L 41078-66

ACC NR: AT6026550

room temperature and contains, besides austenite, some delta-ferrite and about 30% martensite. The steels with 8—10% Ni are fully austenitic at room temperature. These steels undergo martensitic transformation at -196C or, under the effect of deformation, at room temperature. The steels containing 12—14% Ni undergo martensitic transformation under the effect of deformation only at subzero temperatures. The M_s point for steels with 10 and 12% Ni is -190 and -250C, respectively, and that of steel with 14% Ni is below -253 C. The austenite of 20% Ni steel is completely stable and does not transform to martensite even in liquid hydrogen (-253C). The mechanical properties of all the steels tested depend basically on the martensite content. The martensite present in the initial structure increases the tensile strength and yield strength and decreases the elongation and reduction of area. The martensite formed during testing does not affect the yield strength but increases the tensile strength and lowers the ductility. The notch toughness is beneficially affected by Ni; for instance, steels with 12, 14, and 20% Ni at -80C have a notch toughness of 18—24 mkg/cm^2 compared to 3.5 mkg/cm^2 for steel with 6% Ni. The highest tensile strength, 150 kg/mm^2, and yield strength, 145 kg/mm^2, at an elongation of 5% and a reduction of area of 40%, were obtained in 8% Ni steel after rolling at -196, which resulted in the formation of 70% martensite. Orig. art. has: 7 figures and 1 table. [WW]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5057

Card 2/2 11b

L 37129-66 EWT(d)/EEC(k)-2 GD

ACC NR: AT6006224 (A, N) SOURCE CODE: UR/0000/65/000/000/0259/0268

AUTHOR: Kozlova, N. A.

59
B+1

ORG: none

TITLE: Increasing the efficiency and instrument accuracy of a telemetry system with pulse duration modulation

SOURCE: AN SSSR. Institut avtomatiki i telemekhaniki. Tekhnicheskaya kibernetika (Technical cybernetics). Moscow, Izd-vo Nauka, 1965, 259-268

TOPIC TAGS: telemetry system, pulse duration modulation, signal reception, telemetry receiver

ABSTRACT: The author proposes the use of transformers as tracking threshold devices working as pulse duration selectors. The device is called an exponential receiver of pdm video-pulses. The simplicity and high functional stability of this device makes it possible to increase the instrument accuracy and efficiency of pdm telemetry systems by more than one order of magnitude. A diagram is given showing the components and wiring diagram of the pdm video-pulse exponential receiver. Results show that instrument accuracy can be increased by one order of magnitude if the exponential pdm video pulse receiver is used. This

Card 1/2

L 37129-66

ACC NR: AT6006224

can be accomplished by simple means as compared to the ordinary method of signal reception. The use of exponential video-pulse receivers brings closer the possibility of designing narrow band pdm telemetry systems. Orig. art. has: 11 figures, 1 table, and 31 formulas.

SUB CODE: 09 / SUBM DATE: 05Nov65 / ORIG REF: 002

Card 2/2 af

ANSHELES, I.M. [deceased]; KOZLOVA, N.A.; SAPOZHNIKOVA, V.A.

Sanitary-epidemiological and sanitary-demographic conditions and the effectiveness of compound sanitary and prophylactic measures in the prevention of dysentery. Reports Nos. 1-3. Trudy Len. inst. epid. i mikrobiol. 24:54-81 '63

Epidemiologic significance of migration during the summer months in large populated centers. Ibid.:84-92

(MIRA 18:10)

1. Iz sektora epidemiologii (rukovoditel' I.M. Ansheles) Instituta epidemiologii i mikrobiologii imeni Pastera.

KOZLOVA, N.A.; LEBEDEV, D.V.

Mechanical properties of stainless austenitic steels at -253° C. Metalloved. i term. obr. met. no. 12:47-51 D '65. (MIRA 18:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni Bardina.

KOZLOVA, N.A. (Moskva)

Increasing the accuracy of the equipment of a telemetering system with pulse-width modulation. Avtom. i telem. 26 no.8:1423-1430 Ag '65.

(MIRA 18:11)

L 59278-65 EWT(m)/EWP(t)/ETI(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)
PF-4/Pu-4 IJP(c) JD/HW/JG
ACCESSION NR: AT5016056 UR/2776/65/000/039/0081/0086

AUTHOR: Babakov, A. A.; Kozlova, M. A.; Fedorova, V. I.

TITLE: Stability of austenitic Cr-Mn-Ni solid solutions of stainless steel with nitrogen additions

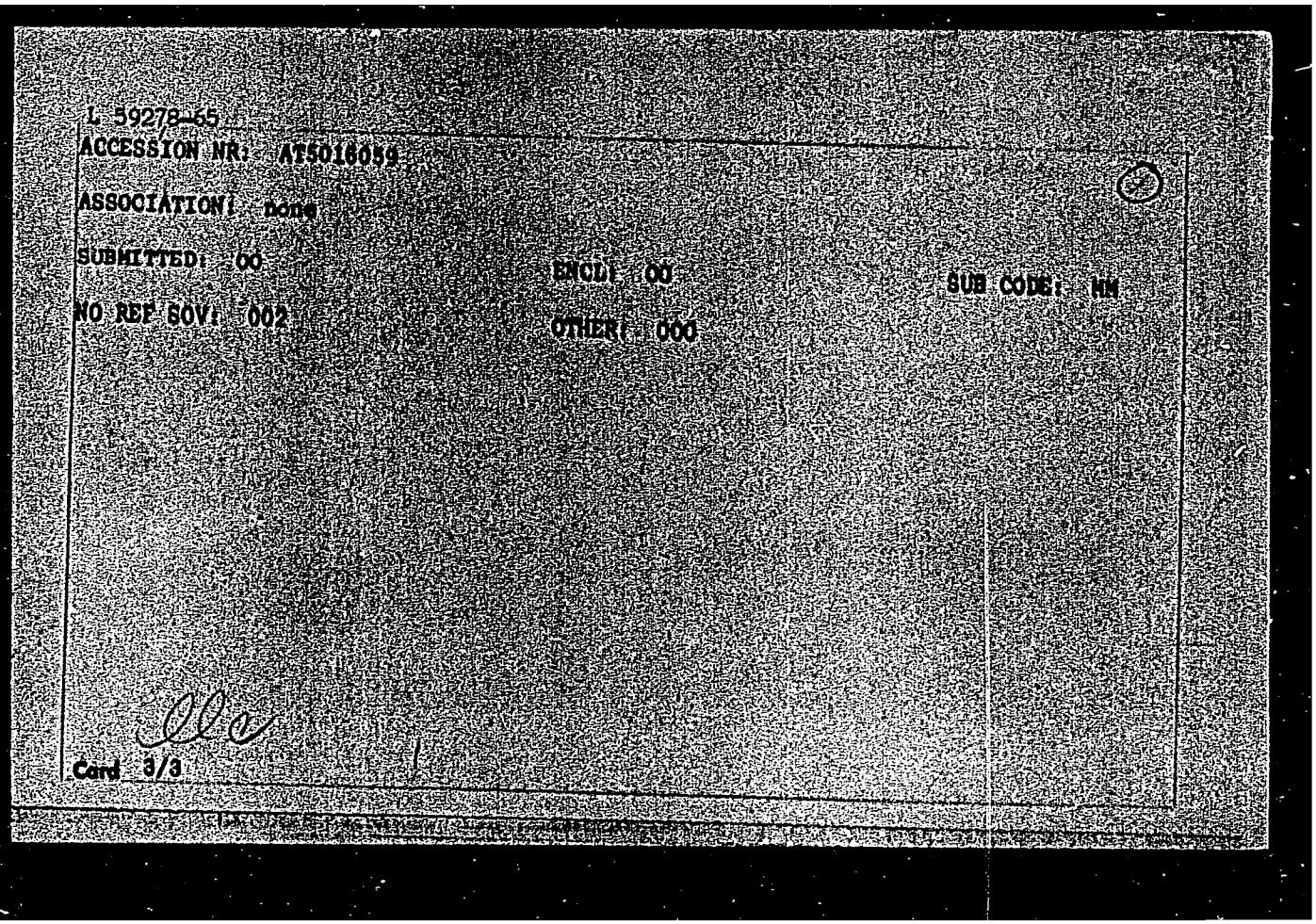
SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 39, 1965. Spetsial'nyye stali i splavy (Special steels and alloys), 81-86

TOPIC TAGS: stainless steel, heat treatment, metal mechanical property, austenite stability, martensitic transformation, metallographic examination, low temperature deformation

ABSTRACT: A new stainless steel was developed by partially replacing the Ni content of the standard alloy 1Kh18N10T with Mn and nitrogen. Eight steels were prepared for the study with varying contents of C, Cr, Ni, Mn, Si and N_2. The effect of Cr, C, and Mn on the structure and mechanical properties of these steels after quenching from various temperatures was investigated in connection with the degree of austenitic stability, which was related to the amount of martensite formed after low tem-

Card 1/3

perature deformation. Mechanical properties and magnetic characteristics were determined on sheet samples after quenching and plastic deformation. Mechanical properties of rods quenched from 1050 and 1250°C, were also determined at +20, -70, and -196°C. The microstructures of steels with 20-22% Cr, 4.8-5.2% Ni, 6.5-8.5% Mn and 0.25-0.33% N_2 show that a purely austenitic structure is possible if the content of Cr does not exceed 20-20.5% and if the quenching temperature remains approximately 1050°C. Increasing the Cr content to 22% results in formation of ferrite, the remaining composition being constant. Increasing the quenching temperature contributes to the appearance of ferrite, with some reduction in strength. Thus, a steel with 20% Cr, having an austenitic structure after quenching from 1050°C, would have 5-10% ferrite after quenching from 1250°C. The austenite was quite stable after room temperature deformation. However, strength was increased by testing at lower temperatures, with high ductility maintained. For example, at -196°C after quenching from 1050°C, the strength and creep resistance were about 150 and 100 kg/mm^2 respectively, while the elongation and reduction in area remained within the limits of 30-40%. Deformation of the steels at temperatures of -70 and -196°C led to transformation of the austenite into martensite, which was more noticeable for steels with 20% Cr. Orig. art. has: 4 figures, 1 table.



L 59278-65
ACCESSION NR: AT5016059
ASSOCIATION: none
SUBMITTED: 00 ENCL: 00 SUB CODE: MM
NO REF SOV: 002 OTHER: 000

Card 3/3

BABAKOV, A.A.; KOZLOVA, N.A.

Applying rapid methods of heat treatment of thin-sheet stainless steel of the ferritic class. Sbor. trud. TSNIICHM no.39:101-108 '65.
(MIRA 18:7)

L 11139-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) JD

ACC NR: AP6000612 SOURCE CODE: UR/0129/65/000/012/0047/0051

AUTHOR: Kozlova, N. A.; Lebedev, D. V.

