"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

SZYMKIEWICZ, Jerzy, doc. dr inz.; BYCZKOWSKI, Stanislaw, inz.

Directives for the classification of bridges and new load standards. Techn drog prace 1:125-138'63.

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POLAND

WAWRZYNIAK, Edward, Dr. pharm., Chair of Toxicological and Legal Chemistry (Katedra Chemii Toksykologicznej i Sadowej), Medical Academy (Akademia Medyczna) in Gdansk (Director: Prof. Dr. Stanislaw BYCZKOWSKI)

"New Color Reactions for Ergosterol Photoisomers."

Warsaw, Farmacja Polska, Vol 19, No 8, 25 Apr 63, pp 153-154.

Abstract: The author describes two modifications (I and II) of color reaction methods for vitamin D_2, which can be used to determine calciferol in the pure form or in a mixture with other photoisomers, as well as a new reagent (III) for selective color testing for ergosterol. All have the advantage of being able to be used on a microanalytical basis by the drop method. Adaptation for quantitative analysis to be published separately. There are ten (10) references, five (5) each for German and Western sources.

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BYCZWAROW, Marin

"Geography of the industries in Bulgaria" by T. Christow. Reviewed by Marin Byczwarow. Przegl geogr 35 no.2:289-291 '63.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYCZYNSKA, B.; LASIEWICZ, K.

Analysis of the mixture of ammonium salts of amino-, imino, nitryl-sulfonic and sulfuric acid. p. 1027.

CHEMIA ANALITYCZNA. (Komisja Analityczna Polskiej Akademii Nauk i Naczelna Organizacja Techniczna) Warszawa, Poland. Vol. 3, No. 5/6, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 8, August 1959 Uncl.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYCZYNSKA, BARBARA

Distr: 4E2c

Complexometric determination of calcium in technical phosphoric acid. Krystyna Lasiewicz, Barbara Byczyńska, and Henryka Zawadzka (Inst. Kwasu Siarkowego i Nawozów Fosforowych, Lubon, Poland). *Chem. Anal.* 3, 1041–3 (1958).—Place 1–1.5 g. H_3PO_4 in a 200-ml. flask, dil. with 100 ml. water and heat to about 70°, add 30–40 ml. 10% aq. $FeCl_3$ and 4*N* KOH to pH 6. Dil. with water to 200 ml. and filter at 70°. To 100 ml. of filtrate, add a small amt. of ascorbic acid, 5 ml. 4*N* KOH, and a small amt. of KCN; stir until salt dissolves. Add indicator (0.1 g. of murexide and 0.1 g. of Naphthol Green mixed with 100 g. NaCl) to obtain a red or grayish red color and titrate with 0.01*M* di-Na versenate to blue or blue-green. The Ca content is calcd. thus: % Ca = 0.08 *a*/*b*; *a* and *b* are the vol. of versenate in ml. and the wt. of sample in g., resp. Z. K.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BARBARA BYCZYNSKA

6

Complexometric determination of phosphates in presence of soluble silicates. Krystyna Lasiewicz, Henryka Zawadzka, and Barbara Byczyńska (Inst. Kwasu Siarkowego i Nawozów Fosforowych, Gdańsk, Poland). *Chem. Anal.* 3, 1043–4(1958).—The recommended procedure is as follows: Shake a 2.5-g. sample with 250 ml. 2% citric acid for 30 min. and filter. Evap. 25 ml. of the filtrate to 5 ml., add 20 ml. H_2SO_4 (d. 1.84) and about 0.1 g. NH_4F, and boil for 1 min. Neutralize the soln. with NH_4 in presence of methyl orange, add 25 ml. NH_4 citrate and 13 ml. of a Mg mixt. Filter the NH_4MgPO_4, dissolve it in a small amt. of dil. HCl, neutralize the soln. with NH_3 (2 drops of methyl orange), add 20 ml. 0.1 *M* di-Na versenate, 6 ml. of buffer (67.5 g. NH_4Cl and 570 ml. concd. NH_3 dissolved in 1 l. of water) and titrate to a red color with 0.1 *M* Mg (0.243 g. Mg dissolved in a small amt. of dil. HCl (1:1) and dild. with water to 1 l.) in presence of Eriochrome Black as an indicator.

Z. Kurtyka

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYCZYNSKA, B.; ZAWADZKA, H.; LASIEWICZ, K.

Complexometric determination of zinc in pyrites, marcasites, and their ashes. p.1045.

CHAMIA ANALITYCZNA. (Komisja Analityczna Polskiej Akademii Nauk i Naczelna Organicacja Techniczna) Warszawa, Poland. Vol. 3, No. 5/6, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, August 1959
Uncl.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

L 30061-66

ACC NR: AP6020611 SOURCE CODE: GE/0063/66/342/01-/0103/0107

AUTHOR: Kolaczkowski, S.; Byczynski, H.

23
B

ORG: Research Facility, Institute of Communal Economy, Poznan, Poland

TITLE: Oxidation of iron (II) hydrogen carbonate solutions by means of atmospheric oxygen

SOURCE: Zeitschrift fur anorganische und allgemeine Chemie, v. 342, no. 1-2, 1966, 103-107

TOPIC TAGS: hydrolysis, oxidation, iron compound

ABSTRACT: Due to hydrolysis reactions, an aqueous solution of $Fe(HCO_3)_2$ is easily oxidized to yellow α-FeOOH by atmospheric oxygen. In the presence of an appropriate amount of CO_2, however, the Fe^{++} ions are stable against atmospheric oxygen. These observations were made with solutions having, in both cases, a pH of about 6. The authors thank Prof., Doctor A. Krause, Poznan for his interest. Orig. art. has: 1 figure and 2 tables. [Based on authors' Eng. abstract] [JPRS]

SUB CODE: 07 / SUBM DATE: 08Apr65 / ORIG REF: 002

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYCZYNSKA, Maria

Psychological problems in the rehabilitation following spinal fractures with paralysis. Chir. narz. ruchu 24 no.1:----- 1959.

1. Z Kliniki Ortopedycznej A.M. w Poznaniu Kierownik: prof. dr W. Dega Poznan, ul Dzierzynskiego 135, Klinika Ortopedczna A.M.
(SPINE, fract.
with paralysis, psychol. aspects of rehabil. (Pol))
(PARALYSIS, etiol. & pathogen.
spinal fract., psychol. aspects of rehabil. (Pol))

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

WOZNY, Wojciech; BYCZYNSKA, Maria; MILANOWSKA, Kazimiera

Rehabilitation therapy of orthopedic patients in old age. Chir. narz.ruchu ortop.polska 24 no.6:495-498 '59.

1. Z Kliniki Ortopedycznej A.M. w Poznaniu. Kierownik: prof.dr W. Dega.

(GERIATRICS)
(ORTHOPEDICS)
(REHABILITATION)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

ZEBROWSKI, Leon; MAJEWSKA, Halina; BYCZYNSKI, Zbigniew

Investigations on the variability of the pathogenicity of Newcastle Disease Virus (NDV). Acta microbiol. Pol 13 no.3:205-210 '64.

