ACCESSION NR: AP4040528 S/0080/64/037/006/1366/1368

AUTHOR: Vargin, V. V.; Stepanov, S. A.

TITLE: Absorption centers in gamma-irradiated glasses of the Na_2O-ZnO-SiO_2 system

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 6, 1964, 1366-1368

TOPIC TAGS: sodium zinc silicate glass, gamma irradiation, glass absorption, spectrum, gamma induced absorption, glass lattice structure

ABSTRACT: The effect of the glass-forming Zn^{+2} ion on the absorption spectra and thermal bleaching of gamma-induced absorption bands has been studied in gamma-irradiated sodium-zinc-silicate glasses. It was established that: 1) the appearance of a new absorption band at 4.6 ev on the irradiation of ZnO-containing glasses with a total dose of 5×10^6 r is caused by the presence of the Zn^{+2} ion with coordination number 6; 2) the introduction of up to 35 mol% ZnO causes a decrease in the intensity of the 2- and 2.8-ev bands, which is correlated with the formation of ZnO_4^{-2} tetrahedrons at the expense of

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ACCESSION NR: AP4040528

unbridged oxygen; 3) in the Na_2O-ZnO-SiO_2 glasses Zn^{+2} ions having coordination number 4 are always in equilibrium with Zn^{+2} ions having coordination number 6, regardless of the ZnO content; and 4) in glasses with 35% Na_2O and over 5% ZnO anomalous changes in the intensity and the thermal stability of absorption bands take place owing to the presence of two unbridged oxygen atoms in some SiO_4 tetrahedrons. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 26Sep62 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: MT NO REF SOV: 000 OTHER: 003

ATD PRESS: 3042

Card 2/2

L 4171-66 EWP(e)/EWT(m)/EWP(i)/EWP(b) WH

ACC NR: AP5025715 SOURCE CODE: UR/0286/65/000/018/0070/0070

INVENTOR: Vargin, V. V.; Veynberg, T. I.; Stepanov, S. A. 40 B

ORG: none

TITLE: Glass. Class 32, No. 174777

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 70

TOPIC TAGS: optic glass

ABSTRACT: An Author Certificate has been issued for a glass which exhibits optical activity in magnetic fields. The glass has the following composition (molar %): SiO_2, 20—35; B_2O_3, 20—40; ZnO, up to 10; CdO, up to 10; BaO, up to 20; plus Tb_2O_3, 10—32.5%. [BO]

SUB CODE: MT, OP SUBM DATE: 03Aug64/ ORIG REF: 000/ OTH REF: 000/ ATD PRESS: 4127

Card 1/1 UDC: 666.112.7
666.117.9

L 11904-66 EWT(1)/EWP(m)/ETC(F)/EPF(n)-2/EWG(m)/EWA(d)/T-2/EWA(m)-2 IJP(c) AT
ACC NR: AP6001907 UR/0294/65/003/006/0845/0850

AUTHOR: Ivanov, P.P.; Kovbasyuk, V.I.; Stepanov, S.A.

ORG: High Temperature Research Institute (Nauchno-issledovatel'skiy institut vysokikh temperatur)

TITLE: Special characteristics of the operation of a magnetohydrodynamic generator at high Hall numbers

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 845-850

TOPIC TAGS: magnetohydrodynamics, plasma generator, Hall effect, magnetic field, electric field, electron mobility

ABSTRACT: At a relatively low degree of ionization, characteristic of a plasma from conductive magnetohydrodynamic generators, the generalized form of Ohms Law can be written as:

$$J = \frac{\sigma_0}{(1+2\beta_i\beta_e)^2+\beta_e^2}\left\{(1+2\beta_i\beta_e)E' - \frac{E'\times B}{B}\beta_e\right\}, \qquad (1.1)$$

$$(\beta_i = \omega_i\tau_i = \mu_i B,\ \beta_e = \omega_e\tau_e = \mu_e B),$$

where μ_i and μ_e are the mobilities of the ions and the electrons in the

UDC: 621.313.12:538.4

Card 1/2

plasma; and, E' is the effective electrical field. It results from theoretical considerations presented in the article that in small fields (T_e less than 3000°K) the conductivity attains a maximum at a relative concentration of the added substance equal to approximately 10^{-4}. In a region of complete ionization of the added substance, there is observed a rapid increase in the electron temperature, an increase which is sometimes of a discontinuous nature. It was found that at a gas temperature of 1000-2000°K and electron temperatures from 2000 to 5000°K, the critical amount of the added substance is approximately 1% by volume. At amounts greater than the critical, instability is observed. It is concluded that the most favorable conditions for increasing the conductivity of the plasma are low pressures, high temperature, and low values of the electrical efficiency. Orig. art. has: 24 formulas and 7 figures.

SUB CODE: 20/ SUBM DATE: 07Apr65/ ORIG REF: 002/ OTH REF: 003

ACC NR: AP6035885 (A) SOURCE CODE: UR/0413/66/000/020/0124/0124

INVENTOR: Shapranov, I. A.; Stepanov, S. A.; Petrova, E. V.; Reznikova, S. Ya.; Kul'bitskiy, A. K.; Bulychev, A. I.

ORG: none

TITLE: Steel. Class 40, No. 187315

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 124

TOPIC TAGS: steel, nickel molybdenum steel, vanadium ~~containing~~ steel, cerium ~~containing steel~~

ABSTRACT: An Author Certificate was issued for a steel containing silicon, manganese, nickel, and molybdenum. To improve weldability and mechanical properties, the composition of the steel is set as follows (in %): 0.08 max. carbon, 0.5 max. manganese, 0.5 max. silicon, 13—15 nickel, 5—6.0 molybdenum, 0.1—0.2 vanadium, 0.02 max. cerium, 0.015 max. sulfur, and 0.015 max. phosphorus.

SUB CODE: 11/ SUBM DATE: 16Dec64/ ATD PRESS: 5106

Card 1/1 UDC: 669.14.018.62: :669.15'24'28-194

24.6500

3 3153
S/058/62/000/004/034/160
A058/A101

AUTHORS: Yurova, L., Polyakov, A. A., Stepanov, S. B., Troyanskiy, V. B.

TITLE: Neutron diffusion length and moderation length in diphenyl and monoisopropyl diphenyl

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 61, abstract 4B461 (V sb. "Neytron. fizika". Moscow, Gosatomizdat, 1961, 192 - 197)

TEXT: The diffusion length of thermal neutrons was measured in diphenyl at t = 35°, 85° and 130°C and in monoisopropyl diphenyl at t = 20°C. Deviation from operating temperature did not exceed ±2°. The following values of L were obtained: 4.77 ± 0.14 cm, 4.93 ± 0.08 cm and 5.47 ± 0.04 cm for diphenyl and 3.34 ± 0.31 cm for monoisopropyl diphenyl. The mean value of the transport cross section of hydrogen in noncrystalline matter that was calculated on the basis of these data and reduced to t = 20°C turned out to equal σ_{tr}^{H} = 35.7 ± 1.2 barn. The age of fission neutrons τ_{fis} and of neutrons from a Po-Be source τ_{sou} was also measured in solid diphenyl (t = 35°C) up to indium resonance. Measurements were carried out in a cylinder 40 cm in diameter and 90 cm in height placed in the thermal

Card 1/2

Neutron diffusion length and...

column of a reactor, the source of fission neutrons being an enriched uranium target-converter. Control measurements with the Po-Be source, carried out at different experimental geometries and cylinder sizes, showed that the distribution of resonance neutrons in diphenyl surrounded by graphite corresponds to the distribution in an infinite medium. It was found that $\tau_{fis} = 54.2 \pm 2.5$ cm^2 and $\tau_{sou} = 106.5 \pm 6.8$ cm^2. At the same time, measured values of neutron age appreciably exceed calculated values.

S. Zaritskiy

[Abstracter's note: Complete translation]

Card 2/2

S/089/62/012/004/010/014
B102/B104

24 2243
// 2950

AUTHORS: Yurova, L. N., Stepanov, S. B., Okorokov, V. V., Kudryashov, Ye. I.

