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centrated source and is determined by the laws of heat propagation over the workpiece due to heat conductivity; 8) the thermal efficiency of the process of fusing the workpiece surface by the welding arc depends on the operational conditions of welding; 9) the arc heat utilization coefficient by the workpiece is determined by the heat liberation and heat exchange processes in the arc gap and depends on the technological conditions of welding; 10) the thermal efficiency of the fusion process varied in the experiments evaluated within broad limits from 4 tp 38% in accordance with the change of η_u and η_t, characterizing the thermal processes in the arc gap and the workpiece; 11) rational welding conditions must secure a correct relation between the efficiencies of fusion of the base and the filler metal; 12) the effectiveness of the arc energy utilization in the processes of the base and filler metal fusion is measured by the specific fusion or build-up efficiency in g/kwh or g/ah; 13) the thermal effectiveness of the welding process is characterized by the thermal efficiency of the welding process $\eta_{f,n}$ expressing the ratio of the rated heat content of the filler metal built-up in the time unit gnS_{wel} to the heat power of the welding arc; 14). the ratio of efficiencies of the fusion and building-up processes, equal to the ratio of cross-section areas of the corresponding zones, is proportional to the thermal efficiency of the fusion process and increases with the thermal effec-

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S/137/62/000/001/089/237
A052/A101

The efficiency and effectiveness of fusing ...

tiveness of the process; 15) in order to raise the efficiency of seam welding at high-effective operational conditions, it is advisable to reduce the rated cross-section area of the building-up zone with a corresponding increase of the fusion zone and to increase the efficiency of electrode melting; 16) on the basis of the fusion process theory corroborated experimentally, an analytical method is developed for selecting the operational conditions of welding, the current, the displacement speed and the amplitude of transverse oscillations, securing the desired fusion zone dimensions. This method is suitable for the open arc building-up, building-up under flux and fusion with a carbon electrode arc.

V. Tarisova

[Abstracter's note: Complete translation]

Card 4/4

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

33811

S/137/62/000/001/090/237
A052/A101

12300

AUTHORS: Rykalin, N.N., Kuiagin, I.D., Shorshorov, M. Kh.

TITLE: Calculation of dimensions of the fusion zone produced by the surface arc and the welding burner flame

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 4-5, abstract 1E22 (V sb. "Protsessy plavleniya osnovn. metalla pri svarke", Moscow, AN SSSR, 1960, 71 - 100)

TEXT: The calculation is based on the scheme of a normal-circular heat source moving with a finite speed over the surface of a semi-infinite body. The calculation coefficients are determined from a comparison of the calculation data with the experiment. Conclusions: 1) The dimensions of the fusion zone produced by the surface arc and the welding burner flame can be conveniently determined from the width of the fusion isotherm, computed analytically, and also from experimental dependences of the relative depths (the ratio of the fusion zone depth to its width) and the space coefficient μ (the ratio of the fusion zone area to the product of its width by depth) on the welding parameters. 2) The width of the fusion zone, especially for unsunken (superficial) arc and flame,

Card 1/2

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Calculation of dimensions ... S/137/62/000/001/090/237
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depends on the distribution of the heat flow of the source. For the open arc welding with currents up to 250 - 300 a, and an argon-shielded arc gas flame the adopted calculation scheme provides fair results. 3) The calculation of the fusion zone width carried out by this scheme at the arc and torch welding of sheets of a finite thickness describes satisfactorily the experiment, provided that the heat reflection from the lower (unheated) sheet surface does not affect the fusion zone dimensions. 4) The calculation of the fusion zone width at the arc and torch welding of sheets of a finite thickness with an allowance for the heat reflection from the lower sheet surface is a very labor-consuming one. Therefore it is advisable to allow for the effect of the heat reflection by means of a conventional mean heating temperature of the welded sheets, which is determined by comparing the calculation with the experiment.

V. Tarisova

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/125/60/000/009/015/017
A161/A130

AUTHORS: Rykalin, N.N., Sukhorukov, B.L.

TITLE: The Participation of the Soviet Delegation in the Proceedings of the 13th Congress of the International Welding Institute

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 9, pp. 89-92

TEXT: The 13th annual congress of International Welding Institute was convened on 13 - 19 June 1960 in Liege, Belgium. The Soviet delegation included the following members: Corresponding Member of AS USSR N.N. Rykalin (head of the delegation) of Institut metallurgii im. Baykova AN SSSR (Metallurgical Institute im. Baykov of AS USSR); Candidate of Technical Sciences A.N. Shashkov, of VNIIAVTOGEN; Candidate of Technical Sciences A.M. Makara, of Institut elektrosvarki im. Ye.O. Patona (Electric Welding Institute im. Ye.O. Paton) of AS UkrSSR; Doctor of Technical Sciences K.V. Lyubavskiy, of NTO Mashprom VTsSPS; Doctor of Technical Sciences I.V. Kudryavtsev, of TsNIITMASh; Engineer Ye.K. Alekseyev, of Gosstroy Soveta Ministrov SSSR (Gosstroy of the Ministers Council of the USSR); Correspond-

Card 1/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/125/60/000/009/016/017
A161/A130

The Participation of the Soviet Delegation in the Proceedings of the 13th Congress of the International Welding Institute

ing Member of ASiA SSR (ASandA of the USSR) V.S. Turkin, of VNIIST; Candidate of Technical Sciences M.P. Anuchkin, of VNIIST; and B.L. Sukhorukov (Secretary of the delegation), of the Presidium of AS USSR. The further information is a brief outline of the work of 15 technical commissions at the congress, and the names of the Soviet delegates who participated in each. Several report topics of the Soviet delegates are mentioned: (in Commission III "Resistance Welding", with Soviet member Ye.K. Alekseyev) "Equipment for Welding Concrete Reinforcement", by N.Ya. Kochanovskiy and S.M. Taz'ba, and "Brief Review of Research Work in Resistance Welding Done During 1957-1958 in the USSR", by S.K. Sliozberg and B.V. Zhuravlev; (in Commission XI, "Pressure Vessels, Boilers and Pipe Lines", Soviet delegate M.P. Anuchkin and expert V.S. Turkin participating) the Soviet delegation submitted reports that will be discussed at the following congress - "Welding Reservoirs and Pipe Lines in Winter", by M.P. Anuchkin, and "Electrochemical Investigation of Corrosion Fatigue in Steel, and Protection Methods", by A.V. Ryab-

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A161/A130

The Participation of the Soviet Delegation in the Proceedings of the 13th Congress of the International Welding Institute

chenkov; (in Commission XIII, "Fatigue Tests", Soviet delegate I.V. Kudryavtsev) - "Fatigue Resistance of Electro-Slag Welds in Large Steel Castings", by I.V. Kudryavtsev, and "Methods of Calculation of Welded Structures for Durability Taking Into Account Nonstationary Alternating Stresses" by B.K. Duchinskiy. Among lectures read at the congress (lectures of Belgian, U.S. and British delegates are mentioned) the Soviet delegation contributed a lecture of Academician B.Ye. Paton of AS UkrSSR - "Electro-Slag Welding - the Most Progressive Method of Joining Heavy Metal". K.V. Lyubavskiy read the paper which was accompanied by a motion picture. It is mentioned that the next congress will convene in April 1961 in New York.

Card 3/3

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BOCHVAR, A.A., akademik; RYKALIN, N.N.; PROKHOROV, N.N., prof.doktor tekhn. nauk; NOVIKOV, I.I., kand.tekhn.nauk; MOVCHAN, B.A., kand.tekhn.nauk

Hot (crystallization) cracks. Svar. proizv. no.10:3-4 O '60. (MIRA 13:9)

1. AN SSSR (for Bochvar). 2. Chlen-korrespondent AN SSSR (for Rykalin).
(Welding--Defects)

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S/128/60/000/010/003/003
A133/A133

AUTHORS: Bochvar, A. A., Rykalin, N. N., Prokhorov, N. N., Novikov, I. I., Movchan, V. A.