1. From the Laboratory of General Virology, Institute of Veterinary Research, Pulawy.

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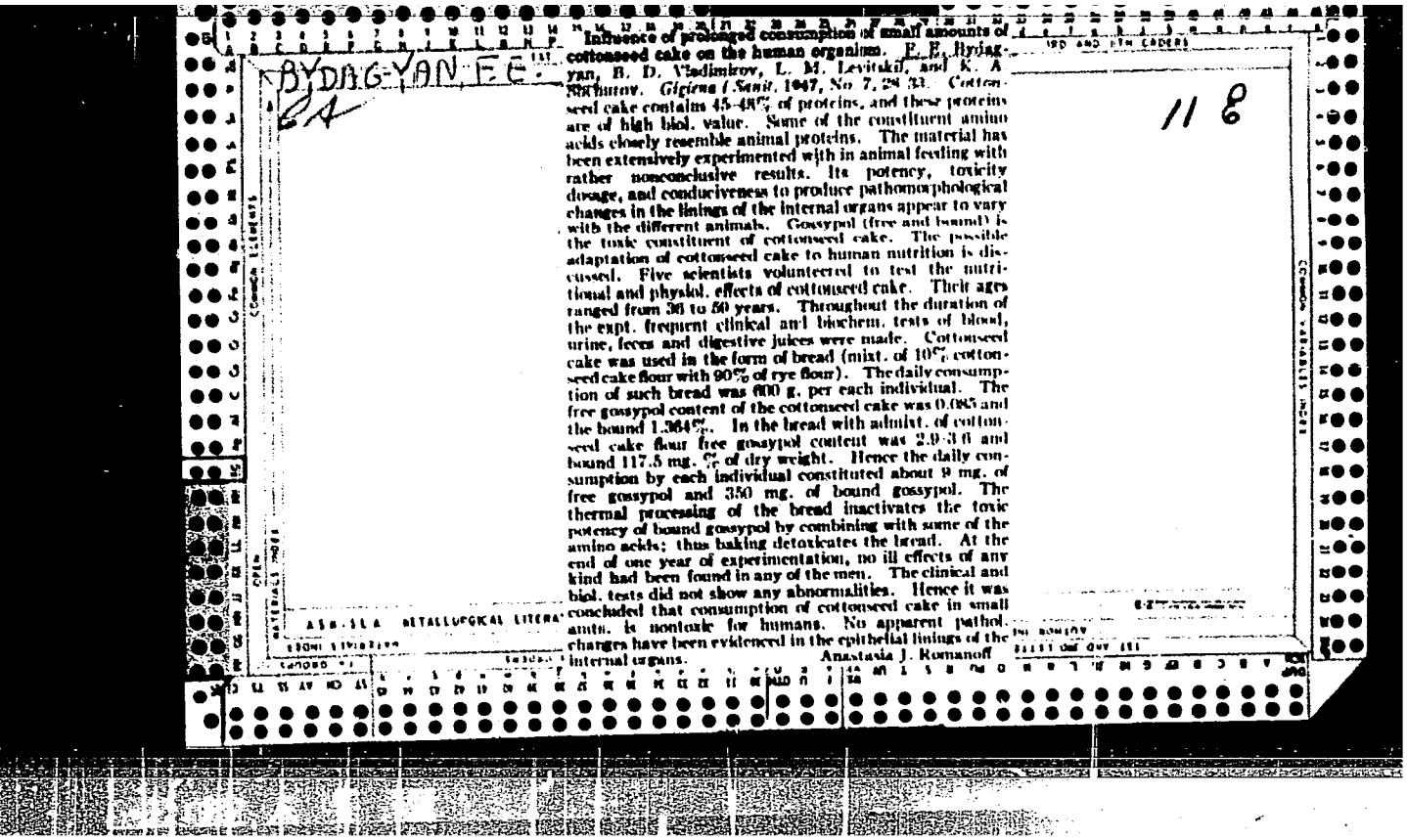

Influence of prolonged consumption of small amounts of cottonseed cake on the human organism. E. E. Ilyiaz-yan, B. D. Vladimirov, L. M. Levitskii, and K. A. Shchurov. *Gigiena i Sanit.* 1947, No. 7, 28-33. Cottonseed cake contains 45-48% of proteins, and these proteins are of high biol. value. Some of the constituent amino acids closely resemble animal proteins. The material has been extensively experimented with in animal feeding with rather nonconclusive results. Its potency, toxicity dosage, and conduciveness to produce pathomorphological changes in the linings of the internal organs appear to vary with the different animals. Gossypol (free and bound) is the toxic constituent of cottonseed cake. The possible adaptation of cottonseed cake to human nutrition is discussed. Five scientists volunteered to test the nutritional and physiol. effects of cottonseed cake. Their ages ranged from 36 to 50 years. Throughout the duration of the expt. frequent clinical and biochem. tests of blood, urine, feces and digestive juices were made. Cottonseed cake was used in the form of bread (mixt. of 10% cottonseed cake flour with 90% of rye flour). The daily consumption of such bread was 600 g. per each individual. The free gossypol content of the cottonseed cake was 0.085 and the bound 1.364%. In the bread with admixt. of cottonseed cake flour free gossypol content was 2.9-3.6 and bound 117.5 mg. % of dry weight. Hence the daily consumption by each individual constituted about 9 mg. of free gossypol and 350 mg. of bound gossypol. The thermal processing of the bread inactivates the toxic potency of bound gossypol by combining with some of the amino acids; thus baking detoxicates the bread. At the end of one year of experimentation, no ill effects of any kind had been found in any of the men. The clinical and biol. tests did not show any abnormalities. Hence it was concluded that consumption of cottonseed cake in small amts. is nontoxic for humans. No apparent pathol. changes have been evidenced in the epithelial linings of the internal organs.

Anastasia J. Romanoff

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

P/042/60/000/011/002/003
A076/A026

AUTHOR: Bydałek, Andrzej, Master of Engineering

TITLE: Refining Light Alloys by Filtering

PERIODICAL: Przegląd Odlewnictwa, 1960, No. 11, pp. 317 - 320

TEXT: The article describes in general aluminum and aluminum alloys refining tests made by the Katedra Odlewnictwa (Foundry Department) of the Wrocław Polytechnic. The mechanical aluminum filtering device used consisted of: a refining chamber, an oil filter, a vacuum gauge and an oil vacuum pump. Through the application of mechanical filtering with underpressure in an overflow ladle a degassing and partial removal of stable non-metallic inclusions was obtained. It was expressed by increased strength properties and decreased porosity of the investigated alloys, i.e. Al 10, containing 99.5% of Al and heated to 750°C. Further, an increase in the refining effect was obtained by filtering in d-c electric field. There are 8 figures, 2 tables and 5 references: 4 Soviet and 1 German.

SUBMITTED: June 27, 1960

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK, Andrzej, dr., ins.

Contribution to studies on filling the mould with metal.
Przegl odlew 11 no.10:294-298 '61.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK, Andrzej, dr inz.

Possibilities of utilizing the mold filling ability tests in the computation of the gating system. Przegl odlew 12 no.8/9:255-266 Ag-S '62.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK ANDRZEJ

Corrosion of cast iron in tap water. Andrzej Bydalek. *Gaz, Woda i Tech. Sanit.* 29, 303–7(1955).—Influence of alloying addns. to gray cast iron on its corrosion behavior in a running tap water (pH 8.0) was investigated. The compn. of the basic material was: C 3.72, Si 1.74, Mn 0.54, P 0.41, S 0.020%. Addns. of Al, Cr, Ni, and Cu were supposed to give a more uniform and tight matrix structure, to form solid solns. or compds. with a high electrode potential, and to give an alloy able to form tenacious and adherent coating of corrosion products. Two series of tests were run with 13 different compns.: wt. loss after 21 days of corrosion in cylinders through which 75 cc./min. of tap water at 16–18° were running, and potential measurements at 20 ± 0.5° after 1, 2, 5, 15, 30, 60, 120, 144, and 2880 min. of corrosion. For these last tests cylindrical samples were used cemented with a purified beeswax to the ends of an "L"-shaped glass tubes through which Cu wire connections passed. Five types of alloying addns. were investigated: (*A*) Cr, Ni, and Cu; (*B*) Al; (*C*) Al with a lower C content, but a higher one of Si; (*D*) Al, Cr, and Cu; (*E*) Al and Cu. Alloys of type *A* do not represent any improvement over the original cast iron because of the presence of free cementite in the structure. Addn. of 5.4% Al doubles the corrosion resistance of the cast iron: 45 mg./sq. cm. wt. loss compared with 90 mg./sq. cm. because of formation of an adherent corrosion products layer on the surface. Alloys of type *C*, Al 5.12, Si 3.65, C 2.03%, give the best results, 30 mg./sq. cm. wt. loss, through an addnl. decrease of free graphite inclusions. An alloy *D* Al 2.12, Cr 0.62, Cu 0.55% has a corrosion resistance similar to *C* and the best potential curve indicating an increase of passivity with time. Alloys of type *E* indicate the presence of ferritic structure with coarse graphite inclusions which is deleterious for corrosion resistance.

Henry W. Lawendel

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK, A.

Chemical hardening of molds.

p. 102 (Mechanika. No. 2, 1956. Wroclaw, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK, A.: CUMIENNY, H.; STOLARSKI, M.

Hardening of molds and cores woth carbom dioxide. p. 161.

(PRZWGLAD ODLEWNICTWA. Vol. 7, No. 6, June, 1957, Krakow, Poland.)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDALEK, Andrzej, dr inz., adiunkt

Determination of the gas content in ight alloys based on density measurements. Mechanika Wroclaw no.9:43-58 '63.

1. Department of Foundry Practice of the Technical University, Wroclaw.

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BYDANTSEV, N.

In the health campaign for cotton growers of the "Pakhta-Aral".
Zdrav.Kazakh. 17 no.10/11:63-64 '57. (MIRA 12:6)

1. Zav. Il'ichevskim rayzdravotdelom Yuzhno-Kazakhstanskoy oblasti.
(IL'ICH DISTRICT (KAZAKHSTAN)--PUBLIC HEALTH)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

Z/056/62/019/002/003/014
I037/I242

AUTHOR: Bydatek, A.

TITLE: Filtration of light alloys in industrial applications

PERIODICAL: Přehled technické a hospodářské Literatury, Hutnictví a strojírenství, v.19, no.2, 1962, 89, abstract HS62-1130 (Przegl. Odlew., v.11, no.6, 1961, 184-187)

TEXT: Description of the industrial set-up for filtration of light aluminum alloys in a direct current electrical field. A suitable method for removal of non-metallic admixtures from liquid metal. The results of the research are verified by technological tests of porosity, stability and contractability. 5 photos, 1 drawing, 2 tables, 4 references.

