"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

ATAYEV, Sergey Sergeyevich; ZYSMAN, Aron Isaakovich; KAMENSKIY, Vladimir Georgiyevich; MOROGOVSKIY, Bentsian Moiseyevich; SAGALOVICH, Iosif Aronovich; GANDZHUNTSEV, I.M., nauchnyy red.; STRATILATOVA, K.I., red.; NESMYSLOVA, L.M., tekhn.red.; DORODNOVA, L.A., tekhn.red.

[New developments in the construction of apartment houses in White Russia] Novoe v zhilishchnom stroitel'stve Belorussii. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 58 p. (MIRA 15:2)

(White Russia--Apartment houses)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

LEVI, M.I.; SAGATOVSKAYA, L.A.; SUCHKOV, Yu.G.; MOMOT, A.G.

Serological study in plague. Report No.8: Sensitivity and specificity of the antibody neutralization reaction in plague and tularemia. Zhur. mikrobiol. epid. i immun. 40 no.5:65-68 My '63. (MIRA 17:6)

1. Iz Rostovskogo-na-Donu nauchno-issledovatel'skogo protivochumnogo instituta.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

MARTIN, F.S.; MAYLS, Dzh.L.[Miles, G.L.]; ZARUBIN, A.I.[translator]; KOLYCHEV, B.S. [translator]; SAGALOVICH, I.D. [translator] GALKIN, N.P., prof. doktor tekhn.nauk, red.; KAMAYEVA, O.M., red.izd-va; ATTOPOVICH, M.K., tekhn.red.

[Chemical processing of nuclear fuels] Khimicheskaia pererabotka iadernogo topliva. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 264 p. Translated from the English. (MIRA 14:8)

1. Head of Chemistry Section, Australian Atomic Energy Commission (for Mayls).

(Nuclear fuels)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SHCHERBOV, D.P.; SAGALOVICH, I.I.

Coprecipitation of certain ions with iron hydroxide in a chloride--ammoniacal solution. Izv.AN Kazakh.SSR.Ser.khim.no.8:114-117 '55. (Iron hydroxides) (Precipitation (Chemistry)) (MLRA 9:4)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

137-58-6-13922

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 387 (USSR)

AUTHORS: Shcherbov, D.P., Sagalovich, I.I.

TITLE: Anodic Dissolution of Impurities as a Method of Purification of Mercury for Polarographic Measurements (Anodnoye rastvoreniye primesey kak metod ochistki rtuti dlya polyarograficheskikh izmereniy)

PERIODICAL: V sb.: Opyt raboty geologov-razvedchikov Kazakhstana. Alma-Ata. AN KazSSR, 1957, pp 141-143

ABSTRACT: A method for electrolytic purification of Hg by means of anodic dissolution of impurities in it is proposed. 70-80 cc of filtered Hg are covered with 2-N H_2SO_4 and are heated with mechanical agitation up to 60-70°C, after which electrolysis (anodic dissolution of impurities) is begun at 0.25-0.50 amp/cm^2 with a Pt-cathode and a Pt-anode. During the electrolysis the difference of potentials between the Hg anode and an auxiliary Hg-sulfate semielement is controlled. When the difference of potentials falls to zero the electrolysis may be considered completed. The completion of the electrolysis can also be detected without anode-potential control by observing

Card 1/2

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137-58-6-13922

Anodic Dissolution of Impurities as a Method of Purification (cont.)

the cloudiness in the solution which occurs owing to the beginning of anodic dissolution of the Hg after the dissolution of all the impurities. After completion of the electrolysis the Hg is washed in water in a separation funnel and is filtered; its surface is then dried with filter paper. The purification process described surpasses in yield the method of vacuum distillation of Hg. Both methods achieve an equal degree of purity of Hg.

N.G.

1. Mercury--Purification 2. Electrolysis--Applications

Card 2/2

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SHCHERBOV, D. P.

7

Effect of Trilon B [sodium salt of ethylenediaminetetraacetic acid] on polarographic properties of some ions in chloride-ammonia medium. D. P. Shcherbov and L. I. Sigalovich. *Izvest. Akad. Nauk Kazakh. S.S.R., Ser. Khim.* 1957, No. 1, 82-5(in Russian).—Complex formations of Trilon B with ions in a neutral electrolyte composed of NH_4OH, NH_4Cl, Na_2SO_3, and gelatin were studied polarographically (cf. *C.A.* 50, 1420f). It was found that complexes formed by bivalent ions of Fe, Cd, Co, Mn, Ni, Zn and Cr^{3+} with Trilon B in the electrolyte were so stable that their half-wave potentials ($E_{1/2}$) became more neg. than the $E_{1/2}$ of other ions in the soln. The complex of Cu^{2+} with Trilon B was more stable than with ammonia; however, this stability was insufficient for the complete masking of the ions, and this masking effect was eliminated in the presence of the sequestrator in the region of potentials up to −0.8 v. The $E_{1/2}$ of Tl^{+} was only slightly affected by Trilon B, indicating the possibility of detg. this ion in the presence of traces of Cu. The Bi^{3+} and Fe^{3+} which were pptd. in NH_4OH, in the presence of Trilon B, remained in soln. Under these conditions the polarographic waves were spread far apart, making the detn. of other elements impossible. A similar wave was formed by Sc. The V^{5+}, Te^{4+}, Sb^{3+} did not react with Trilon B. Polarographic behavior of Cr^{3+} in NH_4OH revealed that it underwent reduction without any effect of Trilon B on $E_{1/2}$; however, $E_{1/2}$ Cr^{3+} was 0.4 v. below that of Cr^{2+}. It is probable that the rate of solvency of Cr ions or the rate of complex formation with NH_4OH were very small, as a result of which they were partially reduced before becoming "complexed" into more

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S/137/62/000/003/173/191
A160/A101

AUTHOR: Shcherbov, D. P.; Sagalovich, I. I.

TITLE: Polarographic determination of bismuth in mineral raw materials

PERIODICAL: Referativnyy zhurnal, no. 3, 1962, 1 - 2, abstract 3K 3 ("Geol. metodika i tekhn. razvedki, labor. raboty" (5), Alma-Ata, 1961, 132 - - 137)

TEXT: Description is given of determining Bi in amounts up to 2 % in ores by precipitating it from acid solutions with MnO_2 and making a polarographic analysis of same on a H_2SO_4 (1 : 4) background. On this background $E_{1/2}$ of Bi amounts only to a few hundredths of a volt in relation to the saturated calomel semi-element. Therefore, use was made of a mercury-sulfate electrode, the potential of which was by 0.4 v more positive than that of the calomel one, and Bi wave was measured within a range of -0.35 to -0.75 v. Elements settling on MnO_2 together with Bi can also be reduced on a Hg-cathode. However, the reduction potentials of Sn and As are considerably more negative than of Bi; Sb produces no polarographic wave when it is oxidized up to a 5-valent state, while W can be removed

Card 1/3

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in the course of acidic decomposition of the sample. Difficulty can be produced only by Mo, yet its content in ores is insignificant. An amount of 0.2 - 0.5 g of ore can be decomposed by 10 - 15 ml of a mixture of HNO_3 + HCl (1 : 3), and evaporated until it becomes a wet salt. Then 1 ml of H_2SO_4 is poured-in (1 : 1) and the salt is again subjected to evaporation. Then 15 - 20 ml of H_2SO_4 (1 : 4) is added, the substance is heated until salt-melting point, whereupon the hot solution is neutralized with NH_4OH until white or brown flakes begin to fall out. The latter are dissolved with 1 - 2 drops of H_2SO_4, supplemented with 20 ml of a 5 % $MnSO_4$ solution and 10 ml of an 1 % $KMnO_4$ solution, actively intermixed and filtered after 10 - 15 minutes through a dense filter. The precipitate is then washed 2 - 3 times with hot water. The filtrate is supplemented with 5 ml (each) of the same $MnSO_4$ and KMnO solutions and is filtered again through the same filter. Then the precipitate is washed with hot water and dissolved on an H_2SO_4 (1 : 4) filter adding 2 - 5 drops of a 3 % H_2O_2, decomposed by boiling. Two-three drops of a 1 % gelatin are added, as well as H_2SO_4 (1 : 4) up to 50 ml, and Bi is analyzed by polarographic means. When Bi $>$ 2 %, the results obtained are underestimate,

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Polarographic determination of bismuth S/137/62/000/003/173/191
A160/A101

probably because of incomplete precipitation of large amounts of Bi with MnO_2. There are 16 references.

