USSR

VIRGIL'YEV, YU. S., et al., Problemy Prochnosti, No 11, Nov 73, pp 43-46

region of coherent dispersion within the processing-temperature interval of 2000-3000°C, and an evaluation was made of the effect of the internal unit surface of the pores on the strength at temperatures below 2000°C. Three figures, two tables, sixteen references.

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USSR

MAKARCHUK, M. M.

"One Method of Adjustment of Nonlinear Unstable Systems"

Kibernet. i Vychisl. Tekhn. Resp. Mezhved. Sb. [Cybernetics and Computer Technology. Republic Interdepartmental Collection], 1972, No 16, pp 30-35 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V325, by the author).

Translation: For a broad class of nonlinear unstable systems, a certain method of adjustment of the output signal designed to bring it to the desired form is studied. The adjustment is performed using a device, the nonlinear, unstable in the general case operator of which can be represented in the form of an expansion of a system of orthonormalized functionals into a series.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CARRYING CAPACITY OF SPHERICAL SHELLS WITH A ROUND, REINFORCED HOLE -U-

AUTHOR--MAKARENKOV, A.G.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, APR 1970, P. 59-63

DATE PUBLISHED-------70

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

TOPIC TAGS--SPHERIC SHELL STRUCTURE, SHELL STRUCTURE STABILITY, STRESS LOAD, LOAD TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0143 STEP NO--UR/3663/70/002/000/0059/0063

CIRC ACCESSION NO--AP0123915

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMINATION OF A STRUCTURE CONSISTING OF SPHERICAL SHELL WITH A CENTRAL HOLE REINFORCED BY A TOROIDAL FLANGE AND SUBJECTED TO INTERNAL PRESSURE. A METHOD IS DEVELOPED FOR DETRMINING THE STRENGTH MARGIN ANC CRITICAL LOAD. THIS METHOD IS BASED ON AN ANALYSIS OF THE STRESSSTRAIN STATE DURING ELASTOPLASTIC DEFORMATIONS AND ON THE THEORY OF LIMIT EQUILIBRIUM.

FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT MEKHANIKI, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

USSR

MAKARENKOV, S. V.

"Joint Minimization of Boolean Functions in the Class of Reticular DNF Using a Frequency Matrix of Relationships"

Ekon.-mat. Metody i Programmir. Plan.-ekon. Zadach. [Mathematical Economics Methods and Programming of Planning and Economic Problem -- Collection of Works], Moscow, 1972, pp 40-48 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V627 by S. Popov).

Translation: A method is suggested for joint minimization of m Boolean functions, each of which depends on n variables. The method is based on reduction of the system of functions to one dependent on $n+]\log_2 m[$ variables, and uses such concepts as the derivative on a mograph and frequency matrix of relationships.

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AA0040728 M

Malkarenko, A. K.
UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

242337 INGOT MOULD increases the thickness of the band or rim and makes it from steel with higher yield limit in order to prevent clearances forming between it and the mould body. The band is also crimped in order to prevent plastic strain occurring. In each mould the radius of the crimp of the band is selected so that $\Delta l_n = \Delta l_6$, thus for any one material used for the band, there will be maximum pressure between it and its mould. As the mould is teemed, the band deforms simply by straightening out its crimps. The crimp gradually becomes less curved and there is a rise in the stress in the band, pressure between this and the mould also rising.
21.12.66 as 1120047/22-2. ABRAMOV.V.V.et al(2.9.69)
Bul 15/25.4.69. Class 31b^2. Int.Cl.B 22d.

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19750381

AA0040728

AUTHORS: Abramov, V. V.; Nikolayev, O. B.; Makarenko, A. K.; and Simkov, A. I.

19750382

1/2 C14 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--GEOTHERMAL ZONALITY OF THE COMPOSITION OF EASTERN CISCAUCASUS PETROLEUMS -U-

AUTHOR-(02)-NAKARENKO, F.A., SERGIYENKO, S.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 193(1), 188-91

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--STATICTICAL ANALYSIS, PETROLEUM DEPOSIT, TEMPERATURE MEASUREMENT, GEOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605060/F03 STEP NO--UR/0020/70/193/001/0188/0191

CIRC ACCESSION NO--AT0144412

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--11DEC79
CIRC ACCESSION NO--AT0144412
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STATISTICAL ANALS. OF THE REGIONAL TEMP. VARIATIONS IN PETROLEUM OF MESOZOIC PLIOCENE FORMATIONS IN EASTERN CISCAUCASUS ARE STUDIED. BASED ON HISTOGRAMS, A GOOD CORRELATION IS FOUND BETWEEN SP. GR., STD. DEVIATION, AND TEMP. OF PETROLEUMS. HIGH TEMP. HYDROCARBONS EXIST IN THE MESOZOIC FORMATIONS OF THE CARPATHIANS, AS DO ALSO DISTINCT GEOTHERMAL ZONES.

UNCLASSIFIED

Conferences

USSR

UDC: 669.27/29(047)

MAKARENKO, G. N.

"High-Temperature Materials Using Rare-Earth Metals"

Moscow, Tsvetnyye Metally, No 10, Oct 73, pp 78-79

Abstract: A session was held at the Institute of Materials Study of the "High-Temperature Materials Using Rare-Earth Metals" section of the Scientific Council on the Problem "The Use of Rare-Earth Metals in the National Economy" of the GK SM SSSR on Science and Technology (State Committee of the Council of Ministers of the USSR on Science and Technology) during June 1973 in Kiev. The following subject areas were discussed: work on the refractory compounds of rare-earth metals by the organizations of Tashkent, Alma-Ata, Donetsk, and Dnepropetrovsk; neutronographic studies of the crystalline structure and lattice dynamics of the carbides of transition metals, studies involving the interaction of atomic particles with solid surfaces, studies involving the processes of growing refractory rare-earth metal single-crystals and the production of tungstenless hard alloys; work on the production of catalyst carriers and catalysts based on oxygen and oxygen-free refractory compounds for technology; study of the chemical properties of the refractory compounds of rare-earth metals; prospects for developing work on the borides of rare-earth metals; the development and introduction of technology for the production of compounds of titanium with carbon, boron, and silicon utilizing the

USSR

MAKARENKO, G. N., Tsvetnyye Metally, No 10, Oct 73, pp 78-79

initial products of electrolytic titanium; means for applying protective coatings by the diffusion deposition and detonation processes. A meeting is planned for the first quarter of 1974 in Moscow at the VDNKh (Exhibition of Achievements of the National Economy of the USSR) for the consumers of refractory compounds.

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USSR

UDC 620.178

DZHEMELINSKIY, V. V., KOVAL'CHENKO, M. S., BORISENKO, V. A., and MAKARENKO, G.N.

"Identers for Measuring the Hardness of Materials at High Temperatures"

V sb. Tugoplavk. karbidy (The Refractory Carbides -- Collection of Works), Kiev, "Nauk. Dumka," 1970, pp 233-236 (from RZh_metallurgiya, No 3, Mar 71, Abstract No 3I916 by authors)

Translation: The article investigates the possibility of using hot-pressed specimens of boron carbide and titanium diboride as material for an indenter for measuring the hardness of tungsten carbide at high temperatures. It is shown that an indenter made of titanium diboride flattens at 1770° K due to the decline in TiB_2 hardness at this temperature. An indenter made of boron carbide can be used repeatedly to measure the hardness of tungsten carbide up to 2170° K without traces of chemical interaction between the material of specimen and indenter, and without failure of the latter. Three illustrations. Bibliography with eight titles.

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USSR UDC 669.27/29(047)

MAKARENKO, G. N.

"High Temperature Materials Using Rare Metals"

Moscow, Tsvetnyye Metally, No 12, Dec 72, pp 81.

Abstract: In June of 1972, a meeting of the section on "high temperature materials using rare metals" was held in Leningrad at the Institute of Silicate Chemistry, Academy of Sciences, USSR, under the chairmanship of G. V. Samsonov. The section is a part of the Scientific Council of the Problem "Application of Rare Metals in the National Economy," of the USSR Council of Ministers State Committee on Science and Technology. The meeting heard reports on the results of familiarization of the section with work in the organizations of Sverdlovsk, Pyshma, Novosibirsk, Tomsk in the area of refractory rare metal compounds and high temperature materials based on them. The Urals Scientific Center is working on areas of application of rare metals and their refractory compounds. The Siberian Affiliate of the Academy of Sciences is studying rare and non-ferrous metals for the creation of catalyst carriers and the production of borides. New dielectric materials are being produced from rare earth elements and work on the plasma chemical synthesis of refractory compound powders has

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910006-0"

USSR

Makarenko, G. N., Moscow, Tsvetnyye Metally, No 12, Dec 72, pp 81.

been started. A report was read on the production of refractory compound crystals by precipitation from the vapor-gas phase. Another was read on the production of refractory compound single crystals from solutions in metal melts.

USSR UDC 591.1/4

MAKARENKO, G. P., First Moscow Medical Institute imeni I. M. Sechenov

"The Mechanism of Multiplication Formation of Induced Core Potentials to Light Stimulation"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 492-495

Abstract: The dependence of the multiplication phenomenon on changes in the functional state of the large hemisphere cores elicited by calcium chloride, cooling, polarization with constant current or strychnine was investigated. It was found that reversible functional shutdown of the visual region using cooling or calcium chloride lead to a decrease in the quantity of repeating oscillations in both the cortex and subcortical structures of the ipsilateral hemisphere to their complete disappearance. The other hemisphere showed only a lowering of the effect. The amplitude of the first late oscillation was also lowered. Anode polarization caused a depression of the repeating slow oscillations cortically and subcortically in the ipsilateral hemisphere, while cathode polarization caused an increase. Strychnine weakened the phenomenon only at the point of application. These results are said to show that transmission of stimuli through the cerebral cortex is a

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910006-0"

USSR

MAKARENKO, G. P., Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 492-495

necessary condition for the formation of repeating rhythmical oscillations in response to light in many subcortical formations, and that the dendrites of the surface layer are responsible for this phenomenon.