ORG: TsNIIChERMET

TITLE: Mechanical properties of austenitic stainless steels at -253C

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1965, 47-51

TOPIC TAGS: steel, austenitic steel, stainless steel, solid mechanical property, metal grain structure, cryogenic engineering, brittleness

ABSTRACT: Specimens of five austenitic stainless steels containing 0.03% carbon, 18% chromium, and 8, 10, 12, 14, and 20% nickel were subjected to tensile tests at -253C at a deformation rate of 2 mm/min. For each steel two types of specimens were tested: fine-grained (annealed at 1050C) and coarse-grained (annealed at 1250C). In all steels, regardless of grain size, the deformation in the elastic-plastic region had a more or less unstable behavior with multiple necking along the gage length (see Fig. 1) owing to the formation of martensite or, in the case of steel with 20% nickel, to heat fluctuations. With increasing nickel content, the tensile strength drops and ductility increases. Analysis of the experimental data led to the conclusion that although steels with 8—10% nickel have a high tensile strength (185 kg/mm^2) and ductility (reduction of area 40%) at -253C, they cannot be recommended for stressed parts of cryogenic equipment because at the moment unstable deformation begins, these steels are strain hardened to a high degree and therefore are suscep-

Card 1/2 UDC: 620.17:669.14-018.8

L 11139-66

ACC NR: AP6000612

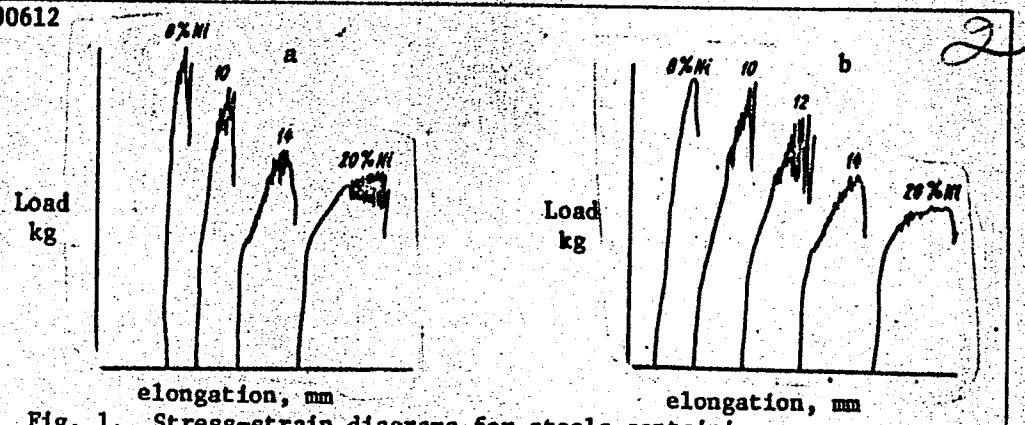


Fig. 1. Stress-strain diagrams for steels containing 8—20% Ni at -253C annealed at 1050C (a) or 1250C (b).

tible to brittle failure in the presence of an accidental metallurgical defect or a stress concentrator. Steels with 12—14% nickel are the most reliable for service under cryogenic conditions. Orig. art. has: 6 figures. [DV]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 011/ OTH REF: 002/ ATD PRESS: 4174

Card 2/2

USSR/Medicine - Cholinesterase May/Jun 51
Inhibitors

"Effect of Proserine on Muscle Contraction by Carbocholine [Carbamyl Choline Chloride]," N. A. Kozlova, M. R. Mikhel'son, Lab of Gen Pharmacol, Inst of Exptl Med, Acad Med Sci USSR, Leningrad

"Fiziol Zhur SSSR" Vol XXXVII, No 3, pp 362-365

Expts on muscles of frogs and leeches contracted with carbocholine and eserinized leech muscles contracted with acetyl choline show that proserine in weak concns produces increased sensitivity to

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USSR/Medicine - Cholinesterase May/Jun 51
Inhibitors (Contd)

choline. In higher concns the effect is cholinolytic but also can bring about a cholinomimetic effect. Phenomena described cannot be explained by the anti-cholinesterase effect of proserine.

192771

KOZLOVA, N. A.

KOZLOVA, N.A.

KARASIK, V.M.; KOZLOVA, N.A.

Rhythmic function of the muscle in leech produced by veratrine. Farm. i toks. 17 no.2:44-47 Mr-Ap '54. (MLRA 7:6)

1. Laboratorya obshchey farmakologii (zav. chlen-korrespondent AMN SSSR prof. V.M.Karasik) otdela farmakologii Instituta eksperimental'noy meditsiny AMN SSSR.

(MUSCLES, effect of drugs on,
*veratrine, rhythmic contractions in leech)
(VERATRUM ALKALOIDS, effects,
*on muscles, rhythmic contractions in leech)
(LEECHES,
*muscular rhythmic contractions prod. by veratrine)

TROITSKIY, V.L., professor; CHAKHAVA, O.V.; KOZLOVA, N.A.

Effect of ionizing radiation on antibody formation. Med.rad. 1 no.1:49-58 Ja-F '56. (MLRA 9:9)

1. Iz otdela meditsinskoy mikrobiologii (zav.-chlen-korrespondent AMN SSSR prof. V.L.Troitskiy) Instituta epidemiologii i mikrobiologii imeni akad. N.F.Gamelsya AMN SSSR.

(ANTIGENS, AND ANTIBODIES,
antibody form., eff. of ionizing radiations (Rus))
(RADIATIONS, effects,
ionizing, on antibody form. (Rus))

KOZLOVA, N.A.

Specific Prevention of Pertussis, published by MEDGIZ, MOSCOW, 1958
ed. by M. V. Zdrodovskiy, Dir. Lab. of Specific Prophylaxis of Pertussis, Inst. Epidem. and Microbiol. in N.F.Gamaleya, Acad. Medical Sci. USSR

At the scientific conference on the specific prophylaxis of pertussis conducted by the Institute of Epidemiology and Microbiology im. N. F. Gamaleya, Acad. Medical Sci. USSR, together with other institutes and medical establishments, papers were read by the following: (See Table of Contents)

M. V. Zdrodovskiy (Inst. of Epidem. and Microbiol. im. N. F. Gamaleya Acad Med Sci) Problem of specific prophylaxis of pertussis 3

N. V. Gordina and I. S. Lazarenko (same as Zdrodovskiy): Effectiveness of pertussis immunization in epidemiologic observations 19

N. A. Rotash'yan (2nd Moscow Med. Inst in N. I. Pirogov): Clinical-epidemiologic effectiveness of the pertussis vaccine in epidemics 29

A. V. Klimova (Inst. of Pediatrics AMS USSR): Clinical study of reactions in children vaccinated with pertussis vaccines 37

Z. S. Filonenkova et al. (Kiev Inst. of Epidemiol. Microbiol. and Hygiene and Inst. for the Care of Mothers and Children of the Ukrainian SSR): Study of the effectiveness of immunization against pertussis 44

E. G. Rastrakaya and E. I. Brodaya (Central Scientific Res. Lab. of Hygiene and Epidemiology of the Ministry of Communications USSR): Effectiveness of vaccination with pertussis vaccine among infants in the Moscow Railroad Boy Nursery. 53

B. Y. Gra'-Edel'man et al. (Kharkov Scientific Res. Inst. for Vaccines and Sera): Effectiveness of vaccination against pertussis in epidemiologic observation. 59

B. V. Gordina and T. N. Ivanova (see above): Epidemiologic effectiveness of pertussis-diphtheria vaccination 68

L. A. Zakvatkina (Republic Sanitary-Epidemiologic Station of the Ministry of Health of the Georgian SSR): Epidemiologic and immunologic effectiveness and reactogenicity of the pertussis-diphtheria vaccine 78

I.P. Vasil'yeva et al. (Tomsk Scientific Res. Inst. for Vaccines and Sera): Reactogenicity and epidemiologic effectiveness of adsorbed pertussis-diphtheria and pertussis vaccines 87

N. A. Smirnova (Leningrad Inst. of Epidemiol. Microbiol. and Hygiene im. Pastera): Data on reactogenicity and immunologic and epidemiologic effectiveness of the pertussis and pertussis-diphtheria vaccine 95

S. G. Peyrekhaya et al. (The Central, etc. see Kasirskaya above): Experience in the use of pertussis and pertussis-diphtheria vaccine in Children's Institutions of the Railroad Transport System 101

V. A. Kiseleva (Republic Sanitary-Epidemiologic Station of the Moldavian SSR): Study of reactogenicity and epidemiologic effectiveness of pertussis and pertussis-diphtheria vaccine 113

KOZLOVA, N.A.

Data on the reactogenicity immunological and epidemiological effectiveness of the whooping cough and whooping cough-diphtherial vaccine. Trudy Len.inst.epid. i microb. 18:103-110'58. (MIRA 16:7)

1. Iz sektora epidemiologii (rukovoditel' I.M.Ansheles) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.

(WHOOPING COUGH--PREVENTIVE INOCULATION)
(DIPHTHERIA--PREVENTIVE INOCULATION)

KOZLOVA, N.A.; SKLYAROVA, N.N.; IOANNESYAN, B.I.

Epidemiological problems in preventing focal spread of whooping cough with syntomycin. Trudy Len.inst.epid.i microbiol. 18: 111-117'58. (MIRA 16:7)

1. Iz sektora epidemiologii i iz laboratorii detskikh kapel'nykh infektsiy Leningradskogo instituta epidemilogii, mikrobiologii i gigiyeny imeni Pastera i iz otdela mikrobiologii Instituta eksperimental'noy meditsiny AMN SSSR.
(WHOOPING COUGH) (ACETAMIDE)

MAYSKIY, I.N.; KOZLOVA, N.A.

Influence of antirhonidase serum from goats on the metastasing process of Brown-Pearce carcinoma in rabbits. Biul. eksp. biol. i med. 50 no.10:101-105 O '60. (MIRA 14:5)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym.
(HYALURONIDASE) (CANCER)

MAYSKIY, I.N.; KOZLOVA, N.A.; NIKOVSKIY, M.N.

Production of antironidase horse serum and its effect on the metastatic spreading of Brown-Pearce carcinoma in rabbits. Biul. eksp. biol. i med. 50 no. 11:86-90 N '60. (MIRA 13:12)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva.
(HYALURONIDASE) (CANCER)

KOZLOVA, N.A.

Data on the response to and efficacy of pertussic and pertussis-diphtheria vaccines. Vop. okh. mat. i det. 6 no. 2:34-38 F '61. (MIRA 14:2)

1. Iz epidemiologicheskogo sektora Instituta epidemiologii, mikrobiologii i gigiyeny imeni L. Pastera (dir. - kandidat meditsinskikh nauk M.Ya. Nikitin, nauchnyy rukovoditel' - prof. K.N. Tokarevich).
(WHOOPING COUGH) (DIPHTHERIA)

SKLYAROVA, N.N.; KOZLOVA, N.A.

Shortening the quarantine periods in whooping cough. Zhur.mikrobiol., epid. i immun. 32 no.10:46-50 O '61. (MIRA 14:10)

1. Iz Leningradskogo instituta epidemiologii i mikrobiolgii im. Pastera.

(WHOOPING COUGH)

KOZLOVA, N.A.; KULAKOVA, M.N.

Effectiveness of the serum prophylaxis of epidemic hepatitis. Vop. virus. 7 no. 5:614-615 S-O '62. (MIRA 15:11)

1. Leningradskiy institut epidemiologii i mikrobiologii imeni L.Pastera i Leningradskaya gorodskaya sanitarno-epidemiologicheskaya stantsiya.
(HEPATITIS, INFECTIOUS) (GAMMA GLOBULIN)

KOZLOVA, N.A.