N. Gertseva.

[Abstracter's note: Complete translation]

Card 3/3

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

GUREVICH, E.Z., inzh.; SAGALOVICH, L.D., inzh.

Errors of water level indicating columns. Energetik 12 no.8:12-14 Ag '64. (MIRA 17:9)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

KOROBOV, Yu.M., inzhener; SAGALOVICH, L.I., inzhener.

New method of connecting an individual control recorder to apparatuses of the automatic telephone system. Vest.sviazi 7 no.9:23-24 S '47. (MLRA 9:1)
(Telephone, Automatic--Apparatus and supplies)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, L. I.

PA 7/49T36

USSR/Communications Aug 48
Telephones, Relay

"Reasons for One Type of Breakdown in the RI-5 Relay," L. I. Sagalovich, Engr, ½ p

"Vest Svyazi - Elektrosvyaz'" No 8 (101)

Failure of subject type of relay often due to contact being established between winding and body owing to self-induction voltage exceeding breakdown capacity of insulation. Therefore important to check that relay core does not touch body.

7/49T36

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

Sagalovich, L.I.

SAGALOVICH, L.I., inzh.

Working principle of cathodic protection. Prom. energ. 12 no.12: 23-25 D '57. (MIRA 10:12)

(Electrolytic corrosion)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

6(7) SOV/111-59-8-9/30

AUTHOR: Sagalovich, L.I., Engineer, Chief

TITLE: The Effectiveness of Depositing Precious Metals on the Contacts of ATS Equipment by an Electric Spark Method

PERIODICAL: Vestnik svyazi, 1959, Nr 8, p 9 (USSR)

ABSTRACT: This brief item deals with the effectiveness of an electric spark method of depositing precious metals on the contact of automatic telephone station (ATS) equipment in order to reduce the noise level in talk circuits. The method is described in an article by N.P. Belopitov, Chief of the Nauchno-issledovatel'skiy institut svyazi narodnoy respubliki Bolgarii (Scientific-Research Institute for Communications of the Bulgarian People's Republic) (Vestnik svyazi, 1959, Nr 8, pp 7-9). The author states that about 80% of the defects which caused noise could be traced to the formation of an oxide coating on equipment contacts. Experiments conducted at the Proizvodstvennaya laboratoriya moskovskoy GTS (Production

Card 1/2

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SOV/111-59-8-9/30

The Effectiveness of Depositing Precious Metals on the Contacts of ATS Equipment by an Electric Spark Method

Laboratory of the Moscow GTS) showed that depositing a layer of precious metal on relay and other contacts by the indicated method led to considerable reduction in noise and crackle in the talk circuits. The author describes tests conducted at the B-7 ATS in Moscow in 1958 for measuring the effectiveness of this method. Results are tabulated. The life of contacts thus treated was found to be significantly longer than those not treated, though measurement of this lengthened serviceability was not possible. The tests showed that noise level and interference decreased 30-100 times after treatment. The author concludes that this method should be used more widely, both in other ATS and in the manufacture of new contacts. There are 2 tables.

ASSOCIATION: Proizvodstvennaya laboratoriya moskovskoy GTS (Production Laboratory of the Moscow GTS)

Card 2/2

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, L.I.

Automation of checking and preventive maintenance operations in automatic telephone exchanges. Vest. sviazi 22 no.9:11-13 S '62. (MIRA 15:9)

1. Nachal'nik proizvodstvennoy laboratorii Moskovskoy gorodskoy telefonnoy seti.

(Telephone, Automatic)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

IVANOVA, Ol'ga Nikolayevna; KOKHANOVA, Zoya Sergeyevna;
SAGALOVICH, L.I., otv. red.; BATRAKOVA, T.A., red.

[PS-KE-100 crossbar-type electronic telephone substation]
Koordinatno-elektronnaia telefonnaia podstantsiia PS-KE-100.
Moskva, Izd-vo "Sviaz'," 1964. 111 p. (MIRA 17:4)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

VREDEN-KOBETSKAYA, T.O.; SAGALOVICH, N.M.

Index of articles published in "Uspekhi fizicheskikh nauk," vols. 1-75 (1918-1961). Usp. fiz. nauk 75 no.4:629-789 D '61. (MIRA 14:11)

(Physics--Bibliography)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, N.M.

Preparing indexes for journals of abstracts by machine. NTI no.6:18-20 '63. (MIRA 17:1)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, N.M.

Growth trends in the number of scientific publications.
NTI no.10:3-4 '63. (MIRA 17:1)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, N.M.

Subject-author index according to the system of the scientific and methodological department of the All-Union Institute of Scientific and Technological Information. NTI no.8:27-29 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, N.M.

Linear models of information chains. NTI no.7:19-24 '65. (MIRA 18:9)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, S.Ya.

The SM-36 device for checking bearing rings. Izm.tekh. no.10:47-48 O '65. (MIRA 18:12)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

34.4300

S/020/62/144/006/009/015
B108/B102

AUTHORS: Prudnikov, A. G., and Sagalovich, V. N.

TITLE: Statistical description of a turbulent current

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 6, 1962, 1258-1261

TEXT: A turbulent jet carried along in a current is described statistically. The mean velocities at the interfaces of the two currents are assumed to be equal. Density (temperature) is assumed to have a discontinuity. The diffusion of a turbulent current can then be described by the equations for conservation of mass and momentum as derived from the transfer and momentum equations (A. N. Kolmogorov, UMN, no. 5 (1938)). The dispersion of the initial velocity and temperature profiles is described with the aid of the Taylor equation:

$$d\sigma^2/2dx \simeq \frac{D_o + D_T(x)}{\bar{u}_{av}(x)},$$

where D is the coefficient of turbulent diffusion. If the dispersion of these quantities and their interrelation is known, it is possible to

Card 1/2

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describe the current with the aid of only one parameter (e.g. temperature dispersion along flow axis). There are 3 figures.

PRESENTED: February 5, 1962, by G. I. Petrov, Academician

SUBMITTED: January 30, 1962

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L 40014-66 EWT(1)/EWP(m)

ACC NR: AP6017828 (N) SOURCE CODE: UR/0147/66/000/002/0059/0067

4/6
B

AUTHORS: Zamyatina, N. A.; Prudnikov, A. G.; Sagalovich, V. N.

ORG: none

TITLE: Diffusion parameters of a turbulent jet

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 2, 1966, 59-67

TOPIC TAGS: turbulent jet, gas diffusion, parameter, turbulent mixing, gas density, wake, wake flow

ABSTRACT: A jet which escapes from a circular opening of radius a_0 into a wake of velocity V_1 is examined. The density of the gas of the wake is ρ_{01} and its temperature T_{01}; the corresponding parameters of the jet are V_2, ρ_{02}, and T_{02}. A model of the jet-wake (black-white) mixing is used (see Fig. 1). The probabilities of the appearance of black and white gas are calculated; these probabilities can be interpreted as the average fractions occupied by volumes of black and white gases in a space about a certain point. A model of grey mixing is also examined. If the diffusion parameters are known, then the temperature profiles can be found by examining the process of grey mixing with a given dispersion. It is found difficult to say a priori at what values of the velocity and temperature ratios m and n mixing will be optimal.

UDC: 532.517.4

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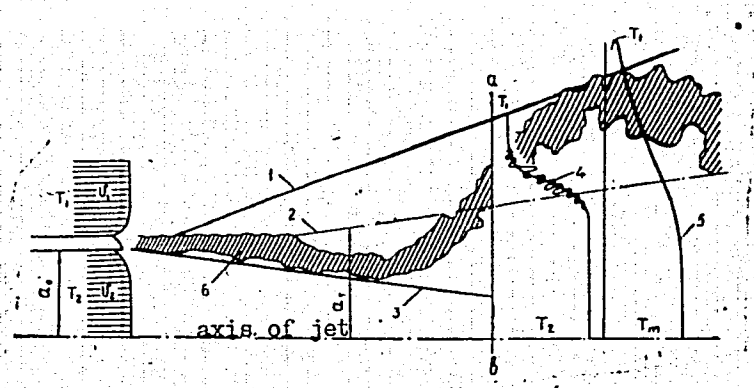

Fig. 1. Physical model of jet mixing (case of unique interface): 1 - external boundary of jet; 2 - mean statistical boundary of jet; 3 - internal boundary; 4 - "instantaneous" temperature profile averaged over samll-scale pulsations; 5 - time average of temperature profile; 6 - layer of molecular mixing.