[Abstracter's note: Complete translation.]

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L 31111-66 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/WW/JG

ACC NR: AP6001237 SOURCE CODE: UR/0363/65/001/012/2205/2207

AUTHOR: Kornilov, I. I.; Alisova, S. P.; Bydberg, P. B.

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

TITLE: Diagram of the phase equilibrium of the intermetallic system $NbCr_2$ - $ZrCr_2$

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 12, 1965, 2205-2207

TOPIC TAGS: niobium compound, chromium compound, zirconium compound, solid solution, intermetallic compound, phase equilibrium, phase diagram, thermal analysis

ABSTRACT: The study involved a section of the ternary system Bn-Zr-Cr between the intermetallic compounds $NbCr_2$ and $ZrCr_2$, which are AB_2-type Laves phases having a polymorphous transition. High-temperature thermal analysis with N. A. Nedumov's apparatus, and x-ray phase and microstructural analyses were employed. The phase diagram obtained was characteristic of a system with a continuous series of solid solutions. A comparison of $NbCr_2$ and $ZrCr_2$ showed the same lattice type and only slight differences in lattice constants; in addition, the atomic similarity of the elements and the closeness of the stoichiometric composition led to the conclusion that a continuous series of solid solutions is formed between both the low-temperature and high-temperature modifications of these compounds. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11, 07 / SUBM DATE: 28May65 / ORIG REF: 006 / OTH REF: 001

Card 1/1 UDC: 546.74'76+546.831'76

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDELSKY, Jaroslav, inz.

Time relay in automatic controls. Elektrotechnik 18 no.7:209-211 Jl '63.

1. Zavody prumyslove automatizace, n.p., Trutnov.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I., inzh.

Interaction of the operation of the KS-2u rock loader with that of rock hoists. Izv.vys.uchsb.zav.;gor.zhur. 6 no.11:27-32 '63. (MIRA 17:4)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

ZHADAYEV, V.G.; BYDEROVSKIY, S.I.

The KS-1m combined equipment for sinking mine shafts. Biul. tekh. ekon. inform. no.9:3-6 '59. (MIRA 13:3)
(Shaft sinking)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I., inzh.; GLADUN, I.N., inzh.; SHAVKUN, B.I.; LEYCHIK, V.M.

Record-speed shaft sinking at the Vaal Reef mine. Shakht.stroi. 4 no.2:30-32 F '60. (MIRA 13:5)
(South Africa, Union of --Shaft sinking)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

GLADUN, I.N., inzh.; BYDEROVSKIY, S.I., inzh.; MARTYANOVA, M.I.

Record-breaking shaft sinking at a rate of 305.3 m. per month in South Africa. Shakht. stroi. 4 no.4:28-30 Ap '60. (MIRA 13:11)
(South Africa, Union of--Shaft sinking)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I., inzh.; KOLINA, M.G.

Shaft sinking record at the Buffelsfontein Mine (Republic of South Africa (from "Mining Journal," Nos. 6607 and 6608, 1962 and "The South African Mining and Engineering Journal," no. 3609, 1962). Shakht. stroi. 6 no.7:27-28 Jl '62. (MIRA 15:7)
(South Africa, Republic of--Shaft sinking)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I., inzh.; KOLINA, M.G.

Sinking a shaft 2267.3 m. deep in 14.5 months (from "The South African Mining and Engineering Journal," no. 3594, 1961). Shakht. stroi. 6 no.5:29-30 My '62. (MIRA 15:7)
(South Africa, Union of—Shaft sinking)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

GORBACHEVA, A.I.; BYDEROVSKIY, S.I.; SHAPOVALOV, O.G.

Using the KS-2m shaft-sinking unit under conditions found in the Krivoy Rog Basin. Trudy TSNIIPodzemshakhtstroia no.1: 38-51 '62. (MIRA 16:8)

(Krivoy Rog Basin—Shaft sinking—Equipment and supplies)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.L.

Rapid shaft-sinking unit, made by the Donets Economic Council, for use at Mine No. 29. Trudy TSNIIPodzemshakhstroia no.1: 51-62 '62. (MIRA 16:8)

(Donets Basin—Shaft sinking—Equipment and supplies)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I., inzh.; STUPEL', R.O., inzh.

New mining grader. Shakht. stroi. 7 no.7:31-32 Jl '63.
(MIRA 16:10)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY S.I., inzh.; STUPEL', R.O., inzh.

Large load hoisting buckets. Shakht.stroi. 8 no.3:16-17 Mr '64.
(MIRA 17:3)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

ZASLAVSKIY, Yu.Z., kand. tekhn. nauk (Donetsk); KOCHETOV, V.V., kand. tekhn. nauk; BYDEROVSKIY, S.I., inzh.; PUL'MAN, V.M., inzh.; KAZAKEVICH, E.V., inzh.; MAKSIMCHUK, A.A., inzh.

Create a Soviet firm for vertical shaft sinking. Gor. zhur. no.9:5-8 S '64. (MIRA 17:12)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva, Moskva (for Kochetov, Byderovskiy). 2. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Pul'man, Kazakevich, Maksimchuk).

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDFROVSKIY, S.I.; KOBYZEV, S.S.

Comparative testing of shaft sinking clamshells. Trudy TSNIIPodzemshakhtstroia no.2:3-13 '63. (MIRA 17:5)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDEROVSKIY, S.I.; STUPEL', R.O.

The BPS-5,5 unit. Trudy TSNIIPodzemshakhtstroia no.3:12-22 '64.
(MIRA 18:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

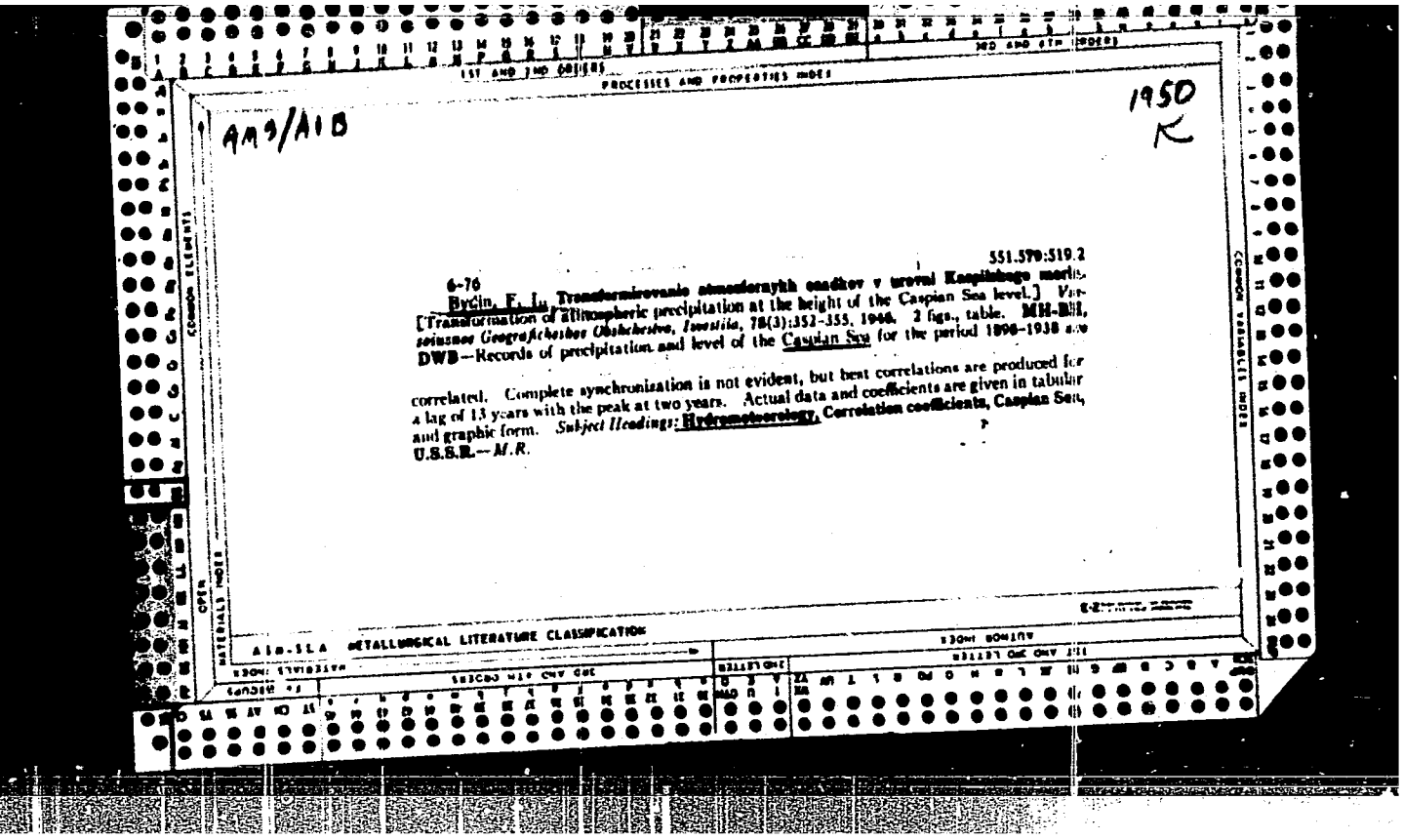
BYDELSKY, Jaroslav, inz.