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1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CHEMICAL PREVENTION OF THE IMMEDIATE AND DELAYED EFFECTS OF IRRADIATION BY HIGH ENERGY PROTONS IN A WIDE DOSE RANGE -U-

AUTHOR-(03)-YAKMONENKO, S.P., SUSLIKOV, V.I., MAKARENKO, I.G.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 83-8

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIRADIATION DRUG, AMINE DERIVATIVE, PROTON RADIATION BIOLOGIC EFFECT, RADIATION DOSAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0459 STEP NO--UR/0205/70/010/001/0083/0088

CIRC ACCESSION NO--AP0121133

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121133

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROTECTIVE EFFECT OF MEXAMINE (I) WAS STUDIED ON IMMEDIATE AND DELAYED CONSEQUENCES OF IRRADN. WITH HIGH ENERGY PROTONS. MICE (23-26 G) RECEIVED (I.P.) 1.5 MG I PER ANIMAL 3-5 MIN PRIOR TO THE IRRADN. THE PROTON ENERGY WAS 600 MEV, WITH DOSES OF 600-1300 RADS. THE COEFF. OF PROTECTION AFTER 30 DAYS RANGED BETWEEN 0.6 AND 1.0 OVER THE DOSE INTERVAL OF 1300 TO 700 RAD. MODERATION OF THE DELAYED CONSEQUENCES OF THE IRRADN. WAS MANIFESTED TO A LESSER EXTENT. FOR 600-900 R THE COEFF. OF PROTECTION WAS 0.79 AND 0 WHEN MEASURED AFTER 30 AND 490 DAYS, RESP. FACILITY: INST. EKSP. KLIN. ONKOL., MOSCOW, USSR.

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRESENTS THE RESULTS OF MEASUREMENTS OF THE VOLUME OF ARGON IN THE MELTING REGION AT 291.6, 294.2, AND 322DEGREESK. IT IS FOUND THAT DELTA V SUBM -V SUBS, WHERE DELTA V SUBM IS THE CHANGE IN VOLUME OF MELTING AND V SUBS IS THE VOLUME OF SOLID ARGON AT THE MELTING POINT, TENDS TO ZERO WHEN THE MELTING TEMPERATURE INCREASES. FACILITY: USSR ACAD. SCI.

UNCLASSIFIED

Acc. Nr. AP0053898 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code UR0386

115059e High-temperature melting of argon. Stishov, S. M.; Makarenko, I. N.; Ivanov, V. A.; Fedosimov, V. I. (Inst. Kristallogr., Moscow, USSR). *Pis'ma Zh. Eksp. Teor. Fiz.* 1970, 11(1), 22-5 (Russ). Pressure-vol. (V) isotherms of Ar were exptl. detd. in a piezometer filled at 2000 atm at 291.6, 294.2, and 323°K. Changes in V (ΔV) and entropy (ΔS) on melting decrease with increase in the m.p. (T_m); ΔS approaches a const. value of ~2.13 cal/degree mole and ΔV follows the law $\Delta V = \gamma(T_m - T_0)^{-1/3}$ (γ and T_0 are consts.).

Karel A. Hlavaty

C.K.

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REEL/FRAME 19830975

18

USSR

UDC 621.391.823

MAKARENKO, L. A., SHTURMAN, V. V.

"Suppression of Radio Interference Created by the Electrical Equipment of Motor Vehicles Interfering with Operation of Mobile Radio Units"

Vopr. ekspluat. ustroystv svyazi i telemekhan. v energosistemakh (Problems of Operating Communications and Telemechanics Devices in Power Systems), vyp. 10, Moscow, Energiya Press, 1970, pp 134-139 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A333)

Translation: This article contains an investigation of the causes of occurrence of interference from an operating motor vehicle engine with respect to the radio unit installed in it for use by the field operative and repair brigades in the power systems. The basic courses of radio interference are the ignition system and the electrical equipment of the battery charging circuit. The interference can be caused by additional sources: the water-temperature, oil-pressure and other gauges operating on the principle of current breaking, the electric starter, windshield wiper and heater motors, light switches, the rpm indicator breaker, poor electrical contacts and various cut-off switches. The level of the radio interference field in the 0.15-400 megahertz range (maximum in the 30-150 megahertz band) at a distance of 10 meters varies within the limits of 20-2,000

USSR

MAKARENKO, L. A., SHTURMAN, V. V., Vopr. ekspluat. ustroystv svyazi i telemekhan. v energosistemakh (Problems of Operating Communications and Telemechanics Devices in Power Systems), vyp. 10, Moscow, Energiya Press, 1970, pp 134-139 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A333)

microvolts. In the case of application of noise suppression devices, the interference level does not exceed 20 microvolts throughout the entire frequency range. Measures promoting interference suppression are indicated.

2/2

1/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ULTRA SHORT WAVE RADIO COMMUNICATION AS AN AID TO POWER SITUATION OPERATION -U-

AUTHOR-(02)-BELOUS, B.P., MAKARENKO, L.A.

COUNTRY OF INFO--USSR

SOURCE--ELEKT. STANTSII (USSR), VOL. 4 L, NO. 3, P. 25-7 (1970)

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--RADIO COMMUNICATION SYSTEM, ELECTRIC POWER TRANSMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0492 STEP NO--UR/0104/70/041/003/0025/0027

CIRC ACCESSION NO--AP0135955

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135955

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN OF TESTS CARRIED OUT WITH ULTRA SHORT WAVE RADIO COMMUNICATION IN THE KONAKOVSK STATE REGIONAL POWER STATION. THIS TYPE OF COMMUNICATION WAS INTRODUCED AS PART OF A SCIENTIFIC APPROACH TO THE ORGANIZATION OF OPERATIONS IN THE POWER STATION, AND IT HAS BOTH IMPROVED AND EXTENDED THE SUPERVISORY FUNCTION.

UNCLASSIFIED

USSR UDC: 621.002.3

MAKARENKO, M. I. Vice-Chairman of the Zaporozhskoye Oblast' Directorate of the Scientific and Technical Society of the Machinery Industry, and FEL'DMAN, D. I. Member of the Polymer Section With the Oblast Directorate of the Scientific and Technical Society of the Machinery Industry

"The AF-3T Antifriction Material"

Moscow, Mashinostroitel', No 2, Feb 73, p 38

Abstract: The Zaporozhskoye Oblast' Directorate of the Scientific and Technical Society of the Machinery Industry and the Zaporozhskiy Planning-Design and Technological Institute conducted a republic seminar in 1970 on the subject "Machine Parts Made From the New Antifriction Carboniferous Materials" which took into consideration the major significance of using new antifriction carboniferous materials in all of the branches of industry, agriculture, and transport. The new materials were developed by the members of the Scientific and Technical Society of the Machinery Industry of the city of Zaporozh'ye on a voluntary basis. Within the recommendations of the republic seminar, particular attention was paid to the antifriction material consisting of the AF-3T polymer composition.

In addition to laboratory bench tests, the AF-3T polymer composition has been used for a long time on enterprises. Bearings made from this material, used in the friction assemblies of pressure chambers, were tested for 800 hours

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USSR

MAKARENKO, M. I., et al, Mashinostroitel', No 2, Feb 73, p 38

(500 hours at +155°C and 300 at -65°C) and showed insignificant wear. Positive results were obtained from using the new material for the bearings of roll-table type annealing furnaces at the 8GPZ (Eighth State Bearing Plant) in Khar'kov. Wear resistance was significantly increased and the cost of sleeves was reduced by a factor of three. High efficiency can be achieved by using the AF-3T material in thrust bearings instead of balls and separators.

Parts made from the AF-3T material preserve their physico-mechanical properties and geometric parameters independent of the time of their manufacture or storage conditions. They can be used from -70 to +250°C without lubrication, in river and sea water, in solvents, in steam, and in a series of acids. During the testing and introduction of these parts, design and technological recommendations were developed whose fulfilment can ensure the successful operation of mechanisms and machines.

The Physico-Mechanical Properties of Parts Made From the AF-3T Material

Breaking point, kg/cm^2:

compression.....1400-1600

bending.....600-800

2/3

USSR

MAKARENKO, M. I., et al, Mashinostroitel', No 2, Feb 73, p 38

Brinell hardness, kg/mm^2.....48-54
Specific weight, g/cm^3.....1.73-1.78
Coefficient of linear expansion.....$17-19 \cdot 10^{-6}$

The AF-3T polymer composition differs in its high supporting capacity of antifriction products, the lowest possible cost, and the high technological quality of mass production finished products from other similar carboniferous antifriction materials of the AO, AG, AMS, and GS-TAF type. The mass production of finished products can be organized at any enterprise with insignificant expenditures. The use of parts made from the AF-3T polymer composition will make it possible to solve such problems as interchangeability, standardization, and the unification of the dimensions of parts.