Orig. art. has: 15 formulas, 1 diagram, and 5 graphs.

SUB CODE: 20/ SUBM DATE: 22Jan65/ ORIG REF: 004/ OTH REF: 005

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APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

KHRUSTALEVA V.N.; PAPKOVA, K.V.; DAVYDOV, A.A.; BELOV, B.I.; SAGALOVICH, V.R.; KOZLOV, V.V., prof., red.; ISAYEVA, E.N., red.

[Organic chemistry] Organicheskaia khimiia. Moskva. Pts.1-2. 1965. (MIRA 18:12)

1. Moscow. Institut narodnogo khozyaystva. Kafedra organicheskoy khimii.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

KOZLOV, V.V.; SAGALOVICH, V.P.

Reaction of primary aromatic amines with heteropoly acids.
Izv.vys.ucheb.zav.; khim.i khim.tekh. 8 no.4:609-614 '65.
(MIRA 18:11)

1. Moskovskiy institut narodnogo khozyaystva imeni Plekhanova, laboratoriya organicheskoy khimii.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

AUTHORS: Ul'yanova, N. V., Candidate of Technical Sciences
Sagalovich, V. V., Engineer. 129-7-1/16

TITLE: On the distribution of carbon bordering on the welding seams in austenitic steels of the type 18-9. (O raspredelenii ugleroda v okoloshovnykh zonakh svarnykh soyedineniy iz austenitnykh staley tipa 18-9).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.7, pp. 2-7 (U.S.S.R.)

ABSTRACT: According to practical experience welds get damaged mostly near to the lines of fusion of the basic metal with the metal of the seam. In the case of high temperature steels stabilised with titanium or niobium "knife-edge" corrosion develops along the fusion line. The structural state of the metal at the fusion line has been studied relatively little and, therefore, the authors investigated the distribution of the carbon near the fusion line by means of the autoradiography method. The experiments were carried out on commercially produced 5 mm thick sheet steel 1X18H9T introducing the radio-active C^{14} by means of carburisation. The steel was heated for 24 hours at 1000 C inside barium carbonate containing considerable quantities of the isotope and for obtaining a more uniform distribution of the radio-active carbon it was subjected to a 7 hour diffusion annealing at 1200 C. Following that strips

Card 1/3

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On the distribution of carbon bordering on the welding seams in austenitic steels of the type 18-9 (Cont.)

129-7-1/16

about 30 mm wide were welded together by means of an argon arc, the weld gap being 1.5 to 2 mm and using a 1 mm dia 0X18H9 wire as electrode wire. Some of the autoradiography pictures produced from the welds after various heat treatments are produced in the paper (Figs. 1-4) and in Fig.5 the weight loss of various specimens submerged for various durations in a boiling 65% solution of nitric acid are plotted. The authors conclude that investigation by autoradiography using C^{14} enables to evaluate the macroscopic character of the carbon distribution in weld seams and in the near weld zones of type 18-9 Cr-Ni austenitic steels. Directly after welding a certain carbon enrichment is observed in a zone of a width of about 0.7 mm in the base metal adjoining the fusion line. Tempering for 2 to 5 hours of the weld joints at 650 and 850 C intensifies the non-uniformity in the carbon distribution. The highest corrosion stability of weld joints of 1X18H9T steel is obtained during austenization of joints, since this brings about a uniform distribution of the carbon in the base metal as well as in the fused-on metal; subsequent heating of austenized joints does not lead to a macroscopic redistribution of the carbon. It can be

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

S/135/60/000/009/003/015
A006/A002

AUTHORS: Krasulin, Yu. L. and Sagalovich, V. V., Engineers

TITLE: Welding With Consumable Electrodes of Thin Stainless Steel Sheets in a Mixture of Carbon Dioxide and Argon

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 9, pp. 10-11

TEXT: In gas-electric welding with consumable electrodes the shielding gas must ensure the lowest possible value of the critical current density, required for the jetlike or fine-dropped transition of the metal in the arc, providing for a stable arc discharge. Differing from single-atom inert gases, such as helium or argon, carbon dioxide dissociates in the high-temperature zone of the arc, forming carbon monoxide and oxygen. As a result exothermic reactions occur in the welding pool producing additional heat which has a positive effect on the formation of the seam. Satisfactory penetration and a smooth outline of the seams welded in carbon dioxide approach them to those welded in helium. The authors developed a method for gas-electric welding with consumable electrode on a standard machine and a wire of over 1.0 mm, using a mixture of carbon dioxide and argon (CO_2 = 70 ÷ 50%; Ar = 30 ÷ 50%). This mixture reduces the

Card 1/2

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S/135/60/000/009/003/015
A006/A002

Welding With Consumable Electrodes of Thin Stainless Steel Sheets in a Mixture of Carbon Dioxide and Argon

critical density of the current, stabilizing the burning of the arc and ensuring the fine-dropped metal transition at a current density of about 60 amps/mm^2 in welding on reversed polarity and of 40 amps/mm^2 in welding on straight polarity. The formation of the bead built-up with a consumable electrode in an Ar-CO_2 mixture is similar to that formed in carbon dioxide. Grade "1X18H9T" (1Kh18N9T) steel of 2.5 mm thickness welded with a "0X18H9" (OKh 18N9) wire of 1.2 mm in diameter, was subjected to mechanical tests, which showed high mechanical and anti-corrosion properties of the steel. The authors used an "АДС-1000-2" (ADS-1000-2) automatic machine with a nozzle designed by TsNIITMASh. An additional controllable resistance in the form of a 240-ohm slide rheostat was used for the accelerated electrode feed. The gas conduct system is illustrated in Figure 2. The carbon dioxide gas was dehydrated in a drying device designed by VNIIAVTOGEN, filled with roasted blue vitriol. A generator with rigid characteristics is recommended as a feed source. There are 2 figures and 1 table.

Card 2/2

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L 27430-66 EWP(e)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/EWP(t)/ETI IJP(c) JD/WW/JG/AT

ACC NR: AP6017687 WH SOURCE CODE: UR/0363/65/001/008/1345/1348

AUTHOR: Sagalovich, V. V.; Volkova, G. A.

ORG: none

TITLE: Contact reaction of titanium with niobium on graphite

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 8, 1965, 1345-1348

TOPIC TAGS: titanium, niobium compound, graphite, carbide, molten metal, hardness, solid solution

ABSTRACT: The present study presents the results of an experimental investigation on the reaction of titanium with niobium carbide deposited as a thin film on graphite. The experiments were carried out on cylindrical graphite test specimens of 1.75 g/cm^3 density, coated with niobium carbide from the gas-vapor phase. Thickness of the film was 40-60 microns. Its chemical composition was close to stoichiometric NbC. The test specimen with a technically pure titanium wafer laid on its plane was set vertically in a cylindrical graphite container which was heated by high-frequency current from an LZ-207 unit. The heating was done in a quartz container in a composition "A" argon medium. The investigation was carried out over the temperature interval 1850-2300°C with holding times ranging from 8 seconds to 30 minutes. The heating and cooling rates above 1500°C were 40-50 deg/sec. The molten Ti, spreading along the surface of the test specimen, forms a 50-80 micron-thick film. A partial dissolution of the film occurs

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L 27430-66

ACC NR: AP6017687

in liquid Ti whereupon the Nb and C content in the melt rises with a rise in the specimen heating temperature. This is confirmed by the results of microradiographic analysis. Saturation of the Ti melt by Nb takes place in the first few seconds of holding at the given temperature and changes but little with an increase in the heating period. Saturation of the melt with C leads to the formation of a carbide phase. The buildup of the film of the new phase with isothermal holding attests to the continuous influx of C into the melt. A metallic interlayer with a microhardness of 230-300 kg/mm^2 appears at the same time between film building up of the carbide phase and coating. The appearance of multilayer structure during the reaction of the Ti melt with niobium carbide can be explained by the processes directed towards the establishment of phase equilibria in the system. A comparison of the results of analyses of the structures of specimens rapidly cooled in a stream of inert gas with the phase diagram makes it possible to state that the carbide phase formed as the result of C diffusion is a δ-phase on a base of Ti-Nb carbide, and the metallic interlayer between the δ-phase and coating has a two-phase structure of a solid solution of Ti and Nb (β-phase) with fine impregnations of carbide. The metallic phase is bordered by an Nb_2C layer (γ-phase). The growth of the δ-phase layer is accompanied by an increase in the β-solid solution layer. This indicates that the quantity of C entering into the graphite coating does not fully compensate its expenditure for the formation of the growing -phase, i.e., the growth rate of the latter exceeds the C diffusion rate in the niobium carbide. In the present paper, the kinetics of this process were studied at 1850, 1975

Card 2/3

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ACC NR: AP6017687

and 2200°C with holding times ranging from 8 seconds to 30 minutes. Measurements of the thickness of the carbide layer were carried out on transverse microsections. The values for the thickness of the carbide layer in the coordinates $\delta^2 - \tau$ can be satisfactorily superposed on a straight line. The temperature dependence of the carbide phase growth coefficient by analogy with normal diffusion processes should have an exponential character. The closeness of the distribution of the points on the graph lg k - I/T to a linear dependence supports the validity of the exponent for the studied process. The activation energy of the carbide phase growth process is 45,700 cal and the factor $k_0 = 1.805 \cdot 10^{-3}$ cm^2/sec. The influx rate of the C into the carbide phase is calculated roughly by proceeding from the growth rate of this phase and carbon content in it.