Automatic device for gradual connection. Elektrotechnik 18 no.7: 214-215 Jl '63.

1. Zavody prumyslove automatizace, n.p., Trutnov.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8



AMS/AID

1950
K

551.579:519.2

6-76

Bydin, F. Iu. Transformirovanie atmosfernykh osadkov v urovni Kaspiiskogo moria. [Transformation of atmospheric precipitation at the height of the Caspian Sea level.] *Vsesoiuznoe Geograficheskoe Obshchestvo, Izvestiia*, 78(3):352-355, 1946. 2 figs., table. **MH-Bill, DWB**—Records of precipitation and level of the Caspian Sea for the period 1900–1938 are correlated. Complete synchronization is not evident, but best correlations are produced for a lag of 13 years with the peak at two years. Actual data and coefficients are given in tabular and graphic form. *Subject Headings:* **Hydrometeorology, Correlation coefficients, Caspian Sea, U.S.S.R.**—*M.R.*

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

21495 BYDIN, P. I.

Transformirovaniye velichin atmosfernykh osadkov i gidrologicheskiye kharakteristiki.
Trudy Vtorogo Vsesoyuz. geogr. s"yezda. T. I.M., 1948, s. 290 - 9(.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F. I.

PA 37/49T88

USSR/Hydrology Feb 49
Ice Formation

"Wrecks Caused by Ice-Flow," F. I. Bydin, 2 pp

"Priroda" No 2

Describes damage done by ice jam at Niagara Falls in 1938, with map, and three photographs.

[redacted] 37/49T88

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F. I. PA 48/49T49

USSR/Hydrography Mar/Apr 49
Water Resources

"Water Resources of the USSR, Their Study and Utilization," F. I. Bydin, 3/4 p

"Iz v-s Geograf Obshch" Vol LXXXI, No 2

Summarizes Bydin's views as set forth in two recent papers, on organization of study of USSR water resources. As a result of his efforts, a special commission has been formed within the All-Union Geog Soc.

48/49T49

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

BYDIN, F.I.

Method of computing the rainfall water intake of a lake and its levels. Trudy Lab.ozeroved. 1:130-150 '50. (MLRA 7:7)
(Rain and rainfall) (Lakes)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

1. BYDIN, F. I.

2. USSR (600)

4. Hydroelectric Power Stations

7. "Ice difficultios of hydroelectric power stations." D. N. Bibikov, N. N. Petrunichev. Gidr.stroi. 21 no. 10 1952

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

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, Fedor Ignat'yevich

(Laboratory of Lake Studies Acad Sci USSR) Academic degree of Doctor of Technicals Sciences, based on his defense, 26 October 1953, in the Council of the Moscow Inst of Water Economy Engineers imeni Vil'yams, of his dissertation entitled: "The transformation of the quantities of atmospheric precipitations into hydrological characteristics."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 222, 12 Nov 55, Byulleten' MVO SSSR, No. 19, Oct 56, Moscow, pp. 13-24, Uncl. JPRS/NY-536

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Maximum natural inflow of water per second into lakes, reservoirs or at individual water gauge points. Trudy Lab.ozeroved. 2:148-153 '53. (MLRA 7:9)

(Hydrography)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Inflow of rainfall into ponds and its loss. Trudy Lab.ozeroved. 3:118-126 '54. (MLRA 8:2)
(Ponds) (Rain and rainfall)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Methods of analyzing water resources in their relation to atmospheric precipitation. Geog.sbor. no.6:5-80 '54. (MLRA 8:5)
(Hydrology) (Precipitation (Meteorology))

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Effect of water inflow modifications on the level of lakes. Geog. sbor. no.6:142-152 '54. (MLRA 8:5)
(Lakes) (Hydrology)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

-BY DIN, F. I.

3(4) PHASE I BOOK EXPLOITATION SOV/5031

Moscow. Universitet. Geograficheskiy fakul'tet

Voprosy gidrologii (Problems in Hydrology) [Moscow] Izd-vo Moskovskogo univ., 1957. 231 p. 2,100 copies printed.

Resp. Ed.: I. V. Komarov and L. D. Kordyumov; Tech. Ed.: N.S. Ivanchik.

PURPOSE: This book is intended for hydrologists and geographers.

COVERAGE: This collection of articles on the hydrology of the USSR is dedicated to Professor Ye. V. Blizniyak, Doctor of Technical Sciences. Among the topics discussed are: 1) the effect of air temperature on flow volume, 2) the calculation of flower runoff, 3) the speed of flood waters, 4) stream levels, 5) the spring floods, 6) suspended sediments in running streams, 7) the

Card 1/6

effect of agricultural practices on hydrology, and others. The discussions are accompanied by maps, graphs, and tables illustrating the present or long-term hydrology of the USSR. References accompany each article.

TABLE OF CONTENTS:

Intro. to Drainage Net Structure 3

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Chebotarev, I. F. Problems of Geographic Interpolation in Hydrology 56

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Gonchárov, V. N., and V. I. Poltavtsev. River Bed Deformations in the Region of Dam Foundations on Mountain Streams 69

Ivanov, K. V. Characteristics of Stream Level Status Regimes 79

Bydin, P. I. Maximum Flooding as Related to Snow Melting 88

Card 3/6

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Expansion of the calculation basis of the flowoff of rivers. Trudy Lab. ozeroved. 5:276-283 '57. (MLRA 10:9)
(Runoff)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I., otv. red.

[Water-power resources of the Kola Peninsula] Vodnoenergeticheskie resursy Kol'skogo poluostrova. Moskva, Akad. nauk 1958. Vol.1.[Vostochnaya Litsa River and Kharlovka River] Reki Vostochnaia Lits i Kharlovka. Vol.2. [Pony River] Reka Ponoi. (MIRA 14:7)

1. Akademiya nauk SSSR. Kol'skiy filial, Kirovsk.
(Kola Peninsula—Rivers)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Studying the influx of water in Lake Onega. Izv. Kar. i Kol'. fil. AN SSSR no.2:170-172 '58. (MIRA 11:9)

1.Otdel gidrologii i vodnogo khozyaystva Karel'skogo filiala AN SSSR.
(Onega, Lake--Hydrology)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Uncorrected errors in the calculation of water runoff moduli.
Izv.Kar. i Kol'.fil.AN SSSR no.3:57-58 ' 58. (MIRA 11:12)

1. Otdel gidrologii Karel'skogo filiala AN SSSR.
(Runoff)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Irregularities in atmospheric precipitation in Karelia. Izv.Kar. i Kol'.fil.AN SSSR no.4:172-174 '58. (MIRA 12:5)

1. Otdel gidrologii Karel'skogo filiala AN SSSR.
(Karelia--Precipitation (Meteorology))

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

PHASE I BOOK EXPLOITATION SOV/2210

3(4,7)

Vsesoyuznyy gidrologicheskiy s"yezd, 3-d, Leningrad, 1957.

Trudy...t. III: Sektsiya gidrofiziki (Transactions of the 3rd All-Union Hydrological Convention. v. 3: Hydrophysics Section) Leningrad, Gidrometeoizdat, 1959. 470 p. Errata slip inserted. 2,000 copies printed.

Sponsoring agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Resp. Ed.: V.A. Uryvayev; Ed.: V.S. Protopopov; Tech. Ed.: M.I. Bragmina.

PURPOSE: This work is intended for meteorologists, hydrologists, and hydrophysicists, particularly those engaged in the study of snow and ice and evaporation processes.