3/3

USSR

UDC 547.913:633.88

MAKARENKO, N. G., Central Siberian Botanical Garden, Siberian Branch, Academy of Sciences USSR

"Antimicrobial Activity of Essential Oils of Some Medicinal Plants"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, Vol 1, No 5, Apr 70, pp 85-89

Abstract: The antimicrobial properties of 15 samples of essential oils from medicinal plants in the collection of the Central Siberian Botanical Garden were tested with respect to several bacterial strains. It was found that the antimicrobial activity of these essential oils varies from 1/2.5 thousand to 1/25 thousand and appears in different ways, depending on the type of plant and the test microbe. The essential oils of Libanotis condensation and other plants are given special mention.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MILD DUCT CARCINOMA IN MEN -U-

AUTHOR-(03)-NIVINSKAYA, M.M., SVYATUKHINA, O.V., MAKARENKO, N.P.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 5, PP 35-38

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARCINOMA, GLAND, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0131 STEP NO--UR/0531/70/000/005/0035/0038

CIRC ACCESSION NO--AP0129387

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS CONCERNED WITH STUDIES OF 57 MALE PATIENTS SUFFERING FROM MILK DUCT CARCINOMA. THEIR AGE RANGED FROM 20 TO 77 YEARS. THE MEAN AGE COMPRISED 56.4 YEARS. NOTE WAS MADE OF THE ALMOST SIMILAR TUMOR LOCALIZATION IN THE RIGHT AND LEFT MILK DUCTS (RESPECTIVELY 28 TO 29 PATIENTS). UPON HISTOLOGICAL INVESTIGATION CANCER WAS COMMONLY OF GLANDURAL STRUCTURE. AN ANALYSIS OF THE REMOTE RESULTS (FROM 5 AND MORE YEARS) THE AUTHORS CONCLUDE THAT THE RESULTS OF SURGICAL AND COMBINED TREATMENT DO NOT DIFFER ESSENTIALLY. FACILITY: INSTITUT EKSPERIMENTAL'NOY KLINICHESKOY ONKOLOGII, MOSCOW.

UNCLASSIFIED

MAKARENKO, P.N.

JPRS 56046

23 January 1973

UDC: 615.014.2:66.047.5

PRINCIPLE OF A CONTINUOUS DRYER DEVELOPED BY THE ITMO, ACADEMY OF SCIENCES BELORUSSIAN SSR

[Article by V. V. Kafarovich, S. M. Pereplitseva, V. G. Chizhik, P. N. Makarenko, and V. P. Tumanovich, of the Institute of Heat and Mass Transfer, Academy of Sciences BSSR, Minsk, the Kharkov Chemical and Pharmaceutical Scientific Research Institute, and the Khar'kov Chemical and Pharmaceutical Plant "Zdorov'ye trudyashchimsya"; Moscow, Khimiko-farmatsevticheskiy zhurnal, Russian, No 11, 1972, pp 53-55]

The Institute of Heat and Mass Transfer of the Academy of Sciences Belorussian SSR has developed a continuous method of drying pharmaceutical preparations. The method consists in having the moist granulation and drying in a falling and fluidized bed be accomplished in a single apparatus. This makes the process continuous and also permits curtailing losses of material to a minimum, improving the quality of output, accelerating the process of granulation and drying by tens of times, reducing production areas and creating normal conditions for the work. On the basis of that method, optimum drying conditions have been worked out and a prototype of the equipment has been made which has undergone industrial tests at the Chemical and Pharmaceutical Plant "Zdorov'ye Trudyashchimsya" in Khar'kov. ||

The figure presents a schematic diagram of the drying apparatus. It consists of a granulator (2), drying chamber (1), air heater (5), blower (4), cyclone (3), bucket chain and a control panel. The drying chamber is a vertical pipe 400 mm in diameter with an expanded separator section. The vertical part of the dryer is 1500 mm high. In the lower part is a perforated grid on which the material being dried is fluidized. In the separator part of the dryer is a granulator, which is a cylinder with a perforated bottom. The diameter of the openings can be adapted, depending of the required granulometric composition of the material being dried. In the given case the opening diameter is 2 mm. Screw blades serve as a triturator. On the lower side

1/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IMPROVEMENT OF TECHNIQUES OF ANESTHESIA IN TRANSPLEURAL OPERATIONS FOR CANCER OF THE ESOPHAGUS -U-
AUTHOR-(02)-MAKARENKO, T.P., RASSTRIGIN, N.N.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIAY, 1970, NR 5, PP 14-20

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, ANESTHESIA, CANCER, DIGESTIVE SYSTEM DISEASE, HYPOTHERMIA, ARTIFICIAL RESPIRATION, PNEUMONIA, CARDIOVASCULAR SYSTEM, LUNG, NITROGEN OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0054 STEP NO--UR/0531/70/000/005/0014/0020

CIRC ACCESSION NO--AP0137244

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0137244
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS REPORT ON 1080 OPERATIONS ON THE ESOPHAGUS PERFORMED FOR CANCER DURING THE PERIOD BETWEEN 1945-1969 UNDER DIFFERENT TYPES OF ANESTHESIA: LOCAL ANESTHESIA WITH A ONE HALF PERCENT NOVOCAIN SOLUTION, 600, HYPOTHERMIA, 135, ENDOTRACHEAL COMBINED ANESTHESIA WITH ARTIFICIAL VENTILATION OF THE LUNGS, 365. AN ANALYSIS OF THESE OBSERVATIONS MADE IT POSSIBLE TO CONCLUDE THAT, NOTWITHSTANDING THE ACHIEVEMENTS IN MODERN ANESTHESIOLOGY AND REANIMATOLOGY, RADICAL OPERATIONS FOR ESOPHAGEAL CANCER ARE OFTEN ATTENDED IN THE POSTOPERATIVE PERIOD BY SEVERE COMPLICATIONS. THE MAIN OF THEM ARE: ACUTE CARDIOVASCULAR INSUFFICIENCY, DIFFERENT FORMS OF GAS EXCHANGE (HYPOXIA, HYPERCAPNIA), MANIFESTED BY A SYMPTOM COMPLEX OF RESPIRATORY INSUFFICIENCY, THROMBOEMBOLIC COMPLICATIONS, OBSTRUCTIVE AND HYPOVENTILATION ATELECTASIS, PNEUMONIA. FOR THE PREVENTION AND TREATMENT OF THE REFERRED TO COMPLICATIONS THE AUTHORS HAVE ELABORATED A COMPLEX OF MEASURES: SEPARATE INTUBATION OF THE BRONCHI, WHICH ENABLES TO INSTITUTE ANESTHESIA WITH CONTROLLED COLLAPSE OF THE LUNG ON THE SIDE OF THE OPERATIVE APPROACH, THE INSTITUTION OF ANALGESIC CURATIVE ANESTHESIA WITH NITROUS OXIDE IN THE POSTOPERATIVE PERIOD, MICROTRACHEOSTOMY FOR THE STIMULATION OF COUGH AND IMPROVEMENT OF THE DRAINAGE FUNCTION OF THE TRACHEOBRONCHIA TREE, SANATION THERAPEUTIC BRONCHOSCOPY FOR THE ELIMINATION OF OBSTRUCTIVE ATELECTASIS. THE EMPLOYMENT OF THESE MEASURES MADE IT POSSIBLE TO REDUCE THE NUMBER OF COMPLICATIONS IN THE POSTOPERATIVE PERIOD IN PATIENTS WHO HAVE SUSTAINED RADICAL OPERATIONS FOR CANCER OF THE ESOPHAGUS. FACILITY: KAFEDRA KHRUGII TSIU, MOSCOW.

UNCLASSIFIED

1/2 058 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--INTEGRAL AND PEAK EMISSION EVOKED FROM TUNGSTEN BY RUBY LASER RADIATION -U-

AUTHOR-(04)-ARIFOV, U.A., KAZANSKIY, V.V., LUGOVSKOY, V.B., MAKARENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK UZBEKSKOI SSR, IZVESTIIA, SERIIA FIZIKO-MATEMATICHESKIKH NAUK, VOL. 14, NO. 2, 1970, P. 81-84

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TUNGSTEN, RUBY LASER, EMISSION SPECTRUM, HEAT CONDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1249 STEP NO--UR/0166/70/014/002/0081/0084

CIRC ACCESSION NO--AP0124901

UNCLASSIFIED

2/2 058 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0124901

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL STUDY OF THE EMISSION CURRENTS EVOKED FROM TUNGSTEN TARGETS IN VACUUM UNDER THE ACTION OF FOCUSED RADIATION FROM A RUBY LASER OPERATING IN THE FREE RUNNING MODE. FOR TIME INTERVALS SIGNIFICANTLY EXCEEDING THE DURATION OF THE LASER EMISSION PEAK BUT SHORTER THAN THE PULSE DURATION, THE TOTAL ACTION OF A LARGE NUMBER OF PEAKS SHOULD CAUSE INTEGRAL HEATING OF THE TARGET SIMILAR TO THAT WHICH WOULD OCCUR IF THE SPATIAL DISTRIBUTION OF INTENSITY IN EACH PEAK WOULD COINCIDE WITH THE DISTRIBUTION FOR THE ENTIRE PULSE. IN THIS CASE, THE TARGET SHOULD EXHIBIT INTEGRAL EMISSION IN ADDITION TO THE PEAK EMISSION CHARACTERISTICS. THE INTEGRAL EMISSION SHOULD CORRESPOND TO THE SOLUTION OF THE HEAT CONDUCTION EQUATION AND IS OBSERVED IN THE FORM OF A CONTINUOUS PULSE WITH A DURATION COMPARABLE TO THE LASER PULSE DURATION. PREVIOUS STUDIES WITH NICKEL TARGETS YIELDED NO INTEGRAL EMISSION BEFORE TARGET VAPORIZATION, AND TUNGSTEN TARGETS WERE USED IN THE PRESENT CASE. EMISSION CURRENTS ARE SHOWN TOGETHER WITH THE LASER PULSES IN REPRODUCED OSCILLOGRAMS, AND IT IS DEMONSTRATED THAT THE INTEGRAL EMISSION CAN BE SATISFACTORILY DESCRIBED IN THE FRAMEWORK OF THE HEAT CONDUCTION THEORY AND THE RICHARDSON EQUATION.