TITLE: Some results of pulse measurements of the diffusion parameters of organic liquids

PERIODICAL: Atomnaya energiya, v. 12, no. 4, 1962, 331-332

TEXT: A pulsed source was used to measure the decrease constant α of thermal neutrons in $C_{12}H_{10}$ (100-250°C) and $C_{15}H_{16}$ (18-250°C). The measurements were carried out in a cylindrical tank with a Cd piston. The moderator above the piston served as an additional fast-neutron source. The geometrical parameter Ω was varied by means of the piston. $\alpha = 1/T + D\Omega - (c_D - c_T)\Omega^2$; T - life-time with respect to absorption, D - diffusion coefficient, c_D - coefficient of diffusion cooling, c_T - transport-theoretical correction; from $D = \bar{\lambda}_{tr}\bar{v}_o/3$ which was obtained from the α-measurements, λ_{tr} was calculated for each temperature, when

Card 1/2

Some results of pulse ...

assuming the thermal neutron spectrum as being Maxwellian and the mean neutron velocity $\bar{v}_o = \sqrt{2kT/m}$ (T - absolute temperature of the medium). From the curves $\bar{\lambda}_{tr} = f(v_o)$, $\bar{\lambda}_{tr} \sim v^{0.33 \pm 0.03}$ (diphenyl) and $\bar{\lambda}_{tr} \sim v^{1.58 \pm 0.12}$ (monoisopropyl diphenyl) was obtained. $\lambda_{tr}(v)$ also differs considerably for equally structured media. For diphenyl the neutron spectrum was most similar to the Maxwellian. Nelkin's method was used to determine c_D when assuming weak dependence of λ_{tr} on the neutron energy ($\bar{\lambda}_{tr} \sim E^{\alpha}$, α is a free parameter): $c_D = (\alpha + 1/2)^2 \sqrt{\pi}\, D^2 / v^o M_2$, where M_2 is the second moment of neutron energy. The calculated values agree with the measured ones within the limits of error. There are 2 non-Soviet references. The reference to the English-language publication reads as follows: M. Nelkin. J. Nucl. Energy, 8, 48 (1958).

SUBMITTED: July 14, 1961

Card 2/2

L 40827-65 EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EWP(j)/EPR Pc-4/Pr-4/
Ps-4/Pu-4 RM/GS
ACCESSION NR: AT5007910 S/0000/64/000/000/0208/0210

47
B+1

AUTHOR: Yurova, L. N.; Stepanov, S. B.; Alimov, G. A.

TITLE: Temperature dependence of the square of the diffusion length and the coefficient of diffusion of thermal neutrons for a number of organic compounds

SOURCE: Moscow. Institut atomnoy energii. Issledovaniya po primeneniyu organicheskikh teplonositeley-zamedliteley v energeticheskikh reaktorakh (Research on the use of organic heat-transfer agents and moderators in power reactors). Moscow, Atomizdat, 1964, 208-210

TOPIC TAGS: organic reactor coolant, thermal reactor, power reactor, nuclear power plant, heat transfer agent, thermal neutron, diffusion coefficient

ABSTRACT: The temperature dependence of the square of the length of diffusion and the coefficient of diffusion of thermal neutrons was investigated for 8 different organic compounds used as heat transfer agents. The impulse source method was used to determine the decay constant, and the temperature was varied from 14 to 248C. Tabulated results are presented for benzene, biphenyl, benzylbenzene, diphenyloxide, gas oil, monoisopropylbiphenyl, anisole, and tetradecane. Orig. art. has: 2 tables and 2 formulas.

Card 1/2

the system at the instant t (the synapse delay time is used as the unit of time). Experiments were made with this matrix on the "Ural-1" electronic computer, to ascertain the dependence of the quality of memorization of signals from a set R, applied to the receptor inputs, and signals from the set e applied to internal inputs, as functions of the number of recorded images (from the set R), the number of neuron inputs, the neuron threshold, and the initial scatter of the weights S assigned to each of the internal inputs of the neuron. The quality of memorization fluctuated with increasing number of recorded images, in some analogy with human memory. No connection was established between the quality of memorization and the number of neuron inputs. The existence of an optimum threshold was deduced. The matrix had a tendency to memorize parts common to several images, thus making it capable of fixing the statistical structure of the image. Some of the experiments indicated that the information capacity of the matrix was not fully utilized. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Leningradskiy universitet (Leningrad University)

SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: LS, DP

NR REF SOV: 000 OTHER: 003

Stepanov, S. D.

USSR/ Miscellaneous - Rail transport

Card 1/1 Pub. 128 - 1/33

Authors : Stepanov, S. D.

Title : Introduction of advanced technological methods to railroad transportation

Periodical : Vest. mash. 36/1, 3-6, Jan 1956

Abstract : Resolutions adopted by the Presidium of the Central Communist Party and efforts undertaken by plants and design bureaus of the Ministry for Construction of Transport Machinery, to supply railroads with the newest equipment and advanced technological methods, are briefly discussed and described. Some data regarding the construction of miscellaneous equipment and work methods in various machine construction plants, is given.

Institution : .....

Submitted : .....

KOSAUROV, S.D.; STEPANOV, S.F.

[Manual for agricultural economists on collective farms] V pomoshch' agronomu-ekonomistu kolkhoza. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 358 p. (MIRA 13:6)
(Collective farms)

PHASE I BOOK EXPLOITATION SOV/5452

Donskoy, Ya. Ye., G.I. Karlash, and I.P. Lyalyuk, eds.

Mekhanizatsiya i avtomatizatsiya; sbornik statey ob opyte vnedreniya mekhanizatsii i avtomatizatsii na Khar'kovskikh mashinostroitel'nykh zavodakh (Mechanization and Automation; Collection of Articles on the Introduction of Mechanization and Automation in Khar'kov Machinery-Manufacturing Plants) [Khar'kov] Khar'kovskoye knizhnoye izd-vo, 1960. 373 p. 3,900 copies printed.

Editorial Board: S.A. Vorob'yev, Candidate of Technical Sciences; Chairman of the Editorial Board: P.I. Zmega, Engineer; A.A. Kotlov, Engineer, V.I. Kuzubov, Engineer, A. Ye. Leonov, Docent, A.Z. Turitsyn, Candidate of Technical Sciences, and S.M. Khmara, Candidate of Technical Sciences; Eds.: Ya. Ye. Donskoy, G.I. Karlash, and I.P. Lyalyuk; Tech. Ed.: M.I. Limanova.

PURPOSE: This collection of articles is intended for technical and scientific personnel, outstanding workers, and shock workers of communist labor.

COVERAGE: The multifaceted experience of Khar'kov enterprises in the mechanization, automation, and improvement of manufacturing processes is generalized. The development of new machines, instruments, and promotion methods is considered and attention is given to newly established enterprises, and to the introduction of telemechanics in the Khar'kov gas-system management. By including concrete examples and facts, the authors of the various articles attempt to demonstrate the achievements of the Khar'kov industrial complex in fulfilling the resolutions of the June (1959) and July (1960) Plenums of the Central Committee of the Communist Party of the Soviet Union. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Mechanization and Automation (Cont.) SOV/5452

Card 4/8

SURKIN, R.G. [Surkin, R.H.] ; STEPANOV, S.G. [Stepanov, S.H.] (Kazan')

Experimental investigation of the stability of spherical segments under external uniformly distributed pressure. Prykl. mekh. 9 no.6:649-658 '63. (MIRA 16:12)

1. Fiziko-tekhnicheskiy institut Kazanskogo filiala AN SSSR.

FOMIN, Sergey Fedorovich; STEPANOV, S.I., inzhener, retsenzent; KOLLI, A.Ya., inzhener, redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor.

[Installing and adjusting turret lathes] Ustroistva i naladka tokarno-revol'vernykh stankov. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 183 p. (MLRA 8:12)
(Lathes)

DOLMATOV, Ye.G.; STEPANOV, S.I.

Utilizing metal chips in making forgings. Kuz.-shtam. proizv. 1 no.2:39-41 F '59. (MIRA 12:10)
(Forging)

PHASE I BOOK EXPLOITATION SOV/5168

Stepanov, Sergey Ivanovich

Shtampovka detaley iz metallicheskoy struzhki (Compacting of Parts From Metal Chips by Forging) Moscow, Mashgiz, 1960. 36 p. 4,000 copies printed.

Reviewer: S.V. Lashko, Candidate of Technical Sciences; Ed. of Publishing House: G.N. Soboleva; Tech. Ed.: L.P. Gordeyeva; Managing Ed. for Literature on Hot Working of Metals: S.Ya. Golovin, Engineer.