COVERAGE: This book contains papers on hydrophysics which were presented and discussed at the Third All-Union Hydrological Conference in Leningrad, October 1957. The Conference published 10 volumes on various aspects of hydrology of which this is number 3. The editorial board in charge of the series included: V.A. Uryvayev (Chairman), O.A. Alekin, Ye.V. Blinyak (deceased), O.N. Boreyk, M.A. Velikanov, L.K. Davydov, A.P. Domanitskiy, G.P. Kalinin, S.M. Kritskiy, B.I. Nudelin, L.P. Nanosa, M.F. Nenkel', B.P. Orlov, I.V. Popov, A.K. Proskuryakov, D.L. Sokolovskiy, O.A. Spengler, A.I. Chebotarev, and S.K. Cherkasskiy. This volume is divided into 2 sections: the first contains reports from the subsection for the study of evaporation processes, and the second contains reports from the snow and ice subsection. References accompany each article.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Atmospheric precipitation, runoff, and evaporation in the Kola Peninsula. Izv. Kar. i Kol'. fil. AN SSSR no.1:75-77 '59. (MIRA 12:9)

1.Otdel gidrologii i gidroenergetiki Kol'skogo filiala AN SSSR.
(Kola Peninsula--Hydrology)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Precipitation - runoff problem in small drainage basins. Trudy Kazan. fil. AN SSSR. Ser. energ. i vod. khoz. no.4:104-111 '59. (MIRA 13:8)

1. Laboratoriya ozerovedeniya AN SSSR.
(Ladoga region--Runoff)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BERG, Vadim Andreyevich; BYDIN, F.I., otv. red.; SHATILINA, M.K., red.; BRAYNINA, M.I., tekhn. red.

[Principles of hydraulic engineering] Osnovy gidrotekhniki. Leningrad, Gidrometeoizdat, 1963. 472 p. (MIRA 16:5)
(Hydraulic engineering)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

MARKOV, Petr Ivanovich; BYDIN, F.I., doktor tekhn. nauk, otv. red.

[Potential hydroelectric power resources of river basins] Potentsial'nye gidroenergeticheskie resursy rechnykh basseinov. Moskva, Nauka, 1964. 112 p. (MIRA 17:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, F.I.

Hungarian studies on problems of ice research. Trudy Transp.-energ. inst. Sib. otd. AN SSSR no.15:140-142 '64.
(MIRA 18:6)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, L.N., inzhener.

Ice roads across the Volga at the Stalingrad Hydroelectric Power Station. Gidr.stroi. 25 no.11:11-15 D '56. (MLRA 10:1)
(Stalingrad Hydroelectric Power Station) (Roads, Ice)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

AUTHORS: Bydin, L. N., Nikolayev, S. B. 5o-58-5-12/2o

TITLE: Experience Organizing Hydrometeorological Services During the Construction of the Stalingrad Hydroelectric Power Plant (Opyt organizatsii gidrometeorologicheskogo obsluzhivaniya stroitel'stva Stalingradskoy gidroelektrostantsii)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 5, pp 48-5o (USSR)

ABSTRACT: Seven years passed since the beginning of construction of the largest power plant on the Volga. At the outskirts of the new town Volzhskiy, at the high Akhtuba bank, the buildings of the Stalingrad Hydrometeorological Observatory (gidrometeorologicheskaya observatoriya) rise. The meteorologists and hydrologists came here since the beginning of construction. During the time of organization of the building their work was restricted to simple information as on the current weather and water level, forecasts for the next day and long-term forecasts of the TsIP(Tsentral'nyy institut prognozov). In the course of time the superintendents of construction made higher demands. Not only an extension of information, but above all a more concrete and specialized information were required. A specialized Hydro-Meteo-Bureau (Gidrometeobyuro) of IV-th degree and a me-

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teorological station of type 1o were established there. Now the superintendent of construction received information on the local weather. Warnings were in a centralized way passed along to all sections. This found its expression in daily consultations. The work was made still more concrete when a planning of the construction work in view of the possible dangers was intorduced. The experts of the above-mentioned bureau "Stalingradgidrostroy" were in direct personal contact with all stages of the construction personnel, visited the construction sites and determined the influence of the individual hydrometeorological factors upon the performance of one or the other work. Special working regimes in the open were introduced when individual meteorological conditions occurred. Thus a great experience for the care could be won in the course of the first 1 1/2 years. Since 1954 when the construction of the power plant entered the stage of concreting works and the erection of the main buildings of the hydroelectric- center the Hydro-Meteo-Bureau was reorganized and raised to the III-rd degree. In spring and fall its experts made flights for reconnoitering the ice situation up to Astrakhan' and Saratov. The hydrologists helped much in the construction and operation of roads across the ice of the Volga. After consultations with the hydrologists

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

Experience Organizing Hydrometeorological Services During the Construction of the Stalingrad Hydroelectric Power Plant 50-58-5-12/20

a conveyer belt (1500 m in length) was laid across the ice which considerably accelerated the transport of building materials. The belt was dismounted only 2 hours before the breaking of the ice. An outlook and conclusions are given.

1. Construction--Meteorological factors 2. Scientific personnel --Performance 3. Hydrology

Card 3/3

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

USSR/ Chemistry - Photography

Card 1/1 Pub. 147 - 17/27

Authors : Bydin, Yu. F.

Title : Indicator characteristics of sensitizers

Periodical : Zhur. fiz. khim. 28/2, 305-311, Feb 1954

Abstract : Investigations were conducted with seven different sensitizers - orthochrome, pinachrone, pinacyanol, etc. to determine their indicator characteristics and the dependence of their dye upon pH. The absorption spectra of the sensitizer solutions were measured by means of a special spectrophotometer. The results obtained are presented in graphs. The pH was found to have little effect on the absorption spectra of the dyes investigated. Five references: 3-USSR and 2-USA (1928-1951). Graphs.

Institution : .....

Submitted : April 27, 1953

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, YU. F.

BYDIN, YU. F. -- "Destruction of Negative Ions of Halogens on Collision with Atoms of Inert Gases and Hydrogen Molecules." *(Dissertations for Degrees in Science and Engineering Defended at USSR Higher Eductional Institutions) Leningrad Physico-technological Inst of the Acad Sci USSR, Leningrad, 1955.

SO: Knizhnaya Letopis' No. 31, 30 July 1955.

*For the Degree of Candidate in Physicomathematical Sciences.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDIN, Yu.F.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1887
AUTHOR BYDIN, YU.F., DUKEL'SKIJ, V.M.
TITLE The Stripping Off of an Electron from the Negative Ions of the Halides on the Occasion of Collisions with Noble Gas Atoms and Hydrogen Molecules.
PERIODICAL Zurn.eksp.i teor.fis, 31, fasc.4, 569-577 (1956)
Issued: 1 / 1957

The present work measures the cross section of the stripping off of an electron from F^-, Cl^-, Br^- and J^- ions on the occasion of collisions with He, Ne, A, Kr and Xe atoms at ion energies of from 200 to 2000 eV. For the Cl^-, Br^- and J^- ions cross sections were measured also on the occasion of collisions with H_2 molecules.

Experimental order: These processes of separation were investigated by means of the registration of the slow electrons which occur in a chamber which is filled with the corresponding gas, when passing through the bundle of negative ions. As a source of the negative halide ions a gas discharge with glow-cathode in the vapors of one of the following salts was used: KF, NaCl, NaBr, NaJ. The homogeneous bundle of halide ions was separated by means of a mass monochromator and fell into the collision chamber after additional collimation.
By these measurements it is intended to determine the initial data from which the total cross section for this stripping-off process can be determined. For this purpose the stripped electrons were collected by applying a weak electric field between the electrodes.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

Zurn.eksp.i teor.fis,31,fasc.4, 569-577 (1956) CARD 2 / 2 PA - 1887

Measuring results are well reproducible and are illustrated in form of diagrams (ordinate: total cross section Q of the stripping process, abscissa: kinetic energy T of the ions). In the case of Br-ions the threshold for the stripping process could be attained for He and H_2. Furthermore, the existence of a threshold for the stripping off of J^- ions in He and H_2 could be confirmed. The curves Q(T) approach the threshold with a curvature that is directed towards the coordinate axis. The excess electron can be stripped off only by the kinetic energy W of the relative motion of both particles. The threshold of this stripping off must be about W = S (S - binding energy of the surplus electron in the negative ions). The thresholds found here are higher than those which were determined from the laws of conservation of energy and momentum. In the case of other ion atom pairs the authors were not able to attain the threshold value, because these thresholds must lie within the domain of low ion energies. In the case of different ion-atom pairs the curves Q(T) and Q(W) take different courses. According to the data established here there is a correlation between the limiting value (Q_m) of the stripping cross section which corresponds to the threshold and the nuclear charge numbers of the ions and atoms concerned. For a given ion as e.g. Cl^-, Q_m increases on the occasion of transition from He to Ne and further to A, Kr, and Xe. In conclusion there follows a theoretical discussion of the above results.