FACILITY: AKADEMIIA NAUK UZBEKSKOI SSR, INSTITUT ELEKTRONIKI, TASHKENT, UZBEK SSR.

UNCLASSIFIED

USSR

UDC 621.38

ARIFOV, U. A., KAZANSKIY, V. V., LUGOVSKOY, V. B., and MAKARENKO, V. A., Institute of Electronics, Academy of Sciences Uzbek SSR

"Integral and Spike Emission From Tungsten Produced by Ruby Laser Radiation"

Tashkent, Izvestiya Akademii Nauk Uzbekskoy SSR, Seriya Fiziko-matematicheskikh Nauk, No 2, 1970, pp 81-84

Abstract: The article describes an experiment undertaken to detect integral emission from a tungsten target irradiated by the focused light of a ruby laser. Oscillograms of the emission currents are shown, tracing the character of the change in the emission with a growth in the power density. At first only spike emission can be seen, corresponding to the maximum laser intensity; then integral emission can be seen along with the spike emission; then the integral emission becomes more pronounced, and a characteristic shift in its maximum relative to the maximum radiation intensity can be seen. Target tem-

USSR

ARIFOV, U. A., et al., Izvestiya Akademii Nauk Uzbekskoy SSR, Seriya Fiziko-matematicheskikh Nauk, No 2, 1970, pp 81-84

perature variation curves are also shown, one of the curves being constructed according to the integral emission current from the Richardson equation, the other curve calculated from a solution of the heat-conduction equation according to the form of the laser pulse. A qualitative study of the resultant oscillograms indicates a decrease in the contribution of spike emission with an increase in the initial target temperature. The results indicate that integral emission is satisfactorily described within the limits of heat conduction theory and the Richardson equation.

2/2

USSR UDC 669.295.015.3:543.42

GRIKIT, I. A., GALUSHKO, Ye. G., MAKARENKO, V. S., and PETRUN'KO, M. N.

"Spectrographic Determination of Controlled and Uncontrolled Impurities in Metallic Titanium"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 160-165

Translation: A description is given of an analysis of a sample of metallic titanium in the forged state using the ISP-30 or ISP-28 spectrographs. The spectrum is excited by an alternating current arc of ten amperes (DG-2). The time of preliminary sintering is five seconds to establish the iron, silicon, vanadium, chromium, tin, manganese, copper, nickel, aluminum, and zirconium, and 80 seconds to determine the molybdenum and tungsten. The analytic interval is 1.5 mm. Graduated charts were constructed on the coordinates (Delta S, lg C) according to the three-stage method. The method ensures testing within a range of the concentrations that follow: 0.01-0.2% Fe; 0.002-0.1% Si; 0.002-0.2% V; 0.04-0.2% Cr; 0.003-0.15% Sn; 0.005-0.15% Mn; 0.0009-0.25% Cu; 0.01-0.23% Ni; 0.004-0.2% Al; 0.002-0.17% Zr; 0.006-0.18% Mo; and 0.02-0.1% W. The reproducibility of results from analysis according to this method is characterized by a variation

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USSR

GRIKIT, I. A., et al., Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 160-165

coefficient of 10-20% depending on the element being tested and its concentration. It was established that the mass of the specimen has a considerable influence on the results of spectral analysis. For the purpose of eliminating the possibility of distorting the results of spectral analysis, it is essential that the specimens of metallic titanium being analyzed correspond in mass and structure to the standard test pieces. Four illustrations, two tables, and five bibliographic entries.

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UDC 154.2+577.17

USSR

MAKARENKO, Yu. A., and FROLOV, Ye. P., Laboratory of Developmental Physiology, Institute of Pediatrics, Academy of Medical Sciences, USSR, Moscow

"The Level of Blood Mediator Components in Rabbits in Emotional States of Differing Biological Character"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 9, Sep 73, pp 1397-1402

Abstract: The blood level of the catecholamines, acetylcholine, serotonin and leukocytes was studied in 30 adult, alert rabbits during positive and negative stimulation for 30 minutes. The positive auto-stimulation was by means of electrodes inserted in the hypothalmic lateral nucleus, while negative avoidance stimulation used electrodes in the medial group of hypothalamic nuclei. An increase in the catecholamine concentration and smaller decreases in the amounts of acetylcholine and leukocytes were typical observations for the negative emotional state. During positive emotions an increase in acetylcholine concentration and the number of leukocytes, and a decrease in serotonin level were noted. In both cases a reverse aftereffect was also seen. The authors conclude that the positive state is not simply the opposite of the negative, or stress, state, but the activation of an independent mechanism.

1/1

USSR UDC: 681.333

FEDORKO, Yu. M., MAKARENKO, Yu. A.

"A Device for Modeling the Process of Serving Passengers in Ticket Offices"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 293254, Division G, filed 25 Mar 68, published 15 Jan 71, p 167

Translation: This Author's Certificate introduces a device for modeling the process of serving passengers in ticket offices. The device contains counters, diodes, flip-flops, OR and NOT circuits, generators, a functional converter and a decoder. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding a random number generator. The output of the random number generator is connected to the input of the first counter, the outputs of this counter being connected through interrogation diodes to the inputs of readiness flip-flops whose outputs are connected through sampling diodes to the inputs of the first OR circuit. The output of this OR circuit is connected to the control input of the time generator. The second input of the time generator is connected to the output of the functional converter, while the output of the time generator is connected to the inputs of feedback diodes whose outputs are connected to the inputs of counters of the number of referrals of the ticket

USSR

FEDORKO, Yu. M., MAKARENKO, Yu. A., USSR Author's Certificate No 293254

office to the dispatcher and to the reset inputs of the corresponding flip--flops. The second inputs of the feedback diodes and sampling diodes are connected to the corresponding outputs of the interrogation decoder. The inputs of the decoder are connected to the outputs of the second counter, whose input is connected in turn through a diode to the input of a pulse generator. The second input of the above-mentioned diode is connected through a NOT circuit to the output of the first OR circuit. The outputs of the first counter are connected in addition to the inputs of the response diode, whose output is connected to the input of the control flip-flop and through the second OR circuit to the reset input of the first counter. The second input of this OR circuit is connected to the reset input of the control flip-flop. The outputs of the control flip-flop are connected to the inputs of the interrogation and response diodes.

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Acc. Nr.: AP0029502

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya, 1970, Nr 1, pp 31-34

WORK CONDITIONS AND THE STATE OF HEALTH OF WORKERS ENGAGED IN HOT VULCANIZATION OF FOOTWEAR RUBBER

Z. A. Volkova, L.Ye. Milkov, K. A. Lopukhova, L. M. Matyar, Yu. L. Makarenko, T. K. Shakhova

Summary

Hot vulcanization (cure) of rubber with divinyl-styrene raw rubber serving as a base is attended by the formation of a complex steam and gas mixture. In this process permanent constituents are styrene fumes, whose content in the respiration zone comprises 2—40 mg/m³. Into the atmosphere there are also released divinyl, butyricaerosol, formaldehyde, acrolein, carbon monoxide, sulfudioxide, ammonia, methyl alcohol, aromatic amines. Heat-producing microclimate is an adverse factor as well. The workers demonstrated functional shifts in the state of the nervous system, alterations in the upper respiratory tract, peripheral blood and teguments. Medico-prophylactic measures are proposed.

1/1

REEL/FRAME

19681103

USSR UDC 539.3

GUZ', A. N., MAKARENKOV, A. G.

"The Supporting Capacity of Spherical Shells With a Circular Reinforced Aperture"

Problemy Prochnosti, No 4, April 1970, pp 59-63

Abstract: The article deals with determination of the supporting capacity of a spherical shell in the zone of stress concentration which, as a rule is the starting point of destruction. The shell is loaded by an internal pressure P. By supporting capacity is meant the value of the pressure at which the structure attains a limit state corresponding to the start of destruction. It was found that in verification calculations of such shell structures and in determination of the strength-reserve coefficient, satisfactory agreement with experimental results may be obtained when the strength criterion is used in accordance with the theory of shape-alteration energy. Deformation strength theories yield greater scattering, even within the limits of a narrow range of destructive pressures. In determining the supporting capacity of the structures, the best coincidence with experimental results are obtained in the case of deformation strength theory. The introduction of ultimate deformation intensity as a strength criterion in such a case yields results which practically coincide with results obtained on the basis of the theory of maximum linear deformations.
1/1

USSR

UDC 577.4

GORBATOVA, V. A., MAKARENKOV, S. V.

"Forbidden Configurations in Joint Minimization of a System of Boolean Functions in the Class of Lattice Disjunctive Normal Forms"

V sb. Ekon.-mat. metody i programmir. plan.-ekon. zadach (Mathematical Economic Methods and Programming Economic Planning Problems--collection of works), Moscow, 1972, pp 34-39 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V272)

No abstract

1/1

Combustion

USSR

UDC 541.124/128

PANCHENKOV, G. M., MALYSHEV, V. V., MAKAYEVSKOV, V. V., GRIGOR'YEV, V. A., and PUSTYNEV, O. G.