PURPOSE: This booklet can be used as a practical aid for qualified workers and technical personnel in the die-forging industry.

COVERAGE: The author describes the manufacturing process involved in the compacting of parts from metal chips by forging on drop hammers in blacksmith dies, and on percussion presses. He also discusses the design of dies and accessories and gives the results of laboratory tests. This manufacturing process was developed by the author in cooperation with V.G. Artsyuk, hammer and press operator, V.P. Kartsenko, deputy head of preparatory processing department, Ye.G. Dolmatov, Engineer, and K.A. Shiryayev, Senior Engineer. There are 10 references, all Soviet.

Card 1/3

UKSHE, Ye.A.; STEPANOV, S.I.

Electrode processes in fused salts. Oscillographic study of the electrodeposition of magnesium in the presence of sulfates. Zhur. fiz. khim. 34 no.3:559-564 Mr '60. (MIRA 13:11)
(Salts) (Magnesium)

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical Analysis. Phase Transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3750

Author : Chukhlantsev V.G., Stepanov S.I.
Inst : Kiev State University
Title : Solubility of Phosphates of Uranyl and Thorium,

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 3, 478-484

Abstract : Investigation of phosphoric acid compounds of uranyl and thorium by the method of solubility of precipitates in dilute solutions of nitric and sulfuric acid and by the method of tagged atoms, at 19-20°. From the solubility data computed by means of the equations of A.K. Babko (Naukovi zapiski kiivsk. derzh. univ., 1935, 4) the solubility products are: of phosphate of uranyl and ammonia $[UO_2^{2+}][NH_4^+][PO_4^{3-}]$ 4.36 . 10-27; phosphate of uranyl and potassium $[UO_2^{2+}][K^+][PO_4^{3-}]$ 7.76 . 10-24;

Card 1/2

RENNE, V.T., doktor tekhn. nauk, prof.; STEPANOV, S.I., inzh.; LAVROVA, D.S., inzh.

Ionization processes in the dielectric of paper condensers subject to the action of d.c. potential. Elektrichestvo no.5: 67-71 My '63. (MIRA 16:7)

1. Leningradskiy politekhnicheskiy institut i Nauchno-issledovatel'skiy institut postoyennogo toka, Leningrad.
(Condensers (Electricity))

L 13503-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG
ACCESSION NR: AP3003480 S/0078/63/008/007/1702/1705

57

AUTHOR: Stepanov, S. I.; Sineva, V. M.

TITLE: Effect of melted magnesium chloride on iron-chromium-nickel alloys

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 7, 1963, 1702-1705

TOPIC TAGS: magnesium, iron nickel, chromium, alloy, Ti, Mo, Nb

ABSTRACT: Authors analyzed the effect of holding in melted anhydrous $MgCl_2$ at 800° on the microstructure of some Fe-Cr-Ni alloys with Ti, Mo, and Nb admixtures. Methodology of preparing the salts and test samples of alloys, did not differ from the method described previously (Stepanov and Kachina-Pullo, Zh. prikl. khimii, 35, 1962, 1852). Microsections of the test samples were studied under a microscope and were photographed. Authors show that melted $MgCl_2$ causes a selective diffusion of chromium from iron-chrome-nickel alloys. An assumption concerning the mechanism of void formation in the alloys through the effect of melted $MgCl_2$ is expressed. Orig. art. has: 2 tables and 6 figures.

ASSOCIATION: Bereznikovskiy filial Vsesoyuznogo alyuminiyevo-magniyevogo instituta (Bereznikov Branch of the All-Union Aluminum-Magnesium Institute)

Card 1/2

STEPANOV, S.I. (Sevastopol')

An antifriction material on the basis of steel chips. Poroshmet. 4 no.5:81-86 S-O '64. (MIRA 18:10)

ACCESSION NR: AP4018069 S/0080/64/037/002/0379/0383

AUTHORS: Stepanov, S.I.; Kachina-Pullo, Ye.B.

TITLE: Corrosion of certain steels and nickel in molten potassium and magnesium chlorides

SOURCE: Zhurnal prikladnoy khimii, v.37, no.2, 1964, 379-383

TOPIC TAGS: corrosion, potassium chloride, magnesium chloride, molten steel, carbon steel ST-3, EYa1T steel, EI403 steel, EI171 steel, EI695 steel, EI283 steel, EI702 steel, 79NM alloy, nickel molybdenum alloy, nickel

ABSTRACT: The corrosion of carbon steel ST-3, chromium-nickel steels EYa1T, EI403, EI171, EI695, EI283, EI702, nickel-molybdenum alloy 79NM, and nickel at 800 and 850C in molten potassium and magnesium chlorides was investigated. Nickel and 79NM alloy are the most stable against corrosion in KCl and $MgCl_2$ melts. In KCl the other materials were covered with a layer of corrosion products whose density and adhesive strength increased with time and decreased with increased temperature of the melt. The corrosive activity of $MgCl_2$ is signifi-

Card 1/2

ACCESSION NR: AP4018069

cantly greater than that of KCl. In $MgCl_2$ the corrosion is very high in the initial period, and then substantially levels off. The corrosion rate is increased with temperature in all cases. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Bereznikovskiy filial Vsesoyuznogo Alyuminiyevo-magniyevogo instituta (Bereznikov Branch of the All Union Aluminum-magnesium Institute)

SUBMITTED: 04Aug62 DATE ACQ: 19Mar64 ENCL: 00

SUB CODE: ML NR REF SOV: 007 OTHER: 006

Card 2/2

L 45462-65 EWP(z)/EWT(m)/EWP(b)/EWA(d)/EWP(t) Pad IJP(c) MJW/JD/HW

ACCESSION NR: AP5009271 UR/0370/65/000/001/0148/0150 20 B

AUTHOR: Ukshe, Ye. A. (Berezniki); Stepanov, S.I. (Berezniki); Baikun, N.I. (Berezniki)

TITLE: Behavior of solid metals in fused potassium chloride

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1965, 148-150

TOPIC TAGS: fused potassium chloride, iron electrode, nickel electrode, titanium electrode, electrode conductivity, electrode capacity, electrode potential, molten salt electrolyte, electrode oxidation, oxide film

ABSTRACT: In order to study the influence of the oxygen present in a melt on metals, the electrochemical behavior of iron (low-carbon steel), nickel (brand NP-3) and titanium (brand Vt-1) electrodes in fused potassium chloride was investigated at 820C, the surface of the melt being freely bathed with oxygen. The capacity, resistance, and steady state potential of the electrodes were measured (see Fig. 1 of the Enclosure). The character of the C-τ and R-τ curves for the iron and nickel electrodes shows that in both cases a poorly conducting oxide layer is formed on the electrodes. The oxidation rate of nickel is slower, so that the stabilization of the capacity and resistance of the nickel electrode

Card 1/3

L 45462-65

ACCESSION NR: AP5009271

occurs more slowly than in the case of iron. The behavior of titanium in fused KCl is very different. This is due to the fact that once titanium has been oxidized to a certain degree, the oxidized surface layer peels off and becomes dispersed throughout the melt, and the exposed surface again undergoes rapid oxidation. Orig. art. has: 1 figure.

ASSOCIATION: None

SUBMITTED: 24Feb64 ENCL: 01 SUB CODE: MM, IC

NO REF SOV: 004 OTHER: 008

Card 2/3

UKSHE, Yu.A. (Berezniki); STEPANOV, S.I. (Berezniki); BUKUN, N.G. (Berezniki)

Behavior of hard metals in fused potassium chloride. Izv. AN SSSR. Met. no.1:148-150 Ja-F '65. (MIRA 18:5)

L 42155-66 EWT(m)/EWP(t)/ETI IJP(c) JH/WW/JD/HW/WB/GD/JG

ACC NR: AT6022485 (N) SOURCE CODE: UR/0000/65/000/000/0342/0347

AUTHOR: Stepanov, S. I.