INSTITUTION: Leningrad Physical-Technical Institute of the Academy of Science in the USSR

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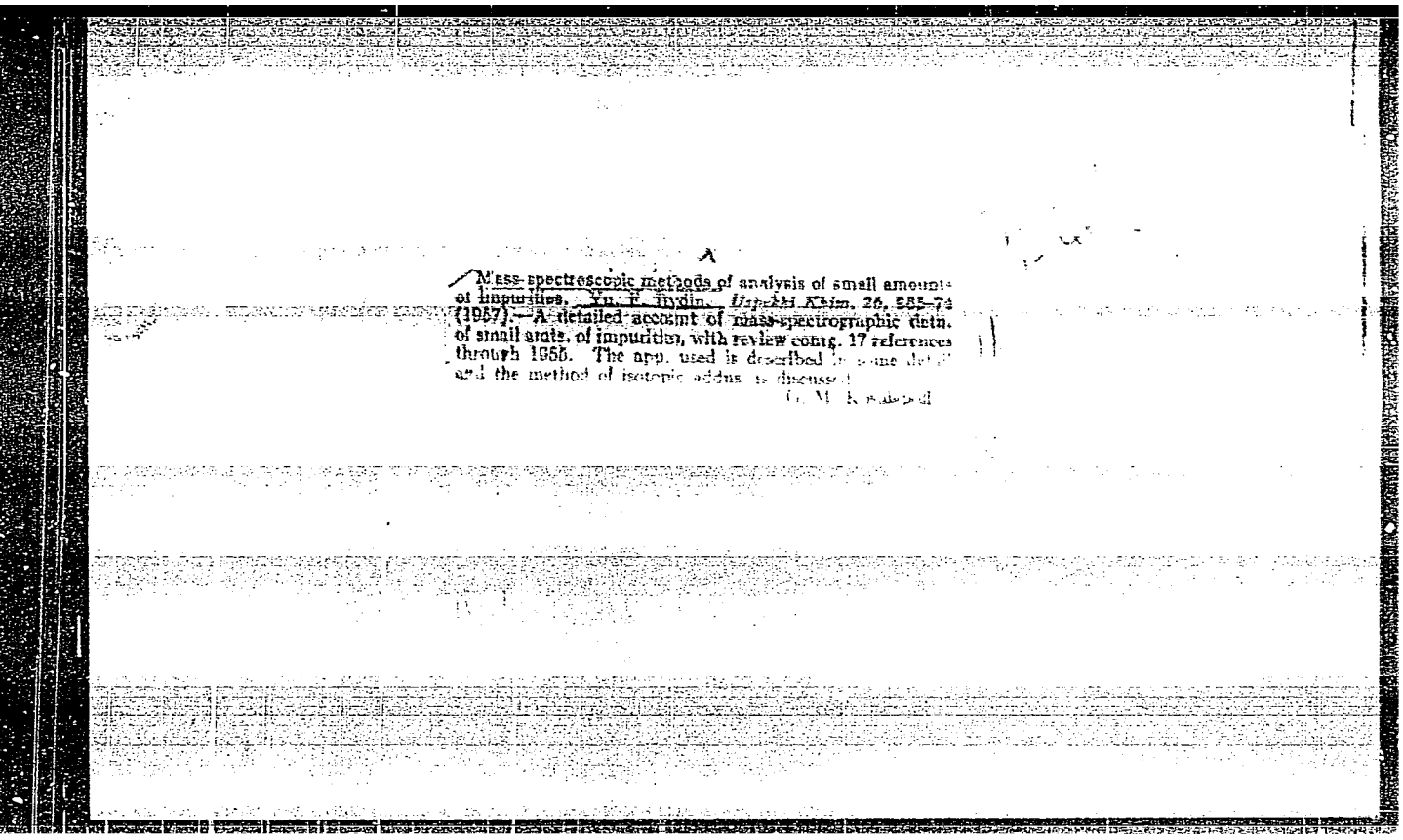

A

Mass-spectroscopic methods of analysis of small amounts of impurities. Yu. F. Hydin. *Uspekhi Khim.* 26, 585–74 (1957).—A detailed account of mass-spectrographic detn. of small amts. of impurities, with review contg. 17 references through 1955. The app. used is described [illegible] and the method of isotopic addns is discussed.

[illegible]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

AUTHORS: Bydin, Yu. F., Bukhteyev, A. M. 20-119-6-21/56

TITLE: Ionization of Fast Neutral Potassium Atoms on Collision with Argon Atoms and With Molecules of Hydrogen, Nitrogen and Oxygen (Ionizatsiya bystrykh neytral'nykh atomov kaliya pri stolknoveniyakh s atomami argona i molekulami vodoroda, azota i kisloroda)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp. 1131-1133 (USSR)

ABSTRACT: The potassium atoms mentioned in the title possess energies of from 100 to 2000 eV. The ionization potentials of the employed gases are considerably higher than the ionization potential of potassium. Therefore the ionization of the potassium atoms according to the scheme $\vec{K} + A \rightarrow \vec{K}^+ + e + A$ is probably predominant. The observation of the effect was conducted by the recording of the fast positive ions $\vec{K}^+$. The scheme of the experimental device is visualized by a figure. The beam of positive potassium

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ions issuing from a thermionic source is focussed by a system of electrodes and then collimated by two slits. The following gases were used for a filling of the chamber in order to obtain collisions: spectrally pure argon, purified hydrogen and purified technical nitrogen. The results of the measurements are visualized by a diagram. This diagram shows the dependence of the cross section Q upon the energy T and the velocity v of the fast atoms. The ionization cross sections of the fast potassium atoms amount to from 10^{-15} to 10^{-17} cm^2 in the energy range of from 100 to 2000 eV, they increase at an increase of T. The magnitude of the effect increases at a transition from argon to the molecular gases and within the molecular gases at the transition from hydrogen to the heavier gases. Finally the authors express their gratitude to Professor V. M. Dukel'skiy for providing the theme and for valuable suggestions during the performance of this work. There are 2 figures and 2 references, 1 of which is Soviet.

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Ionization of Fast Neutral Potassium Atoms on Collision With Argon Atoms and With Molecules of Hydrogen, Nitrogen and Oxygen

20-119-6-21/56

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology, AS USSR)

PRESENTED: January 24, 1958, by L. A. Artsimovich, Member, Academy of Sciences, USSR

SUBMITTED: January 23, 1958

Card 3/3

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BYDIN, Yu.F.; BUKHTEYEV, A.M.

Resonance exchange of positive potassium ions. Zhur.tekh.fiz. 29 no.1:12-14 Ja '59. (MIRA 12:4)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
(Potassium) (Ion beams)

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S/048/60/024/008/008/017
B012/B067

24.6100

AUTHORS: Bukhteyev, A. M., Bydin, Yu. F.

TITLE: Resonance Charge Exchange of Ions and Atoms of the Alkali Metals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 8, pp. 964-969

TEXT: O. B. Firsov (Ref. 1) theoretically determined the cross sections of resonance charge exchange for elements with an S-state as ground state of the atom and ion. The authors have already measured (Ref. 2) the cross section of resonance charge exchange in potassium. In the present paper these cross sections were measured for Cs, Rb, K, and Na in the range of from 150 to 2100 ev. The measurements were made by the method of the extraction of positive ions which are formed in the charge exchange in the chamber filled with alkali metal vapors. Since the literature data on Cs, Rb and Na vapor pressures show strong divergencies, an indirect method was used to determine the cross sections

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Resonance Charge Exchange of Ions and Atoms of the Alkali Metals

of resonance charge exchange in ions of these metals; for this purpose the results obtained for potassium were used. Experimental arrangement and measurement method are described. Fig. 1 shows the scheme of the arrangement and Fig. 2 the charge exchange chamber. The positive alkali ions were obtained from a thermionic source which consisted of a nickel plate to which an aluminum silicate mixture produced according to M. A. Yeremeyev was applied. Since the reliability of the cross section measurements in other alkali metals according to the method applied for potassium was doubted, the cross sections of Cs, Rb, K, and Na were directly compared by measuring the vapor pressure of these metals from their surface ionization in oxidized tungsten. The results of measurements are given in the form of a diagram: the cross sections Q of the resonance charge exchange as functions of the ion velocity v for Cs, Rb (Fig. 3, curves 1 and 4) and K and Na (Fig. 4, curves 4 and 1). These Figs. also show the theoretical curves. Curves 3 and 6 are calculated from the formulas of O. B. Firsov, curves 2 and 5 from the formulas of Yu. N. Demkov. Curves 7 on both Figs. were drawn according to experimental data from the paper by R. M. Kushnir (Ref. 8) for resonance

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charge exchange of Cs^+ (Fig. 3) and K^+ (Fig. 4). The results obtained here and their comparison with the theoretical and experimental data show that in the entire velocity range considered the cross sections Q of the various alkali metals differ only slightly at the same velocity. With all alkali metals Q monotonically decreases with rising velocity. Theory and experiment are in sufficient agreement. V. M. Dukel'skiy advised the authors. There are 4 figures and 8 references: 5 Soviet and 3 British.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Physicotechnical Institute of the Academy of Sciences USSR)

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B012/B056

24.2500
5.2200(E)

AUTHORS: Bydin, Yu. F., Bukhteyev, A. M.