TITLE: On the problem of hot (crystallization) cracks during casting and welding

PERIODICAL: Liteynoye proizvodstvo, no 10, 1960, 47

TEXT: Based on the mass of experimental material which has been accumulated hitherto, the authors present some generalized survey on the problem of hot cracks originating during casting and welding. They point out that, when the technological strength is analyzed, two peculiarities have to be taken into account: a) the technological strength develops during the cooling process, b) the technological strength develops under conditions of mutually balanced stresses. They deny the possibilities of experimentally determining the elastic and plastic deformation of the metal during welding or casting by measuring the component being cast or welded. Then the authors emphasize that hot cracks originate during the

Card 1/4

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On the problem of ...

metal crystallization interval and can develop during the metal cooling in the solid state. In the "effective" crystallization interval a sharp dip of the alloy plasticity can be observed, which the authors call temperature interval of brittleness. The upper boundary of the "effective" crystallization interval is the temperature at which dendrites interlace and intergrow in the crystalline skeleton. The lower boundary of the "effective" crystallization interval is the temperature of the actual solidus. At this point the mechanism of metal deformation changes abruptly: the plastic deformation of the crystallites themselves intensively develops together with intercrystalline displacements. The authors point out that the idea of alloys in the solid-liquid state not possessing plasticity is unfounded. This would lead to the conclusion that hot cracks are inevitable during welding and casting, which is not the case. Next the authors state that the technological stength reserve of castings and welds depend on the interrelation of three characteristic features: temperature interval of brittleness, plasticity in this interval and the intensity of

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growth of elastic-plastic deformation as far as the temperature decreases, i. e. the deformation rate. It is maintained that the technological strength reserve can be quantitatively rated neither by the magnitude of the temperature interval of brittleness, nor by the magnitude of relative elongation in this interval, nor by the deformation rate, each taken separately. Thus the direction of variation of hot-shortness can in the first approximation only be determined by the variation of one of the three above-mentioned factors if the two others remain unchanged. Cracks originating in castings can be filled with molten metal under the effect of hydrostatic pressure and capillary forces. The magnitude of the temperature interval of brittleness is determined by the chemical composition of the alloy, the content of additives located along the grain boundaries, dendritic liquation, dimensions and shape of crystallites, rate of cooling and deformation. The plasticity of the alloy in the"effective" crystallization interval is determined by the following factors: ratio of solid to liquid phase volume, dimensions and shape of crystallites and kind of distribution of the

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On the problem of ...

liquid phase, chemical and structural micro-nonhomogeneity, rate of deformation. The rate of deformation is determined by the thermal coefficient of linear contraction, the rigidity of the welding joint or yielding of the linear shape, kind of temperature distribution determining the degree of deformation concentration and also by the deformation of the parts being cast or welded. Length and width of cracks cannot serve as measure of resistance of the metal against the formation of hot cracks. The authors conclude by stating that the difference between the minimum relative elongation in the "effective" crystallization interval and the magnitude of free temperature deformation (linear shrinkage) at the temperature of this minimum can be used as quantitative characteristic of the resistance of metal to the origination of hot cracks.

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RYKALIN, N.N.; SUKHORUKOV, B.L.

Participation of the Soviet delegation in the 13th Congress of the International Institute of Welding. Avtom. svar. 13 no.9:89-92 S '60.

1. Natsional'nyy komitet SSSR po svarke.
(Welding--Congresses)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN,N.N. AND YEROKHIN,A.A.

"Metal drop formation in the welding arc."

Report submitted to the Autumn Meeting of the Welding research Institute.
London, England, 29 Oct-2Nov 1962

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N., KULAGIN, I.D. AND NIKOLAYEV, A.V.

"Thermal and mechanical gas-shielded arc characteristics."

Report submitted for the Autumn Meeting of the Welding Research Institute. London, England, 29 Oct-2 Nov 1962.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

SAMARIN, A.M., otv. red.; RYKALIN, N.N., otv. red.; ZOLOTOV, P.F., red. izd-va; SUSHKOVA, L.A., tekhn. red.

[Steel made of Kerch Peninsula ores] Stal' iz kerchenskikh rud. Moskva, Izd-vo Akad. nauk SSSR, 1962. 90 p. (MIRA 15:6)

1. Akademiya nauk SSSR. Institut metallurgii. 2. Chlen-korrespondent Akademii nauk SSSR (for Samarin, Rykalin).
(Steel—Metallurgy)
(Kerch Peninsula—Iron ores)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

SILIN, Lev Leonidovich; BALANDIN, Gennadiy Fedorovich; KOGAN, Moisey Grigor'yevich; KHRENOV, K.K., retsenzent; OSHCHEPKOV, P.K., doktor tekhn.nauk, retsenzent; RYKALIN, N.N., red.; CHERNYAK, O.V., red.; MODEL', B.I., tekhn.red.

[Ultrasonic welding; joining metals in the solid state and improving the quality of weld joints] Ul'trazvukovaia svarka; soedinenie metallov v tverdom sostoianii i uluchshenie kachestva svarnykh shvov. Pod red. N.N.Rykalina. Moskva, Mashgiz, 1962. 251 p. (MIRA 15:4)
(Ultrasonic welding)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; YEROKHIN, A.A.

Conference on the physics of the welding arc. Avtom.svar. 15 no.10:95 O '62. (MIRA 15:11)
(Electric arc)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; ZARUBA, I.I.; KULAGIN, I.D.

Symposium on the physics of the welding arc. Avtom.svar. 16 no.5:91-94 My '63. (MIRA 16:[illegible])

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; KULAGIN, I.D.; NIKOLAYEV, A.V.

Thermal characteristics of the interaction between a flow of plasma and the solid being heated. Avtom. svar. 16 no.6:3-13 Je '63. (MIRA 16:7)

1. Institut metallurgii im. A.A.Baykova.
(Plasma (Ionized gases)) (Heat--Transmission)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.

Development of thermophysical principles for metalworking. Vest.mashinostr. 43 no.11:23-28 N '63. (MIRA 17:2)

1. Chlen-korrespondent AN SSSR.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; PODZEY, A.V., doktor tekhn.nauk, prof.; NOVIKOV, N.N., kand.tekhn. nauk; LOGINOV, V.Ye., inzh.

Calculation and simulation of the temperature field in a part subjected to grinding and milling. Vest.mashinostr. 43 no.11:74-80 N '63. (MIRA 17:2)

1. Chlen-korrespondent AN SSSR (for Rykalin).

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.

Studying the principles of the physics of heat in welding.
Svar. proizv. no.1:2-6 Ja '64. (MIRA 17:1)

1. Institut metallurgii im. A.A. Baykova; chlen-korrespondent AN SSSR.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; TRUFYAKOV, V.I.; KRASOVSKIY, A.I.