ORG: Berezniki Branch, VAMI (Bereznikovskiy filial VAMI)

TITLE: Study of the mechanism of corrosion of certain alloys in molten potassium and magnesium chlorides

SOURCE: Vsesoyuznoye soveshchaniye po fizicheskoy khimii rasplavlennykh soley. 2d, Kiev, 1963. Fizicheskaya khimiya rasplavlennykh soley (Physical chemistry of fused salts); trudy soveshchaniya. Moscow, Izd-vo Metallurgiya, 1965, 342-347

TOPIC TAGS: iron base alloy, corrosion, nickel base alloy, chromium alloy, titanium containing alloy, magnesium compound, chloride, potassium chloride, METAL SURFACE, IRON CORROSION, MOLTEN MEMC

ABSTRACT: The corrosion behavior of iron- and nickel-base alloys EI283, EI403, EI171, EI695, EI435, and 79NM in KCl and MgCl was studied by the weighing method. Comparison of the results of microscopic analysis with weight loss data showed that, as a rule, the degree of attack of the surface layer does not appreciably affect the weight loss. The nickel-molybdenum alloy 79NM showed a much greater stability in fused $MgCl_2$ than did the other alloys. In the case of the nickel-chromium alloy EI435, its appreciable corrosion loss in KCl is due to the attack of the surface layer; this attack is so vigorous that particles of the alloy peel off its surface, causing a very marked increase in weight loss. However, even in cases where structural damage does not lead to weight

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L 42155-66

ACC NR: AT6022485

loss, it necessarily impairs the mechanical properties of the alloys. Chromium was found to dissolve selectively out of the alloys, as indicated by chemical analysis of the corrosive medium and by the fact that the surface layer was destroyed only in alloys containing chromium. This is attributed to the highest electronegativity of chromium. Measurements of steady-state potentials in molten KCl and MgCl at 800°C showed that titanium is also selectively dissolved out of the alloys, but because of the small amount of Ti in the latter, it cannot play any significant part in the breakdown of the surface layer. Orig. art. has: 4 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 23Aug65/ ORIG REF: 006/ OTH REF: 004

Card 2/2

BUTENKO, A.K.; STEPANOV, S.I.

Permanent self-contained units for current measurements in shallow regions of the sea. Trudy AANII 210:9-12 '61. (MIRA 14:11)
(Oceanographic instruments)

DEM'YANOV, N.I.; STEPANOV, S.I.

Comparing the work conditions of current recorders installed at self-contained stations of various design. Trudy AANII 210:29-32 '61. (MIRA 14:11)

(Oceanographic instruments)

S/169/62/000/004/044/103
D228/D302

AUTHORS: Dvorkin, Ye. N. and Stepanov, S. I.

TITLE: Determining the sinking depth of the self-recorders of autonomous stations by means of depth autographs

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 4, 1962, 3, abstract 4V18 (Tr. Arkt. i antarkt. n.-i. in-ta, 210, 1961, 35-37)

TEXT: The Institut okeanologii AN SSSR (Institute of Oceanology, Academy of Sciences, USSR) employed a СГ-55 (SG-55) depth self-recorder, and the Arkticheskiy i antarkticheskiy institut (Arctic and Antarctic Institute) used a depth autograph, in order to obtain reliable values for the deepening of the carrier buoy on current self-recorders in autonomous erections. The sinking depth is determined by the depth autograph from the magnitude of the pressure of a column of water upon a hydrostat. The hydrostat's data are recorded on the tape of an hourly mechanism roller. A depth of down to 150 m can be measured by the autograph, with a

Card 1/2

Determining the sinking ...

recording duration of about 4 hours (it is possible to fix a weekly starter to the instruments). The depth autographs were tested in 1958 in the Kara Sea. The horizon of the instrument's sinking was ascertained by means of a block-counter. A table was compiled and a calibration graph was constructed, from the collation results. The depth self-recorder was suspended on the carrier buoy and placed in the water for up to 24 days. The results are cited for determining the sinking depth of the current self-recorders by means of the depth autograph. It is shown that the actual depth of the current self-recorder's installation can differ from the calculated by 4 - 5 m. The magnitude of the depression of the buoy with the instrument does not exceed 0.6 m during the work of an autonomous station. [Abstracter's note: Complete translation.]

Card 2/2

L 32235-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EWA(d)/EFR/EWP(t)/EPA(bb)-2/EWP(b) Pr-4/
ACCESSION NR: AP4046750 Ps-4 JD/WW/DJ/WS/0226/64/000/005/0081/0086

36
B

AUTHOR: Stepanov, S. I. (Sevastopol')

TITLE: Antifriction material on a steel swarf base

SOURCE: Poroshkovaya metallurgiya, no. 5, 1964, 81-86

TOPIC TAGS: steel swarf, graphite

ABSTRACT: Inasmuch as iron swarf is used for the production of porous antifriction parts, the author investigates the possibility of producing such parts from a combination of "3" and "45" steel swarf and "KLZ-1" graphite. The mixture was subjected to cold and, subsequently, hot pressing, full annealing, oil quenching, grinding and oil impregnation whereby viscous lubricants gave best results. The different specimens contained from 1 to 5% graphite and 3% graphite proved most favorable with regard to impact toughness and compressive strength. Mechanical properties approximated those displayed by regular iron swarf specimens. The author suggests that the employment of porous steel swarf-graphite bearings in

Card 1/2

L 36332-65 EWT(1)/EWG(v) Po-4/Pe-5/Pq-4/Pg-4 GW
ACCESSION NR: AT5005823 S/3116/64/271/000/0100/0114

40
39
B+1

AUTHOR: Stepanov, S. I.

TITLE: Utilization of the Ural-2 electronic computer for calculating tidal parameters using Hansen's method

SOURCE: Leningrad. Arkticheskiy i Antarkticheskiy nauchno-issledovatel-skiy institut. Trudy, v. 271, 1964. Chislennyye metody issledovaniya gidrometeorologicheskikh usloviy v Arktike s ispol'zovaniyem elektronnykh tsifrovykh vychislitel'nykh mashin; sbornik statey (Numerical methods of investigating hydrometeorological conditions in the Arctic using electronic digital computers; collection of articles), no. 1, 100-114

TOPIC TAGS: tide level, tidal current, Hansen method, tide calculation, electronic digital computer, boundary problem, computer programming, difference equation

ABSTRACT: The paper discusses the calculation of tide levels and currents in rectangular coordinates and tide levels in spherical coordinates. For an arbitrary shape of tidal basin, the differential equation must be replaced by finite difference equations and the boundary broken into straight segments. Subroutines for computer programming of these difference equations are then given. A

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L 30332-65
ACCESSION NR: AT5005823

program is suggested for solving for tidal currents using the Nikiforov and Ivanov modification of Hansen's method for any region broken up into rectangles. Tidal calculations in spherical coordinates are then considered in terms of a tide-formation potential according to Boris. Using the Ural-2 electronic computer, the tidal equations were solved for 62 points in the Norway and Greenland seas for one semidiurnal wave M_2. It was concluded that oscillations of tide levels can be computer calculated, using Hansen's method, with sufficient accuracy for practical purposes. The necessary equations are given in 4 appendices. Orig. art. has: 2 tables, 2 figures and 14 formulas.

ASSOCIATION: Arkticheskiy i Antarkticheskiy nauchnoissledovatel'skiy institut, Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, DP

NO REF SOV: 006 OTHER: 002

Card 2/2

STEPANOV, S.I., [illegible]

Influence of errors in initial data on the accuracy of a solution of boundary value problems of the equations. Trudy Len. gidrometeor. inst. no.[illegible]167-186 '64. (MIRA 18:6)

L 27291-66 EWT(1) GW
ACC NR: AP6014287 (N) SOURCE CODE: UR/0213/66/006/002/0354/0359

23
B

AUTHOR: Dem'yanov, N. I.; Stepanov, S. I.

ORG: Arctic and Antarctic Scientific Research Institute, Leningrad (Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut)

TITLE: Comparison of the ocean-current data obrained from various types of current meters

SOURCE: Okeanologiya, v. 6, no. 2, 1966, 354-359

TOPIC TAGS: oceanographic equipment, ocean current, oceanographic ship, recording equipment, ocean current meter/BPV 2 ocean current meter, BPV 2r ocean current meter

ABSTRACT: Simultaneous current measurements, carried out with the Ekman-Merz ocean current meter and with the BPV-2 and BPV-2r recording flow meters have been compared. The instruments were lowered from vessels, and the BPV-2 and BPV-2r recording flow meters were installed on buoys near which the current observations were carried out from ships. Comparison of the data obtained showed that in all cases, the Ekman-Merz flow meter had greater velocity readings than the BPV-2 and BPV-2r recording flow meters. These differences in readings did not exceed 5 cm/sec. Current velocities, measured from ships with all the instruments appeared to be greater than those measured with the same instruments installed on anchored buoys. The BPV-2r meters showed higher velocities for both ship and buoy observations than

UDC: 551.46.085(26)

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L 27291-66

ACC NR: AP6014287 O

those shown on the BPV-2 flow meters installed on buoys. Differences in estimating current directions were comparatively small in most cases not exceeding ±20°. Orig. art. has: 2 figures and 5 tables. [Based on authors' abstract.] [NT]

SUB CODE: 08/ SUBM DATE: 09Sep64/

Card 2/2 CC

PIL'NYAK, V.V.; VERZILIN, N.N.; STEPANOV, S.I.