Calculations indicate that the growth rate of the δ-phase at the studied temperatures somewhat outstrips the influx of carbon from the graphite into the niobium carbide layer; with a rise in the heating temperature this gap increases which points to a growth in the thickness of the β-phase layer.

Orig. art. has: 4 figures and 3 formulas. [JPRS]

SUB CODE: 11, 07, 20 / SUBM DATE: 27Feb65 / ORIG REF: 008 / OTH REF: 001

Card 3/3

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

L 26669-66 EWT(m) JD/JG

ACC NR: AP6010407 SOURCE CODE: UR/0126/66/021/003/0403/0408

AUTHORS: Matyushenko, N. I.; Rozen, A. A.; Sagalovich, V. V.

ORG: none

TITLE: Morphology and texture of molybdenum and tungsten carbonyl deposits

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 3, 1966, 403-408

TOPIC TAGS: molybdenum, tungsten, metal deposition, x ray diffraction, temperature dependence, thermal decomposition

ABSTRACT: The morphology and textures of deposits obtained in thermal decomposition of molybdenum and tungsten carbonyls were studied over the temperature range from 150--1050C. The carbonyl specimens were prepared after the method of A. A. Rozen (Ukr. khim. zhurnal, 1959, 25, 735). X-ray diffraction patterns and particle size of the deposits, obtained at different temperatures of the deposition surface, were determined (see Fig. 1). It was found that there exist two morphological transition temperatures, at 250 and 750C and 350 and 800C for Mo and W respectively. The first transition temperature is related to the rupture of carbonyl molecule and the second to the condensation from supercooled liquid or, at higher temperature (i.e., $T > \theta_2$), to the formation of crystal nuclei. The authors thank L. S. Palatnik for valuable advice and V. G. Yegorychev for assisting in the experimental work.

Card 1/2 UDC: 669.27/28

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L 26669-66

ACC NR: AP6010407

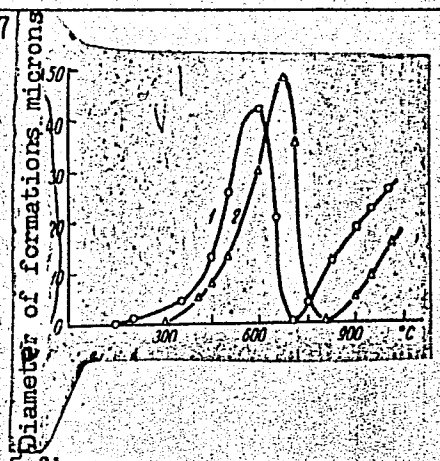

Fig. 1. Dependence of mean sizes of drop-like and crystal formations on the temperature of the deposition surface. 1 - molybdenum, 2 - tungsten.

Orig. art. has: 5 figures.

SUB CODE: 11,20/ SUBM DATE: 08Feb65/ ORIG REF: 007

Card 2/2 BLG

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

GUR'YAN, Ye.V., kand.med.nauk; SAGALOVICH, V.Ya.

Method of "washing through a fistula" in surgery of tuberculous spondylitis. Probl. tub. no.2:47-51 '65. (MIRA 18:12)

1. Kostno-khirurgicheskoye otdeleniye (zav. - prof. Ye.N. Stanislavleva) Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza (direktor - kand.med.nauk T.P. Mochalova, zamestitel' direktora no nauchnoy chasti - prof. D.D.Aseyev) Ministerstva zdravookhraneniya RSFSR.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, E. N.

Seedlings

Introduce new methods of seeding cultivation. Sad i og. no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952, Uncl.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

YELENEV, A.V., inzhener; ZHUYKO, I.S., ekonomist; MUSHNIKOVA, K.S., agronom; NIKIFOROV, A.M., agronom; SAGALOVICH, Ye.N., agronom; SLOBODCHIKOV, D.D., agronom [deceased]; MOROZOV, D.N., redaktor [deceased]; BALLOD, A.I., tekhnicheskiy redaktor

[Agronomist's handbook and calendar] Kalendar'-spravochnik agronoma. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 346 p. (MLRA 10:2)
(Agriculture--Handbooks, manuals, etc.)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Ye. N.

USSR/Cultivated Plants - Potatoes. Vegetables. Melons. etc. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15605

Author : Ye. N. Sagalovich

Inst : -

Title : Raising Potatoes in the Chinese People's Republic. (Kul'tura kartofelya v Kitayskoy Narodnoy Respublike).

Orig Pub : Kartofel', 1957, No 2, 93-95

Abstract : The methods of cultivating potatoes in China are described. Many of these are of interest to the southern rayons of the USSR: the compressing of potato plantings with corn and cotton (the average potato yield is 22.4 tons per hectare, the corn grain yield averages 36 centners per hectare); the double yielding potato crop. To Control potato degeneration the seed potato harvest is used up to or during the flowering period. Young tubers are employed in summer planting. Potatoes are germinated prior to sowing as well as having the tubers

Card 1/2

66

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

USSR/Cultivated Plants - Potatoes, Vegetables, Melons. M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10820

Author : Sagalovich, Ye.
Inst : -
Title : Vegetable Growing in the Chinese People's Republic.

Orig Pub : Sots. s. kh. Azerbaydzhana, 1957, No 5, 53-60

Abstract : No abstract.

Card 1/1

19

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Ye.N.; SERGEYEV, V.I., red.; SOKOLOVA, N.N., tekhn.red.

[Growing vegetables under glass; achievements of science and progressive practices] Ovoshchevodstvo zashchishchennogo grunta; dostizheniia nauki i peredovoi opyt. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1958. 445 p. (MIRA 12:4)
(Vegetable gardening)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

KUZNETSOV, A.V.; SAGALOVICH, Yelizaveta Naumovna

[Vegetable gardening in China] Ovoshchevodstvo v Kitae. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 359 p. (MIRA 13:7)
(China--Vegetable gardening)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Ye., agronom

Synthetic films. Nauka i pered.op.v sel'khoz. 9 no.11:20-22 N '59. (MIRA 13:3)

(Hotbeds)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

AUTHORS: Lazarev, V. G., Sagalovich, Yu. L. (Moscow) 103-19-5-8/14

TITLE: On a Certain Type of Commutation Circuits (Ob odnom tipe kommutatsionnykh skhem)

PERIODICAL: Avtomatika i Telemekhanika, 1958, Vol. 19, Nr 5, pp. 464-467 (USSR)

ABSTRACT: Beside the general methods for the synthesis of relay--contact-circuits (References 1-4) special methods for individual types of circuits exist by means of which the projection of the circuit can be considerably simplified and accelerated. Such a method for the construction of a commutator is suggested here. This method uses some data from group theory. The problem of the construction of a commutator arose in connection with the elaboration of the machine for the synthesis of the contact circuit (Reference 6) which models the cascade-method (Reference 3) (graphical method - Reference 4). The type of commutation circuits investigated here is a circuit of the recomputation of dual numbers in various permutations of their place. The method of synthesis based upon the employment of the

Card 1/2

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group-permutation-theory yields the possibility of obtaining optimum circuits with a small expenditure of energy in their composition. The formula for the computation of the number of contacts necessary for the construction of the investigated commutation circuits is given. There are 2 figures and 7 references, all of which are Soviet.

SUBMITTED: July 8, 1957

AVAILABLE: Library of Congress

1. Mathematical computers--Circuits

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Yu.L.