"Flash Point Concentration Limits of Hydrocarbons and Hydrocarbon Fuels"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 2, Feb 72, pp 374-376

Abstract: Concentration range of a cold flame flash point of various hydrocarbons and hydrocarbon fuels determined in containers made of different materials, changing the temperature and the degree of dilution with an inert gas are described well by a general equation

$$\overline{P} = f(\overline{c})(C_o - 2)/\overline{C}(\overline{C}_o - \overline{C})$$

where $\overline{C}_o = 1/C_o$ and $f(\overline{C})$ is an experimentally determined function.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FORMS OF PERIODIC TABLES -U-

AUTHOR--MAKARENYA, A.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. SHK. 1970, 25(1), 7-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PERIODIC SYSTEM, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1558 STEP NO--UR/0509/70/025/001/0007/0009

CIRC ACCESSION NO--AP0125184

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125184
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENT FORMS OF THE PERIODIC TABLE OF ELEMENTS HAVE BEEN DEVISED. AS ANY OF THEM CAN NOT FULLY EXPRESS THE WHOLE COMPLEXITY OF THE PERIODIC LAW OF ELEMENTS, A "SHORT FORM" IS PROPOSED FOR DESCRIPTION OF THE MOST GENERAL CHEM. ANALOGIES, AND A "LONG FORM" (THOMSEN FORM) FOR DESCRIPTION OF MORE CHARACTERISTIC PROPERTIES OF DIFFERENT GROUPS AND PERIODS.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT7C

TITLE--PELUIDIN IN THE COMPLEX TREATMENT OF CHRONIC NON SPECIFIC PROSTATITIS -U-

AUTHOR-(03)-VEDENKO, B.G., BELTS, YE.A., MAKARETS, K.S.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 115-117

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GLAND, REPRODUCTIVE SYSTEM, ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1743 STEP NO--UR/0475/70/000/006/0115/0117

CIRC ACCESSION NO--AP0129111

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129111

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PELOIDIN WAS COMBINED WITH ANTIBIOTICS IN THE TREATMENT OF 103 PATIENTS SUFFERING OF CHRONIC NON SPECIFIC PROSTATITIS. PELOIDIN WAS USED IN THE FORM OF MICROENEMAS 50 ML, 40DEGREESC, 10-12 PER COURSE). RECOVERY WAS SEEN IN 79.6PERCENT, IMPROVEMENT IN 16.5PERCENT, FAILURE IN 3.9PERCENT. CONTROL STUDIES IN PATIENTS NOT RECEIVING PELOIDIN SHOWED THAT INCLUSION OF PELOIDIN IN THE COMPLEX TREATMENT OF CHRONIC NON SPECIFIC PROSTATITIS HAS MAJOR ADVANTAGES. FACILITY: UROLOGICHESKOYE OTDELENIYE PERVOY GORODSKOY KLINICHESKOY BOL'NITSY. FACILITY: POLIKLINICHESKOYE OTDELENIYE ZHELEZNODOROZHNOY KLINICHESKOY BOL'NITSY.

UNCLASSIFIED

USSR

UDC 537.311:546.28

MAKAREVICH, A.I., RAYNES, L.YU., SHIBKO, L.S.

"Effect Of Pile Radiation On High-Resistance Silicon"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 18-21 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B30)

Translation: The effect is investigated of pile radiation on high-resistance p-type Si. It is shown that with comparatively small doses of fast neutrons ($\sim 10^{12}$ n/cm^2), defects are formed in high resistance Si which gives rise to the appearance in the forbidden band of the energy levels $E_V + 0.27$, $E_V + 40$ and $E_V + 0.42$ e.v. It is shown that defects of the bivacancy type, a complex of primary defect impurity, and an accumulation of defects are respectively responsible for these levels. 7 ref. Summary.

1/1

USSR

UDC 619:616.988.43-084.47

ANTONYUK, V. P., KRUGLIKOV, B. A., BARBASHOV, V. P., BASHKATOV, S. F., and MAKAREVICH, F. G., State Scientific Control Institute of Veterinary Preparations

"Significance of Specific Prophylaxis of Foot-and-Mouth Disease"

Moscow, Veterinariya, No 9, 1971, pp 46-48

Abstract: Experience gained in the USSR and other countries proved that planned regular vaccination and revaccination (when used together with other veterinary sanitation measures) play an important role in the control of foot-and-mouth disease (FMD), particularly since the immunizing activity of the vaccine has been enhanced by the addition of saponin. Planned FMD vaccination was begun in the USSR in 1954, when 12.6 million head of cattle in zones of epizootic outbreaks of the disease were immunized. More than 132 million animals were vaccinated in 1969. As a result, the disease and its foci have been almost completely eradicated in the RSFSR, Ukraine, Belorussia, and Moldavia. Vaccination and revaccination are of particular importance in the republics of Central Asia, Transcaucasus, Northern Caucasus, and some oblasts of Kazakhstan, where the system of long cattle drives and the possible mixing of large masses of animals makes them

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USSR

ANTONYUK, V. P., et al., Veterinariya, No 9, 1971, pp 46-48

particularly susceptible to epizootic outbreaks. An analysis of available data on immunization in the republics of Uzbekistan, Kirgizia, and Tadzhikistan reveals that vaccination there is conducted in an irregular and haphazard manner, with the result that large number of animals remain unvaccinated. It is important that a plan for the vaccination and revaccination of cattle during February-March, and again in August-September, and of smaller animals during the months of November-December, and again in April and November of the next year be adopted. Planned and complete immunization must be regarded as an important component in the measures for the eradication of FMD.

2/2

USSR

UDC: 51.621.391

MAKAREVICH, L. V.

"On a General Approach to the Structural Theory of Probabilistic Automata"

V sb. Veroyatnostn. avtomaty i ikh primeneniye (Probabilistic Automata and Their Use--collection of works), Riga, "Zinatne", 1971, pp 55-59 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V415)

Translation: The paper discusses the possibility of constructing a general structural theory of probabilistic automata in terms of which the problem of completeness can be formulated as well as the problem of complexity of networks, etc. Author's abstract.

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USSR

UDC 616.988.25-022.394.42-008.939.15

MAKAREVICH, N. I., Laboratory of Biochemical and Biophysical Research Methods, Khabarovsk Scientific Research Institute of Epidemiology and Microbiology, and Clinic of Nervous Diseases, Khabarovsk Medical Institute

"Indexes of Lipid Metabolism in Patients With Tickborne Encephalitis"

Moscow, Zhurnal Nevropatologii i Psikhiatrii imeni S. S. Korsakova, Vol 71, No 7, 1971, pp 1,011-1,014

Abstract: The lipid metabolism of 193 patients with tickborne encephalitis was studied. The shifts in lipid metabolism reflected the form and stage of development of the disease. In the acute stage hyperlipidemia accompanied by a drop in the alkaline reserve of the blood plasma and acetonuria was observed. These changes were most pronounced in patients with disturbances of respiration and cardiovascular activity. As the disease progressed, there was an increase in the cholesterol level, reflecting a lesion of the central nervous system, specifically of the hypothalamus, and a drop in the excretion of 17-ketosteroids in the urine. In severe cases of tickborne encephalitis, the content of beta-lipoproteins in the serum increased, reaching a mean level of 80%, while the content of alpha-lipoproteins decreased correspondingly. Similar shifts in the content of lipoproteins were observed in diseases of the

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MAKAREVICH, N. I., Zhurnal Nevropatologii i Psikhiatrii imeni S. S. Korsakova, Vol 71, No 7, 1971, pp 1,011-1,014

liver, the cardiovascular system, and the kidneys: one may conclude that the dyslipoproteinemia in patients with tickborne encephalitis is due to disturbed funtioning of these organs. The hyperbetalipoproteinemia was often accompanied by elevated blood sugar level. Shifts in lipid metabolism were more pronounced in patients with focal lesions of the nervous system than in those with the meningeal form of the disease. As the condition of the patients improved, lipid metabolism tended to return to normal. Studies of lipid metabolism in patients with tickborne encephalitis make it possible to determine the severity of the disease and to arrive at some conclusions pertaining to its pathogenesis.

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Acc. Nr: AP0049840 Abstracting Service: CHEMICAL ABST. 5 70 Ref. Code: UR0368

101360j **Graft copolymers of polyacrylonitrile with methyl acrylate studied by an infrared spectroscopic method.** Makarevich, N. I.; Pen'kova, M. P.; Konkin, A. A. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 85-90 (Russ). The grafting of acrylonitrile-2-amino-4-(vinylsulfonyl)anisole copolymer (I) with Me methacrylate (II) was studied by ir spectroscopy. Comparison of the spectra of I and I-II graft copolymers contg. 15 and 30% II indicated that the increase in incorporation of II in the initial stage of grafting occurs mainly via an increase in the no. of grafting centers. Chain growth and branching occur mainly in subsequent stages.

DBJR

REEL/FRAME
19801765

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UDC 576.895.42:576.852.2.1

BLAGODARNYY, YA. A., Professor, MAKAREVICH, N. N., Candidate of Medical Sciences, and BLEKHMAN, I. M., Kamakh Scientific Research Institute of Tuberculosis, and Central Institute of Tuberculosis, Ministry of Health USSR

"Isolation of Atypical Mycobacteria From Spontaneously Infected Argas persicus Mites"

Moscow, Problemy Tuberkuleza, No 6, 1971, pp 74-75

Abstract: Twenty-four Mycobacterium strains were isolated from argasid mites taken from chickens on Southern Kazakhstan poultry farms infected with tuberculosis. Sixteen of the strains were identified as typical Mycobacterium avium, while the other eight were regarded as atypical. The morphology of the cultures was variable, the microorganisms ranged from short acid-resistant coccoid forms to granular mycobacteria. All the cultures were resistant to streptomycin, isoniazid, and tibon. Only one of the atypical strains was pathogenic for guinea pigs. None of the eight strains produced any symptoms of the disease in rabbits or mice. Intratesticular inoculation of guinea pigs previously sensitized with horse serum resulted in infection.