Standard installation for the mass culture of unicellular algae. Fiziol. rast. 11 no.6:1084-1089 N-D '64. (MIRA 18:2)

1. Biologicheskiy nauchno-issledovatel'skiy institut Leningradskogo gosudarstvennogo universiteta imeni Zhdanova.

RYBALKO, V.S., kand.tekhn.nauk; STEPANOV, S.M., red.; PLESKO, Ye.P., red.izd-va; BACHURINA, A.M., tekhn.red.

[Album of cutting, drilling, and mortising tools for woodworking] Al'bom frezernogo, sverlil'nogo i dolbezhnogo instrumenta dlia obrabotki drevesiny. Moskva, Goslesbumizdat, 1960. 295 p. (MIRA 14:3)
(Woodworking machinery)

MOSKALEVA, L.A., inzh.; RYZHOV, A.I., inzh.; STEPANOV, S.M., inzh.; TIMOFEYEV, V.A., inzh.; KHOKHLOV, V.P., inzh.

Project for the over-all mechnization and automatization of furniture manufacture at the Moscow Furniture Assembly Combine No.2. Der.prom. 9 no.10:3-6 O '60. (MIRA 13:10)

(Moscow--Furniture industry) (Assembly-line methods)

STEPANOV, S. M.

STEPANOV, S. M. -- "Theory of the Crystallization of Simple Fluids." Sub 12 Jun 52, Moscow Oblast Pedagogical Inst. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

LIVANOV, M.N.; TSYPIN, A.B.; TRIGOR'YEV, Yu.G.; KHRUSHCHEV, V.G.; STEPANOV, S.M.; ANAN'YEV, V.M. (Moskva)

Effect of an electromagnetic field on the bioelectric activity of the cerebral cortex in rabbits. Biul. eksp. biol. i med. 49 no. 63-67 My '60. (MIRA 13:12)

1. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.
(ELECTRO MAGNETIC WAVES—PHYSIOLOGICAL EFFECT)
(CEREBRAL CORTEX)

[illegible] N. G.; [illegible] L. [illegible]

TITLE: X-ray and gamma irradiation in experimental radiobiology

SOURCE: [illegible] obshchey radiobiologii (Problems of general radiobiology). Moscow, [illegible], 7-33

TOPIC TAGS: X-ray irradiation, gamma irradiation, radiobiology, irradiation apparatus, irradiation [illegible], irradiation effect

ABSTRACT: [illegible] radiobiological studies based on literature data and [illegible] presented. The authors evaluate various standard radiobiological [illegible] and try to point out the pathways for future development of [illegible] techniques. Specific recommendations for conducting experimental investigations include the following. An EGO-2 gamma irradiation unit is considered most effective for irradiation of large and small laboratory animals. X-ray irradiation units are considered effective for investigating large dose irradiation, the RBE of different types of irradiation and subacute irradiation of large and small animals. In conducting experiments designed to induce a 100% death

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ACC NR: AM029623

rate of irradiated animals, the selected $LD_{100/30}$ should be 5% higher than the standard dose value to avoid significant fluctuations (± 5%). In evaluating investigation results, it should be noted that change of gamma or x-ray irradiation dose rates within the 15 to 150 r/min range does not seriously affect irradiation action; also, decrease of gamma or X-ray irradiation dose rates below 15 r/min or increase exceeding 2000 r/min weakens the biological radiation effect. For more effective comparison of radiosensitivity, experimental animals should be of the same sex, same weight category and age. In evaluating experimental data the following factors should be taken into consideration: time of year animals were irradiated, radiosensitivity differences of the given animal strain or line, and indices showing the statistical reliability of experimental results. Orig. art. has: 10 tables and 12 figures.

SUB CODE: 06/ SUBM DATE: 23 Apr66/ ORIG REF: 019/ OTH REF: 005

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Aburasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences, V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. N. Lesnov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

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Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE: The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

Card 2/20

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Transactions of the Tashkent (Cont.) SOV/5410

Card 10/20

84235
S/089/60/009/004/015/020
B006/B070

21.8100

AUTHORS: Margulis, U. Ya., Stepanov, S. M., Khrushchev, V. G.

TITLE: Calculation of the Dose Produced in an Irradiated Object Moving in the Radiation Field of a Line Source

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 4, p. 320

TEXT: The authors consider a line source of length L lying along the Z-axis of the coordinate system with one end at the origin. The object irradiated by it moves along a straight line parallel to the Y-axis with a constant velocity v [cm/min] (see Fig.). The radiation dose produced at a point A inside the object while the latter is displaced by a further distance S_o is given by $D = (2k_\gamma m/v)\left[A_1 \int_0^{\psi_0}\int_0^{\varphi_0} \exp(-\mu h(\alpha_1+1)\sec\psi \sec\varphi) \cdot \sec\psi \, d\psi d\varphi + A_2 \int_0^{\psi_0}\int_0^{\varphi_0} \exp(-\mu h(\alpha_2+1)\cdot\sec\psi \sec\varphi)\cdot\sec\psi d\psi d\varphi\right]$, where $\varphi_0 = \arctan(L/H\sec\psi)$; $\psi_0 = \arctan(S_o/2H)$; m - linear activity of the

Card 1/2

Calculation of the Dose Produced in an Irradiated Object Moving in the Radiation Field of a Line Source

S/089/60/009/004/015/020
B006/B070

84235

source [millicuries/cm], μ - the linear attenuation factor of a minute gamma source in the object; A_1, A_2, α_1, α_2 are constants taking into account the multiple scattering; k_γ[r/min] is the emission constant of the source; H is the distance of the point A from the Y-axis; and h measures the thickness of the absorbing layer lying between A and the source; the position of A is determined by H, h, φ, and ψ. There are 1 figure and 4 Soviet references.

SUBMITTED: March 18, 1960

Card 2/2

STEPANOV, S.M.; SHVARTSMAN, A.Z.

"Bases of X-ray technic" by V.V.Dmokhovskii. Reviewed by S.M. Stepanov and A.Z.Shvartsman. Vest. rent. i rad. 36 no.6:86-88 N-D '61. (MIRA 15:2)

(RADIOGRAPHY) (DMOKHOVSKII, V.V.)

S/089/62/012/006/017/019
B102/B104

AUTHORS: Khrushchev, M. S., Margulis, U. Ya., Stepanov, S. M.

TITLE: A method of increasing the utilization factor of radiation in gamma-irradiation units

PERIODICAL: Atomnaya energiya, v. 12, no. 6, 1962, 536-537

TEXT: Methods of raising the utilization factor of gamma-irradiation units, which is defined as $\eta = AB \cdot 100/Mk \cdot 3.7 \cdot 10^{10} E_\gamma \cdot 1.6 \cdot 10^{-6}$, are discussed. Here, A is the output of the unit in g/sec, B is the total radiation absorption in rad dose required for the object; 100 is the energy equivalent (1 rad = 100 erg/g); M is the gamma-ray equivalent of the source in g·eq Ra; k is a factor necessary to express the gamma-ray equivalent in activity units (curies); $3.7 \cdot 10^{10}$ is the number of decays per sec of a source of 1 curie activity; E_γ is the gamma-ray energy in Mev/decay; and $1.6 \cdot 10^{-6}$ is the energy equivalent of 1 Mev. In most cases, active rods or rod assemblies (active planes) are used as irradiators, the object length d being equal to 0.7 - 0.8 L (L = length of the rod). Utilization can be

Card 1/

STEPANOV, S.M., starshiy prepodavatel'.

Emanation of methane during the cutting of "Luganskii" ore deposit. Nauch. trudy MPI 32:53-62 '55. (MLRA 10:2)

(Mine gases)
(Donets Basin--Coal mines and mining)

STEPANOV, S.M.