TITLE: Ionization of Fast Na-, K-, Rb-, and Cs-Atoms in Collisions With H_2-, D_2-, N_2-, and O_2-Molecules

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 5, pp. 546 - 554

TEXT: The present paper was read at the Vsesoyuznaya konferentsiya po elektronnym i atomnym stolknoveniyam (All-Union Conference on Collisions of Electrons and Atoms) at Riga, which was held from June 26, to July 3, 1959, where the ionization of fast atoms of alkali metals in single collisions with H_2-, D_2-, N_2-, and O_2-molecules was investigated, the energy of the fast atoms amounting to from 150 to 2,200 ev. The reason was given why alkali metals and the gases mentioned were used for this investigation. The fast atoms were obtained by resonance recharge. Fig. 1 shows the scheme of the experimental device, which is described. The measurements were carried out for the purpose of obtaining the initial data in order to be able to determine the full cross sections in the

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Ionization of Fast Na-, K-, Rb-, and Cs-Atoms in Collisions With H_2-, D_2-, N_2-, and O_2-Molecules

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B012/B056

ionization of fast atoms in single collisions with the gas molecules. The measuring method used is described. Measurements were carried out of the full cross sections Q of the ionization of the fast atoms Na, K, Rb, and Cs in H_2, D_2, N_2, and O_2 within the range of from 150 - 2,200 ev. The results hereby obtained are shown in form of diagrams in Figs. 3, 4, and 5. They show the dependence of Q on the velocity v of the fast atoms. The following energy thresholds in the ionization were observed: Cs, H_2 (740 ev); Cs, D_2 (360 ev); Rb, H_2 (490 ev); Rb, D_2 (280 ev) (Table). The results obtained are discussed from the viewpoint of the "quasi-adiabatic hypothesis" by Messi and the conception of the "intersection" of the potential curves corresponding to the initial- and final states in a system consisting of two particles slowly approaching each other. The cross sections obtained are compared with the data known from the observations of meteoric ionization. Professor V. M. Dukel'skiy advised the authors. There are 6 figures, 1 table, and 11 references: 5 Soviet, 5 English, and 1 German.

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Ionization of Fast Na-, K-, Rb-, and Cs-Atoms in Collisions With H_2-, D_2-, N_2-, and O_2-Molecules

S/057/60/030/05/12/014
B012/B056

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: October 19, 1959

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BUKHTEYEV, A.M.; BYDIN, Yu.F.; DUKEL'SKIY, V.M.

Electron capture by O_2 and Cl_2 molecules in collisions with fast atoms of alkali and metals. Zhur. tekh. fiz. 31 no.6:688-693 Je '61. (MIRA 14:7)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR, Leningrad.
(Electrons--Capture) (Alkali metals) (Collisions (Nuclear physics))

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L 18158-63 EWT(l)/FCC(w)/BDS/EEC-2/ES(v) AFFTC/ASD/AFMDC/ESD-3/
APGC/SSD Pi-4/Po-4/Pq-4/Pe-4 GW.
ACCESSION NR: AP3004488 S/0048/63/027/008/1009/1011

84
83

AUTHOR: Buchteyev,A.M.; By*din, Yu.F.

TITLE: Loss of electrons by fast Ca, Mg, Si and Fe atoms in encounters with N_2 and O_2 molecules /Report presented at the Second All-Union Conference on the Physics of Electronic and Atomic Collisions held in Uzhgorod 2-9 Oct 1962/

SOURCE: AN SSSR, Izvestiya,ser.fiz.,v.27, no.8, 1963, 1009-1011

TOPIC TAGS: ionization cross section, meteor ionization, Ca, Mg, Si, Fe

ABSTRACT: Investigation of atomic collisions in the hundreds of eV range can be useful for elucidating the mechanism of meteor ionization. Radar measurements yield information on the electron density in meteor trails but no data on ions. In optical spectra of meteor trails there have been detected, in addition to neutral atom lines, lines corresponding to Ca, Mg, Si and Fe ions. In earlier studies the authors investigated ionization of fast alkali metal atoms in encounters with N_2 and O_2 molecules in the energy range from 100 to 2000 eV (Yu.F.By*din and A.M. Bukhteyev, Zhur.tekh.fiz.,30,546,1960). In the present work, despite certain difficulties, the authors attempted to determine the ionization cross sections for

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ACCESSION NR: AP3004488

positive fast Ca, Mg, Si and Fe atoms in collisions with nitrogen and oxygen molecules. The apparatus is diagramed in Fig.1 of the Enclosure. The determined ionization cross sections for Ca atoms are plotted versus the energy and velocity of the atoms for encounters with N_2 and O_2. The cross section for encounters with O_2 increases more rapidly with energy than the cross section for encounters with N_2. The cross section values for Fe, Si and Mg are given in a table. The experimental value of the ionization cross section for Ca-N_2 is of the same order of magnitude as the corresponding cross section deduced by D.W.Sida (Sbornik "Meteority", p.51, IL, M.1959) on the basis of meteor data. Orig.art.has: 1 formula, 2 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR im.A.F.Ioffe (Physical-Technical Institute, Academy of Sciences, SSSR)

SUBMITTED: 00 DATE ACQ: 26Aug63 ENCL: 01

SUB CODE: PH, AS NO REF SOV: 002 OTHER: 002

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

ACCESSION NR: AP4037573 S/0056/64/046/005/1612/1618

AUTHOR: By*din, Yu. F.

TITLE: Resonance charge exchange of negative ions of alkaline metals

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1612-1618

TOPIC TAGS: negative ion, ion formation, cesium, rubidium, potassium, sodium, charge exchange

ABSTRACT: In view of the interest that attaches to the study of charge exchange in collisions of monatomic negative ions with atoms of the same element (resonance charge exchange), an investigation is described of this process for negative alkaline metal ions Na^-, K^-, Rb^-, and Cs^-. The measurements were made at negative-ion energies from 1000 eV (900 eV for sodium) to 2400 eV. In this energy range charge exchange is accompanied by electron loss from negative ions: charge exchange produces slow negative ions and the loss produces

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ACCESSION NR: AP4037573

free electrons. The ions were obtained from a discharge in the vapor of a salt, accelerated to a given energy, passed through a 90° magnetic mass monochromator, focused, and fed to a collision chamber filled with the alkaline metal vapor. The collision chamber is similar to that used by the authors earlier (ZhTF v. 29, 12, 1959). The cross sections Q_{pn} obtained for the resonant charge exchange process were of the order of 10^{-14} cm^2 and increased with decreasing ion velocity. The values were 8×10^{-15}, 7×10^{-15}, 5×10^{-15}, and $1.8 \times$ $\times 10^{-15}$ cm^2 for Cs^-, Rb^-, K^-, and Na^-, respectively. The electron affinity energy of the alkaline metal atoms, which has not yet been determined experimentally, was estimated from the slope of the $Q_{pn}(v)$ vurve (v -- velocity) by using Firsov's theory (ZhETF, v. 21, 1001, 1951). The values obtained were:

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ACCESSION NR: AP4037573

Na	K	Rb	Cs
$0,41^{+0,06}_{-0,02}$	$0,22^{+0,08}_{-0,06}$	$0,16 \pm 0,06$	$0,13^{+0,07}_{-0,06}$

Ways of improving the accuracy are discussed. "In conclusion, the author thanks Professor V. M. Dukel'skiy for continuous interest and for advice, and also to Professor O. B. Firsov and B. M. Smirnov for valuable discussions and to S. S. Pop for help with the measurements." Orig. art. has: 5 figures and 3 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 16Dec63 DATE ACQ: 09Jun64 ENCL: 02

SUB CODE: NP NR REF SOV: 003 OTHER: 004

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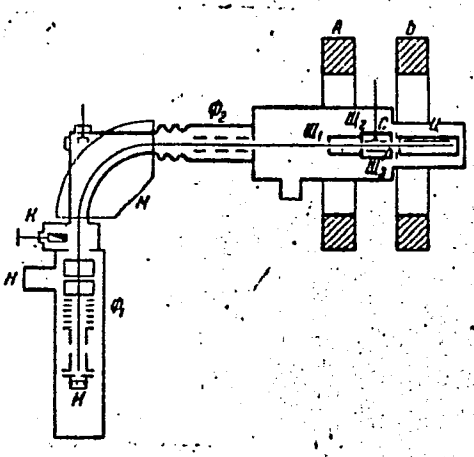
ACCESSION NR: AP4037573

ENCLOSURE: 01



Layout of the apparatus:
I - source of negative ions,
Φ_1 and Φ_2 - focusing systems,
M - monochromator magnet,
H - tube to pumps, A, Б - Helmholz coils, C - collision chamber, $Ш_1$ and $Ш_2$ - collimating diaphragms (0.9 mm dia), $Ш_3$ - exit diaphragm (2.5 mm dia), Ц - Faraday cup,
K - vacuum valve