The 18th Congress of the International Institute of Welding. Avtom. svar. 18 no.10:76-79 O '65. (MIRA 18:12)

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EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/EM

ACC NR: AP6027952 SOURCE CODE: UR/0020/66/169/003/0565/0568

AUTHOR: Rykalin, N. N. (Corresponding member AN SSSR); Uglov, A. A.; Makarov, N. I.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Heating of a two-layered plate during welding by laser beam

SOURCE: AN SSSR. Doklady, v. 169, no. 3, 1966, 565-568

TOPIC TAGS: welding, laser application, temperature distribution

ABSTRACT: The authors consider the problem of temperature distribution in a two-layered plate during welding by laser beam. A solution is found for the system of equations

$$\frac{1}{a_1}\frac{\partial t_1}{\partial \tau} = \frac{\partial^2 t_1}{\partial r^2} + \frac{1}{r}\frac{\partial t_1}{\partial r} + \frac{\partial^2 t_1}{\partial z^2}$$

in the region $\tau > 0$, $r_0 \geqslant r \geqslant 0$, $h \geqslant z \geqslant 0$;

$$\frac{1}{a_2}\frac{\partial t_2}{\partial \tau} = \frac{\partial^2 t_2}{dr^2} + \frac{1}{r}\frac{\partial t_2}{\partial r} + \frac{\partial^2 t_2}{\partial z^2}$$

in the region $\tau > 0$, $r_0 \geqslant r \geqslant 0$, $l \geqslant z \geqslant h$. The boundary conditions and initial conditions are given and the problem is solved by using Laplace transforms. Graphs are given showing the results of numerical calculations for temperature distribution with

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ACC NR: AP6027952

respect to radius in a single-layer aluminum plate and in two-layer plates with an upper aluminum layer and a lower silicon layer. The temperature was calculated for the moment corresponding to the end of pulse action (pulse duration $8 \cdot 10^{-3}$ sec). The plates were assumed to have dimensions of r_0=1 cm, h=0.02 cm and l=0.3 cm. The calculations of temperature distribution for values of F_0 at which the temperature on the surface in the center of the plates is less than the boiling temperature of aluminum (1800°C) give $0.39 \cdot 10^6$ cal/cm^2·sec for a single-layered plate and $0.29 \cdot 10^6$ cal/cm^2·sec for a two-layered plate. Isotherms at 660°C show a melting depth in the upper layer of the two-layered plate considerably greater than that for a single-layered plate in spite of the fact that F_0 is greater for the single-layered plate. Orig. art. has: 3 figures, 39 formulas.

SUB CODE: 20/ SUBM DATE: 13Apr65/ ORIG REF: 003

bimetals

Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

L 12135-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m)/ETC(m) IJP(c) WW/AT

ACC NR: AP6001910 UR/0294/65/003/006/0871/0878

AUTHOR: Rykalin, N.N.; Nikolayev, A.V.; Kulagin, I.D.

ORG: Institute of Metallurgy im. A.A. Baykov (Institut metallurgii)

TITLE: Heat flux in a body interacting with a plasma jet

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 871-878

TOPIC TAGS: heat flux pickup, plasma jet, arc discharge, argon

ABSTRACT: The article establishes the distribution of the specific heat flux in the heating of the surface of an object by a plasma jet under sub-ablation conditions. The density of the heat flux in the reaction zone of an argon plasma jet was determined by calorimetric methods. The plasma was generated in an IMET-105 generator in which the channel of the arc chamber was electrically insulated from the nozzle (anode). The plasma-forming gas was fed coaxially with the arc. The sensing device for measurement of the heat flux distribution was a steel plate with dimensions of 120 x 80 x 6 mm with built-in sensitive elements (diagram shown in article). Measurements were made during the experiments at intervals of from 0.3 to 2 sec. The measurements of the heat flux were made with a distance of 10 mm between the pick-up and the nozzle of the

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

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ACC NR: AP6001910

plasmatron. The pressure was measured with a water manometer. Based on a previously published equation for an equilibrium boundary layer, the article proposes a method for estimating the heat flux at the critical point, and demonstrates the possibility of estimating the maximum heat flux from averaged values of the enthalpy and the temperature of the argon plasma jet. Orig. art. has: 4 formulas and 6 figures.

SUB CODE: 20/ SUBM DATE: 05Jan65/ ORIG REF: 011/ OTH REF: 004

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APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

SHORSHOROV, Minas Khachaturovich; RYKALIN, N.N., red.;
PRIKLONSKIY, A.A., red.

[Metallography of welded steel and titanium alloys]
Metallovedenie svarki stali i splavov titana. Moskva,
Nauka, 1965. 335 p. (MIRA 18:8)

1. Chlen-korrespondent AN SSSR (for Rykalin).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

L 61912-65 EWT(1)/EWP(e)/EWT(m)/EPF(c)/EWP(i)/EPF(n)-2/EWG(v)/EWP(j)/EWP(t)/EWP(b)/EWA(1)/EWG(m)/EPA(w)-2 Pz-6/Pc-4/Po-4/Pe-5/Pr-4/Ps-4/Pi-4/Pu-4 RPL/

ACCESSION NR: AP5016014 IJP(c) IG/WW/JD/JW/AT/JAJ/RM UR/0125/65/000/006/0001/0005 86

621.791.85 B 82

AUTHOR: Rykalin, N. N. (Corresponding member AN SSSR); Nikolayev, A. V. (Candidate of technical sciences); Kulagin, I. D. (Candidate of technical sciences)

TITLE: Calculation of heat flow during heating of a solid in a plasma stream 21

SOURCE: Avtomaticheskaya svarka, no. 6, 1965, 1-5

TOPIC TAGS: heat conductivity, ablative heat transfer, plasma arc, argon, mathematical analysis, copper 21

ABSTRACT: A method is presented for the determination of maximal heat flow in the center of a heat spot for a plasma stream. The calculation is based on equations obtained by Feyu and Riddell for heat flow at a critical point, for the case of an equilibrium boundary layer. The possibility for determining maximal heat loss is shown as a function of average mass enthalpy and the temperature of an argon plasma stream. A graph shows the impingement of the plasma stream upon a copper surface, along with several parameters: tangential and normal speeds, temperature, and enthalpy. These are plotted as a function of distance from the heat spot. The equa-

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ACCESSION NR: AP5016014

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tions of Feyu and Riddell were used, and were altered to suit the boundary conditions for this special case. These were then used to obtain graphs of heat flow from the hot point as a function of the axial temperature of the plasma stream for various values of the parameter m/d_c^3 (m is mass flow of argon, kg/sec; d_c is diameter of the channel in meters). Heat flow increased with temperature and was lower, the lower the value of m/d_c^3. Ablation effects resulting from vaporization of Cu were included in the calculations. Changes in the axial and the central mass temperatures were determined relative to the maximal heat flow and the energy balance of the plasmatron as a function of current strength, length of arc, gas velocity, and channel diameter. Also, the dependence of the axis temperature divided by the central mass temperature of the plasma stream, was plotted as a function of enthalpy. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 06Jan65 ENCL: 00 SUB CODE: MM, TD

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L 3836-66 EWA(k)/FBD/EWT(1)/EPA(s)-2/EWT(m)/EEC(k)-2/EWP(v)/T/EWP(t)/EWP(k)/
EWP(b)/EWA(m)-2/EWA(h)/EWA(c) SCTB/IJP(c) WG/JD/HM

ACCESSION NR: AP5018079 UR/0020/65/163/001/0087/0090

AUTHOR: Rykalin, N. N. (Corresponding member AN SSSR); Krasulin, Yu. L.