Interaction of auxiliary fan currents with the air flow in long-walls. Trudy MPI 103:97-119 '59. (MIRA 13:9)
(Mine ventilation)

STEPANOV, S.M.

Reducing methane content in the areas surrounding cutting machines and cutterloaders by means of auxiliary fans mounted on the machinery. Ugol' Ukr. 4 no.1:16-18 Ja '60. (MIRA 13:5)

1. Novocherkasskiy politekhnicheskiy institut.
(Mine gases) (Mine ventilation)

STEPANOV, S. M.

Cand Tech Sci - (diss) "Reduction of methane content in cutting machines and combines by "Donbass" ventilators." /Khar'kov/, 1961. 20 pp /5/ with diagrams; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Mining Inst); 200 copies;price not given; (KL, 5-61 sup, 193)

STEPANOV, S.M.

Ignition of methane and measures for preventing it during the cutting of coal seams particularly subject to gases and dust. Trudy NPI 140:61-71 '63. (MIRA 17:9)

VANIN, I.I., kand.sel'skokhoz.nauk (Michurinsk); STEPANOV, S.N., kand.-sel'skokhoz.nauk (Michurinsk)

Crown gall is harmless. Zashch. rast. ot vred. i bol. 8 no.2: 13 F '63. (MIRA 16:7)
(Crown-gall disease) (Nursery stock--Diseases and pests)

STEPANOV, S. N.

20077 Stepanov, S. N. Povysit' effektivnost' okulirovki. Sad i ogorod, 1949, No. 6, s. 58-63

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

1. STEFANOV, S. M.

2. USSR 600

4. Seeds

7. Increasing the viability of seeds from seed trees, Sad i og., No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BELOKHONOV, I.V., kand.sel'skokhoz.nauk; LOBANOV, G.A., kand.sel'skokhoz. nauk; NOVIKOV, A.A., kand.sel'skokhoz.nauk; STEPANOV, S.N., kand.sel'skokhoz.nauk; CHIGRIN, V.N., kand.sel'skokhoz.nauk; OZEROV, V.M., red.; DEYEVA, V.M., tekhn.red.

[Fruit culture] Plodovodstvo. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1960. 334 p. (MIRA 14:1)

1. Nauchno-issledovatel'skiy institut sadovodstva imeni I.V. Michurina (for Belokhonov, Lobanov, Novikov, Stepanov, Chigrin).
(Fruit culture)

NAZARYAN, Ye.A.; LOBANOV, G.A.; TRUSEVICH, G.V.; STEPANOV, S.N.; DUSHUTINA, K.K.; RYBAKOV, A.A.; KARANYAN, P.G.; UL'YANISHCHEVA, A.M.; TIKHONOV, N.N.; KAZIZADE, F.N.; SIDORENKO, I.I.; SMIRNOV, V.F.; SHIDENKO, I.Kh.; VASIL'YEV, V.P.; SHISHKOVA, M.I.; SERGEYEV, V.I., red.; GOR'KOVA, Z.D., tekhn.red.

[Grusha] Pear. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 534 p. (MIRA 13:12)

(Pear)

STEPANOV, Sergey Nikolayevich, kand. sel'khoz. nauk; SERGEYEV, V.I., red.; SOKOLOVA, N.N., tekhn. red.

[Fruit nursery] Piodovyi pitomnik. Izd.2., dop. i perer. Moskva, Sel'khozizdat, 1963. 510 p. (MIRA 17:3)

ACC NR: AP7001401 (N) SOURCE CODE: UR/0413/66/000/021/0077/0077

INVENTORS: Alekseyenko, A. V.; Berlin, V. M.; Kranov, P. A.; Litvinov, G. I.; Shelkov, V. V.; Oparin, V. I.; Nemesnikov, A. I.; Stepanov, S. M.

ORG: none

TITLE: An assembly for welding internal joints of boiler shells. Class 21, No. 187906 [announced by All-Union Scientific Research and Design Engineering Institute of Chemical and Petroleum Apparatus Construction (Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut tekhnologii khimicheskogo i neftyanogo apparatostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 77

TOPIC TAGS: welding, welding equipment, welding technology, seam welding

ABSTRACT: This Author Certificate presents an assembly for welding internal joints of boiler shells. The assembly consists of a column with a frame mounted upon it. The frame carries an arm with a welding head placed on supporting rollers. To maintain a constant position of the electrode in respect to the seam surface, the welding head and arm are connected to one another by a hinge and a spring (see Fig. 1). The latter assures a constant contact between the rollers and the boiler shell. The welding head is hinged to the bearing rollers which are rigidly connected to one another.

UDC: 621.791.037-477

Card 1/2

ACC NR: AP7001401

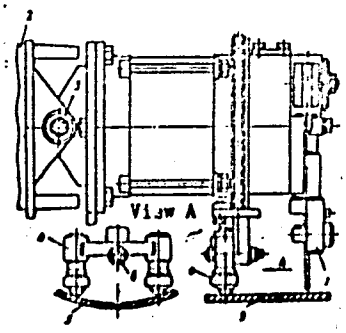

Fig. 1. 1 - welding head; 2 - arm; 3 - arm hinge; 4 - bearing rollers; 5 - boiler shell; 6 - hinge

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 110ct65

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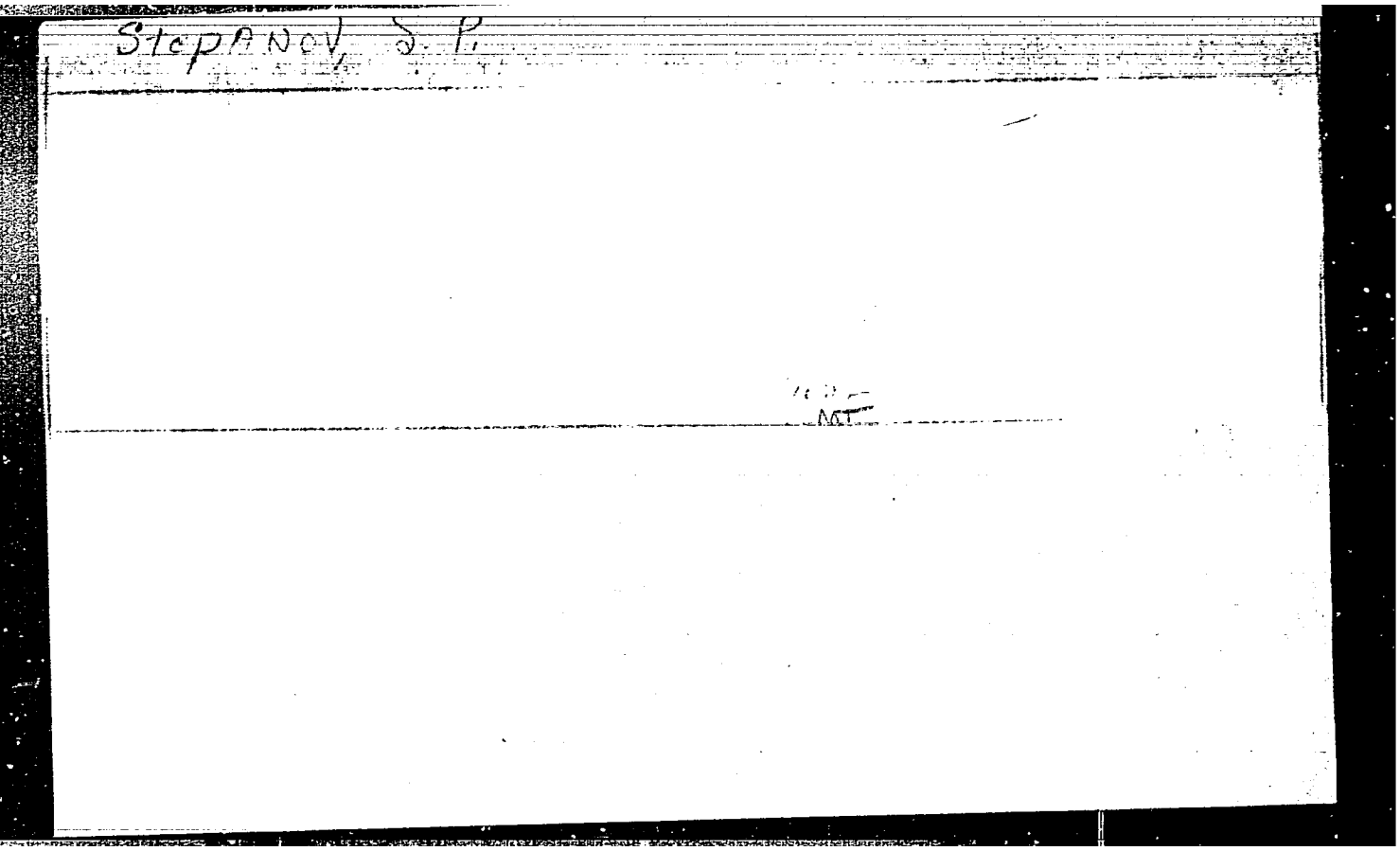