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USSR

UDC 681.332.64

MAKAREVICH, O. B., BAYEV, B. M., PUDZENKOV, N. A., and P'YAVCHENKO, O. N., Taganrog Radio Engineering Institute

"A Computing Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291216, Division G, filed 7 Apr 69, published 6 Jan 71, pp 123-124

Translation: This Author's Certificate introduces a computing device for a digital integrator. The device contains a memory device, integration modules, a multiplier, adders, a remainder register, rectifiers, and shapers. As a distinguishing feature of the patent, the device is simplified and speed is increased by connecting the outputs of the memory device to the inputs of the multipliers and parallel integration modules. Some outputs of the integration modules are connected to inputs of the memory device, while the other outputs of these modules are connected to the inputs of the multipliers. The outputs of the multipliers are connected to the inputs of the non-quantum increment adder, and the output of this adder is connected to the inputs of the increment shaper and a rectifier. The second inputs of the shaper and rectifier are connected to the outputs of the control device. The output of the rectifier is connected to the input of the remainder register, and

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MAKAREVICH, O. B., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291216, Division G, filed 7 Apr 69, published 6 Jan 71, pp 123-124

the other input of the register is connected to the output of the memory device. The output of the remainder register is connected to the second input of the adder which combines the partial sum with the sum of the non--quantum increments.

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USSR

UDC 681.332.6

KUTOVOY, A. S., MAKAREVICH, O. B., TAGANROG RADIO ENGINEERING Institute

"A Device for Isolating the Extremum Value of a Function"

Moscow, Otkrytiya, Izobretneiya, Promyshlennye Obraztsy, Tovarnyye Znaki, No 9, 1970, p 137, Patent No 264814, filed 21 May 68

Abstract: This Author's Certificate introduces a device for isolating the extremum value of a function represented as a stream of multidigit increments. The device consists of adders, rectifiers, an increment accumulation unit, a control signal unit, and memory elements. As a distinguishing feature of the patent, the operational precision of the device is improved by connecting the input bus to the input of the delay unit and the first input of the adder. The second input of the adder is connected to the output of the memory element, and the adder output is connected to the input of the increment accumulator. The first output of the increment accumulator is connected to the input of the control signal unit, while the second output is connected to the first input of the correction rectifier unit. The second input of the correction rectifier unit

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KUTOVOY, A. S., et al., Moscow, Otkrytiya, Izobretneiya, Promushlennyye Obraztsy, Tovarnyye Znaki, No 9, 1970, p 137, Patent No 264814, filed 21 May 68

is connected to the first output of the control signal unit, and the output of this rectifier unit is connected to the first input of the correction adder. The second output of the signal control unit is connected to the first input of the rectifier unit for input increments. The second input of this rectifier unit is connected to the output of the delay unit, while the output of the rectifier unit is connected to the second input of the correction adder. The output of the correction adder is connected through a sign inverter to the input of the memory element.

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1/2 020 UNCLASSIFIED

TITLE--CLOUD BRIGHTNESS, REVIEW OF A COMPLEX STUDY -U-

PROCESSING DATE--04DEC70

AUTHOR-(04)-ROZENBERG, G.V., ILICH, G.K., MAKAREVICH, S.A., MULLAMAA, YU.R.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, FIZIKA ATMOSFERY I OKEANA, VOL. 6, MAY 1970, P. 445-467

DATE PUBLISHED----MAY70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--LIGHT SCATTERING, OPTIC BRIGHTNESS, ATMOSPHERIC CLOUD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605011/F06 STEP NO--UR/0362/70/006/000/0445/0467

CIRC ACCESSION NO--AP0140230

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140230

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE PROPERTIES OF SOME VERY GENERAL ASYMPTOTIC FORMULAS, FOR THE BRIGHTNESS OF THICK LAYERS OF LIGHT SCATTERING MEDIA, WHOSE CORRECTNESS WAS DEMONSTRATED BY PREVIOUS EXPERIMENTS. THE FORMULAS ARE USED IN CALCULATING THE CLOUD BRIGHTNESS AS A FUNCTION OF CLOUD PARAMETERS, ILLUMINATION, AND CONDITIONS OF THE UNDERLYING SURFACE. AN ANALYSIS OF EXTENSIVE EXPERIMENTAL DATA AND CALCULATIONS INDICATE THE EXISTENCE OF A RELATION BETWEEN THE MACROOPTICAL PARAMETERS OF CLOUDS AND THEIR MICROSTRUCTURE. A METHOD IS PROPOSED FOR DETERMINING THE EFFECTS OF THE SPATIAL STRUCTURE OF CLOUDS ON THEIR BRIGHTNESS CHARACTERISTICS AS A FUNCTION OF THE DIMENSIONS OF THE VISUAL FIELD. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT FIZIKI ATMOSFERY, MOSCOW, USSR. FACILITY: AKADEMIIA NAUK BELORUSSKOI SSR, INSTITUT FIZIKI, MINSK, BELORUSSIAN SSR; AKADEMIIA NAUK ESTONSKOI SSR, INSTITUT FIZIKI I ASTRONOMII, TARTU, ESTONIAN SSR.

UNCLASSIFIED

USSR

UDC 535.361

ZEGE, E. P., KATSEV, I. L., MAKAREVICH, S. A.

"Characteristics of the Light Field in Weakly Absorbent Media"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 12, No 6, 1970, pp 1137-1139

Abstract: This short mathematical article deals with formulas developed by G. V. Rozenberg for the brightness coefficient, the diffuse reflection, and the conductance of light in weakly absorbent layers of large optical thickness. Although the determination of the parameters of the equation can be done experimentally or through the proper computations, the authors assert that there is no need for determining all these parameters experimentally. They then proceed to work out equations through which the parameters can be found. The two sources they cite of information on the Rozenberg equations are a paper written by Rozenberg for the collection Spektroskopiya svetorasseivayushchikh sred (The Spectroscopy of Light-Dispersive Media), Minsk, 1963, p 5, and a paper written by A. P. Ivanov and G. K. Il'ich for the journal named above (2, 356, 1965).

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MAKAREVICH, V. K.

(8)

JPRS 60634
27 November 1973

EXPERIMENTAL STUDY OF AN AC LIQUID-METAL CONDUCTION MACHINE

[Abstract of a Paper by Yu. A. Bakanov, L. G. Vlasenko, S. Ye. Dvorchik, Ya. Ya. Zandarz, V. K. Makarevich, V. Ya. Strizhak, I. M. Tolmach, S. R. Troitskiy Given at the Magnetohydrodynamic Conference; pp 140-142]

A study was made of a high-temperature single-phase machine with a C-type magnetic excitation system, four pair-wise connected channels bifilar-arranged in the gap and also a III-type step-up transformer (Figure 1). The channels were executed from Kh18N10T steel 0.5 mm thick; they have a constant cross section with outside dimensions of 16.6 x 6.4 mm² and an active length of 250 mm. They are electrically connected to each other and to the sectional primary turn of the transformer (soldering the lateral faces). The flow of metal in each pair of channels is opposite. The machine has electrical insulation with thermal stability to 600°C, measuring turns for determining the magnetic fluxes and several thermocouples.

Depending on the operating mode in the experiment, various switchings of the windings were realized:

1) In the pump mode the excitation winding and the output winding of the transformer were fed from a constant energy source;

2) In the generator mode independently of the excitation, the excitation winding was fed from an outside source, and the transformer winding was connected to the useful load.

3) In the generator mode with self-excitation of the winding, the capacitance and the useful load were included according to the scheme in Figure 1.

The studies were made on a sodium loop with a sodium temperature of 300-500 °C.

The characteristic features of the conduction machines of this type and, in particular, the characteristic features of the parallel hydraulic coupling of pairs of channels leading to spurious currents through the bypass loops of circuit from the sign-variable magnetic field were noted.

USSR UDC 538.4

BAKANOV, Yu. A., DRONNIK, L. M., LEVIN, M. N., MAKAREVICH, V. K., RESHET'KO, L. M., STRIZHAK, V. Ye., TOLMACH, I. M., TROITSKIY, S. R., YANTOVSKIY, Ye. I.

"Experimental Study of Liquid-Metal Induction Machine in Pump Mode"

7-ye Soveshch. po Magnit. Gidrodinamike. T. 1 [Seventh Conference on Magnetic Hydrodynamics, Vol 1], Riga, Zinatnye Press, 1972, pp 20-23, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B43 by V. V. Blagov).

Translation: The operation of a liquid-metal induction machine in the pump mode was studied in a potassium circuit with a working pressure of up to 60 kg/cm^2. The working characteristics of the machine are presented for a temperature of 500°.

The experimental results allowed the relationship of the dimensionless criterion $\Pi = \Delta P V_s l/\sigma U^2$ to the velocity ratio $V/V_s = 1 - S$ to be established (where V_s is the synchronous speed of the rotating field, V is the velocity of the metal, ΔP is the pressure drop developed, S is the slipping, σ is the conductivity, U is the applied voltage). As the temperature changes from 1/2

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UDC 538.4

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BAKANOV, Yu. A., DRONNIK, L. M., LEVIN, M. N., MAKAREVICH, V. K., RESHET'KO, L. M., STRIZHAK, V. Ye., TOLMACH, I. M., TROITSKIY, S. R., YANTOVSKIY, Ye. I., 7-ye Soveshch. po Magnit. Gidrodinamike. T. 1, Riga, Zinatnye Press, 1972, pp 20-23.