TITLE: Estimate of the energy parameters of metal welding by a laser light beam

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 87-90

TOPIC TAGS: metal welding, copper, laser beam, laser application

ABSTRACT: The authors first point out that all experimental evidence indicates that successful welding by means of a laser beam calls for exact knowledge of the distribution of the beam energy over the surface of the welded material. To this end, they estimate the total maximum beam power as well as the power in each spike. The problem is solved for the case of interaction between the light beam and the surface of a semi-infinite thermally conducting body, assuming a Gaussian distribution of the heat developed on the metal surface along the radius of the focused spot. Approximate formulas are derived for the heat and temperature distribution produced by a normally-incident circular laser-beam spot and for the maximum per-unit heat flux. The latter makes it possible to estimate the dimensions of the spot of molten metal on the surface of the welded body and the depth of the weld. The approximate light-beam parameters required for welding thick copper sheets and the dimensions of the welding zone are calculated by way of an example. Methods

Card 1/2

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of estimating the laser beam power required to produce a weld of given dimensions are also indicated. It is stated in the conclusion that more accurate calculations call for the knowledge of the spatial and time distribution of the radiation on the end of the laser rod, and on the distribution of the energy in the focused spot. Orig. art. has: 2 figures, 7 formulas, and 2 tables.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Metallurgy Institute) 44

SUBMITTED: 25Feb65 ENCL: 00 SUB CODE: IE

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Card 2/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; SHORSHOROV, M.Kh.; KRASULIN, Yu.L.

Physical and chemical problems in welding heterogeneous materials. Izv. AN SSSR. Neorg. mat. 1 no.1:29-36 Ja '65. (MIRA 18:5)

1. Institut metallurgii imeni Baykova.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N.N.; KRASULIN, Yu.L.

Estimation of the energy parameters of welding metals by laser light beams. Dokl. AN SSSR 163 no.1:87-90 Jl '65. (MIRA 18:7)

1. Institut metallurgii im. A.A.Baykova. 2. Chlen-korrespondent AN SSSR (for Rykalin).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, N. N. Prof Dr. Tech Sci; KUDINOV, V. V. Cand Tech Sci; KULAGIN, I. D. Cand Tech Sci

"Heat efficiency of smelting process by plasma arc and plasma jet cutting"

report presented at 18th Annual Assembly, Intl Inst of Welding, Paris, 5-10 Jul 1965.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

DUNAITSEV, A.F.; PETRUKHIN, V.I.; PROKOSHKIN, Yu.D.; RYKALIN, V.I.

Experimental evaluation of the $\pi^+ \rightarrow \pi^0 + e^+ + \nu$ decay probability. Dubna, Ob"edinennyi in-t iadernykh issl. 1961. 10 p.
(No subject heading)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

VASILEVSKIY, I.M.; PROKOSHKIN, Yu.D.; RYKALIN, V.I.

Search for near-threshold anomalies in the energy dependence of the total cross section of proton interaction. Zhur. eksp. i teor. fiz. 40 no.5:1524-1525 My '61. (MIRA 14:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Mesons) (Protons) (Nuclear reactions)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

PROKOSHKIN, Yu. D.; RYKALIN, V. I.; VASILYEVSKIY, I. M.

"On the Threshold Anomalies in pp-Scattering"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Institute for Nuclear Research, Laboratory of Nuclear Physics

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, V.I.

DENISOV, A. F., PETRUKHIN, V. I., Yu. D. PROKOSHKIN, and RYKALIN, V. I.

"Charge Exchange of Stopping π^- Mesons on Bound Hydrogen Nuclei"

report presented at Intl. Conference on High Energy Physics, Geneva, 4-11 July 1958

Joint Inst. for Nuclear Research
Lab. of Nuclear Problems

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKALIN, V.I.

(3)

DUNAYTSEV, A.F., PETRUKHIN, V.I., PROKOSHKIN, Yu. D., RYKALIN, V.I.

"Investigation of Pion Beta Decay"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Institute for Nuclear Research
Laboratory of Nuclear Problems

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

DUNAYTSEV, A.F.; PETRUKHIN, V.I.; PROKOSHKIN, Yu.D.; RYKALIN, V.I.; SARANTSEVA, V.R., tekhn. red.

[Testing the conservation of vector current] Proverka sokhraneniia vektornogo toka. Dubna, Ob"edenennyi in-t iadernykh issl., 1962. 6 p. (MIRA 15:4)

(Mesons--Decay)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

DUNAYTSEV, A.F.; PETRUKIN, V.I.; PROKOSHKIN, Yu.D.; RYKALIN, V.I.; SARANTSEVA, V.R., tekhn. red.

[Probability of the decays $\pi^+ \to \pi^0 + e^+ + \nu$ and $\pi^+ \to \gamma + e^+ + \nu$ O veroiatnosti raspadov $\pi^+ \to \pi^0 + e^+ + \nu$ i $\pi^+ \to \gamma + e^+ + \nu$. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 6 p. (MIRA 15:4)

(Mesons—Decay)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

DUNAYTSEV, A.F.; PETRUKHIN, V.I.; PROKOSHKIN, Yu.D.; RYKALIN, V.I.; SARANTSEVA, V.R., tekhn. red.

[Detection of charge-exchange in stopped π^--mesons on nuclei of bound hydrogen] Obnaruzhenie perezariadki ostanovivshchiksia π^--mezonov na iadrakh sviazannogo vodoroda. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 4 p. (MIRA 15:4)

(Mesons) (Nuclear reactions) (Hydrogen)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/056/62/042/002/049/055
B108/B138

AUTHORS: Dunaytsev, A. F., Petrukhin, V. I., Prokoshkin, Yu. D., Rykalin, V. I.

TITLE: Experimental estimate of β-decay probability of a π^+ meson

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 632 - 635

TEXT: The rare decay mode $\pi^{\pm} \rightarrow \pi^{o} + e^{\pm} + \nu$ is termed β-decay of the pion. Theoretical treatment similar to the Fermi treatment of nuclei has shown that the β-decay probability of a pion is only about 10^{-8} of the probability of the usual muon decay $\pi^{\pm} \rightarrow \mu^{\pm} + \nu$ (Ya. B. Zel'dovich. DAN SSSR, 97, 421, 1954). One can calculate exactly the probability of that β-decay without regard to strongly interacting particles if the hypothesis of the conservation of the vector current in the theory of universal weak interaction is rigth:

$$w(\pi^{\pm} \rightarrow \pi^{o} + e^{\pm} + \nu) = G^2 \Delta^5 / 30 \pi^3 \quad (\hbar = c = 1).$$

G is the constant of weak vector interaction, Δ is the difference between the masses of charged

Card 1/4

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Ya. B. Zel'dovich, S. S. Gershteyn, B. Pontekorvo, and L. I. Lapidus are thanked for help and discussions. There are 3 figures and 8 references: 4 Soviet and 4 non-Soviet. The 4 references to English-language publications read as follows: H. L. Anderson et al. Phys. Rev., 119, 2050, 1960; R. P. Feynman, M. Gell-Mann. Phys. Rev., 109, 193, 1958; E. C. G. Sudarshan, R. E. Marshak. Proc. of Padua conf., 1957; G. Impeduglia et al. Phys. Rev. Lett., 1, 249, 1958.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: December 9, 1961

Legend to Fig. 1: M - magnetic focusing lens; 1, 2 - scintillation counters of π^+ - meson monitor (with ФЭУ-33 (FEU-33) photomultipliers), 3 - scintillation counter (with 56 AVP photomultiplier), 4 - "stopping detector" counter (FEU-33); 5, 6 - Cerenkov spectrometer (58 AVP); CH_2 - polyethylene filter for slowing down pion beam; Pb - lead shield.

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37896
S/056/62/042/005/048/050
B108/B138

24.6610

AUTHORS: Dunaytsev, A. F., Petrukhin, V. I., Prokoshkin, Yu. D., Rykalin, V. I.