Limiting of the number of variations in a switching circuit. Probl. pered. inform. no.4:115-123 '59. (MIRA 13:7)
(Switching theory)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

LAZAREV, V.G.; SAGALOVICH, Yu.L.

Commutator of a machine for synthesis of switching circuits. Probl. pered. inform. no.4:124-132 '59. (MIRA 13:7)
(Telephone, Automatic) (Switching theory)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

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E081/E335

16.6800

16

AUTHOR: Sagalovich, Yu.L. (Moscow)

TITLE: A Measure of the Orderliness of a Boolean Function

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avotmatika, 1960, Nr 1, pp 70-75 (USSR)

ABSTRACT: The paper deals with switching circuits (defined as circuits that realise Boolean functions - relay switching circuits being one particular class). The treatment is an expansion of an observation by Shannon that most Boolean functions are equivalent to very complex circuits, whereas most circuits are simple (because the logical functions they have to perform are simple). Three theorems are stated (without proof - a few brief remarks are made about how the proof may be developed). The measure resulting from these theorems is that a function is orderly if there are k equally probable results from that function of n variables, with $k < 2^n$. Six simple examples of such functions are given. The paper concludes with a brief discussion of the result of transmitting an orderly function through a communication channel having a high noise level.

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E081/E335

A Measure of the Orderliness of a Boolean Function

Acknowledgments are expressed to G.N. Povarov, M.L. Tsetlin and V.I. Shestakov for their useful comments. There are 13 references, 4 of which are English and 9 Soviet.

SUBMITTED: August 3, 1959

Card 2/2

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

~~8(2)~~ 6.9000

AUTHOR: Sagalovich, Yu. L.

SOV/20-130-1-19/69

TITLE: On the Number of Symmetry Types of the Contact (1,k) Poles

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 72-73 (USSR)

ABSTRACT: The totality of the $2^n n!$ substitution $Q \times Q$ matrices A_T will be a Γ-representation of the group O_n which is reducible and contains the identical representation as many times as types of (1,k)-poles are present. The number of types of the (1,k)-poles is $N_{n,k} = \frac{1}{2^n n!} \sum_c n_c \chi(c)$, where n_c denotes the number of elements of class C, $\chi(c)$ the character of class C of the group O_n in Γ-representation. If $(t_1, t_2 \ldots t_\nu)$ is the cyclic structure of the substitution $t(\nu < 2e^{n/e})$, i.e., if $\sum_{i=1}^{\nu} it_i = \mu$; $\sum_{i=1}^{m} ib_i = k$ $(m = 1, 2, \ldots, k)$, $a \in C$, then $\chi(c) = \sum \prod c_{t_i}^{b_i}$. In this case the sum is taken by means of all

Card 1/4

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expansions of $b_1, b_2, \ldots, b_m$ $(m=k)$ in positive summands, and $C_{t_i}^{b_i}$ is computed only for those i which satisfy the condition $b_i \leqslant t_i$. In determining the cyclic structure $(t_1, t_2, \ldots, t_r)$ the fact is taken into account that the constituents of the unity are in the same relation to all functions of the logical algebra as the variables to the constituents. If therefore a certain cycle $(x_{i_1} x_{i_2} \ldots x_{i_p})$ causes a substitution of 2^p constituents of the type $\tilde{x}_{i_1} \tilde{x}_{i_2} \ldots \tilde{x}_{i_p}$ with the cyclic structure $(S_1, S_2, \ldots, S_p)$, the cycle $(\sigma_{i_1} \sigma_{i_2} \ldots \sigma_{i_p})$ causes the substitution of all 2^p Buhl functions of the form $\bigvee_{j=1}^{p} \sigma_{i_j}^{\varepsilon_j}$ (where usually $\varepsilon_j = 1$ or 0).

For the cyclic structure of $\bigvee_{j=1}^{p} \sigma_{i_j}^{\varepsilon_j}$ it holds:

Card 2/4 $(\lambda_1, \lambda_2, \ldots, \lambda_p)$ and $\lambda_1 = S_1$, $\lambda_2 = S_2, \ldots, \lambda_p = S_p$. The expression

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$P(p) = \sum_{j=1}^{p} \lambda_j \tau_j$ is attributed to the cyclic structure $(\lambda_1, \lambda_2, \ldots, \lambda_p)$. The cyclic structure of the substitution t is then characterized by the expression

$$P = \prod_q P(p_q) = \prod_q \left(\sum_{j=1}^{p_q} \lambda_j \tau_j\right) = t_1' \tau_1 + t_2' \tau_2 + \ldots + t_v \tau_v \text{ with}$$

$t_1' = t_1 + 2$, $\sum_q p_q = 2^n$, $\tau_{j_1} \tau_{j_2} = j_1 j_2 / j_3 \cdot \tau_{j_3}$ where j_3 is the least common multiple of the figures j_1 and j_2.

The computations yielded the following numerical results:

n	k=1	k=2	k=3	k=4
2	4	19	51	154
3	20	993	62334	3626757
4	400	5883751	122520509746	2001547791980875

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On the Number of Symmetry Types of the Contact (1,k) Poles SOV/20-130-1-19/69

An arbitrary (1,k)-pole with n variables transforms n-valued code combinations into k-valued ones. For this reason $N_{n,k}$ with $k < n$ denotes also the number of types of transformations which are similar to the processes for deciphering the combinations of the excess code. It can easily be proven that $N_{n,k} \sim \frac{Q}{2^n n!}$.

There are 2 references, 1 of which is Soviet.

ASSOCIATION: Laboratoriya sistem peredachi informatsii Akademii nauk SSSR (Laboratory of the Systems for the Transmission of Information of the Academy of Sciences of the USSR)

PRESENTED: April 10, 1959, by V. S. Kulebakin, Academician

SUBMITTED: April 10, 1959

Card 4/4

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

30112
S/194/61/000/007/022/079
D201/D305

16,9000 (1031,1250,1329)

AUTHOR: Sagalovich, Yu.L.

TITLE: Number of types of symmetry of switching (1,k) - terminal networks

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 52, abstract 7 V386 (V sb. Probl. peredachi inform., no. 6, M., AN SSSR, 1960, 82-96)

TEXT: Single type is the designation given to the boolean functions of n variables when they are obtained from each other by substitution of variables and (or) by the inversion of some of them. The idea is introduced of single-type switching m - terminal networks which are obtained by the substitution of variables and (or) by inversion of some of them and (or) by remembering (substitution) of poles. The method and formulae are given permitting the number $N_{n,k}$ of types of (1,k)-terminal networks of n variables to be determined. The results are given of evaluating the number of types of

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Number of types...

n and k equal to 2, 3 and 4. E.g. $N_{2,2} = 19$, $N_{3,2} = 993$ and $N_{4,2} = 5883751$. The cataloguing of types of (1,k)-terminal networks may be possible and useful for small n and k. 7 references. [Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Yu. L.

PHASE I BOOK EXPLOITATION SOV/5741

Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii.

Problemy peredachi informatsii. vyp. 8: Postroyeniye skhem releynogo deystviya (Problems of Information Transfer. v. 8: Designing of Relay Circuits) Moscow, Izd-vo AN SSSR, 1961. 151 p. Errata printed on the inside of back cover. 2,600 copies printed.

Resp. Ed.: V. N. Roginskiy; Deputy Resp. Ed.: V. G. Solomonov; Tech. Ed.: L. V. Yepifanova.

PURPOSE: This collection of articles is intended for scientific and technical personnel concerned with the transfer of information.

COVERAGE: The book contains eight reports on the designing of relay systems. The reports were submitted by scientific workers of the Laboratoriya sistem peredachi informatsii Akademii nauk SSSR (Laboratory of Information Transfer Systems, AS USSR) to the seminar of the laboratory.

Card 1/7

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

TABLE OF CONTENTS:

Foreword 3

Lazarev, V. G., C. A. Oganov, and V. H. Roginskiy. Fundamentals in Designing a Contactless Computer for the Synthesis of Relay Switching Circuits 5

The basic principles in designing individual contactless units of a special-purpose high-speed computer used for the synthesis of relay switching circuits are presented. Submitted 12/26/1959.