280 to 500° and the voltage varies from 80 to 150 v, the dependence of Π on V/V_s is universal. The maximum head is produced at small flow rates, depends on the applied voltage and where T = 500° and ΔU = 150 v is about 37 kg/cm^2; the efficiency of the machine is about 24% under these conditions. Where T = 300°, these figures are 42 and 30% respectively. The total operating time of the machine was 120 hours.

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 006

TITLE--DETERMINATION OF BIURET IN COMPLEX FERTILIZERS -U-

AUTHOR-(02)-MAKAREVICH, V.M., KOYANDER, A.YE.

COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA, 1970, 1, 139-43

DATE PUBLISHED-------70

SUBJECT AREAS--AGRICULTURE, CHEMISTRY

TOPIC TAGS--UREA DERIVATIVE, COMPLEX FERTILIZER, CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0444 STEP NO--UR/0485/70/000/001/0139/0143

CIRC ACCESSION NO--AP0116110

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 006

CIRC ACCESSION NO--AP0116110

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMMONLY USED METHOD FOR DETN. OF BIURET BY REACTION WITH CU SALTS IN ALK. SOLNS. CAN NOT BE USED FOR ANAL. OF COMPLEX FERTILIZERS CONTG. LARGE AMOUNTS OF NH SUB4 PRIME POSITIVE, CA PRIME2 POSITIVE, MG PRIME2 POSITIVE, K PRIME POSITIVE, FE PRIME3 POSITIVE, NO SUB3 PRIME NEGATIVE, SO SUB4 PRIME2 NEGATIVE, PO SUB4 PRIME3 NEGATIVE, AND CL PRIME NEGATIVE. THEREFORE, A METHOD WAS DEVELOPED FOR DETN. OF BIURET ON THE BASIS OF THE FORMATION OF A YELLOW COMPLEX WITH NI. THE SAMPLE OF FERTILIZER (10 G) WAS DISSOLVED IN DISTD. WATER AND MADE UP TO 500 ML. THE SOLN. WAS THOROUGHLY MIXED AND FILTERED, AND 15 ML OF FILTRATE WAS TRANSFERRED INTO A 50 ML VOLUMETRIC FLASK. THEN 5 ML OF ALK. NITARTRATE REAGENT (1 TO 1 SOLNS. OF 1.36 G NISO SUB4. 7H SUB2 O,500 ML AND 133 G NAOH PLUS 137 G NA-K TARTRATE,500 ML OF H SUB2 O) AND 5 ML 10PERCENT (SATD.) NA SUB4 P SUB2 O SUB7 WERE ADDED AND THE FLASK WAS KEPT FOR 30 MIN IN A WATER BATH AT 72-75DEGREES. AFTER COOLING TO ROOM TEMP. AND DILG. WITH DISTD. WATER, THE ABSORBANCE WAS DETD. AT 265 M MU. THE CONTENT OF BIURET WAS READ FROM STANDARD CURVES. FACILITY: NAUCH-ISSLED. INST. UDOBRINSEKTOFUNGITIS, MOSCOW, USSR.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MEDICAL NARCOSIS WITH NITROUS OXIDE IN BURN SHOCK -U-

AUTHOR--NAKAREVICH, V.T.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 22-24

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BURN, TRAUMATIC SHOCK, PAIN, NERVOUS SYSTEM, NITROGEN OXIDE, DOG, NARCOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0393 STEP NO--UR/0177/70/000/003/0022/0024

CIRC ACCESSION NO--AP0134165
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 038

CIRC ACCESSION NO--AP0134165

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BURN SHOCK IS A REVERSIBLE STATE AND CAN BE ELIMINATED BY THE APPLICATION OF A COMPLEX OF ANTIBURN MEASURES DIRECTED PRIMARILY TOWARD THE WEAKENING OF PAINFUL IMPULSATION. THE VALUE OF VARIOUS PAIN RELIEVING AGENTS IN COMBATTING SHOCK IS DETERMINED PRIMARILY BY THE ABILITY TO PREVENT THE ONSET OF PAINFUL IMPULSES FROM THE PLACE OF DAMAGE TO VITALLY IMPORTANT CENTERS OF THE NERVOUS SYSTEM. THE LITERATURE CONTAINS THE REPORTS OF A NUMBER OF AUTHORS (P. P. VOYTSEKHOVSKIY, 1968; B. T. BILYNSKIY, 1968; R. L. GINZBURG, 1967, AND OTHERS) ON THE APPLICATION OF SUPERFICIAL NARCOSIS WITH NITROUS OXIDE IN BURN SHOCK. WE HAVE STUDIED THE EFFECT OF DEEPER NARCOSIS WITH NITROUS OXIDE (FIRST LEVEL OF THE SURGICAL STAGE) IN EXPERIMENTS AND IN THE CLINIC. ITS DEPTH WAS JUDGED ON THE BASIS OF CLINICAL AND ELECTROENCEPHALOGRAPHIC DATA. THE EXPERIMENTS WERE SET UP ON 40 UNPEDIGREED DOGS OF DIFFERENT SEX AND WEIGHT. SHOCK WAS BROUGHT ABOUT IN 24 ANIMALS WITH BOILING WATER, IN 8 BY FLAME AND IN EIGHT BY LUMINOUS EFFECT. FORTY PERCENT OF THE BODY SURFACE WAS SUBJECTED TO BURN. IN ALL CASES A TWO PHASE PICTURE OF SHOCK DEVELOPED. FIVE SERIES OF EXPERIMENTS WERE CONDUCTED.

UNCLASSIFIED

USSR

UDC 577.4

MAKAREVSKIY, A. Ya.

"On Realizing Control Devices With Storage in Homogeneous Media"

Moscow, Abstraktn. i struktur. teoriya releyn. ustroystv--sbornik (Abstract and Structural Theory of Relay Devices--collection of works), "Nauka", 1972, pp 79-88 (from RZh-Matematika, No 1, Jan 73, abstract No 1V616 by the author)

Translation: A method is proposed for realizing devices with memory in homogeneous media. Embedded directly in the medium is specification of the conditions of operation of the device, bypassing the stages of coding of states, and realization of the functions of excitation in the homogeneous medium. In this connection the problem of setting up the method of embedding is solved simultaneously with the problem of selecting the cell of the homogeneous medium. The memory of the cell is used not only for adjusting the homogeneous medium. but also in the process of operation of the device.

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USSR

MAKAREVSKIY, A. Ya.

"The Realization of Control Devices with Memory in Homogeneous Media"

Abstraktn. i Struktur. Teoriya Releyn. Ustroistv. [Abstract and Structural Theory of Relay Devices -- Collection of Works], Moscow, Nauka Press, 1972, pp 79-88 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 3 V616 by the author).

Translation: A method is suggested for realization of devices with memory in homogeneous media, in which the assignment of the operating conditions of the device is made directly in the medium, bypassing the stages of coding of states and realization of excitation functions in the homogeneous medium, the problems of creation of the method of embedding and selection of the cells of the homogeneous system being solved simultaneously. The memory of a cell is used not only for adjustment of the homogeneous medium, but also in the process of operation of the device.

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USSR

MAKAREVSKIY, A. Ya.

"Realization of Finite Automata in Homogeneous Media"

Vychisl. Sistemy [Computer Systems -- Collection of Works], Novosibirsk, No 41, 1971, pp 32-51, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V335 by S. Marchenkov).

Translation: Let us represent by $H(p, q, r)$ a set of initial automata with r states, with input alphabet $\Sigma_p = \{\sigma_1, \ldots, \sigma_p\}$ and output alphabet $\Sigma_q = \{\sigma_1, \ldots, \sigma_q\}$. Autonaton A is called universal if for any p, q, r there are numbers T, τ and coding F of alphabets Σ_p and Σ_q such that for any automaton $B \in H(p, q, r)$ it is possible to construct cellular automaton $\mathcal{U}$ over A, realizing automaton B with coding F, extension T and shift τ. The triplet $W = (F, T, \tau)$ is called the coding method. The compexity of cellular automaton $\mathcal{U}$ over A is the number of examples of automaton A used in construction of automaton $\mathcal{U}$. The Shannon function $L_{A,W}(p, q, r)$ is introduced in the ordinary manner. It is proven that there is a universal automaton A with 9 states and coding method W such that

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MAKAREVSKIY, A. Ya., Vychisl. Sistemy, Novosibirsk, No 41, 1971, pp 32-51

$$L_{A,W}(p, q, r) \leq pr \log qr$$

and for any universal automaton A and coding method W

$$L_{A,W}(p, q, r) \geq pr \log qr.$$

USSR UDC 533.916

ZHIZHIMOV, L. A., MAKARKIN, B. D.

"Resonance Extinction of Electromagnetic Waves by Plasma Objects in a Rarefied Plasma"

Tr. Kirg. un-ta. Ser. fiz. n. (Works of Kirgiz University. Physical Sciences Series), 1972, No. 1, pp 81-82 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G213)

Translation: Formulas are obtained for the cross section for scattering and absorption of electromagnetic waves by plasma formations in a medium with finite conductivity. V. A. Abramov.

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USSR

MAKARKIN, N. T.