TITLE: The probability of $\pi^+ \rightarrow \pi^0 + e^+ + \nu$ and $\pi^+ \rightarrow \gamma + e^+ + \nu$ decays

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 5, 1962, 1421-1424

TEXT: Earlier work (ZhETF, 42, 632, 1962; Nuovo Cim., 22, 5, 1962) showed that, as predicted by theory, the relative beta decay probability of the π^+-meson is indeed very small ($\sim 10^{-8}$). This paper presents more results on the radiative beta decay as observed by a system of scintillation counters and moderation filters. The meson beam varies with time at a period of $76 \cdot 10^{-9}$ sec. The data obtained are in agreement with theory and confirm the assumption of the conservation of the vectorial current. Exact measurements yielded the relative beta decay probability $\lambda = (1.1^{+1.0}_{-0.5}) \cdot 10^{-8}$ and the constant of the beta decay intensity $G = (1.14 \pm 0.37) G_\beta$ where

Card 1/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/056/62/042/006/044/047
B104/B112

AUTHORS: Dunaytsev, A. F., Petrukhin, V. I., Prokoshkin, Yu. D., Rykalin, V. I.

TITLE: Evidence of the charge exchange of stopped π^- mesons on nuclei of bound hydrogen

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1680-1682

TEXT: The charge exchange of π^- mesons stopped in polyethylene was investigated using a device with high time resolution (A. F. Dunaytsev et al., ZhETF, 42, 632, 1962). The device allowed π^0 mesons to be recorded more efficiently than had been possible in previous investigations. A 75-Mev π^- meson beam (Fig.) passes through a set of scintillation counters and moderating filters and is stopped in a target (polyethylene, liquid hydrogen). The γ-quanta produced during the decay of π^0 mesons emitted by the stop of π^- mesons are recorded by Cherenkov spectrometers. After preliminary experiments with a target of liquid hydrogen the H target was replaced by a polyethylene target. The

Card 1/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/120/63/000/001/043/072
E032/E314

AUTHORS: Dunaytsev, A.F., Petrukhin, V.I., Prokoshkin, Yu.D. and Rykalin, V.I.

TITLE: A detector for stopping mesons

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 159 - 161

TEXT: The detector is illustrated schematically in Fig. 1. Its properties were investigated with a 75 MeV π^+-beam. The π-mesons pass through the scintillation counters of the beam-intensity monitor (1, 2) and are then retarded by the polythene filter 3. They come to rest in the phosphor of the last counter (5). The system incorporates fast photomultipliers (56AVP). The mesons are recorded by the fast coincidence circuit C_I, whose resolution was somewhat higher than reported previously by Dunaitzev et al (Nucl. Instrum., 1960, 8, 11) who have similar apparatus. In order to determine the optimum working conditions an assessment was made of the efficiency of recording of stopping and transmitted π^+-mesons (in the latter case the filter 3 was removed) as a function of the voltage V on each of the

Card 1/4

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photomultipliers. Thus, the amplitude discrimination was carried out not only in the counter 5, as was done previously but also in the counter 4. In this way, the voltage region, in which the sensitivity of the detector to transmitted mesons decreases rapidly with decreasing V, while the efficiency of recording of stopping mesons was still very nearly 100%, was determined. The meson-counting rate was then found as a function of the delay Δt of the pulse from counter 5 relative to counter 4 for a number of values of V in the above region. The form of the resolution curves was found to be quite different for stopping and transmitting π^+-mesons. Hence, the selection coefficient was very sensitive to the delay Δt. Fig. 3 shows the selection coefficient K (2) and the efficiency of recording of stopping mesons ε (1) as functions of the delay time Δt. The arrow indicates the working value of the delay. As can be seen, a selection coefficient of the order of 50 may be obtained with an efficiency practically equal to 100%. This compares with K = 8 as reported by Dunaitsev et al. The detector is suitable for the selection of stopping particles in the presence of a large

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E032/E314

A detector for ....

background of transmitted particles. It has been successfully used for the effective recording of rare decay modes of stopping π^+-mesons (Dunaytsev et al - Zh.eksperim. i teor. fiz., 1962, 42, 1421; Phys. Letters, 1962, 1, 138). There are 4 figures.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute for Nuclear Research)

SUBMITTED: April 13, 1962

Card 3/4

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attached hereto

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E032/E314

A detector for ....

Fig. 1:

Рис. 1. Схема эксперимента. *1, 2* — счетчики монитора пучка π^+-мезонов; *3* — полиэтиленовый фильтр; *4, 5* — счетчики детектора остановок; *6* — полый световод; *7* — переменная задержка Δt; C_I, C_{II} — схемы совпадений; $П_I$, $П_{II}$ — пересчетные устройства.

Fig. 3:

Рис. 3. Зависимость коэффициента отбора K (2) и эффективности регистрации остановок ε (1) от задержки Δt. Стрелкой указано рабочее положение задержки.

Card 4/4

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

ACCESSION NR: AP4042373 S/0056/64/047/001/0084/0091

AUTHORS: Dunaytsev, A. F.; Petrukin, V. I.; Prokoshkin, Yu. D.; Ry*kalin, V. I.

TITLE: Pion beta decay

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 84-91

TOPIC TAGS: pion, beta decay, Cerenkov counter, nucleon, positron

ABSTRACT: Continuing earlier investigations (Intern. Conf. on Fundamental Aspects of Weak Interactions, Brookhaven, USA, 1963) the authors registered 43 cases of pion beta decay with the aid of Cerenkov spectrometers. The relative probability of this decay was found to be $\lambda = (1.1 \pm 0.2 \times 10^{-8})$, which confirms the hypothesis of vector current conservation. The installation used for the measurement was described elsewhere (PTE, no. 1, 159, 1963) and consisted of four Cerenkov total-absorption spectrometers. The experi-

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ments were made with the synchrocyclotron of the laboratory of nuclear problems OIYaI at the end of 1962. The experimental setup and the adjustment of the apparatus are described. The measurements lasted 500 hours and involved the passage of 4×10^{10} pions. The apparatus was recalibrated by means of pulsed light sources every two hours. The values obtained for the constants G and Gβ, which characterized the beta decay of the pion and the nucleon, were found to be approximately the same, $G = (1.03 \pm 0.11)\ G\beta$, which is also in agreement with the data obtained at CERN (P. Depommier et al., Phys. Lett. v. 5, 61, 1963). The energy spectrum of the positrons produced in pion beta decay agrees with that calculated on the basis of the vector-current conservation hypothesis. "In conclusion we thank G. P. Zorin, V. I. Orekhov, A. V. Revenko, N. N. Khovanskiy, V. A. Cherny*kh, L. N. Andrianova and her co-workers, N. B. Yedovina, N. M. Kovalev, and K. A. Baycher and his co-workers for help in producing the apparatus and with the investigation. We are grateful to Kim Ge Fa, E. V. Nyagu, Z. F. Prokoshkina, and M. Sgonova for

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ACCESSION NR: AP4042373

scanning and processing the photographs." Orig. art. has: 8 figures and 3 formulas.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 14Feb64 ENCL: 02

SUB CODE: NP NR REF SOV: 008 OTHER: 010

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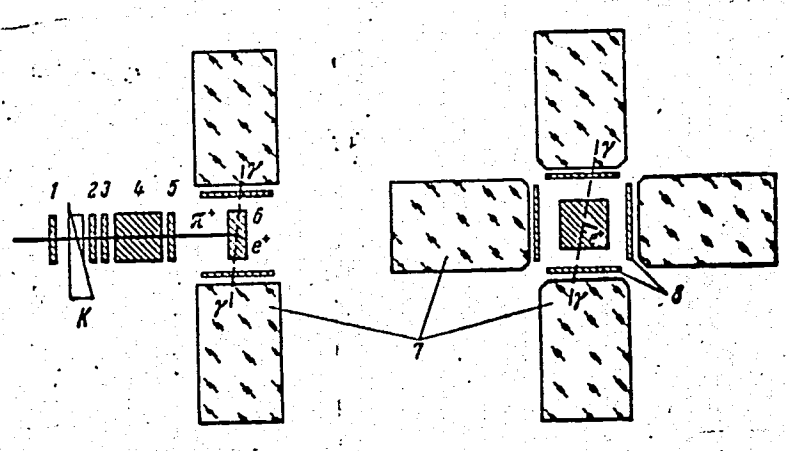
ACCESSION NR: AP4042373