Arkhangel'skaya, A. A., V. G. Lazarev, and Ch'en Chun-liang. Concerning the Complexity of Realizing Boolean Functions by Switching Circuits 20

In the graphic designing of (1,k)-terminal switching circuits the number of contacts in individual relay is evaluated. The complexity problem in the realization of Boolean functions by switching circuits is reviewed. The upper bound of the number of contacts for relays of a universal (1,k)-terminal network realizing all the set-ups of k Boolean functions of

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of n variables is discussed; the upper and lower bounds of the number of contacts for the relays of a pseudo-universal (1,k)-terminal network which does not realize all the set-ups of k Boolean functions of n variables are obtained. Methods for determining the "capacity" of a computer for the synthesis of switching circuits are proposed on the basis of upper and lower bounds of the number of contacts in the relays of an (1,k)-terminal network. Submitted 5/17/1960.

Ch'en Chün-liang. Concerning the Evaluation of Switching-Circuit Complexity 45

Propositions presented in the preceding article are developed. The problem of evaluating the complexity of switching (1,k)-terminal networks when the graphic method is used in designing circuits, is examined. Formulas for calculating fractions of the set-ups (i.e., the ratio of the number of occurrences of specific functions to the total number of the occurrences of functions) of k Boolean functions of

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n variables are derived for the case when they are realized by a given number of branches and contacts in a single cross section, as well as by a definite number of contacts in the circuit as a whole. In the second instance the fact that the occurrence of Boolean functions on the cross section is not of equal probability is taken into account. Submitted 4/16/1960.

Roginskiy, V. N. Graphic Designing of Switching Circuits With Bypass Paths 67

General methods are presented for the transformation of set-up numbers for a graphic synthesis of multi-terminal switching networks, taking into account bypass paths which are formed in connection with the construction of direct deductions. A method is given for clarifying different variants arising from the nonsinglevaluedness of the set-ups during the construction of direct deductions. Submitted 2/17/1960.

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2

Problems of Information Transfer (Cont.) SOV/5741

Ch'en Ch'in-liang. Concerning the Distribution of Probabilities of Occurrence of Boolean Functions 74

The article discusses the problem of variation in probability distribution of the occurrence of Boolean functions passing from one cross section to another in the presence of direct deductions when the switching circuits are designed by the graphic or symbolic method. Formulas are derived for calculating the probability of occurrence of Boolean functions in various cross sections, provided the probability distribution of their appearance on zero cross section is known. Submitted 3/12/1960.

Sagalovich, Yu. L. The Measure of Ordering of a Boolean Function 88

On the basis of the results of writing switching circuits in the form of Boolean functions, the value k is introduced as a minimum number of set-ups of variable values sufficient for identifying a Boolean function.

Card 5/7

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Methods of calculating this value which utilize the properties of various classes of Boolean functions, as well as methods of evaluating it, are given. The method of designing the inertia group of a Boolean function is completed, and a scheme is designed which permits a) carrying out group transformations of Boolean functions; b) constructing equivalent (in the sense of noiseproofness) uniform codes.
Submitted 6/26/1959.

Lazarev, V. G., and O. A. Ogarev. Graphs-Analytical Method of the Synthesis of Contactless Relay Circuits 109

The method of plotting a block-diagram with parametric relationships of a logical (1,k)-terminal network which realizes Boolean functions using logical gates AND, OR, and NOT, is studied.
Submitted 2/17/1960.

Maystrova, T. L., and V. N. Roginskiy. Relay Circuits With Parametric Relationships and Many-Valued Logic 121

Operating conditions of a relay in a circuit with parametric relationships are examined. It is

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Problems of Information Transfer (Cont.) SOV/5741

demonstrated that the proposed apparatus of many-valued logic may serve for describing the operation and equivalent transformations of such circuits. Submitted 2/5/1960

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SAGALOVICH, Yu.L.

Measure of the order of Boolean functions. Probl.pered.inform. no.8:88-108 '61. (MIRA 14:6)
(Boolean functions) (Switching theory)

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33511

S/562/61/000/009/011/012
D201/D302

6.9000 (1009)

AUTHOR: Sagalovich, Yu. L.

TITLE: The number of types of equivalent matrices

SOURCE: Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii. Problemy peredachi informatsii. No. 9, 1961, Elementy sistem avtomatiki, 218-229

TEXT: The author suggests a method of determining the number of types of equivalent matrices which could be used in evaluating the probability of losses in two-cascade switching circuits. Let b_α matrices $\|s_{ij}\|$ $i = 1,2,\ldots,k$ be given; $j = 1,2,\ldots,m$; $s_{ij} = 0$ or 1,

$$0 \leqslant s_{\cdot j} \leqslant 1 \qquad (1)$$

$$0 \leqslant s_{\cdot\cdot} = \alpha \leqslant ml \qquad (2)$$

Card 1/5

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The number of types ...

b_α is given by

$$\sum_{\alpha=0}^{ml} b_\alpha x^\alpha = \left[\sum_{t=0}^{l} C_k^t x^t\right]^m \qquad (3)$$

Matrices $\|s_{ij}\|$ are said to be equivalent if they are obtained from each other by transformation from an $\mathfrak{U}$ group of substitution of rows and columns. The equivalent matrices are those belonging to a single type, i.e. the single-type matrices. The problem consists of determining the number $N_{\alpha,m,l,k}$ of types of matrices (subsequently notation N_α is used). It can be easily checked that group $\mathfrak{U}$ is a direct product of its subgroups S_q and S_m, i.e. $\mathfrak{U} = S_q \times S_m$. The degree of $\mathfrak{U}$ is $q + m$, order $q!\,m!$. Hence to the class (θ, η) of

Card 2/5

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D201/D302

The number of types ...

conjugate elements of group $\mathfrak{A}$ belong all substitutions with a cyclic structure $(\theta_1, \theta_2, \ldots, \theta_q; \eta_1, \eta_2, \ldots \eta_m)$

$$n(\theta, \eta) = n(\theta) \cdot n(\eta) \tag{5}$$

from which $N_{\mathfrak{A}}$ is derived as

$$N_{\mathfrak{A}} = \sum_{\beta=1}^{N_\alpha} \frac{1}{q|m|} \sum_{m/\eta;\, q/\theta} n(\theta, \eta)\, \chi_\beta^\alpha(\theta, \eta) = \frac{1}{q|m|} \sum_{m/\eta;\, q/\theta} n(\theta, \eta) \sum_{\beta=1}^{N_\alpha} \chi_\beta^\alpha(\theta, \eta) =$$

$$= \frac{1}{q|m|} \sum_{m/\eta;\, q/\theta} n(\theta, \eta)\, \chi^\alpha(\theta, \eta), \tag{8}$$

Card 3/ 5

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D201/D302

The number of types ...

where $X^{\alpha}(\theta,\eta)$ is the character of class (θ,η) in Γ-presentation. By proving the following Lemma: There exist 2^d matrices invariant with respect to the bicyclic substitution with cycles $(a_1 a_2 \ldots a_\rho)$ and $b_1 b_2 \ldots b_\tau)$ where $d = (\rho,\tau)$, and by proving the theorem about the values taken by $X^{\alpha}(\theta,\eta)$, the number N of types of matrices $\| s_{ij} \|$ according to all $\alpha = 0,1,\ldots,ml$ is derived as

$$N = \sum_{\alpha=0}^{ml} N_\alpha = \sum_{\alpha=0}^{ml} \frac{1}{qlml} \sum_{m/\eta;\, q/\theta} n(\theta,\eta)\, \chi^{\alpha}(\theta,\eta) =$$

$$= \frac{1}{qlml} \sum_{m/\eta;\, q/\theta} n(\theta,\eta) \sum_{\alpha=0}^{ml} \chi^{\alpha}(\theta,\eta) \qquad (8')$$

Card 4/5

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D201/D302

The number of types ...

Several examples illustrate the method. There are 2 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D. Slepian, Canad. J. Math. 1953, v. 5, no. 2.

SUBMITTED: May 11, 1960

Card 5/5

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Yu.L.

Proof of the minimality of the contact realization of one class of Boolean functions of n variables. Dokl. AN SSSR 139 no.5:1075-1076 Ag '61. (MIRA 14:8)

1. Laboratoriya sistem peredachi informatsii AN SSSR. Predstavleno akademikom B.N. Petrovym.
(Boolean functions)
(Contact transformations)

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37347

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D230/D301

16.0600

AUTHOR: Sagalovich, Yu. L.