Evaluation of the effectiveness of vaccination against whooping cough. Sov. med. 25 no.4:89-92 Ap '62. (MIRA 15:6)

1. Iz epidemiologicheskogo sektora Instituta epidemiologii i mikrobiologii imeni Pastera (dir. - dotsent I.F. Mikhaylov, nauchnyy rukovoditel' - prof. K.N. Tokarevich).
(WHOOPING COUGH—PREVENTIVE INNOCULATION)

KOZLOV, V.V.; VOL'FSON, T.I.; KOZLOVA, N.A.; TUBYANSKAYA, G.S.

Naphthalene series. Part 25: Formation of sulfones by the action of chlorosulfonic acid on naphthalene. Zhur.ob.khim. 32 no.10:3440-3445 O '62. (MIRA 15:11)
(Sulfones) (Sulfonic acid) (Naphthalene)

MAYSKIY, I.N.; AYRAPET'YAN, G.P.; KOZLOVA, N.A.; NILOVSKIY, M.N.; SUVOROVA, G.V.; SUKHORUKIKH, S.V.; KHUNDANOVA, L.L. (Moskva)

Therapeutic and cytotoxic action of antibodies and their role in the pathogenesis of cancer. Usp. sovr. biol. 55 no.2: 219-238 '63. (MIRA 17:8)

KOZLOVA, N.A.; YERMOLYAYEVA, Ye.Ya.

Use of biologically active substances in plant protection.
Trudy Len. ob-va est. 74 no. 1:49-52 '63. (MIRA 17:9)

IOFFE, Vladimir Il'ich; OSIPOVA, Polina Vasil'yevna; [illegible]
Nina Nikolayevna; KOZLOVA, Nina Alekseyevna; [illegible],
N.A., red.

[Whooping cough; its microbiology, immunology, specific prevention] Kokliush; mikrobiologiia, immunologiia, spetsificheskaia profilaktika. [By]V.I.Ioffe i dr. Leningrad, Meditsina, 1964. 282 p. (MIRA 18:1)

KOZLOVA, N.A.; KULAKOVA, M.N.

Effectiveness of seroprophylaxis for epidemic hepatitis in Leningrad in 1958-1959. Trudy LPMI 30:250-258 '63.
(MIRA 18:3)

1. Leningradskiy institut epidemiologii i mikrobiologii imeni Pastera (dir. M.Ya.Nikitina) i Leningradskaya gorodskaya sanitarno-epidemiologicheskaya stantsiya (glavnyy vrach V.Ye.Kovshilo).

PEKERMAN, F.M.; KOZLOVA, N.A.; PETOSHINA, L.N.; KAZANKIN, O.N.

Investigating the stability of electroluminophors. [Trudy] GIPKH no.51:40-52 '64. (MIRA 18:5)

L 2220-66 EWT(d)/EEC(k)-2

ACCESSION NR: AP5022983 UR/0103/65/026/008/1423/1430
621.398.44

43
B

AUTHOR: Kozlova, N. A. (Moscow)

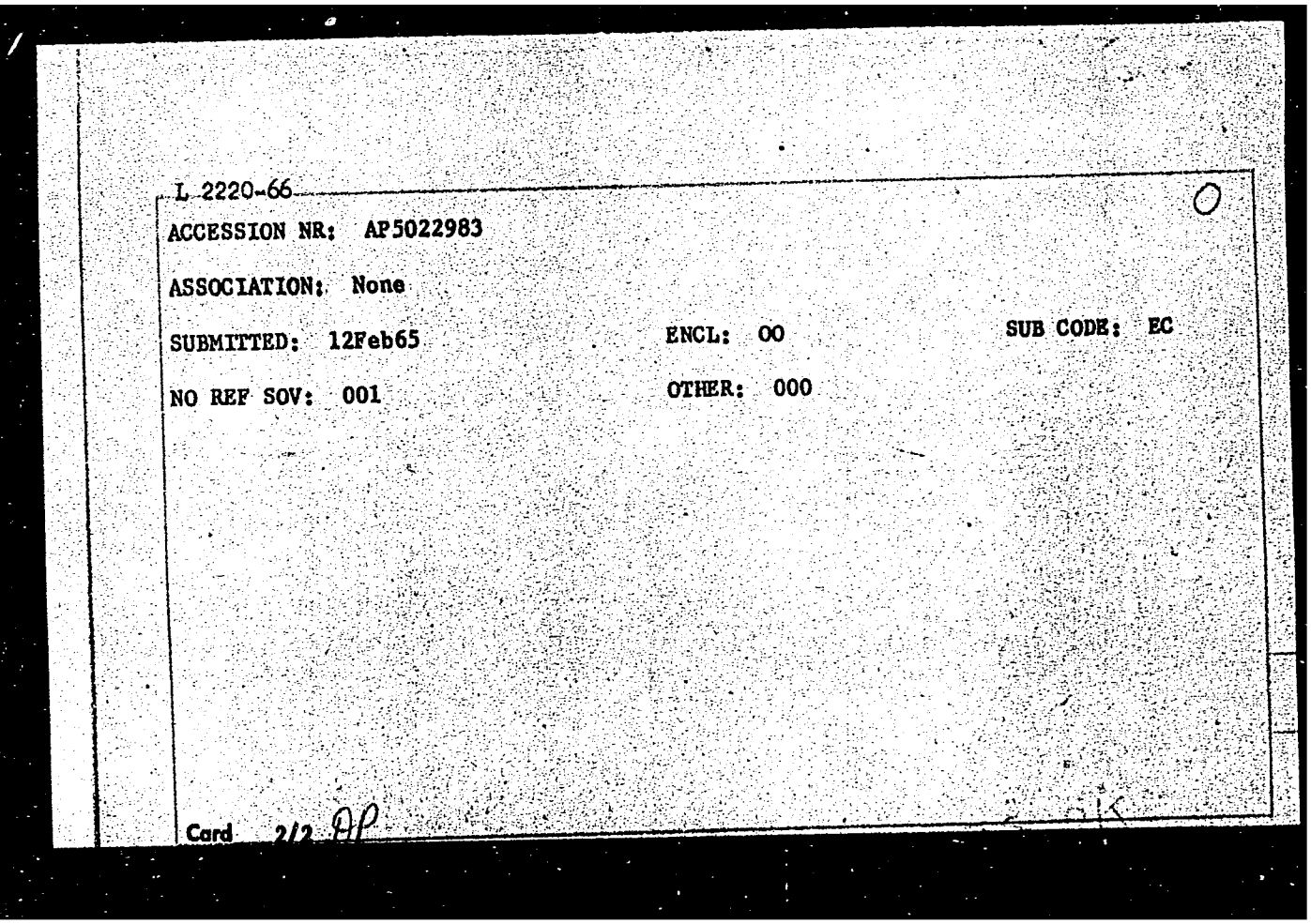
TITLE: Increases in instrumental accuracy of telemetric systems with pulse-width modulation

SOURCE: Avtomatika i telemekhanika, v. 26, no. 8, 1965, 1423-1430

TOPIC TAGS: telemetry system, pulse width modulation, pulse duration modification

ABSTRACT: A new approach is proposed for the reception of pulse-width modulated signals with the aim of increasing the accuracy of a telemetric system. An exponential converter operating as a pulse duration selector serves as a tracking threshold device. Using the description of the selectors of the front and back of the pulse the author carries out a comparative analysis (experimental threshold setup versus fixed threshold instrument) and estimates the gains in accuracy as a result of the introduction of the new approach. Results show that the high operating stability of the resulting equipment increases by more than one order of magnitude the instrumental accuracy of telemetric pulse-width modulated devices. Orig. art. has: 26 formulas, 13 figures, and 1 table.

Card 1/2



L 2220-66

ACCESSION NR: AP5022983

ASSOCIATION: None

SUBMITTED: 12Feb65 ENCL: 00 SUB CODE: EC

NO REF SOV: 001 OTHER: 000

Card 1/2 AP

KOZLOVA, Nadezhda Dmitriyevna; AFANAS'YEV, T.P., doktor geol.-miner. nauk, otv. red.

[Geochemistry and the formation of underground waters as revealed by a study in the middle Don- Valley] Geokhimiia i formirovanie podzemnykh vod; na primere Srednego Dona. Moskva, Nauka, 1965. 164 p. (MIRA 18:12)

KOZLOVA, N.D.

Recharge and discharge of underground waters in the lower Volga Valley. Biul. MOIP Otd. geol. 37 no.6:121 N-D '62. (MIRA 16:8)

KOZLOVA, N.D.

Dynamics and chemistry of the waters of the Alb-Senoman horizon in the regions of the middle Don and the right bank of the upper Volga. Trudy Lab.gidrogeol.probl. 40:114-124 '62. (MIRA 15:11)
(Don Valley--Water, Underground--Analysis)
(Volga Valley--Water, Underground--Analysis)

VASHENTSEVA, V.M.; VOLKOV, M.I.; ZHAMIN, V.A.; ZHUKOV, F.G.; CHUBUK, I.F.; KAPUSTIN, Ye.I.; KOZLOVA, N.G.; KOROCHKIN, V.V.; KUL'KOV, A.V.; MARINKO, I.L.; MOLCHALOV, B.M.; ROMANOV, B.V.; FEDOROV, V.I.; SHIRINSKIY, I.D.; GRINGAUZ, A., red.; SHLYK, M., tekhn. red.

[How to study the economics of socialism] Kak izuchat' politicheskuiu ekonomiiu sotsializma; posobie dlia rukovoditelei seminarov sistemy partiinogo prosveshcheniia. Moskva, Mosk. rabochii, 1961. 239 p. (MIRA 14:8)

1. Dom politicheskogo prosveshcheniya, Moscow.
(Economics—Study and teaching)

KOZLOVA, N.I.

Reserve carbohydrates in perennial grasses in the first year of their life. Bot.zhur. 47 no.3:405-408 Mr '62. (MIRA 15:3)

1. Leningradskiy sel'skokhozyaystvennyy institut, g. Pushkin.
(Grasses) (Carbohydrates)

KOZLOVA, N.I.

5(2) PHASE I BOOK EXPLOITATION SOV/1916

Vsesoyuznoye soveshchaniye po khimii bora, 1955

Bor; trudy Konferentsii po khimii bora i yego soyedineniy (Boron; Transactions of the Conference on the Chemistry of Boron and Its Compounds) Moscow, Goskhimizdat, 1958. 189 p. Errata slip inserted. 2,400 copies printed.

Ed.: G.P. Luchinskiy; Tech. Ed.: M.S. Lar'ye.

PURPOSE: This book is intended for chemists, as well as for industrial personnel working with boron and its compounds.

COVERAGE: This collection contains 24 studies on the chemistry, crystalline structure, physicochemical properties, and technology of boron and its compounds. Twenty-two of the studies were presented at the All-Union Conference on Boron Chemistry, held at the Moskovo-Leningradskiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Physicochemical Institute im. L. Ya. Karpov) in ~~December 1955~~. ~~SOV/1916~~

December 1955. Two of these articles deal with the thermochemistry of boron. The two studies on "borundum" production are being published for the first time. The studies are well illustrated and accompanied by bibliographies.