ENCLOSURE: 01



Experimental setup. 1 - 6) scintillation counters, 7)Cerenkov total absorption spectrometers, 8) anticoincidence scintillation counters, K - decelerating filter,

Card 4/5

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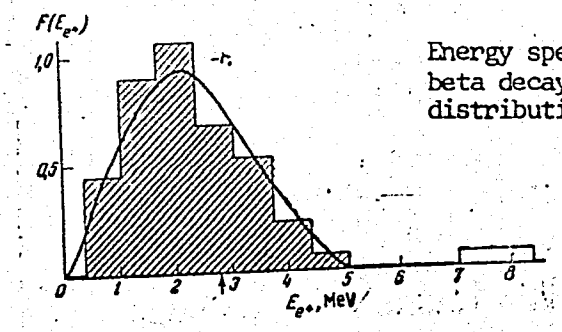
ENCLOSURE: 02



Energy spectrum of positrons produced in pion beta decay. Arrow - position of positive muon distribution maximum

Card 5/5

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L 45789-66 EWT(m)

ACC NR: AP6030131 (A) SOURCE CODE: UR/0120/66/000/004/0065/0068

AUTHOR: Naumov, V. I.; Omel'yanenko, M. N.; Rykalin, V. I.; Titova, V. F. 64

ORG: Joint Nuclear Research Institute, Dubna (Ob"yedinennyy institut yadernykh issledovaniy) B

TITLE: Using GaAs light sources for calibrating the devices with semiconductor nuclear-radiation detectors

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 65-68

TOPIC TAGS: particle counter, nuclear radiation, light source, gallium arsenide, RADIATION DETECTOR

ABSTRACT: The calibration of a telescope comprising four trays of Si nuclear-radiation detectors by means of a GaAs light source is described. The recombination-light source was made from n-type GaAs that had a majority-carrier concentration of (1--3) x 10^{17} per cm^3 and a mobility of 0.35 m^2/v sec; a plot of light-pulse height vs. temperature is shown. The telescope is calibrated by constant-height light pulses simulating the passage of nuclear particles through semiconductor detectors; a simplified light-pulse-generator circuit is supplied. The amplitude characteristic of the generator is stabilized within 10--40C; the detectors are electrically shielded. "In conclusion, the authors wish to thank A. N. Sinayev for his constant interest in the work, E. K. Batmanova for her help in measurements, and L. A. Fadeyev for wiring and telescope checking work." Orig. art. has: 5 figures. [03]

SUB CODE: 18 / SUBM DATE: 19Jul65 / ORIG REF: 002 / OTH REF: 002/ ATD PRESS: 5084

Card 1/1 pb UDC: 539.1.074.5

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ACCESSION NR: AP5011881 UR/0120/65/000/002/0114/0118
539.1.075:621.317.75

38
B

AUTHOR: Dunaytsev, A. F.; Petrukhin, V. I.; Prokoshkin, Yu. D.; Rykalin, V. I.

TITLE: High-speed five-beam oscillograph 25

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1965, 114-118

TOPIC TAGS: cathode ray oscillograph, high speed oscillograph, five beam oscillograph

ABSTRACT: The development is reported of a 5-beam oscillograph with a sensitivity of 60 mv/cm and a rise time of its 150-Mc-passband vertical-deflection amplifiers of 4 nsec. The oscillograph was developed in 1962 and was intended for studying beta decay of π^+-meson. The nonlinearity of sweep is 2—4%; sweep speeds: 5, 10, 20, 50, 100, 200 nsec/cm; sweep delay behind the starting pulse, 70 nsec; when the signal is applied directly to the vertical plates, the rise time is

Card 1/2

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ACCESSION NR: AP5011881

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2 nsec and the sensitivity, 30 v/cm. About 500,000 photo pictures were taken with this oscillograph; processing of these pictures has shown that the intervals between pulses can be measured with an error of 2×10^{-10} sec and heights, with an error of 3%. "The authors wish to thank G. P. Zorin, A. V. Revenko, and N. N. Khovanskiy for their help in the development and operation of the oscillograph, L. N. Andrianova and her co-workers for the development of the electron-beam tube with an aluminized screen, and N. B. Yedovina for selecting the conditions of film development." Orig. art. has: 7 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Nuclear Research Institute)

SUBMITTED: 11Mar64 ENCL: 00 SUB CODE: EC

NO REF SOV: 002 OTHER: 004

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKBERG, K. V.

RYKBERG, K.V., KHATSAREVICH, TS.M.

Efficient use of nut tannins. Leg.prom. 17 no.7:47-48 Jl '57.
(MIRA 10:[illegible])

(Tanning materials)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

Rykberg, K. V.

Methods of improving the quality of leathers. K. V. Rykberg and S. V. Gerasev. *Legkaya Prom.* 14, No. 8, 32-4 (1954).—Promising results were obtained in attempts to improve the quality of sole and insole leathers by including salt treatment in the processing (see preceding abstr.).

B. Z. Kamich

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

KARAVASHKOVA, A.I.; RYK-BOGDANIKO, M.G.; IONOVA, A.I.

Using a DDT insecticide mixture for controlling flies. Gig. i san. 22 no.6:87-88 Je '57. (MIRA 10:10)

1. Iz Moskovskoy gorodskoy dezinfektsionnoy stantsii.
(FLIES,
control with DDT mixtures (Rus))
(DDT, effects,
flies control, mixtures (Rus))

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYK-BOGDANIKO, M. G.

23629.

OPYT GEKSAKhLORANA DLYa UNICHTOZhENIYa MUKh I KOMAROV V POMESHchENIYaKh. GIGIYeNA I SANITARIYa 1949, No. 7, c. 44-45.

SO: LETOPIS' No. 31, 1949

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

BAKHOLDIN, B.A., kand.tekhn.nauk; RYKHAL'SKIY, Yu.A., kand.tekhn.nauk; LESKEVICH, V.I., inzh.

Modeling the starting of belt conveyors with single-drum drives. Gor. zhur. no.9:39-44 S '63. (MIRA 16:10)

1. Institut elektrotekhniki AN UkrSSR.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

ARCHAKOVA, L.A., inzh.; KRYUKOV, B.I., kand. tekhn. nauk; RYKHAL'SKIY, Yu.A., kand. tekhn. nauk

Dynamics of vibratory machines with planetary-type biharmonic vibrators. Izv. vys. ucheb. zav.; gor. zhur. 7 no. 9: 140-143 '64.

(MIRA 18:1)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema. Rekomendovana kafedroy teoreticheskoy i stroitel'noy mekhaniki.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

KRYUKOV, B.I.; LAZARYAN, V.A.; LESKEVICH, V.I.; RYKHAL'SKY, YU. A. (Dnepropetrovsk)

"Dynamic problems of vibrating machines."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHAL'SKIY, N.A. [Rykhal's'kyi, N.A.]

New data on the geomorphology of the middle reaches of the Volch'ya River. Geol. zhur. 24 no.4:97-104 '64. (MIRA 18:2)

1. Trest "Kiyevgeologiya".

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

USIKOV, N.P., inzh.; RYKHAL'SKIY, Yu.A., inzh.