"26th All-Union Scientific Conference"

Moscow, Radiotekhnika, Vol 25, No 9, 1970, pp 108-109

Abstract: This conference, celebrating the centennial of Lenin's birth and the 75th anniversary of the invention of radio by A. S. Popov, was held in June 1970 in Moscow. Scientists of such countries as Hungary, East Germany, Poland, China, Czechoslovakia, Bulgaria, the United States, England, Canada, France, West Germany, Finland, and Sweden participated. Reports were read in the three-day plenary sessions by Academician A. L. Mints on the work of the USSR Academy of Sciences in the creation of proton accelerators, by Academician V. V. Parin on progress in medical electronics, by Corresponding Member of the Academy B. F. Lomov on the improvement of efficiency and reliability of control systems for machines, by Academician V. M. Glushkov on control system design for enterprises and industries, by V. P. Ushakov, I. M. Vitenberg, B. V. Anisimov, B. A. Volynskiy, and others on the problems of the development and introduction of electronic computers into production. The modern state of electrical and postal communication was reported on by A. A. Rapokhin, S. A. Adzhemov, O. N. Ivanova, O. K. Makarov, M. I. Krivosheyev,

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910006-0"

USSR

MAKARKIN, N. T., Radiotekhnika, Vol 25, No 9, 1970, pp 108-109

S. V. Novakovskiy, and N. I. Chistyakov. Reports were given by Soviet and foreign specialists on television, antennas, quantum electronics, and the like. Other names and details are given.

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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CATHODIC CROSS DIMERIZATION. I. ELECTROCHEMICAL SYNTHESIS OF THE METHYL ESTER OF OMEGA,CYANOVALERIC ACID -U-

AUTHOR-(02)-MAKAROCHKINA, S.M., TOMILOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 676-80

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DIMERIZATION, ELECTROLYSIS, ADIPATE, NITRILE, GRAPHITE ELECTRODE, TIN, LEAD, CATHODE, CARBOXYLIC ACID ESTER, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0818 STEP NO--UR/0079/70/040/003/0676/0680

CIRC ACCESSION NO--AP0134561

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134551

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ELECTROLYSIS OF 150 ML ELECTROLYTE CONTG. N K SUB2 HPO SUB4, 65 ML CH SUB2:CHCN, AND 17.7 ML CH SUB2:CHCO SUB2 ME, RUN AT 28DEGREES AND 0.06 A-CM PRIME2 C.D. (THIS GAVE THE BEST YIELD OF THE NC(CH SUB2) SUB4 CO SUB2 ME), AT PH 7-10 NO APPRECIABLE YIELD CHANGE WAS EFFECTED BY PH CHANGES. SIMILAR ELECTROLYSES AT 6-8DEGREES WITH INDICATED CATHODE MATERIALS GAVE THE FOLLOWING CURRENT EFFICIENCIES (PERCENT), RESP., OF DI-ME ADIPATE, NC(CH SUB2) SUB4 CO SUB2 ME, AND (CH SUB2) SUB4 (CN) SUB2: GRAPHITE 2.3, 50.4, 15.45; SN 4.6, 31, 0; PB 7.5, 25.5, 2.1; CD 4.9, 22.5, 0; HG 10, 71.3, 1.57; AL 1.3, 1.0, 0; MG 0, 0, MINUS. YIELDS OF THE 1ST 2 PRODUCTS DECLINED SHARPLY WHEN THE TEMP. WAS RAISED ABOVE 10DEGREES. EVIDENTLY THE REACTION INVOLVES ADDN. OF 2 ELECTRONS TO CH SUB2:CHCO SUB2 ME TO FORM CH SUB2,CHCO SUB2 ME WHICH WITH THE NITRILE YIELDS NC,CHCH SUB2 CH SUB2,CHCO SUB2 ME WHICH THEN PICKS UP 2 PROTONS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910006-0"

USSR

UDC 616-022.6

MUKHAMETZYANOV, Sh. A., GLANTS, S. A., MAKARON, D. I., and KATS, A. S.

"Hemodialysis in Hemorrhagic Fever With a Renal Syndrome"

Kazan', Kazanskiy Meditsinskiy Zhurnal, No 6, 1971, pp 64-65

Abstract: Of 16 hemorrhagic fever patients admitted to the kidney centers in Kazan' and Chelyabinsk in fair condition with acute renal insufficiency, azotemia, acidosis, hyperhydration, neurologic and cardiovascular disturbances, and (in three cases) meningoencephalitic symptoms, six responded to the standard therapy and regained normal kidney function. The other 10 received as part of the therapy venovenous hemodialysis with an artificial kidney 1 to 5 times. Azotemia decreased markedly, the composition of the plasma salts returned to normal, and kidney function was completely restored in 2 to 12 days. The three patients with the meningoencephalitic syndrome died, despite the initial effectiveness of hemodialysis and elimination of uremic poisoning.

USSR UDC 621.43

ZLOTIN, G. N. and PRIKHOD'KO, M. S., Candidates of Technical Science, and MAKAROV, A. A., Graduate Student, Volgograd Polytechnical Institute

"Production of Inert Gases from Engine Exhaust Gases"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, 1971, pp 111-115.

ABSTRACT: This article presents experimental data from studies of a method of producing inert gas media from diesel exhaust gas, plus several calculation dependences characteristic for the method and a comparison of calculated and experimental data. The method is based on direct burning of liquid fuel in a stream of diesel exhaust gases. The operating process involves two stage combustion of the fuel. The first stage is evaporation of the fuel in a four chamber, followed by flame burning of the gaseous products as they mix with a highly vortexed stream of diesel exhaust gases. The study showed the genuine possibility of production of an inert gas medium by this method. The calculation method developed produces results allowing it to be used for further study of the process.

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Superalloy

USSR UDC 621.9.015.74:669.018.25.004.6

MAKAROV, A. D., MUKHIN, V. S., and VORONIN, N. V.

"Hard-Alloy Tool Wear in the Cutting of Heat-Resistant Alloys"

Moscow, Stanki i Instrument, No 2, Feb 74, pp 26-28

Abstract: Results of investigating the microstructure, microhardness, and chemical composition of the tool material (alloy VK6M) in the zone of chamber wear on the trailing surface are presented using as an example the EP220 Ni-Cr-Co alloy. These studies showed that distribution of cobalt from the alloy being machine and tungsten from the cutting tool vary with cutting speed and time of contact of the tool against the machined part due to diffusion from adhesion contact. Low-speed cutting causes tool wear due to the forces of adhesion which tear and carry particles off from the hard alloy that were weakened by fatigue phenomena. Here the zone of greatest wear was located at some distance from the cutting edge. High-speed cutting also causes tool wear due to mutual diffusion dissolution of the tool and machined materials. The lowering of tool wear intensity with increased cutting speed up to an optimum value v_o can be explained by the decrease of

USSR

MAKAROV, A. D., et al., Stanki i Instrument, No 2, Feb 74, pp 26-28

adhesion and fatigue phenomena, and the increased intensity of wear at $v > v_0$ was caused by the amplification of mutual diffusion dissolving of the tool and machine materials. Six figures, seven bibliographic references.

2/2

MAKAROV, A. D.

UNCLASSIFIED

SECTION V SOVIET SCIENCE AGROSPACE BIOLOGY

Name: Institute of Photosynthesis, Pushchino

Description:

PCS-69
JUNE 71

(U) During this quarterly reporting period, one new article was located from the Institute of Photosynthesis in Pushchino. On the basis of this 1970 article on plant growth, it was possible to associate three new persons with the Institute: S. G. Khrusilova, V. L. Shmeleva, and Ye. F. Tegerova (Sic).

Add to synthesis

To the present time it has not been possible to identify very many persons with the Institute; however, the complete listing of staff members identified to date is given below:

All-Inst of Photosynthesis

Akulova, Ye. A.
Gavrilova, V. A.
Khrusilova, S. G.
Labedev, A. L.
Makarov, A. D.
Mal'yan, A. M.
Mukhin, Ye. N.
Olovyanishnikova, G. D.
Popova, N. E.
Prokhorova, L. I.
Sadovnikova, N. D.
Shmeleva, V. L.
Sidorov, A. E.
Stakhov, L. F.
Stolovitskiy, Yu. M.
Surovtsev, V. I.
Tegerova, Ye. F.
Tevstigneyev, V. B.

UNCLASSIFIED

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USSR UDC 629.78.002

MAKAROV, A. D., SHEVNIN, G. A.

"Study of Certain Characteristics of Workability in the Precision Turning of the A19 Aluminum Alloy"

Tr. Ufim. aviats. in-ta (Works of the Ufimskiy Aviation Institute), 1972, No. 29, pp 26-31 (from RZh-41. Raketostroyeniye, No 11, Nov 72, Abstract No 11.41.198)

Translation: Certain features of the workability of the A19 aluminum alloy are shown. The dependence of contact temperature, the degree of penetration of the cutting instrument, the roughness of the worked surface, and the cost of the working on the cutting rate for a fast-cutting and a hard-alloy cut was investigated. The nature of the abrasion for the different cuts investigated is shown. It was established that there is a close interrelationship between the characteristics of the cutting process investigated. 3 ill., 1 table, 3 ref. Resume.

1/1

Information Theory

USSR UDC 533.9.08

ZHDANOV, A.I., NESTERENKO, P.T., MAKAROV, A.P., GOLOSNYAK, V.L.

"Automation Of Analysis Of Experimental Data In Investigations Of Plasma Physics"

Vestn. Khar'kov. politekhn. in-ta (Bulletin Of Khar'kov Polytechnical Institute), 1970, No 50(98), pp 53-56 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A236)

Translation: A system is described which is intended for automation of the analysis of the signals of diagnostic data units [датчик] recorded on a photographic film in experiments of plasma physics. This system, constructed on the base of the "Dnepr" controller, includes a specially developed device for introduction into the machine of graphic information. 3 ill. 3 ref. Summary.

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