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Boron; Transactions of the Conference (Cont.) SOV/1916

Polyak, A.M., Ye. M. Pinayevskaya, O.B. Romov, N.I. Kozlova, and L.I. Dryatovskaya. Boric Acid Production by the Decomposition of Inderskiye Borates With Mixtures of Nitric and Sulfuric Acids 135

Nesanteer, V.P. Processing of Borates at the Aktyubinsk Chemical Kombinat 141

Matobyl'skaya, L.D. Beneficiation of Certain Boric Ores 145

Nikolayev, A.V., and A.G. Kurnakova. Extraction of Boric Acid 157

Shvarts, Yu. M. State of Borates in an Aqueous Solution 162

Krapivner, S.L. A Technical and Economic Comparison of the New Methods for Boric Acid Production from Inderskiye Borates 170

Card 5/6

KOZLOVA, N.I.

AUTHORS: Onusaytis, B. A., Kozlova, N.I. 32-2-19/60

TITLE: The Characteristics of the Thermal Workability of Semicoke (Kharakteristika stepeni termicheskoy obrabotki polukoksa)

PERIODICAL: Zavodskaya Laboratriya, 1958, Vol. 24, Nr 2, pp. 181-183 (USSR)

ABSTRACT: The yield of volatile constituents in the thermal treatment of coal to semicoke is of decisive importance. The change of structure that took place in this is in close connection with the modification of electric conductivity, so that a method of investigation based on this phenomenon was developed, as all methods which have been in use hitherto were insufficient. The increase of electric conductivity with increasing coking of coal is traced back to the formation of stiff chemical bonds between the elementary structural units. The conductivity of a unit layer of semicoke was investigated as indicator of thermal treatment, as well as the connection with the yield of volatile products. The apparatus serving in this investigation had already been described in an earlier work (ref. 7). The increase of the content of ashes to more than 15% shows the influence on the electric conductivity and must

Card 1/2

The Characteristics of the Thermal Workability of Semicoke 32-2-19/60

be taken into consideration in the investigations. The accuracy of the method amounts to 0,5%, i.e. it is better than the 0,5% demanded by GOST-1[illegible]-1. There are 2 tables, and 7 references, 7 of which are Slavic.

ASSOCIATION: Institute for Combustible Minerals AN USSR (Institut goryuchikh iskopayemykh Akademii nauk SSSR)

AVAILABLE: Library of Congress

1. Coal-Distillation

Card 2/2

KALINKINA, V.A. (Moskva), KOZLOVA, N.I. (Moskva), NIKOLAYEV, I.N. (Moskva), STEPANCHIKOV, A.A. (Moskva)

Investigating the thermal decomposition of coals and their mixtures. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:156-160 N-D '60. (MIRA 13:12)

(Coal--Carbonization)

NIKOLAYEV, I.N.; STEPANCHIKOV, A.A.; DAVYDOVA, K.I.; KOZLOVA, N.I.; KALINKINA, V.A.; SMIRNOVA, M.I.

Method for the direct determination of the coking capacity of coals and charges. Koks i khim. no.11:9-15 '60. (MIRA 13:11)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal--Testing) (Coke)

33884

S/640/61/000/000/005/035
D258/D302

18.1247
21.2100

AUTHORS: Ivanov, O. S., Semenchenkov, A. T. and Kozlova, N. I.

TITLE: The structure of the system uranium-molybdenum below 600°C and the complete equilibrium diagram of this system

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Stroyeniye splavov nekotorykh sistem s uranom i toriyem. Moscow, Gosatomizdat, 1961, 68-86

TEXT: The authors investigated the formation of the δ_2-phase below 600°C and its coexistence with other phases in the U-Mo system. The data gathered in this investigation were combined with the authors' and coworkers earlier results (Ref. 1: This publication, p. 48) in order to yield a complete equilibrium diagram, whose uranium rich corner is shown in a figure. Molybdenum depresses the transformation $\alpha \rightleftarrows \beta$ and $\beta \rightleftarrows \gamma$ to such an extent that an eutectic equilibrium, β(~1.4 at.-% Mo) $\rightleftarrows$ (< 0.1 at.-% Mo) + γ(8 at.-% Mo) is formed near 648°C. The phase $(\alpha+\gamma)$ existing below 648°C, meets the $\gamma + \delta_2$

Card 1/4

The structure of the system ...

(U_2Mo)-phase and as a result, a second eutectic equilibrium γ(21.5 at.-% Mo) $\rightleftarrows$ (< 0.1 at.-% Mo) + δ_2 is formed at 572°C. Lastly, the equilibrium $\gamma + \gamma_{Mo}$ meets the equilibrium $\gamma + \delta_2$ and forms a third invariant equilibrium, namely γ(35 at.-% Mo) $\rightleftarrows \gamma_{Mo}$(~98 at.-% Mo) + + δ_2 at 600°C. The boundaries of the δ_2-phase are not fully specified. The γ-solid solution containing 3 at.-% Mo is fully converted on quenching into α' which consists of a supersaturated solution of Mo in α-U. The hardness of α' is sharply increased by a rise in the Mo-content and attains a maximum at 3 - 4 at.-% Mo (400 kg/mm^2 for samples quenched from 1000°C). A further rise of the Mo content causes the hardness to be steeply decreased, thus indicating a depression of the α'-phase. A minimum (100 - 300 kg/mm^2) is reached at 10 - 12 at.-% Mo. At this composition, the cubical lattice of the γ-solid solution is transformed into a tetragonal one, with dimensions a = 3.463 kX, c = 3.372 kX and c/a = 0.9737 at 10 at.-% Mo. The tetragonal nature of the lattice is less pronounced at 12 at.-%

Card 2/4

The structure of the system ...

(c/a = 0.9847) and vanishes completely at 13 at.-%. The hardness of γ-solid solution containing samples rises sharply within the limits of 12 - 16 at.-%; this is followed by an inflection and a subsequent broad maximum. This is interpreted as indicating the transformation of the cubical lattice into a tetragonal. The steep rise of the hardness continues up to the boundary of the two-phase composition ($\gamma + \gamma_{Mo}$); thereafter, the hardness is almost independent of the Mo-content. The annealing of a sample subsequent to its quenching, is characterized by a noticeable increase in hardness, due to the decomposition of α'-phase and of γ-solid solution. On annealing to 250 - 300°C, the tetragonal structure becomes more pronounced at 10 - 12 and at 13 - 14 at.-% Mo, while at 1 at.-% it approaches the dimensions of the δ_2-phase. On subsequent annealing to 350 - 400°C, the X-ray pattern becomes very diffused. On further annealing to 450°C, weak diffused lines of α-U and of the δ_2-phase are formed. These lines gain in strength and clarity, on further annealing the samples to 500° and 550°C. To this corresponds a decrease in hardness. The Mo-rich γ-solid solutions in the range of

Card 3/4

The structure of the system ...

500°C are decomposed as a result of both α-phase separation and the formation of the δ_2-phase. The former process is the leading one, in the composition range of 20 at.-% Mo. This separation and the inherent heterogenization is accompanied by a rise in hardness; while the formation of the δ_2-phase, at 30 at.-%, leads to a small decrease of hardness. There are 15 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: E. K. Halteman, The crystal structure of U_2Mo. Acta Cryst. 10, 166 (1957).

Card 4/4

NIKOLAYEV, I.N.; KOZLOVA, N.I.; KALINKINA, V.A.; STEPANCHIKOV, A.A.

Heat capacity of coals and coal mixtures as determined by the temperature of their heating. Koks. i khim. no. 3:12-15 '61. (MIRA 14:4)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal--Thermal properties)

NIKOLAYEV, I. N.; KOZLOVA, N. I.

Effect of the thermal pretreatment of coals on their caking capacity. Trudy IGI 17:116-120 '62. (MIRA 15:10)

(Coal—Carbonization)

ACC NR: AP6032948 SOURCE CODE: UR/0363/66/002/010/1811/1815

AUTHOR: Yezerskiy, M. L.; Kozlova, N. I.; Bagotskiy, V. S.; Kalliga, G. P. (Deceased); Domonis, I. M.; Rastorguyev, L. N.; Prilepskiy, V. I.

ORG: none

TITLE: Electric conductivity of solid solutions of calcium oxide in zirconium dioxide at elevated temperatures

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 10, 1966.

TOPIC TAGS: calcium oxide, zirconium compound, electric property, solid solution

ABSTRACT: The electric conductivity χ of ZrO_2-CaO solid solutions was studied at 600-1000°C as a function of the CaO content and the degree of purity of ZrO_2 and method of its stabilization. In this range, the temperature dependence of χ was found to be expressed by the equation $\chi = Ae^{-E/RT}$, where E and A are constants. The curve of the dependence of χ on the CaO content at 1000°C passes through a maximum at 12.5 mole % CaO; this maximum is independent of the purity of ZrO_2 (i. e., of the presence of HfO_2 impurity) and method of its stabilization. As the density of the sintered ZrO_2-CaO sample rises, its electric conductivity increases. X-ray structural analysis was used to determine the limits of homogeneity of cubic solid solutions; the presence of a superstructure was established in samples with CaO ≥ 15 mole %. On the basis of

Card 1/2 UDC: 54-165:537.311

ACC NR: AP6032948

the x-ray data, an attempt is made to explain the dependence of χ on the CaO content of the ZrO_2-CaO solid solutions. Orig. art. has: 4 figures, 2 tables and 1 formula.

SUB CODE: 07/ SUBM DATE: 13Jan66/ ORIG REF: 002/ OTH REF: 008

Card 2/2

ACC NR: AT6036933 SOURCE CODE: UR/0000/66/000/000/0110/0115

AUTHORS: Demonis, I. M.; Kalliga, G. P.; Mayer, A. A.; Yezerskiy, M. L.; Kozlova, N. I.; Kolesnikov, E. I.

ORG: none

TITLE: Some data on the electroconductivity of zirconium dioxide stabilized with calcium oxide at a temperature range of 600—1000°C

SOURCE: Nauchno-tekhnicheskoye obshchestvo chernoy metallurgii. Moskovskoye pravleniye. Vysokoogneupornyye materialy (Highly refractory materials). Moscow, Izd-vo Metallurgiya, 1966, 110-115

TOPIC TAGS: zirconium compound, calcium oxide, high temperature ceramic material, semiconducting ceramic material / RETU 606-59 zirconium dioxide

ABSTRACT: Electroconductivity of domestic 99.6% pure zirconium dioxide (RETU 606-59) stabilized with CaO (8—17.5%) has been investigated at temperatures from 600 to 1000C. The sintering and stabilization processes were combined in one firing. The changes in electroconductivity with temperature and with the content of stabilizer are summarized by Figs. 1 and 2. It was established that the highest specific electroconductivity ($2.64—3.03 \times 10^{-2}$ $ohm^{-1}cm^{-1}$) at 1000C was exhibited by materials containing 12.5% of CaO, regardless of the type of compound used to introduce the

Card 1/3

ACC NR: AT6036933

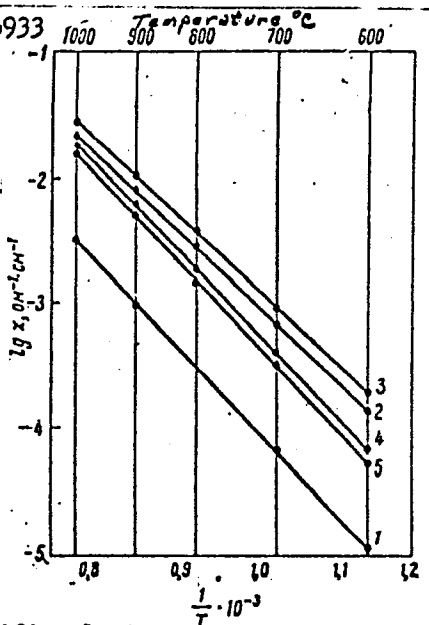

Fig. 1. Specific electroconductivity of samples containing a stabilizer in the form of $CaCO_3$, as a function of temperature: 1 - 8 mole % of CaO; 2 - 10%; 3 - 12.5%; 4 - 15%; 5 - 17.5%

Card 2/3

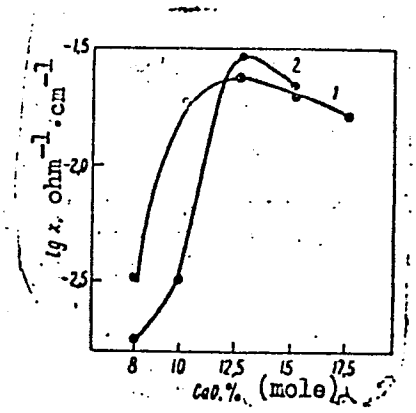

Fig. 2. Electroconductivity as a function of CaO content. Stabilizer in form of $CaCO_3$ (1) and $CaZrO_3$ (2)

ACC NR: AT6036933

stabilizer ($CaCO_3$ or $CaZrO_3$). In spite of the heterogeneous microstructure and the lower degree of saturation of the solid solution with the stabilizing oxide, the product containing 12.5% mole % of CaO (as $CaZrO_3$) possesses very high electroconductivity. This may be caused by the greater density of the sintered material. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 02Nov65/ ORIG REF: 005/ OTH REF: 006

Card 3/3

KOZLOVA, N.L.