Effect of the parameters of a link on the fatigue strength of round-link traction chains. Vop. rud. transp. no.6:75-78 '62. (MIRA 15:8)

1. Zavod "Pobeda truda" (for Usikov). 2. Institut chernoy metallurgii AN UkrSSR (for Rykhal'skiy).
(Chains) (Mechanical wear)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHAL'SKIY, Yu. A., inzhener

Choosing practical parameters for round-link conveyer chains.
Vop. rud. transp. no.3:47-62 1959. (MIRA 14:4)

1. Institut gornogo dela AN USSR.
(Conveying machinery)
(Chains)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHAL'SKIY, Yu.A., inzh.

Relation between the cross section and strength of a steel likn in a round-link chain. Vop.rud. transp. no.4:7-11 '60. (MIRA 14:3)

1. Institut gornogo dela AN USSR.
(Chains)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHAL'SKIY, Yu.A., inzh.

Design of round link chains to withstand breaking load. Ugol' Ukr. 5 no.4:30-31 Ap '61. (MIRA 14:4)
(Conveying machinery) (Chains)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

BAKHOLDIN, B.A., aspirant; RYKHAL'SKIY, Yu.A., aspirant

Using electric modeling to study the dynamics of scraper conveyors. Vop. rud. transp. no.5:59-69 '61. (MIRA 16:7)

1. Institut gornogo dela AN UkrSSR.
(Conveying machinery--Models)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHAL'SKIY, Yu.A., inzh.

Relation between the parameters of a link and the static rigidity of round-link conveyor chains. Vop.rud. transp. no.4:12-23 '60. (MIRA 14:3)

1. Institut gornogo dela AN USSR.
(Conveying machinery)
(Chains)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

KNORRE B.V.; RYKHLETSKIY, I.Z.; CHETVERUKHIN, S.I.

Iron founding in specialized foundries. Lit. proizv. no.11:20-26 N '60. (MIRA 13:12)

(Iron founding)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

YELAYEV, N.R. ; RYKHLIK, I.

Comparative study of sytopl^smic and nuclear ribosomes in the rat liver. Biokhimiia 28 no.6:1047-1052 N-D'63 (MIRA 17:1)

1. Laboratory of Protein Chemistry, State University, Leningrad and Institute of Organic Chemistry and Biochemistry, the Czechoslovakian Academy of Sciences, Prague.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLIK, I.

4983. **Synthesis of protease and amylase in mouse pancreas** *in vitro*. I. Rykhlik, Iu. Schveitsar and F. Shorm. *Dokl. Akad. Nauk S.S.S.R.*, 1955, 104, 283—288. *Referat. Zh. Biol.*, 1956, Abstr. No. 73594.—Homogenates of mouse pancreas were incubated at 40° and the increase in protease and amylase activity which serves as indicator of the synthesis of these enzymes by pancreas was measured. Addition of amino acids increased enzyme synthesis. Max. effect was obtained with casein hydrolysate enriched with tryptophan. Addition of glucose did not influence the synthesis. Under anaërobic conditions or in the presence of 2 : 4-dinitrophenol, synthesis did not occur. Azaserine, methionine sulphoximine and both optical isomers of chloramphenicol inhibited enzyme synthesis. Ethionine did not show inhibitory action. (Russian)

Y. P. NEISH

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLETSKIY, I.Z.; SHESTOPAL, V.M.

Standard foundry shops. Lit.proizv. no.4:12-14 Jl '54. (MLRA 7:7)
(Foundries)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLETSKIY, I.Z.

USSR/Miscellaneous - Foundries

Card 1/1 : Pub. 61 - 5/23

Authors : Rykhletskiy, I. Z., and Shestopal, V. M.

Title : Typical iron foundries

Periodical : Lit. proizv. 4, 12-14, July 1954

Abstract : Standards set up by the 19-th congress of the Communist Party USSR for the planning and construction of modern foundries are discussed. The technical and economical features, to be taken into consideration in the planning of foundry plants, are listed. Plans and tables showing the basic characteristics of two typical foundry plants intended for large scale machine construction, pipe casting, etc., are included.

Institution : ...

Submitted : ...

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLETSKIY, I. Z.

PA 195T62

USSR/Metals - Cast Iron, Castings May 51

"Casting Large-Module Gears in Sectional Metal Mold," I. Z. Rykhletskiy, Engr, Giprostanok

"Litey Proizvod" No 5, p 26

Exptl casting of large-module gears into built-up metal mold was conducted at Pavshino Plant, Min of Bldg Materials Ind. Briefs process of constructing mold. Gear teeth are obtained dimensionally in limits of required tolerance and their surface layer is chill-hardened 5-7 mm deep.

195T62

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLIK, I.

MD

Synthesis of proteases and amylase in mouse pancreas in vitro. I. Rykhlik, Yu. Shveitsar, and F. Shorm. *Doklady Akad. Nauk S.S.S.R.* 104, 283-6(1955).—The pancreas of white mice *in vitro* is capable of synthesizing proteases and amylase during incubation in Krebs bicarbonate medium with 0.2% glucose in contact with O_2 and 5% CO_2 at 40°. The synthesis is relatively slow during the 1st hour, but accelerates over the following 2 hrs. Total acid hydrolyzate of casein enriched with tryptophan, or partial enzymic hydrolyzate of casein can serve as the source of the needed amino acids. The optimum concn. of these sources is 0.2–0.3%. Anaerobic conditions and dinitrophenol block the enzyme synthesis. In absence of external source of NH_3, the endogenous synthesis takes place, amounting to 10–30% of the possible total. This is similarly blocked by anaerobic conditions and dinitrophenol. *O*-Diazoacetylserine is a powerful blocking agent as well; DL-ethionine has no effect, but D-chloramphenicol was but feebly effective.

G. M. Kosolapoff

2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLIK, I.; SHVEITSAR, Yu.; SHORM, F., akademik.

Synthesis of proteases and amylase in the mouse pancreas in vitro. Dokl.AN SSSR 104 no.2:283-286 S '55. (MLRA 9:2)

1.Chekhoslovatskaya Akademiya nauk (for Shorm). Predstavleno akademikom A.I.Oparinym.
(Pancreas) (Enzymes)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLIK, Karel (Praga); LAPIN, A.I. [translator]

Theory of real numbers in the manuscripts of Bolzano. Ist.-mat. issl. no.11:515-532 '58. (MIRA 12:1)
(Numbers, Theory of)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

NYKHLIKOV, A. & BRUNS, N.

"A Study of the Structure of the Surfaces of Gels -- I. The Wetting Temperature of Gels of Silicon Dioxide"; Physico-Chem. Insti. imeni Karpov, Moscow; Rcd 13 July 1938.

Report U-1613, 3 Jan. 1952

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLIKOV, G.P.

Doses of calcium hydroxide in the purification of water by aluminum coagulants. Zhur.prikl.khim. 35 no.1:221-224 Ja '62. (MIRA 15:1)

1. Kafedra neorganicheskiy i analiticheskoy khimii Omskogo gosudarstvennogo meditsinskogo instituta imeni M.I.Kalinina.
(Water--Purification) (Coagulation)
(Calcium hydroxide)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

30739. RYKHLIKOV, G. P.

Russkiye i sovetskiye uchenyye v razvetii khimii. Trudy nauch. konf-tsii, posvyashch. roli rus. i sov. uchenykh v mirovoy nauke i tekhnike 6-8 maya 1948 g. vyp. 1. Omsk, 1949, s. 31-44. -- Bibliogr: 31 nazv.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKHLOV, K., pilot-inspektor

Calculation of a glide path. Grazhd. av. 21 no.5:23 My '64.
(MIRA 18:4)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

RYKLIN, F.G.