TITLE: A measure of orderliness of a Boolean function

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 3, 1962, abstract 3-2-143u (Probl. peredachi informatsii. Vyp. 8. M., AN SSSR, 1961, 88-108)

TEXT: A Boolean function of n variables is fully described when its value for all 2^n sets of variable values is known. For ordered functions, the number of sets for which this function is identified is less than 2^n. A minimum adequate number of k sets is called a measure of orderliness of the Boolean function. Methods of calculating k values are given for various classes of ordered functions: those having group invariance, functionally divided, non-repetitive, etc. Number k is equal to the number of set types (constituents) over the group inertia of the function considered (theorem 1). For the parity counter k = 2; for a symmetrical function k = n + 1; for

Card 1/2

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A measure of orderliness ... S/194/62/000/003/023/066
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an even function $k = [n/2] + 1$; for a section $k = 2^{a-1} + 2^{n-1}$, where $a = [n/2]$ etc. A method of determining the group inertia of the Boolean function is given; a scheme for realizing various substitution variables is introduced with which it is possible to find, in terms of noise stability, uniform binary codes. 20 references. /Abstracter's note: Complete translation./

Card 2/2

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, YU. L.

Dissertation defended at the institute of Automation and Telemechanics for the academic degree of Candidate of Technical Sciences:

"Switching Circuits of the Ordered Type."

Vestnik Akad Nauk, No. 4, 1963, pp. 119-145

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

LAZAREV, V.G.; [illegible]CHUK, O.P.; SAVVIN, G.G.; SAGALOVICH, Yu.[illegible]

Transcription of standard automatic telephony switching circuits. Probl. bered. inform. [illegible]:85-94 '63. (MIRA [illegible]:10)

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MOISIL, Gr. K.[Moisil, Gr.G.], akademik; OSTIANU, V.M.[translator]; SHESTAKOV, V., red.; SAGALOVICH, Yu.L., red.; POTAPENKOVA, Ye.S., tekhn. red.

[Algebraic theory of discrete automatic mechanisms] Algebraicheskaia teoriia diskretnykh avtomaticheskikh ustroistv. Pod red. V.I.Shestakova. Moskva, Izd-vo inostr. lit-ry, 1963. 680 p. Translated from the Rumanian. (MIRA 16:7)

(Electronic computers)
(Logic, Symbolic and mathematical)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

ACCESSION NR: AP4015294 S/0280/64/000/001/0073/0074

AUTHOR: Sagalovich, Yu. L. (Moscow); Sheverdyayev, A. Yu. (Moscow)

TITLE: Constructing a long code out of a short one preserving its error-correction capacity

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 1, 1964, 73-74

TOPIC TAGS: code extension, error correcting code, code error correction capacity

ABSTRACT: This problem is considered: A length n code is given which can correct a certain set of patterns of errors. The construction of a code of much greater length N which would be able to correct the same set of error patterns is required. In practice, it means that by adding a few check symbols, a much longer code preserving its error-correcting ability can be obtained; hence, the rate of transmission and the code capacity can be increased. The mathematical

Card 1/2

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ACCESSION NR: AP4015294

conditions for such code extension are set forth for a cyclic code with a base p. For the case of independent errors, the code length can be increased by d times while its redundancy rises only by $t \log_p d/2$, where t is the number of correctable errors. An attempt to solve the same problem for a binary case made by C. M. Melas, et al. (IBM Res. and Developm., 1963, 7, no. 2, pp. 151-152) is criticized by the authors. Orig. art. has: 6 formulas.

ASSOCIATION: none

SUBMITTED: 04Nov63 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: CO, IE NO REF SOV: 000 OTHER: 001

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L 27860-65 EWT(d)/T/EWP(1) IJP(c)

ACCESSION NR: AT4049768 S/2945/64/000/016/0021/0025

13

B+1

AUTHOR: Blokh, E.L.; Sagalovich, Yu. L.; Sheverdyayev, A.Yu.

TITLE: Codes for correcting and detecting burst errors 16

SOURCE: AN SSSR. Institut problem peredachi informatsii. Problemy peredachi informatsii, no. 16, 1964. Teoriya peredachi informatsii (Theory of information transmission), 21-25

TOPIC TAGS: error correction, burst error, correction code, information transmission, cyclic code, Wyner code

ABSTRACT: The paper discusses two complete solutions to the problem of correcting burst errors where all combinations not exceeding t errors within a burst of length l ($t \ll l$) have to be corrected; $l \ll n$ where n is the length of a code combination. The solutions to the above problem belong to the class of cyclic codes and shortened cyclic codes. The first one was developed by Aaron D. Wyner (IEEE Trans. Information Theory, IT-9, No. 2, 1963) and the second one by the author. The results obtained by the two types of code are compared. It is noted that the two codes are a modification of the Fire codes. Each of the 2 codes shows some advantages but also some weaknesses. In fact, the number of check digits of the author's code consists of $2l-1$ plus the number of check digits which are

Card 1/3

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necessary for detecting t errors in a code of length l. However, in the case of Wyner's code, the number of check digits consists of l plus the number of check digits which is required for correcting t errors in a code of length not less than $2l-1$, or, in other words, which is required for detecting 2t errors in a code of the same length. Thus, generally speaking, Wyner's code contains a somewhat smaller number of check digits than the cyclic code developed by the author. On the other hand, this advantage is not an absolute one as shown by an example where, although the same number of check digits was obtained for both codes, Wyner's code was much longer than the corresponding code developed using the author's method. In general, Wyner's cyclic codes are much longer than the author's codes. For example, for $l = 15$ and $t = 4$, the author's codes give $n = 415$ while for $l = 16$ and $t = 4$ Wyner's codes give a value of n of the order of 2^{21}. In a general form, we have for the author's codes $n \ll (2b-1)l \approx 2l^2$, and for Wyner's codes $n \ll (2l-1)(2l-1) \approx l2^{l+1}$. It is true that we can obtain shortened cyclic codes from long cyclic Wyner's codes; however, in decoding, we cannot use the procedure which is characteristic for cyclic codes. The paper discusses the final (in the sense of redundancy) solution to the problem of detecting burst errors. Orig. art. has: 11 formulas.

Card 2/3

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ACCESSION NR: AT4049768

ASSOCIATION: none

SUBMITTED: 29May63 ENCL: 00 SUB CODE: DP

NO REF SOV: 001 OTHER: 004

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APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVICH, Yu.L.

Cyclic error-correcting codes for uniform bursts of errors. Probl. pered. inform. 1 no.1:117-121 '65. (MIRA 18:7)

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EWT(d)/EWT(1) IJP(c) 23

SOURCE CODE: UR/0406/65/001/002/0027/0035

38
32
B

ACC NR: AP6007531

AUTHOR: Sagalovich, Yu. L.

ORG: none

TITLE: Method of improving the reliability of a finite automaton

SOURCE: Problemy peredachi informatsii, v. 1, no. 2, 1965, 27-35

TOPIC TAGS: system reliability, finite automaton, computer reliability

ABSTRACT: The author proposes an automaton state assignment method which will ensure stability of the automaton both in the case of damage to its internal elements as well as inter-element competition. The method proposed is based on the use of noise-resistant codes and an arrangement of the internal states which has the effect of eliminating critical memory element competitions. Cyclically operating automatons are not considered. Two methods are proposed for coding the internal states of the automaton so as to satisfy the requirements of stability against contests and damage on the part of internal elements, with the latter held to a minimum. The first of these does not consider the logical connections of the automaton states and, although it requires a large number of internal states (n), employs a fairly simple coding procedure utilizing the concept of an Adamar matrix. The second method makes

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SAGALOVSKIY, A. E.

Kinetics of the process of absorption of hydrogen sulfide by iron hydroxide. M. D. Kuznetsov and A. E. Sagalovskii. *Zhur. Priklad. Khim.* 27, 5-11(1954).—To det. the effect of the several factors that enter the kinetics of the reaction a sphere of $Fe(OH)_3$ suspended from a thermocouple was exposed to a current of H_2S of different concns. Since this is one of the reversible, hetrogeneous reactions that leaves a film of the product on the surface, the reaction is kinetic and diffusional. The results indicate that the amt. of H_2S absorbed, Q, is not affected by the rate of flow, i.e. the gas film is not controlling. The rate of absorption, K, is not affected by the surfaces of the sphere, i.e. the reaction takes place on the surface and not in depth. The fact that Q is directly proportional to H_2S concn., C, indicates a 1st-order reaction. $K = Q/CSt = 0.835 \pm 0.001$ cm./sec. over a large range of S and t. On the basis of these facts an equation is derived expressing the kinetics of the reaction as a function of the above factors and the initial and final radii of the sphere and the ratio of H_2S over $Fe(OH)_3$ reacted.