BLIOKH, S.S., kandidat meditsinskikh nauk; PERLINA, A.M., kandidat tekhnicheskikh nauk; KOZLOVA, N.L., inzhener

Effectiveness of the new method of purifying drinking water (contract clarification). Gig. i san. 22 no.1:70-72 Ja '57. (MLRA 10:2)

1. Iz Nauchno-issledovatel'skogo sanitarnogo instituta imeni Erismana, Akademii kommunal'nogo khozyaystva imeni Pamfilova i Laboratorii Rublevskoy vodoprovodnoy stantsii.
(WATER SUPPLY,
purification, contact clearing technic (Rus))

PRUZHININA-GRANOVSKAYA, V.I., kand.fiziko-matematicheskikh nauk;
KOZLOVA, N.M.

Nonlinear resistances for networks with small circuits. Vest. elektroprom. 32 no.11:64-66 N '61. (MIRA 14:11)
(Electric resistors) (Electric networks)

AVANESOVA, A.G., dotsent; KULAKOVA, T.V., ordinator; KOZLOVA, N.M., ordinator

Side-effects of antibiotic action during treatment of dysentery in children. Pediatriia no.2:69-73 '62. (MIRA 15:3)

1. Iz kafedry detskikh infektsionnykh zabolevaniy (zav. - prof. D.D. Lebedev) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (dir. - dotsent M.G. Sirotkina).
(ANTIBIOTICS—TOXICOLOGY) (DYSENTERY)

KOZLOVA, N.M., inzh.; BABICH, V.V., inzh.

Practices in assembling structural elements for the complex of a sintering plant. Prom. stroi. 41 no.5:9-12 My '64. (MIRA 18:11)

1. Trest Dneprostal'konstruktsiya.

PRUZHININA-GRANOVSKAYA, V.I.; KOZLOVA, N.M.; KOCHETKOVA, R.M.

Volt-ampere characteristics and carrying capacity of nonlinear thervite resistors for commutational discharges. Elektrichestvo no.2:74-77 F '62. (MIRA 15:2)

1. Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina.
(Electric lines—Overhead)
(Electric protection)

L 40975-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JXT(CZ)

ACC NR: AT6026556 SOURCE CODE: UR/2776/66/000/046/0140/0150

43
42
B+1

AUTHOR: Krylova, A. R.; Kozlova, N. N.; Zharkova, D. N.

ORG: none

TITLE: Oxidation behavior of oxidation-resistant Kh23N18 and Kh25N16G7AR steels and KhN78T alloy at 1050°C

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 140-150

TOPIC TAGS: alloy steel, nickel alloy, chromium containing steel, nickel containing steel, manganese containing steel, metal corrosion, metal property / Kh23N18 steel, Kh25N16G7AR steel, KhN78T nickel alloy

ABSTRACT: The oxidation behavior of oxidation-resistant Kh23N18 (EI417) and Kh25N16G7AR (EI835) steels, and KhN78T (EI435) alloy at 1050C for 7000—8000 hr has been investigated. Cylindrical specimens were 10 mm in diameter and 20 mm high. It was found that KhN78T alloy had the highest oxidation resistance (see Fig. 1). The spinel-type scale formed on this alloy had the best protective properties. The loss of metal after 8000 hr amounted to 0.07 mm. Chromium was the most

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L 20715-66

ACC NR: AT6026556

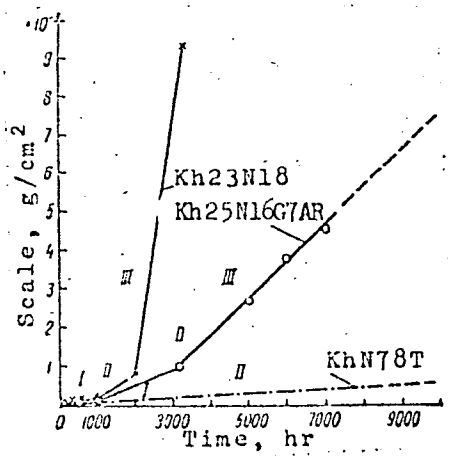

Fig. 1. Oxidation of Kh23N18, Kh25N16G7AR and KhN78T in air at 1050C

oxidized alloy component; after 7080 hr the chromium content in the surface layer dropped to 7.3%. Kh25N16G7AR steel was the second best with a loss of 0.33 mm in 7080 hr. Oxidation of Kh23N18 steel followed a parabolic rate for up to 2000 hr exposure; from then on it followed a linear rate because the scale lost its protective qualities. Loss of metal in 3300 hr was 0.30 mm. KhN78T alloy and Kh25N16G7AR steel can be recommended as oxidation-resistant materials for prolonged service (up to 10,000 hr) at 1000—1050C. Kh23N18 steel is not suitable for service longer than 2000 hr at 1050C unless intermittent cooling periods are used to offset the intensive oxidation. Orig. art. has: 5 figures and 4 tables. [TD]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

ATD PRESS: 5058

Card 2/2

S/028/62/000/002/004/004
D223/D303

AUTHORS: Kaplan, A.S., Kozlova, N.N. and Krylova, A.P.

TITLE: New steels and alloys

PERIODICAL: Standartizatsiya, no. 2, 1962, 50-52

TEXT: The new Standard GOST - 5632 - 61, which replaces the old GOST - 5632 - 51, was introduced in January 1, 1962. It covers 99 types of steels and alloys. These are divided into three groups: Corrosion-resisting, heat-resisting and heat and stress-resisting. Corrosion-resisting steels can withstand electrochemical corrosion (atmospheric, soil alkali, acid, salt, sea etc.); the heat-resisting type, when unloaded or slightly loaded state resists surface deterioration in a gaseous medium at temperatures above 550°C. Heat and stress resisting type operates subject to stresses at high temperatures. Division according to structural characteristics: Martensite, martensite-ferrite, ferrite, austenite-martensite, austenite-ferrite and austenite types. The new chemical classification is made on a ferro-nickel and nickel basis. Alloys

Card 1/2

S/028/62/000/002/004/004
D223/D303

New steels and alloys ...

a) have over 65% Fe+Ni and the ratio of Ni to Fe is about 1:1.5; alloys b) have more than 55% of Ni. The comparison of the old and new standards for all three groups is given. For each type its application is indicated according to working temperatures. The maximum amount of S and P is given by groups. The new names and their comparison with old names are given. Names have the form of letters, e.g. nickel (H) and its content in % (say 7%) is given as H7 (N7) etc. Tables giving all possible specific data on application, temperature and duration are added to the Standard.

Card 2/2

KOZLOVA, N. P.

USSR/Chemistry

Card 1/1

Authors : Peregub, E. A., and Kozlova, N. P.

Title : Method of determining alkylchlorosilane vapors in the air

Periodical : Zhur. Anal. Khim. 9, Ed. 1, 47-50, Jan-Febr. 1954

Abstract : The toxicity of vapors of silicon organic compounds (alkylchlorosilanes) brings up the problem of determining their presence in the air of working places. The method of determining small concentrations of alkylchlorosilane vapors in the air is described. The three basic steps of the method are: 1) collection of alkylchlorosilane vapors the air; 2) mineralization of the silicon organic substance with consequent melting of the cinders and 3) establishment of optimum conditions for colorimetric determination of silicon according to the most sensitive reaction of formation of silicon-molybdenum blue. Seven references. Tables, graph.

Institution : State Scient-Research Institute of Labor Hygiene and Professional Diseases

Submitted : April 3, 1953

KOZLOVA, N.P.

USSR

2365. Colorimetric method for determining small amounts of thallium. V. S. Fikhtengol'ts and N. P. Kozlova (Zavod. Lab., 1955, 21 (4), 407–409). The method is designed for determining small amounts of Tl in the air. Oxidation of Tl^{I} to Tl^{III} is effected best by Cl from the reaction of $KMnO_4$ and HCl. The colorimetric determination is based on the reaction of $TlCl_3$ with KI and the intensity of the colour of the iodine liberated with starch. *Procedure.*—A known volume of air is sucked through a tube containing cotton wool moistened with *N* HCl. The cotton wool is extracted by three treatments with boiling *N* HCl and the extract is heated with 2 to 3 ml of 0·1 *N* $KMnO_4$ until the liquid is colourless. The solution is evaporated to dryness, the residue is dissolved in 5 ml of 0·1 *N* HCl and mixed with 1 ml of freshly prepared 0·2 per cent. KI solution and 1·5 ml of starch solution, prepared by mixing 0·5 g of starch with 20 ml of 13 per cent. NaCl solution, adding the mixture to 80 ml of boiling 13 per cent. NaCl solution, boiling carefully for 3 min., and then filtering. The colour intensity attains its maximum in 30 min. and remains unchanged for a further 90 min. The intensity is measured visually against a set of standards, or photometrically, with a red filter. G. S. SMITH

KOZLOVA, N. P.

AUTHORS: Fikhtengol'ts, V.S., Kozlova, N.P. 32-8-12/61

TITLE: A Rapid Method for Determining Nickel Carbonyl in the Air (Bystryy metod opredeleniya karbonila nikelya v vozdukhe)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 8, pp. 917-917 (USSR)

ABSTRACT: In the production process as well as during the application of nickel carbonyl, which is a strong poison, the possibility has to exist always to control the air for its content. The paper recommends a method which is based on the reactivity of nickel carbonyl to haloids. Special absorbers are used for a continuous removal of nickel carbonyl from the air. In this connection it is recommended here to use a 1,5 % solution of iodine in carbon tetrachloride. For a rapid control of nickel carbonyl in the air of laboratories it is recommended to make a scale of test tubes with sample reactives in which the reactive elements, after an exposure of 3 - 5 minutes, are well shut and sealed with paraffin wax and thus stored in the dark. If necessary, they are used for comparison (according to their color nuance). This scale must, however, be controlled from time to time. The paper also describes an absorber constructed by Polezhayev. There are 2 tables.