Problem concerning the minimum permissible values of the insulation resistance of an electrical machine. Prom. energ. 15 no.7:59-60 Jl '60. (MIRA 15:1)

1. Voznesenskaya gidroelektrostantsiya Khersonskogo sovnarkhoza.
(Electric machinery)
(Electric insulators and insulation)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

CHERKAVSKIY, N.B.; RYKLIN, K.B. (Sevastopol')

Rapid gnawing of a corpse by marine animals. Sud.-med.ekspert. 5 no.4:53-54 O-D '62. (MIRA 15:11)

(DROWNING)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

Investigation of the structure of gel surfaces. I. Heat of wetting of a silicic acid gel. G. Rabinbinov and B. Bruns. *J. Phys. Chem.* (U. S. S. R.) 13, 509-7(1939).—The heats of wetting of 3 gels, I—conc., II—from HCl, and III—from NH_4Cl, are shown. For I, some heats of adsorption for the given amts. of H_2O adsorbed are: 0%, 17.2 cal./g; 8.0%, 12.22; 14.5, 7.08; 28.2, 3.8; for II: 0, 28.2; 5.2, 16.1; 15.2, 9.7; 28.7, 0.80; for III: 0, 24.2; 9.5, 8.9; 16.4, 3.30; 17.2-20.1, 0.0. For I, the adsorption isotherm consists of 2 lines, for II, capillary condensation is indicated, while III obeys the Freundlich isotherm. Since the differential heats of adsorption show 2 max., it is concluded that the surface of the gel consists of several distinct types.

F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

2

Ca

Heat of wetting and adsorption isotherms of water vapor on silica gels. G. P. Rykhlikov and B. P. Bruns. *Vsesoyuz. Akad. Sel'skokhoz. Nauk Lenina, Nauch.-Issledovatel. Inst. Udobrenii, Agrotekh. i Agropochvovedeniya Gedroitsa, Trudy Leningrad. Otdel.* 1936, Pt. II, 65-82; *Chem. Zentr.* 1940, II, 2898.—A correlation was found between adsorption isotherms of water vapor by various silica gels and their differential heats of wetting. The adsorption isotherms and the differential heats of wetting show that there are several similar adsorption groups on silica gels. Cf. *C. A.* 34, 1222[9]. M. Hosch

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Adsorption of organic acids by silica gel. II. G. P. Rykhlikov and E. N. Gapon (All-Union Inst. Fertilizers, Agropedol., and Agrotechnol., Moscow). *J. Phys. Chem.* (U.S.S.R.) 20, 1029–41(1946)(in Russian); cf. *C.A.* 33, 3653[9].—Formic (I), acetic, propionic, and butyric (II) acid solns. in CCl_4 were shaken with 4 different SiO_2 gels. The amt. x (in g.-mol.) adsorbed by 1 g. of gel, without regard to the adsorption of CCl_4, satisfied the equation $x = Sc^{1/3}/(c^{1/3} + K)$, S and K being consts. and c the equil. concn. of the acid (g.-mol./l.). *Distribution* of the fatty acids between H_2O and CCl_4 showed that the acids are assocd. in CCl_4 to triple mols.; this explains the exponent $^1/_3$. At a given c, x increased from II to I on all gels. S, which is the amt. adsorbed at very high c, was independent of the nature of the acid for a gel prepd. in a slightly alk. medium (cf. Rykhlikov and Bruns, *C.A.* 34, 1222[9]); it was 12.6 millimols. A conc. gel and two gels prepd. in acid media gave S values which increased from II to I. It is concluded that the inversion of Traube's rule in the instance of the acid gels is due to their fine porosity, whereas that observed on the "alk." gel is due to an orientation effect. The order of the gels according to their S values is different for I and the other acids.

I. I. Bikerman

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Oxidation of Sn(II) to Sn(IV) with steel electrodes. G. P. Rykhlikov. *Khim. Prom.* 1944, No. 7, 20. Bivalent Sn may be used in Sn-plating baths in the absence of stannite and quadrivalent Sn. Dissolve 200-50 g./l. bivalent Sn, heat to 65-80° and filter. In another container dissolve 270-60 g./l. NaOH and filter. Transfer the Sn soln. to the NaOH soln. while stirring. The mixt. has the approx. compn. Na_2SnO_3 95-100, Na_2SnO_3 30-40, NaOH 50-80 g./l. and NaCl a few g. Cool and transfer into a container without disturbing the sediment. Slowly feed the stannite-stannate soln. into the plating tank. Supply the soln. to the anode or anodes at a place facing away from the cathode. The reaction at the anode is $Sn^{++} - 2e \rightarrow Sn^{++++}$; at the cathode, $Sn^{++++} + 4e \rightarrow Sn$. The accumulation of Sn^{++} in the tank should be avoided. For this reason, 10-20 min. before the end of plating of a given charge add to the tank 200-300 g. of bivalent Sn (for 270-300 l. of electrolyte). Cathode c. d. 0.3-0.5, anode c. d. 2 amp./sq. dm., and temp. 65-80° were used. M. Hosch

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

2

ca

Adsorption of organic acids by silica gels. G. P. Rykhlikov. *Vsesoyuz. Akad. Sel'sko-Khoz. Nauk Lenina, Nauch.-Issledovatel. Inst. Udobrenii, Agrotekh. i Agropochvovedeniya Gedroitsa, Trudy Leningrad. Otdel.* 1938, Pt. II, 357-74; *Chem. Zentr.* 1940, II, 3598; cf. C. A. [illegible], 1222[a].—Adsorption isotherms for HCOOH, CH_3COOH, CH_3CH_2COOH and $CH_3CH_2CH_2COOH$ (from CCl_4) for several silica gels are given. For basic silica gels it is assumed that 1 mol. of an org. acid has 3 adsorption centers on its surface. M. Hosch

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

S/169/62/000/001/031/083
D228/D302

AUTHOR: Rykhlinskiy, N. I.

TITLE: A new lateral-logging device with a tri-electrode probe

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 37, abstract 1A309 (V sb. Geofiz. raboty pri reshenii geol. zadach v Vost. Sibiri, M., Gostoptekhizdat, 1961, 159-175)

TEXT: The probe for tri-electrode lateral logging is a cylinder with three electrodes: Two lateral (screen) and one central. The screen electrodes are joined to each other and to the central electrode through a small resistance R. The current across the screen electrodes is sustained in such a way that the potentials of all electrodes are equal. The apparent resistivity ρ_k of the tri-electrode problem is determined from the formula:

Card 1/3

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S/169/62/000/001/031/083
D228/D302

A new lateral-logging ...

$$\rho_k = K \frac{V_o}{I_o}$$

where U_o is the electrode potential, and I_o is the current across the central electrode. The coefficient P of the tri-electrode probe is expressed by the formula:

$$K \cong 2.72\ l/lg\ \frac{2L}{d}$$

where L is the size of the probe, l is the length of the central electrode, and d is the diameter of the hole. In the lateral logging device there is a calculational-determinant block which accomplishes the division of U_o by I_o. The principles of the electrical layout of the ПБК-2 (PBK-2) lateral-logging device are gi-

Card 2/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001446420006-4

A new lateral-logging ... S/169/62/000/001/031/083
D228/D302

ven. Borehole tests for the instrument showed that the diagrams of lateral logging are distinguished by their high degree of differentiation. The repetitiveness of the diagrams is good. /Abstractor's note: Complete translation./

Card 3/3

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RYKHLOV, K., pilot-inspektor

Airplane does not excuse carelessness. Grazhd.av. 20 no.11:20-21 N '63. (MIRA 17:2)

1. Glavnoye upravleniye Grazhdanskogo vozdushnogo flota.

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RYKHLOVA, L.V.; PRODAN, Yu.I.

Value of the screw turn of the ocular micrometer of the zenith telescope at the Moscow Observatory. Soob. GAISH no.134:33-36 '64. (MIRA 17:8)

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(Astronomy--Congresses)

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