I. Bencowitz

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SAGALOVSKIY, A. E.

USSR.

Kinetics of the process of absorption of hydrogen sulfide by iron hydroxide. M. D. Kuznetsov and A. E. Sagalovskii. *J. Appl. Chem. U.S.S.R.* 27, 3-8(195[redacted]lation).—See *C.A.* 48, 6703*h*. H. L. H.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

USSR/Processes and Equipment for Chemical Industries
Processes and Apparatus for Chemical Technology

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 14186

Author : Kuznetsov M.D., Sagalovskiy Sh.M.

Inst : Department of Chemical Technology, Donets Industrial Institute

Title : Method for Calculation of Hydrogen Sulfide Removal from Gases with Iron Hydroxide

Orig Pub : Tr. Khim.-tekhnol. fak. Donetsk. industr. in-ta, 1956, No 1, 14-18

Abstract : A method is proposed for calculating the dimensions of the absorption equipment that is based on the theory of dynamic activity of solid absorbents and which makes it possible to determine the cross section of apparatus, necessary volume and depth of absorbent layer taking into account the concentration of H_2S in the gas, the hydraulic resistances, activity of absorbent, output of the unit and duration of operation of the unit before re-charging.

- 24 -

Card 1/1

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

SOV/68-58-2-9/20

AUTHORS: Kuznetsov, M.D., Sagalovskiy, Sh.M. and Popova, Ye.V.

TITLE: An Investigation of the Absorption of Ammonia from Coke-oven Gas with Sulphuric Acid in an Injection Type Apparatus (Issledovaniye pogloshcheniya ammiaka iz koksovogo gaza sernoy kislotoy v apparate inzhektsionnogo tipa)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 32 - 34 (USSR)

ABSTRACT: The absorption of ammonia from coke-oven gas in a Ventury type sprayer was investigated. Experiments were carried out in a laboratory apparatus (Figure 1) using two types of Venturi tubes (dimensions are given in the table) at gas velocities 35-91.5 m/sec (Venturi tube 1 - diameter 15 mm) and 35-66.2 m/sec (Venturi tube 2, diameter 30 mm). Specific consumption of the absorbent (saturated solution of ammonium sulphate containing up to 6-6.5% of free acid) was 0.65 litres/m^3 of gas. The influence of gas velocity in the Venturi tube on the degree of absorption is shown in Figure 2. It was found that with increasing gas velocity the degree of absorption increases; the larger tube gave better results than the smaller one. The degree of ammonia absorption reaches 99.8%. The influence of the specific consumption of the absorbent on the degree of absorption was

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SOV/68-58-2-9/20

An Investigation of the Absorption of Ammonia from Coke-oven Gas With Sulphuric Acid in an Injection Type Apparatus

investigated for a range of 0.35-1.1 litres/m^3 of gas at a constant gas velocity of 50 m/sec. The results obtained are shown in Figure 3. It was found that with increasing consumption of the absorbent, the degree of absorption increases and with increasing size of the Venturi tube the degree of absorption also increases. The dependence of the gas velocity in the tube on the pressure loss at a constant consumption of absorbent of 0.65 litres/m^3 is shown in Figure 4. Within the range of velocities from 35 to 66 m/sec the pressure drop amounted to 120 - 320 mm of H_2O. Using two Venturi tubes with the pressure loss of 120 mm per tube, the degree of absorption of 99.4% can be obtained. It is concluded that the investigated type of apparatus can be utilised in the production of ammonia sulphate on coke-oven works. There are 4 figures.

ASSOCIATION: Donetskiy industrial'nyy institut (Donets Industrial Institute)

Card 2/2

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720016-0

Sov/68-59-10-11/24

AUTHORS: Kuznetsov, M.D., and Sagalovskiy, Sh.M., Korobchanskiy, V.I., Lyannaya, Z.G., and Popova, Ye.V.

TITLE: An Additional Dephenolisation of Spent Ammonia Liquor in an Injection Type of Apparatus

PERIODICAL: Koks i khimiya, 1959, Nr 10, pp 37-39 (USSR)

ABSTRACT: After dephenolising spent ammonia liquor with steam in filled scrubbers, the residual content of phenols amounts up to about 0.6 g/litres. The possibilities of an additional dephenolising in an injection type apparatus has been tested on the Makeyevka Works. The apparatus consists of a Venturi tube conveying a stream of steam, into the narrow part of which (throat) spent liquor is injected. The latter is dispersed into fine drops, thus developing a large area of contact between the gaseous and liquid phases. A similar apparatus was used for the dispersion of alkali solution with steam containing phenols which pass into the solution forming phenolates. The diagram of the experimental installation is shown in fig 3. After each venturi sprayer, the separation of gas and vapour phases was done in

Card 1/3

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An Additional Dephenolisation of Spent Ammonia Liquor in an Injection Type of Apparatus

cyclones. The dependence of the degree of dephenolation of water on specific steam consumption at various steam velocities is shown in fig 1. A 77 to 90% dephenolation takes place on changing the consumption of steam from 2 to 5 m^3/litres, whereupon the concentration of phenols in water varied from 0.035 to 0.015 g/litre, ie, a high degree of purification was obtained. Data on the absorption of phenols from steam are given in fig 2. The coefficient of the useful action of the apparatus changes from 82.3 to 87.9% on changes in the steam velocity from 35 to 80 m sec for solutions containing below 6% of phenols. On the basis of the data obtained the degree of dephenolation of water after scrubbers for a system of recirculation of steam was calculated. The basic data: concentration of phenols in the feed water $C_1 = 0.2$ g/litre; the content of phenols in the alkali solution into dephenolising scrubber: $n_1 = 6$, 8 and 10 g/litre; the amount of recirculated steam $V \geq 2.5$ and 5m^3/litre of water. The results are given in the table,

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Sov/68-59-10-11/24

An Additional Dephenolisation of Spent Ammonia Liquor in an Injection Type of Apparatus

where: η - the degree of desorption of phenols from water %; C - concentration of phenols in dephenolised water, g/litre; S - consumption of fresh alkali solution, litre/m^3 of water. The content of phenols in the dephenolised water would be from 0.0247 to 0.0433 g/litre. Pressure drop in the ventury sprayer will be 350-400 mm H_2O. There are 3 figures, 1 table and 4 Soviet references.

ASSOCIATION: Donetskiy industrial'nyy institut (Donets Industrial Institute)

Card 3/3

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58

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24(6) SOV/143-59-5-12/19

AUTHOR: Sagan', I.I., Engineer

TITLE: Increasing the Accuracy of Criterion Relations During Boiling of Liquids in Tubes

PERIODICAL: Izvestiya vysshikh uechebnykh zavedeniy - Energetika, 1959, Nr 5, pp 108-114 (USSR)

ABSTRACT: The phenomena of the boiling processes are very complicated and have been insufficiently studied until the present time. For generalizing experimental data during boiling a number of criterion equations was suggested. The equations of S.S. Kutatelatze [Ref 1], G.N. Kruzhilin [Ref 2], M.A. Kichigin - N. Yu. Tobilevich [Ref 3], and V.I. Tolubinskiy [Ref 4] are the most well-known. The equations of V.I. Tolubinskiy and M.A. Kichigin - N.Yu. Tobilevich were obtained on the basis of a great amount of experimental material during the investigation of the heat loss processes during boilding of water and different solutions inside of tubes. In the resolution of the scientific session of the Kommissiya para vysokikh para-

Card 1/5

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SOV/143-59-5-12/19

Increasing the Accuracy of Criterion Relations During Boiling of Liquids in Tubes

metrov AN SSSR (Commission of High-Parameter Steam of the USSR AS) and Institut teploenergetiki AN SSSR (Institute of Thermal Power Engineering UkrSSR AS) in 1951, the practical advantages of the formula of M. A. Kichigin - N.Yu. Tobilevich and V.I. Tolubinskiy were acknowledged. The equation of M.A. Kichigin - N.Yu. Tobilevich

$$Nu=3.25 \cdot 10^{-4} Pe_{и}^{0.6} Ga^{0.125} Kp^{0.7}$$

is recommended by the authors for the calculation of evaporators. The equation of V.I. Tolubinskiy

$Nu=54K^{0.6}Pr^{-0.3}$ is recommended by the author for determining the heat loss factors of horizontal and vertical evaporators. Until to the present time, there were no experimental data on the heat losses during boiling of highly concentrated sugar solutions in large-diameter tubes under optimal conditions of the boil-

Card 2/5

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