Card 1/2

A Rapid Method for Determining Nickel Carbonyl in the Air. 32-8-12/61

ASSOCIATION: Leningrad Institute for Labor Hygiene and Occupational Diseases (Leningradskiy institut gigiyeny truda i profzabolevaniy)

AVAILABLE: Library of Congress

Card 2/2

KOZLOVA, N.P., inzh.; KORNEYEVA, N.A., inzh.

Sheet copper with improved technological properties. Khim.mash. no.4:25-28 Jl-Ag '62. (MIRA 15:7)
(Copper--Testing)

STOROZHENKO, Aleksandr Panteleyevich; KOZLOVA, Neonila Petrovna; GARBER, T.I., red.izd-va; LOMILINA, L.N., tekhn.red.

[Practices in coal preparation for coking] Opyt obogashcheniia uglei dlia koksovaniia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 109 p. (MIRA 13:2)
(Donets Basin--Coal preparation) (Coke)

STOROZHENKO, Aleksandr Panteleyevich;SOKOLOV, Vladimir Gennadiyevich; KOZLOVA, Neonila Petrovna; GUSAROVA, Mariya Afrikanovna; VORONOV, Kuz'ma Denisovich; KARPOVA, N.N., otv. red.; TURCHENKO, V.K., otv. red.; GARBER, T.N., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Maintenance of machines in coal-preparation plants] Ukhod za mashinami na ugleobogatitel'nykh fabrikakh. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 258 p. (MIRA 15:1)

(Coal preparation--Equipment and supplies)

KOZLOVA, N. S., Cand Med Sci (diss) -- "Vitamin A and carotene in the blood serum of whooping-cough patients". Leningrad, 1959. 11 pp (Leningrad Pediatric Med Inst), 350 copies (KL, No 9, 1960, 128)

KOZLOVA, N.S.

Vitamin A and carotene in whooping cough in children treated with vitamin preparations. Pediatriia 37 no.6:54-60 Je '59. (MIRA 12:9)

1. Iz kafedry infektsionnykh bolezney u detey Leningradskogo pediatricheskogo meditsinskogo instituta (dir. - prof.N.T. Shutova) i Detskoy infektsionnoy bol'nitsy imeni K.Libknekhta (glavnyy vrach S.P.Novikova).

(FISH LIVER OIL, ther.
whooping cough, vitamin A & carotene in blood in treated child. (Rus))
(WHOOPING COUGH, ther.
cod liver oil & vitamin A, blood carotene & vitamin A in treated child. (Rus))
(VITAMIN A, ther. use,
whooping cough, blood carotene & vitamin A in treated child. (Rus))
(CAROTENE, in blood,
in whooping cough after cold liver oil & vitamin A ther. (Rus))

KOZLOVA, N.S.

Vitamin A and carotene metabolism in healthy children. Vop. okh. mat. i det. 5:22-26 S-O '60. (MIRA 13:10)

1. Iz kafedry infektsionnykh bolezney u detey Leningradskogo pediatricheskogo meditsinskogo instituta (dir. - prof. N.T. Shutova).
(VITAMINS--A) (CAROTENE)

1. KOZLOVA, N. S.

2. USSR (600)

4. Soil Moisture - Chu Valley

7. Influence of water film in the aggregation of certain soils of the Chu Valley. Trudy Sek. pochv. kirFan SSSR no.2, 1949.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. KOZLOVA, N.S.: KURBATOV, M.S.

2. USSR (600)

4. Chu Valley - Soils

7. Structure formation in soils of the Chu Valley. Trudy Sek, pochv. KirFAN SSSR no. 2. 1949

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

J

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soil.
Abs. Jour. : 53370

Author : Kozlova, N.S.
Institut. : Kirghiz Agricultural Institute
Title : The Role of Humates in Structure Formation

Orig. Pub. : Tr. Kirg. s.-kh. in-ta, 1956, vyp. 9, 17-19

Abstract : The experiments were made on mountainous dark chestnut soil, foothill sierozem and garden soil. The largest amounts of humates were observed in the garden and mountain dark chestnut soils. This explains the increased stability of the structural constituents in these soils. Certain methods are recommended to increase the humate part of the soils for structural formation and augmented crop yields on sierozems. --V.A. Molodtsov

Card: 1/1

J-19

KOZLOVA, N.V.

Effect of Co^{60} irradiation of various intensities on the regenerative capacity of the skeletal muscle tissue. Biul.eksp.biol.i med. 47 no.8:94-99 Ag '59. (MIRA 12:11)

1. Iz otdela eksperimental'noy morfologii (zav. - prof. G.S. Strelin) TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii (dir. - prof. M.N. Pobedinskiy) Ministerstva zdravookhraneniya SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(COBALT radioactive)
(MUSCLES radiation eff.)
(REGENERATION radiation eff.)

SOV/20-127-5-52/58

17(10)

AUTHOR: Kozlova, N. V.

TITLE: The Effect of Local Fractioned Exposure to X-rays on the Course of Regeneration Process in Cross-striated Muscular Tissue

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 5, pp 1121-1124 (USSR)

ABSTRACT: A long-drawn effect of small doses of ionizing radiations on the organism does not cause distinctly marked morphological changes in the intact muscle, but inhibits the regeneration of mechanically injured muscles. In trying to explain this phenomenon the author drew the conclusion that the cross-striated muscles are sensitive to a chronic effect of ionizing radiations. It was assumed that the damage caused by rays is, so to say, accumulated (they sum up) if the irradiation is long and continuous. The lacking or slow regeneration is assumed to be the reason of this phenomenon. In order to clarify whether all that is only a consequence of the radiation disease the author investigated the effect mentioned in the title under conditions excluding a chronic radiation disease. Male white mice the whole body of which was screened by a lead plate (4 mm thick), except

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The Effect of Local Fractioned Exposure to X-rays on the Course of Regeneration Process in Cross-striated Muscular Tissue

the left tibia served as experimental animals. The quantity of the individual doses and the intervals between the exposures were varied, the total dose amounted, however, in either variant to 3000 r. The variants were the following ones: Ist series: irradiation every third day during 1 month with 300 r per exposure. IInd series: 100 r during 1 month. IIIrd series - control, no irradiation. The right not irradiated extremity served in the series (I) and (II) as an additional control. The animals did not show symptoms of a radiation disease and none of them died. After a dose of 3000 r has accumulated the m. tibialis anterior of both hind legs was mechanically injured through the skin up to a depth of its thickness. Figure 1 shows microscopic pictures of the regenerating muscles in the mentioned experimental series. It is concluded from the results that the posttraumatic regeneration capacity of the striated muscles seems to be considerably inhibited after a local fractioned irradiation. This agrees with the results of Ye. V. Dmitriyeva (Ref 1). Unique doses of 100 and 300 r which do not disturb the regeneration (Refs 2,6) inhibit the latter considerably if the exposure

The Effect of Local Fractioned Exposure to X-rays on the Course of Regeneration Process in Cross-striated Muscular Tissue

is repeated. The inflammation reaction differed under the given experimental conditions scarcely from the control. The growth of the granulation tissue was also not considerably suppressed. This growth acts upon the regeneration process as it was detected in previous papers by the author and T. N. Tuzhilkova (Ref 6), V. P. Mikhaylov (Ref 4), and Ye. V. Dmitriyeva (Ref 1). This speaks in favor of the fact that the inhibition observed is the consequence of the damage of the muscular tissue itself. All that confirms the initially mentioned assumption of G. S. Strelin (Ref 7) concerning the "summing up" of the radiation damage. There are 1 figure and 7 Soviet references.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii (Central Scientific Research Institute of Medical Radiology)

PRESENTED: April 27, 1959, by N. N. Anichkov, Academician

SUBMITTED: April 18, 1959

KOZLOVA, N.V.

Lessening antineoplastic resistance in an irradiated organism long after the exposure. Dokl. AN SSSR 150 no.4:916-919 Je '63. (MIRA 16:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii. Predstavleno akademikom N.N. Anichkovym.
(RADIATION--PHYSIOLOGICAL EFFECT)
(ONCOLOGY)

KOZLOVA, N.V.; SUKHOV, F.F.; BAZOV, V.P.

Spectral determination of a relative content of 1,4-cis, 1,4-trans, and 1,2-configurations in polybutadiene samples. Zav. lab. 31 no.8:968-970 '65. (MIRA 18:9)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni Karpova, Moskva.

KOZLOVA, N. V.

KOZLOVA, N. V.: "Progressive procedures for using fertilizers on potatoes on sod-podzolic soils in connection with the properties of the particular variety." Min Higher Education USSR. Leningrad Agricultural Inst. Leningrad, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN AGRICULTURAL SCIENCE).

Knizhnaya Letopis',
No. 25, 1956. Moscow.

Kozlova, N.V.

SAMOYLOV, I.I., akademik; BUSHUYEVA, T.M., kandidat biologicheskikh nauk; KOZLOVA, N.V., kandidat sel'skokhozyaystvennykh nauk.

Effectiveness of organomineral mixtures of various peats with ground phosphorite. Dokl. Akad. sel'khoz. 22 no.3:20-24 '57. (MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii.
(Fertilizers and manures) (Phosphorites) (Peat)

KOZLOVA, N.V.

Effective methods of applying fertilizers to potatoes in turf-Podzolic soils with regard to varietal characteristics. Trudy Vses. inst. sel'khoz. mikrobiol. no.14:174-191 '58. (MIRA 15:4)
(Potatoes--Fertilizers and manures)

SAMOYLOV, I.I. [deceased]; KOZLOVA, N.V.; RUSINOVA, I.P.

Catalase activity in different peat types. Trudy Vses. inst. sel'khoz. mikrobiol. 16:109-115 '60. (MIRA 13:9)
(Catalase) (Peat)

SAMOYLOV, I.I.; KOZLOVA, N.V.; RUSINOVA, I.P.; KRUGLOV, Yu.V.

Effect of bacterization on the activity of organomineral mixtures. Trudy Vses. inst. sel'khoz. mikrobiol. 16:116-122 '60. (MIRA 13:9)
(Fertilizers and manures) (Soil inoculation)

L 47010-66 EWT(m)/EWP(j)/T IJP(c) WW/RM
ACC NR: AP6027285 (A) SOURCE CODE: UR/0191/66/000/008/0060/0062

AUTHOR: Apukhtina, N. P.; Zaytsev, N. B.; Rappoport, L. Ya; Kozlova, N. V.