YEGOROVA, Tat'yana Mikhaylovna; KANIVETS, M.A., retsenzent; RYZHYKH, I.I., starshego prepod., retsenzent; STEPANOV, S.P., assistent, retsenzent; GENDEL'MAN, M.A., prof., retsenzent; GENDEL'MAN, A.M., kand. ekon. nauk, retsenzent; KUROPATENKO, F.K., prof., retsenzent; KONTOROVICH, I.A., starshiy prep., retsenzent; YEROFEYENKO, A.G., assisten, retsenzent; DAVYDOV, G.P., red.; SHAMAROVA, T.A., red. izd-va; SUNGUROV, V.S., tekhn. red.

[Topographical drawing]Topograficheskoe cherchenie. Moskva, Geodezizdat, 1961. 158 p. (MIRA 15:8)

1. Zaveduyushchiy kafedroy geodezii Omskogo sel'skokhozyaystvennogo instituta (for Kanivets). 2. Zaveduyushchky kafedroy zamleustroystva TSelinogradskogo sel'skokhozyaystvennogo instituta (for Gendel'man, M.A.). 3. Zaveduyushchiy kafedroy zemleproyektirovaniya i planirovki sel'skikh zaselennykh mest Belorusskoy sel'skokhozyaystvennoy akademii (for Kuropatenko).
(Topographical drawing)

STEPANOV, S.S.

Express electric train operating between Warsaw and Katowice.
Elek. i tepl. tiaga 5 no.8:46-47 Ag '61. (MIRA 14:9)
(Poland--Electric railroads)

28(5)

AUTHORS: Pilipchuk, B. I., Stepanov, S. S. SOV/32-25-6-51/53

TITLE: On the New Hardness Number (O novom chisle tverdosti). On the Abstracts Published in 1958 by M. S. Drozd in Nr 7 and 8 of the Periodical "Zavodskaya laboratoriya" (Po povodu statey M. S. Drozda, opublikovannykh v NoNo 7 i 8 zhurnala "Zavodskaya laboratoriya" za 1958 g.)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 764 - 765 (USSR)

ABSTRACT: In connection with the abstract mentioned in the title it is pointed out that the diameter of the replica is not included into the equation given by Drozd for the computation of the new hardness number and that this method differs from the computation of H_B, i. e. the hardness number by Brinell. On the basis of several explanations the following is stated: 1. The most constant value of the hardness number computed according to Drozd's equation is obtained if instead of the diameter the depth of the replica is measured. 2. In the case of the hardness number computed according to the equation (21) given by Drozd (Fig 2) which is derived in the present case, it is possible to observe a uniform reduction of the new hardness number under conditions of increased load. 3. Under conditions of equal degree of load $P/D^2=30$ the value for the new

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SOV/32-25-6-51/53

On the New Hardness Number.
On the Abstracts Published in 1958 by M. S. Drozd in Nr 1 and 8 of the Periodical "Zavodskaya laboratoriya"

hardness number differs, computed according to different equations in spheres with a diameter of 10 mm, by 16% and with diameters of 1.587 mm, by 14%. Some results are given (Table). There are 1 table and 2 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev)

Card 2/2

STEPANOV, S.S.

Relationship between Rockwell hardness numbers and geometric dimensions of a cone trip. Trudy VNIIM no.37:106-111 '59. (MIRA 13:4)

(Hardness)

STEPANOV, S.S.

Effect of the holding time on hardness measurements by the NRC scale. Izm.tekh. no.5:15-17 My '60. (MIRA 14:5)
(Hardness--Measurement)

STEPANOV, S.S., SONVAL'D, A.I.

Adjustment of Rockwell instruments according to the C scale. Zav.lab. 26 no.7:887-888 '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva.
(Hardness)

S/032/60/026/010/018/035
B016/B054

AUTHOR: Stepanov, S. S.

TITLE: Hardness Determination by Indentation of a Ball

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 10, pp. 1144-1145

TEXT: The hardness according to Meyer (H_M) has, in contrast to the hardness according to Brinell (H_B), a simple physical meaning; it represents the average pressure on the area of indentation in the absence of frictional forces. M. S. Drozd (Ref. 2) suggested the determination of a new hardness number : $H = \frac{P - P_1}{\pi D(h-h_1)}$ (1). This hardness number is independent of test conditions (amount of stress, ball diameter). It has, however, one disadvantage: two indentations must be performed (stress values P and P_1). The author's experiments showed that there is another quantity which is also practically independent of the test conditions, but does not require two ball indentations. The author calculates the "specific

work of formation of plastic indentation", and writes down for the total work: $A = \frac{Ph}{2}$ (2). The indentation volume is calculated by the formula for a spherical segment of the diameter D and the depth h. Here, the following relation is obtained for the specific work: $A_V = \frac{A}{V} = \frac{3}{2\pi} \cdot \frac{P}{h(1.5D - h)}$ (4). The author made his experiments with reference instruments. The data of the table on p. 1144 show that the hardness according to Brinell changes by 9.2% with a change in stress from 50 to 200 kg and for a ball of 1.587 mm diameter, whereas it changes by 18% with a change in stress from 250 to 3,000 kg and for a ball of 10 mm diameter. The change in stress has, in the mentioned range, practically no effect on the hardness value according to Drozd, or on the value of specific work of plastic deformation. The deviation from the mean value calculated from all stresses does not exceed 1-2%. On the basis of his investigations, the author arrives at the following conclusions: 1) As the characteristic of hardness, he suggests the specific work of plastic deformation, which has a clear physical meaning. 2) To determine its value

Hardness Determination by Indentation of a Ball

S/032/60/026/010/018/035
B016/B054

only one single measurement of the depth of indentation is required. 3) The specific work of plastic deformation is constant over rather a wide range of stresses as long as the dependence of the stress of indentation on the depth can be regarded as linear. This paper is published as a contribution for discussion. There are 1 table and 1 Soviet reference.

Card 3/3

PILIPCHUK, B.I.; STEPANOV, S.S.

Investigating diamond tips for hardness testers. Trudy inst. Kom. stand., mer i izm. prib. no.50:22-28 '61. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. Mendeleyeva.

(Diamonds, Industrial—Testing)

PIL'CHUK, B. I.; STEPANOV, S.S.

New hardness number. Zav.lab. 27 no.2:237-238 '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni Mendeleyeva.

(Hardness)

L 36329-66 EWT(1)/T IJP(c) AT

ACC NR: AP6015791 (A,N) SOURCE CODE: UR/0048/66/030/005/0881/0883

AUTHOR: Spivak, G.V.; Saparin, G.V.; Stepanov, S.S.

64
B

ORG: none

TITLE: Observation by means of a scanning electron microscope of p-n junctions subjected to a small alternating bias (Report, Twelfth All-Union Conference held in Leningrad 22-26 October 1965)

21

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 881-883

TOPIC TAGS: electron microscopy, silicon diode, pn junction, amplitude modulation, electron beam, resonant amplifier.