ORG: none

TITLE: Effect of γ radiation on polyesters of adipic acid and diethylene glycol

SOURCE: Plasticheskiye massy, no. 8, 1966, 60-62

TOPIC TAGS: gamma radiation, irradiation effect, polyester plastic, adipic acid, diethylene glycol, radiation chemistry

ABSTRACT: In a study of the effect of γ radiation on saturated aliphatic polyesters (which are used as the main component in urethane polymers), polydiethylene adipates (PDEA) of molecular weight (MW) ~2000 and 4000 of the structure

$$H-[-OCH_2CH_2OCH_2CH_2O\overset{O}{\overset{\|}{C}}-CH_2CH_2CH_2CH_2\overset{O}{\overset{\|}{C}}-]_n-OCH_2CH_2OCH_2CH_2OH$$

were irradiated with radiation from Co^{60}. The amount of absorbed energy was determined by ferrous sulfate dosimetry. A study of the dependence of the relative viscosity of benzene solutions of the polyesters on the dose absorbed showed a predominant role of cross-linking of PDEA during the irradiation, this effect being more pronounced as MW increases. IR spectroscopic data indicate that the polyester chains

Card 1/2 UDC: 678.674'460'42.01 : 539.122

L 47615-66

ACC NR: AP6027285

broak down at the ester group, forming CO and CO_2; this is associated with a decrease in the quantity of C=O bonds and the appearance of unsaturation in the chain as the dose increases. The cross-linking occurs at the methylene groups. The different positions of the IR bands of α and β methylene groups made it possible to evaluate the relative rates of disappearance of these two types of groups under the influence of γ radiation. The polyester with MW ~4000 irradiated with 200 Mrad converts into a rubberlike elastomer consisting of a mixture of cross-linking and degradation products. Hard, cross-linked polyurethanes were successfully obtained from the irradiated polyesters at equimolar ratios of polyester to 2,4-toluylene diisocyanate at moderate temperatures (60-70°C). The degree of cross-linking of polyurethanes as a function of the dose was determined from the glass transition temperature of the polymers. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 07,12/SUBM DATE: none/ ORIG REF: 002

Card 2/2 vmb

Kozlova, N. V.

SOV/89-5-3-6/15

AUTHORS: Leypunskiy, A. I., Abramov, A. I., Andreyev, V. N., Baryshnikov, A. I., Bondarenko, I. I., Galkov, V. I., Golubev, V. I., Gul'ko, A. D., Guseynov, A. G., Kazachkovskiy, O. D., Kozlova, N. V., Krasnoyarov, N. V., Kuz'minov, B. D., Morozov, V. N., Nikolayev, M. N., Smirenkin, G. N., Stavisskiy, Yu. Ya., Ukraintsev, F. I., Usachev, L. N., Fetisov, N. I., Sherman, L. Ye.

TITLE: Investigations of the Physics of Reactors With Fast Neutrons. I (Issledovaniya po fizike reaktorov na bystrykh neytronakh)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 3, pp. 277-287 (USSR)

ABSTRACT: Since 1950 experiments have been carried out with fast reactors by the Main Administration of the Use of Nuclear Energy. At the Physics Institute of this organization the fast-neutron reactor [redacted] - was put into operation early in 1955, and the reactors [redacted] 2 and [redacted] 3 followed in 1956 and 1957 respectively.

Reactor [redacted] -1:

Power	50 MW
Active zone	diameter and height ~13 cm
Fuel	plutonium diameter ~1 cm
Canning	thin steel tube

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The active zone may be surrounded by 2 mobile shields. Shield 1 consists of depleted uranium, and shield 2 of copper. An additional shield can be fastened on one side on to the shield with a diameter of 70 cm, so that total thickness can be increased to 60 - 100 cm. With this reactor investigations were carried out of: the spatial and energy distribution of the neutrons, of which the results are shown in a table for Pu^{239} (n,f), U^{235} (n,f), U^{235} (n,f), U^{238} (n,f), Np^{237} (n,f), Pu^{240} (n,f), U^{238} (n,γ), Au^{197} (n,γ), U^{238} (n,2n). Measurement of the conversion factor. The latter was determined experimentally as amounting to 2,4 to 2,5. It was also calculated by means of the multi-group computation method in S_4-th approximation (Ref 1). The electronic computer was used under the supervision of Professor Ye. S. Kuznetsov. For computation the experimental values for α of V. I. Kalashnikova (Ref 5), G. N. Smirenkin (Ref 6), B. D. Kuz'minov (Ref 7), and for α the values obtained by P. Ye. Spivak (Ref 8), V. N. Andreyev (Ref 9) were used. As a result of computations the coefficient was found to amount to 2,6.

Card 2/[illegible]

The Distribution of Neutrons in Uranium
The cross sections of the various reactions for the equilibrium spectrum and for the asymptotic spectrum of the depleted uranium was determined both theoretically and experimentally. The asymptotic length of diffusion determined experimentally and theoretically amounts to 9,1 ± 0,1 cm. The average number of fissions of uranium 238 caused by fission neutrons amounts to 0,17 ± 0,01. This is in agreement with the data given by reference 10.
Furthermore, the influence exercised by the resonance structure of the cross sections upon the spatial distribution of the neutrons is investigated. Kh. D. Mishchenko showed that for neutrons with 24 keV the total cross section for copper is reduced by about three times its amount with a modification of target thickness of from 0,5 to 30 mm. There are 12 figures, 7 tables, and 15 references, 9 of which are Soviet.
(Continued on abstract 7/15)

Card 3/[illegible]

Kozlova, N.V.

SOV/89-4-1-7/25

AUTHORS: Leypunskiy, A. I., Abramov, A. I., Andreyev, V. K., Bondarenko, I. I., Gaikov, V. I., Golubev, V. I., Galitsa, A. D., Gurevich, A. G., Kazachkovskiy, O. D., Kozlova, N. V., Krasnoyarov, M. V., Kuz'minov, B. D., Morozov, V. M., Nikolayev, M. N., Sairanskiy, G. K., Stavissiy, Ya. Ya., Ukraintsev, P. I., Vrachev, L. N., Petrov, B. I., Sherman, L. Ya.

TITLE: Investigations of the Physics of Reactors With Fast Neutrons-II (Issledovaniya po fizike reaktorov na bystrykh neytronakh) (Continued from abstract 6/25)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 1, pp. 288-293 (USSR)

ABSTRACT: The reactivity and the kinetics of the reactor were measured. It could be shown that in the center of the active zone the weight of the 5 KeV neutrons is higher by ~15% than that of 250 MeV neutrons. The effective yield of the delayed neutrons in the reactor with a uranium shield exceeds that of a reactor with a copper shield by 1,4 times its amount.
Reactor MR-1:
The active plutonium zone is the same as in reactor BR-1. In the center of the reactor a water-uranium channel is provided, which is separated from the plutonium zone by a uranium layer

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of 8 cm thickness. The uranium-water lattice consists of cylindrical slugs of normal uranium, which have a diameter of 35 mm. The canning material is aluminum. The ratio between water and uranium is 0,55. The lattice spacing is 40 mm. Measurements carried out with the water-uranium lattice instead of with the pure uranium layer showed:
1) The conversion factor is reduced from 2,45 ± 0,10 to 1,7 ± 0,2.
2) In the case of a fixed power output of the active zone the velocity with which the total quantity of plutonium 239 and uranium 235 is formed was increased by 35%.
3) The velocity with which plutonium is produced increased by 1,8 times its amount.
4) In the case of a fixed power output of the active zone the total power output of the reactor is increased by 2,2 times its amount.
Reactor MR-2:
This reactor was described more in detail in reference 12 and 13. Its nominal power output is 120 kW, the maximum output is 200 kW. In the active zone of the reactor BR-2, which consists of plutonium rods, mercury is used as a coolant, which takes up

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~81% of the total volume of the active zone. The regulating rods (interior of shield) are made from a copper-nickel alloy. The external shield consists of uranium slugs canned with stainless steel. Thickness ~25 cm. The uranium shield is surrounded by copper of 15 cm thickness.
The presence of mercury in the active zone leads to a decrease of the content of fast neutrons in the spectrum. The conversion factor was 1,6 ± 0,2.
Theoretically the kinetic equation for this reactor was calculated by G. I. Marchuk according to the method developed by V. S. Vladimirov. Theoretical calculation of the critical mass was carried out with an error of 4%, and that of the effective yield of the delayed neutrons was found to amount to 0,7%. While the experimental value was 0,24 ± 0,04%. There are 7 figures, 1 table, and 13 references, 9 of which are Soviet.

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KOZLOVA, N.V.

21(4) PHASE I BOOK EXPLOITATION SOV/2583

International Conference on the Peaceful Uses of Atomic Engergy. 2nd, Geneva, 1958.

Doklady sovetskikh uchenykh; yadernyye reaktory i yadernaya energetika. (Reports of Soviet Scientists; Nuclear Reactors and Nuclear Power) Moscow, Atomizdat, 1959. 707 p. (Series: Its: Trudy, vol. 2) Errata slip inserted. 8,000 copies printed.

General Eds.: N.A. Dollezhal, Corresponding Member, USSR Academy of Sciences, A.K. Krasin, Doctor of Physical and Mathematical Sciences, A.I. Leypunskiy, Member, Ukrainian SSR Academy of Sciences, I.I. Novikov, Corresponding Member, USSR Academy of Sciences, and V.S. Fursov, Doctor of Physical and Mathematical Sciences; Ed.: A.P. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This book is intended for scientists and engineers engaged in reactor designing, as well as for professors and students of higher technical schools where reactor design is taught.

COVERAGE: This is the second volume of a six-volume collection on the peaceful use of atomic energy. The six volumes contain the reports presented by Soviet scientists at the Second International Conference on Peaceful Uses of Atomic Energy, held from September 1 to 13, 1958 in Geneva. Volume 2 consists of three parts. The first is devoted to atomic power plants under construction in the Soviet Union; the second to experimental and research reactors, the experiments carried out on them, and the work to improve them; and the third, which is predominantly theoretical, to problems of nuclear reactor physics and construction engineering. Yu. I. Korynkin is the science editor of this volume. See SOV/2081 for titles of all volumes of the set. References appear at the end of the articles.

PART II. EXPERIMENTAL AND RESEARCH REACTORS

Leypunskiy, A.I., V.G. Grabin, N.N. Aristarkhov, I.I. Bondarenko, O.D. Kazachkovskiy, O.I. Lyubimtsev, S.A. Pashkov, M.S. Pinkhasik, K.K. Renne, Yu.Ya. Stavisskiy, F.I. Ukraintsev, L.N. Usachev, and K.A. Stumbur. Experimental Fast Reactors in the USSR (Report No. 2129) 215

Kikoin, I.K., V.A. Dmitriyevskiy, I.S. Grigor'yev, Yu.Yu. Glazkov, S.V. Kershnovskiy, and B.G. Dubovskiy. Pilot-plant Reactor With Volatile and Fissionable UF_6 (Report No. 2502) 232

Goncharov, V.V. and et al. Some New and Rebuilt Thermal Research Reactors (Report No. 2185) 243

Brokhovich, B.V., F.Ya. Ovchinnikov, V.I. Klimenkov, P.V. Glazkov, and M.M. Polishnyuk. Dismantling an Experimental Graphite-uranium Isotope Producing Reactor After Four Years of Operation (Report No. 2297) 319

Feynberg, S.M., Ye.D. Vorob'yev, V.M. Gryazev, V.B. Klimentov, K.A. Ivashchenko, and V.A. Tsykanov. An Intermediate Reactor for Obtaining High Intensity Neutron Fluxes (Report No. 2142) 334

PART III. PHYSICS AND ENGINEERING OF REACTOR DESIGN

Leypunskiy, A.I., A.I. Abramov, V.N. Andreyev, A.I. Baryshnikov, I.I. Bondarenko, V.I. Galkov, V.I. Golubev, A.D. Gul'ko, A.G. Gusyenov, O.D. Kazachkovskiy, N.V. Kozlova, N.V. Krasnoyarov, B.D. Kuz'minov, V.N. Morozov, M.N. Nikolayev, G.N. Smirenkin, Yu.Ya. Stavisskiy, F.I. Ukraintsev, L.N. Usachev, M.I. Petisov, D.Ye. Sherman. Research on the Physics of Fast Neutron Reactors (Report No. 2038) 377

Fyakov, V.M. and B.L. Ioffe. Homogeneous Natural Uranium Reactor (Report No. 2296) 398

Feynberg, S.M., Ye.S. Antsiferov, V.P. Katkov, L.V. Komissarov, I.K. Levina, Yu.V. Nikol'skiy, A.N. Novikov, V.S. Osmachkin, G.A. Stolyarov, and Ya.V. Shevelev. Fuel Burn Up in Water-water Power Reactors and Experiments With the Uranium Water Lattice (Report No. 2145) 411

Sidorenko, V.A. Self-regulation in a Water-water Power Reactor (Report No. 2186) 534

199

38909
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B102/B104

21.2110

AUTHORS: Kozlova, N. V., Yurova, L. N.