ABSTRACT: A modified technique was employed to observe the p-n junction of a diffused silicon diode with an electron scanning microscope. A small ac bias (1070 Hz) was applied to the diode and the usual wide band video amplifier was replaced by a band pass amplifier tuned to the bias frequency and having a pass band of about 2 Hz. The silicon diode was so mounted that the probe beam (1 micron in diameter at the object) moved perpendicularly to the junction. Oscilloscope traces of the signal developed during a single passage of the scanning beam (scanning time, 10 sec) are presented, as well as two-dimensional images recorded with a resolution of 60 lines and a scanning time of 3 sec/line (180 sec/frame). Images of the unbiased and dc biased diode re-

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L 36329-66

ACC NR: AP6015791

corded with a resolution of 300 lines and a scanning rate of 50 frame/sec, using the conventional video amplifier, are presented for comparison. The position of the junctions was clearly marked on the oscilloscope trace when the bias potential was only 0.01 V, and it was very prominent when the bias was 0.05 V. When the bias potential was very low the oscilloscope record of the junction was asymmetric; this is discussed briefly. On the two-dimensional images of the ac biased diode (bias potentials 0.025 and 0.25 V) the junction appeared as two bright bands some 25 microns apart separated by a darker region. Other details of these images are ascribed to geometric features of the crystal surface. It is concluded that the use of supplementary modulation of the video signal together with a resonant amplifier increased the sensitivity to microfields of the scanning microscope by two or three orders of magnitude. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 003/ OTH REF: 008

Card 2/2

STEPANOV, S.V.

Twenty-fifth anniversary of the M.A.Bonch-Bruevich Institute of Electric Communication Engineering in Leningrad. Vest.sviazi 15 no.10:27-28 O '55. (MLRA 9:2)

1.Nachal'nik Leningradskogo elektrotekhnicheskogo instituta svyazi imeni M.A.Bonch-Bruyevicha.
(Leningrad--Universities and colleges) (Telecommunication)

ACC NR: AP6009590 SOURCE CODE: UR/0256/65/000/010/0052/0054

AUTHOR: Stepanov, S. V. (Engineer, Captain)

30

ORG: None

TITLE: Analysis and tabulation of aviation equipment failures

SOURCE: Vestnik protivovozdushnoy oborony, no. 10, 1965, 52-54

TOPIC TAGS: aeronautic engineering, aircraft power equipment, ~~material failure, data recording, military personnel~~, military R and D

ABSTRACT: The detection of any malfunction in the modern aircraft, as well as the correct analysis of the reason for the trouble and the development of preventive measures, is a difficult task because of the complexity of the machine. A step-by-step system for determining deficiencies has been worked out for all types of aviation equipment and proceeds by determining external characteristics, analyzing the characteristics, determining the deficiency, and determining the reason for the deficiency. The system can be used to determine the reasons for malfunctions in an afterburner, a CD-3 pressure indicator, a PNV-2 pump, or in the PNV-2 pump connection tubing. Once the reason for the malfunctioning of a part has been determined, corrective action should be taken, even to the extent of notifying the factory of unsatisfactory parts production. A record is kept of all malfunctions and the form,

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ACC NR: AP6009590

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"Card for tabulation of deficiencies in aviation equipment," must be completed accurately since it is used in developing statistics pertaining to malfunctions. Analysis of failures in aviation equipment is one of the most important duties of engineer-technical personnel.

SUB CODE: 15, 01/SUBM DATE: None

Card 2/2

L 54608-65 EWT(m)/EWP(w) EM

ACCESSION NR: AP4042060 S/0055/64/000/004/0059/0066

AUTHOR: Stepanov, S. Ya.

7
13

TITLE: On stability of dissipative systems

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 4, 1964, 59-66

TOPIC TAGS: dissipative system, stability, 24 stationary motion

ABSTRACT: In this paper the author discusses the stability of stationary motion of a dissipative system in which the energy dissipation is compensated by the action of additional forces. The investigation is carried out by the method of N. G. Chetayev (Stability of Motion, Moscow, Gostekhteorizdat, 1955, pp. 174-175). The additional forces are assumed to vary in the disturbed motion. Sufficient conditions of stability are established.

ASSOCIATION: Kafedra teoreticheskoy mekhaniki, Moskovskiy universitet (Department of Theoretical Mechanics, Moscow University)

Card 1/2

L 54608-65
ACCESSION NR: AP4042060

SUBMITTED: 07Dec63 ENCL: 00 SUB CODE: MA, GP

NR REF SOV: 004 OTHER: 000

Card 2/2

BELOUS, I.F. [Bilous, I.F.], red.; BOGDANOV, O.P. [Bohdanov, O.P.], red.; GUCHEK, I.V. [Huchek, I.V.], red.; MARCHENKO, I.K., red.; SIROTA, N.I., red.; STEPANOV, T.K., red.; FEDCHUN, O.K., red.; FESENKO, I.K., red.; SLUCHANSKIY, Sh. [Sluchans'kyi, Sh.], tekhred.

[The economy of Chernovtsy Province; statistical collection] Narodne hospodarstvo Chernivets'koi oblasti; statystychnyi zbirnyk. Chernivtsi, 1959. 171 p. (MIRA 13:6)

1. Chernovtsy (Province) Oblastnoye statisticheskoye upravleniye. (Chernovtsy Province--Economic conditions)

IVANOV, V.I., doktor tekhn.nauk; STEPANOV, T.V., inzh.

Transient currents during single-phase short circuits to ground and operation of the grounding protection system. Elektrichestvo no.10:57-61 O '63. (MIRA 16:11)

STEFAN[illegible]

SURNAME, Given Names

Country: Czechoslovakia

(1)

Academic Deg.: (not given)

Affiliation: [illegible]partment of Hygiene of Children and Adolescents and of Nutrition, [illegible]ical and Hygiene Faculty, Charles University (Katedra hygieny deti a doros[illegible] [illegible]hygieny, lekarska fakulta [illegible]onieka KU) Prague

Source: Prague, Ceskoslovenske Hygien[illegible] VI, No 7, Aug 61, pp 426-435

Data: "Favorable Influence of Spending the Main Break at School On Fresh Air onto the Manifestations of Fatigue in Children"

GPO 981643

CZECHOSLOVAKIA

STEFANOV, V.

Chair of Hygiene of Children, Adolescents and Adults of the Medical Faculty of Hygiene of KU (Katedra hygieny deti a dorostu a vyzivy lekarske fakulty hygienicke KU), Prague

Prague, Ceskoslovenska hygiena, No 9, 1963, pp 544-551

"Attempt to Evaluate the Influence of Changes in the Microclimate of the Classroom on the Efficiency of Pupils during Classes."

CZECHOSLOVAKIA

BOSMANSKY, K; STEPANOV, V.

Chair of Hygiene of Children, Adolescents and Adults of the Medical Faculty of Hygiene of KU (Katedra hygieny deti, dorostu a vyzivy lekarske fakulty hygienicke KU), Prague (for both)

Prague, Ceskoslovenska hygiena, no 9, 1963, pp 559 - 562

" Assessment of the CO_2 Content of the Microclimate during Short Periods by Means of an Interferometer: Contribution to Methods for Microclimate Analysis."

STEPANOV, Vjaceslav

Stay of children in fresh air during the great pause and the problem of increasing manifestations of fatigue. Cesk. hyg. 7 no.2/3:185-189 '62.

1. Katedra hygieny deti a dorostu a vyzivy, lekarska fakulta hygienicka KU, Praha.

(FATIGUE in inf & child) (RESPIRATION in inf & child)
(VOCATIONAL EDUCATION) (SCHOOL HEALTH)

STEPANOV, V.

Thymus as a key for the transplantation of organs?
Znan.-sila 37 no.7:33 Jl '62. (MIRA 15:9)
(TRANSPLANTATION OF ORGANS, TISSUES, ETC.)
(THYMUS GLAND)

HEINL, L.; STEJSKOV, V.; STROS, O.

Aids for object teaching in hygiene. Cesk. hyg. 10 no.8:480-484 S '65.

1. Katedra hygieny fakulty vseobecneho lekarstvi Karlovy University, Praha, a Hygienicka fakulta Karlovy University, Praha.

STEPANOV, V.

Does automation bring abundance or unemployment? NTO 4 no.8: 56-57 Ag '62. (MIRA 15:8)
(Automation--Economic aspects)

STEPANOV, V., bukhgalter

Our claims on designs. Muk.-elev. prom. 29 no.8:32 Ag '63.
(MIRA 17:1)

1. Pleteno-Tashlykskiy khlebopriyemnyy punkt Kirovogradskoy oblasti.

STEPANOV, V.; Spoluprace: BOSMANSKY, K.; GEDROVA, E.; JANOUT, V.; KOLANDOVA, J.; PICKO, V.

Attempt to evaluate the influence of changes in the microclimate of the classroom on the efficiency of pupils during classes. Cesk. hyg. 8 no.9:544-552 O '63.

1. Katedra hygieny deti a dorostu a vyzivy lekardke fakulty hygienicke KU, Praha.