TITLE: Interaction of fast neutrons with uranium and thorium nuclei

PERIODICAL: Atomnaya energiya, v. 13, no. 1, 1962, 62-63

TEXT: A beam of reactor neutrons with energies between 3.5 and 13.5 Mev (in which the number of neutrons decreases linearly with increasing E_n) was used to study the interaction of neutrons with U and Th nuclei. The beam passed along a steel-lined channel (25 mm wide) and through a paraffin shield to strike the U or Th target, a ball of 23 mm diameter. The scattered neutrons were recorded by НИКФИ-К (NIKFI-K) nuclear emulsion plates of 100 μ thickness. The experiment was carried out in three stages: first the scattered neutrons were recorded, then the target was removed and the background measured, finally the target was replaced by an emulsion plate and the spectrum of the reactor neutrons was measured. The resulting spectra $\sigma(E_n)$ are stated numerically for the scattering angles 30, 45, 60, 90, 120, and 150° in the case of U and 30, 60, 90, 120 and 165° in that of

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Interaction of fast neutrons with...

Th. The differential cross sections were calculated for energy groups of ΔE_n = 1 Mev and are shown in Fig. 3. The $\sigma(E_n)$ values correspond to elastic scattering; the admixture due to inelastic or fission processes is small There are 3 figures and 1 table.

SUBMITTED: December 18, 1961

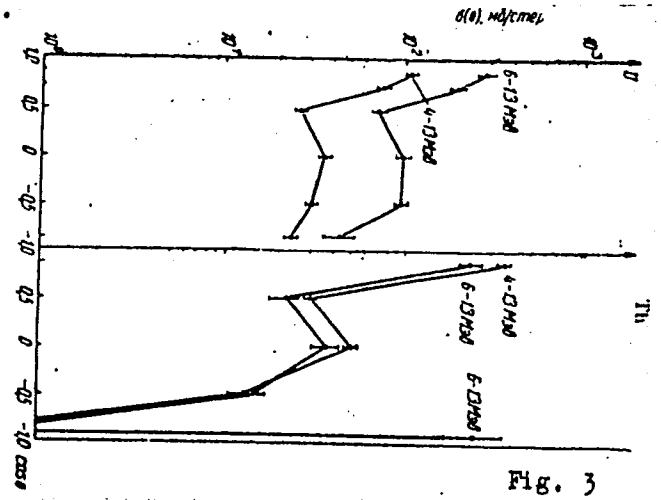

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Fig. 3

ACCESSION NR: AT4018978 S/3064/63/000/004/0059/0090

AUTHOR: Yurova, L. N.; Kozlova, N. V.

TITLE: Non-elastic scattering of fast neutrons

SOURCE: Moscow. Inzh.-fiz. institut. Nekotory*ye voprosy* inzhenernoy fiziki (Some problems in engineering physics), no. 4, 1963, 59-90

TOPIC TAGS: neutron, neutron scattering, fast neutron, non-elastic scattering, magnesium target, nickel target, copper target, zirconium target, lead target, bismuth target

ABSTRACT: In the basic experiment, the results of which are described in this article, neutrons with an energy $E_0 = 2.5$ Mev were obtained as the result of the reaction D(d, n) He^3 with a mean energy of incident deuterons of approximately 170 kev. The tests were conducted on a plane almost perpendicular to the direction of the incident deuterons. The source spectrum consisted of the basic group of neutrons with energy of 2.5 ± 0.120 Mev and neutrons with energy less than 2.0 Mev, caused by the background. To record the neutrons, nuclear photoplates type 4 and Ya-1-2105 obtained from the N.-i. kinofotoinstitut (Scientific Research Institute for Motion Picture Photography) were used with an emulsion layer 200 and 103 microns thick, respectively. In terms of their chemical composition,

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ACCESSION NR: AT4018978

these emulsions resemble the Ilford C-2 emulsion and in the 0.5 - 2.5 Mev energy region have the same decelerating ability. The geometry of the experiment is illustrated. Targets of the test materials were made in the form of truncated cones. The dimensions of these cones and other experimental data are tabulated. The neutron source, the target and the detector are so positioned as to record neutrons scattered at an angle of 100 - 150° (calculated mean scattering angle = 100°). In order to increase the scattering, two targets were used and a photo-plate dector was placed between them, with the emulsion-covered side of the plate coinciding with the direction of propagation of the neutrons. With this type of arrangement, the detector simultaneously records the scattered and the source neutrons. In order to record the background neutrons and the source neutrons, a second detector was positioned symmetrically with respect to the first. Thus, this geometrical arrangement made it possible, in a single experiment, to obtain the spectra and intensity of three different neutron streams (source neutrons, background neutrons and scattered neutrons) at the same time. The yield proton traces were measured on the plates in two directions: in the direction of the source neutron streams and in the direction of the background and scattered neutron streams. Measurements were made of the traces of all yield protons

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ACCESSION NR: AT4018978

located in the emulsion at an angle of not more than 13° to the stream of incident neutrons. In this experiment, the plates measuring the source neutron spectrum also served as monitors. The different measurements were compared on the basis of the intensity of the neutrons of the basic group of the source neutron spectrum (energy region 2.0 - 2.6 Mev), with the same intensity taken in the calculation of the scatter sections. The spectra of neutrons with a minimum energy of 0.8 Mev were considered. In the spectrum of the scattered neutrons, a number of maxima can be discerned, the position of which was determined with an accuracy of ± 50 kev. To each maximum seen in the spectrum of the unelastically scattered neutrons there corresponds a definite excitation energy of the forming nucleus. The derived values for these energies are given in a long table, which incorporates the results of previous studies as well. The various excitation levels and energy values are discussed in detail for each of the test materials (magnesium, nickel, copper, zirconium, lead and bismuth). In a further section of the article, a formula is given for calculating the cross section of elastic and non-elastic scattering of neutrons with an energy of 2.5 Mev and the results of such computations are given in a table. Two control experiments to check the results of the basic experiment are described, and the measurement of the spectra and section of neutrons with an energy of 2.5 Mev non-elastically scattered by lead nuclei at angles of 0 - 40° and 100° is considered. The values

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ACCESSION NR: AT4018978

derived in this work for the elastic scattering section are in good agreement with the results of other previously published work. This is also true of the energy values of the nuclear excitation levels. The cross section values for non-elastic neutron scattering with excitation of individual nuclear levels are, by and large, in satisfactory agreement with previous findings. All results confirm the presence of anisotropy in the angular distribution of non-elastically scattered neutrons with incident neutron energy on the order of 2.5 Mev. "The measurements of Ni were carried out by T.Ye. Petrova in 1954, those on Zr by G.V. Kotel'nikova in 1955." Orig. art. has: 5 tables and 11 figures.

ASSOCIATION: Inzh.-fiz. institut, Moscow (Engineering Physics Institute)

SUBMITTED: 00 DATE ACQ: 05Mar64 ENCL: 01

SUB CODE: NP NO REF SOV: 014 OTHER: 024

Card 4/5

ACCESSION NR: AT4016978

ENCLOSURE: 01

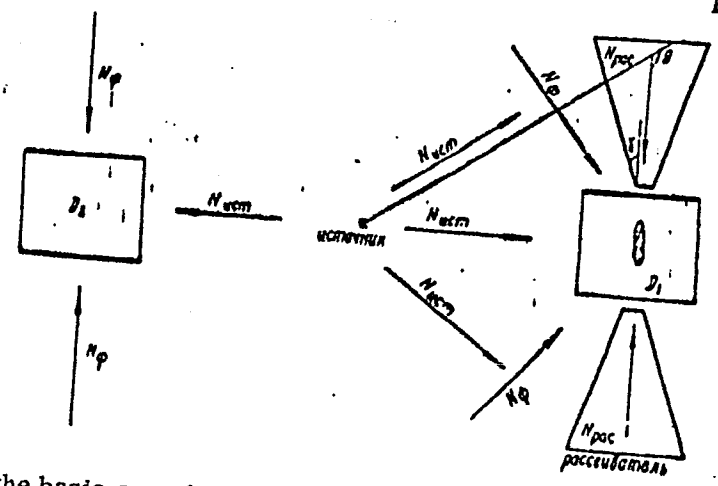

Fig. 1. Diagram of the basic experiment with two cones: D_1 - photoplate-detector recording source neutrons, neutrons scattered by both cones and background neutrons; D_2 - photoplate-detector recording source and background neutrons; θ - scattering angle; N_{ucm}, N_ϕ, and N_{pac} - respectively, the flow directions of the source, background and scattered neutrons; ν - the angle at the apex of the cone.

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31547

18.8400 SOV/137-58-5-11661

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 311-312 (USSR)

AUTHORS: Rudnevskiy, N.K., Kozlova, N.V., Kazarina, T.P.

TITLE: Using a Spark and an Arc for Investigations Into the Dependence of the Intensity of Magnesium and Aluminum Lines on Their Concentration in a Binary Magnesium - Aluminum Alloy

PERIODICAL: Uch. zap. Gor'kovsk. un-ta, 1958, Nr 32, pp 161 - 167

ABSTRACT: The authors investigated the dependence of the absolute and the relative intensity of Mg and Al lines on their concentration in an Mg-Al alloy. A spark collected by the Rayskiy circuit and an a-c arc of the Sventitskiy circuit were used as sources for the spectrum excitation. Mg-Al alloys contained 2.3 - 9.8% Al. The specimens were bar-shaped having 1.5 x 4.5 x x 3 cm dimension. The photographic records of the spectrum were made with an ISP-22 spectrograph. When analyzing Mg-Al alloys in the a-c arc, compared to the spark, changes in the current of its composition cause greater changes in the absolute intensity

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SOV/137-59-5-11661

Using a Spark and an Arc for Investigations Into the Dependence of the Intensity of Magnesium and Aluminum Lines on Their Concentration in a Binary Magnesium - Aluminum Alloy

of the alloy base lines, while the absolute intensity of Mg arc and spark lines remains practically unchanged in the spark of the investigated Mg concentration range, the changes in the arc are substantial. The character of changes in the intensity of Mg arc and spark lines is different. This may be explained by changes in the arc discharge temperature. It is shown that in the a-c arc the dependence of absolute and relative intensity of the Al I 3082.16 Å arc line on the Al concentration in the alloy (2 - 10%) is not described by Lomakin's formula, but by the exponential formula $J = Ae^{kc}$, where A and k are constant values, and c is the Al concentration in the alloy.

A.Sh.

Card 2/2