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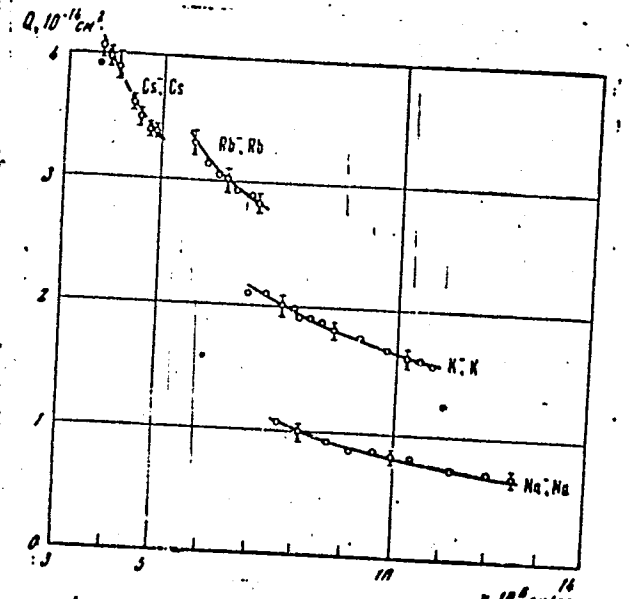
ACCESSION NR: AP4037573

ENCLOSURE: 02



Cross section for resonance charge exchange of negative Na, K, Rb, and Cs ions as a function of the ion velocity.

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cm/sec

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L 11960-66 EWT(l)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP5026600 SOURCE CODE: UR/0056/65/049/004/1094/1096

AUTHOR: Bydin, Yu. F. 44,55 55 52 B 44,55

ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences, SSSR (Fiziko-tekhnicheskiy institut Akademii nauk SSSR)

TITLE: Concerning electron detachment from negative hydrogen ions in collisions with inert gas atoms 21,44,55

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 4, 1965, 1094-1096

TOPIC TAGS: collision cross section, electron loss, hydrogen ion, negative ion, elastic scattering

ABSTRACT: The purpose of the investigation was to check the theoretical prediction, made by B. M. Smirnov and O. V. Firsov (ZhETF v. 47, 232, 1964), that the cross section of the process of electron detachment from a negative ion colliding with an inert gas atom is independent of the negative-ion velocity. For this purpose, the cross sections were calculated for the detachment of one electron from H^- ions in single collisions with He, Ne, Ar, Kr, and Xe atoms, in the energy range from 200 to 7000 ev. The measurements for all atoms were made

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L 11960-66

ACC NR: AP5026600

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with the same equipment by recording the slow electrons which appeared when the negative ions passed through a collision chamber filled with the gas under investigation. Not all values of the cross section agreed with the theoretical predictions of Smirnov and Firsov, but the discrepancy may be equally due to the imperfection of the theory and to inaccuracy of the measurements. The reliability of the elastic cross sections used for the calculations is likewise doubtful. Author thanks V. M. Dukel'skiy for interest in the work. Orig. art. has: 2 figures, 3 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 29May65/ NR REF SOV: 003/ OTH REF: 004

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L 22115-66 EWT(l)/EWT(m)/EWP(t) IJP(c) JD/JG/AT

ACC NR: AP6004914 SOURCE CODE: UR/0056/66/050/001/0035/0038

AUTHOR: Bydin, Yu. F.

ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences, SSSR (Fiziko-tekhnicheskiy institut Akademii nauk SSSR)

TITLE: Detachment of electrons from negative alkaline metal ions in collisions with inert gas atoms

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 1, 1966, 35-38

TOPIC TAGS: alkali metal, hydrogen ion, electron loss, ion bombardment, particle cross section, inert gas, ion interaction, electron collision

ABSTRACT: This is a continuation of earlier work by the author (ZhETF v. 49, 1094, 1965) reporting experiments on the interaction between negative hydrogen ions and atoms. The present article reports measurement of the cross sections for the detachment of an electron from the negative ions Li^-, Na^-, K^-, Rb^-, and Cs^- in col-

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ACC NR: AP6004914

lisions with atoms with He, Ne, Ar, Kr, and Xe. The negative ion beam of given energy was separated by means of a 90° magnetic mass analyzer. The cross sections were measured by counting the slow electrons which appeared when the negative ion beam passed through a chamber filled with the gas. The cross section measurements were made in the energy intervals 900 -- 9000, 600 -- 12000, 600 -- 3000, 700 -- 3000, and 900 -- 2200 eV for the Li, Na, K, Rb, and Cs ions. The observed cross sections, which had a value on the order of 10^{-6} -- 10^{-15} cm^2, increased with increasing energy. Consequently the results do not agree with the conclusion of the theory of B. M. Smirnov and O. B. Firsov (ZhETF v. 47, 232, 1964), according to which the cross section should be independent of the velocity. The conclusions of the Smirnov-Firsov theory that the squares of the cross sections for electron detachment should be inversely proportional to the electron affinity of the atom from which the negative ion is formed, and that the cross sections should be proportional to the scattering length of the gas atom with which the negative ion collides were also checked and found not to be in full agreement with

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the theory. Some of the discrepancies between theory and experiment can be attributed to experimental errors in the determination of the cross section and to approximate nature of the theory itself. Nevertheless, this theory apparently gives correctly the order of the magnitude of the cross section and indicates its connection with the electron affinity and with the elastic scattering cross section for very slow electrons. The author thanks Professor V.M. Dukel'skiy for continuous interest and Professors O. B. Firsov, B. M. Smirnov, and Yu. N. Demkov for helpful discussions. Orig. art. has: 3 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 02Aug65/ ORIG REF: 005/ OTH REF: 001

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDRIN, V. N., Dr. Tech. Sci. (diss) "Investigation of Process of Rolling Metal Applied to Special Cases," Moscow, 1961, 32 pp (Moscow Steel Instit.) 230 copies (KL Supp 12-61, 260).

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

S/169/62/000/010/018/071
D228/D307

AUTHORS: Amirkhanov, Kh.I., Dzhamalov, S.A., Magatayev, K.S., Musayev, S.Ye. and Bydtayev, A.B.

TITLE: Geothermal investigations in Dagestan

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 17-18, abstract 10A111 (In collection: Probl. geotermii i prakt. ispol'zovaniya tepla Zemli, v. 2. M., AN SSSR, 1961, 167-170)

TEXT: A description is given of the results of work by the Dagestanskiy filial AN SSSR (Dagestan Branch, AS USSR) on the study of geothermal phenomena in the region of Dagestan's Tertiary deposits. Upper Cretaceous and Tertiary deposits in the plains part of the territory are the most perspective for hot water. The following tentative conclusions were drawn on the basis of this research. 1. The temperature growth magnitude decreases with depth. 2. Deep temperature changes depend on the underground water movement. The heat conductivity of wet rocks is very much higher, so that the

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temperature leveling in them proceeds more intensively. 3. It can be established from graphs of the temperature change with depth in different areas, and from geothermal charts compiled by the Dagestan Branch, AS USSR, that a region's geologic structure does not always correspond to the temperature change.
[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

TSVETKOV, V.N.; BYLTOV, V.P.

Orientation of flow birefringence and the kinetic rigidity of chain molecules. Vysokom. soed. 6 no.1:16-21 Ja'64. (MIRA 17:5)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta.

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Bydzovský, B. Sur certains points remarquables d'une cubique rationnelle plane. Časopis Pěst. Mat. Fys. 75, 219–229 (1950). (French. Czech summary)

Without referring to articles on this topic by Winger [Bull. Amer. Math. Soc. 25, 27–44 (1918)] and Allen [Amer. J. Math. 49, 456–461 (1927)], the author considers a nodal cubic in the form (1) $x_1^3+x_2^3-6x_1x_2x_3=0$ and defines a point P of (1) to be $3n$-ponctuel if there is a curve of order n having intersection multiplicity $3n$ with (1) at P. He then duplicates the earlier results which relate configurations of $3n$-ponctuel points to the covariant conics of (1) (conics touching the nodal tangents at their points of intersection with the line of inflections), and to sets of points which are closed under the tangential process. *G. B. Huff.*

BYDZOVSKY, B.: Certain Peculiarities of a Plane Rational Cubic

Source: Mathematical Reviews, Vol 11 No.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307910003-8

BYDZOVSKY, Bohumil (Veseli nad Luznici 230)

Inflection points of some plane quartic curves. Cas pro pest mat 88 no.2:224-235 '63.

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L 29949-66

ACC NR: AP6006150 (A) SOURCE CODE: CZ/0078/65/000/010/0010/0010

AUTHOR: Huss, Vaclav (Dr., engineer, Doctor of Sciences)(Pecky); Bydzovsky, J. (Engineer)(Zasmuky); Cerny, L. (Engineer)(Sadska); Kriz, J.(Prague); Ladnar, J. (Prague)

39
B

ORG: None

TITLE: (Overvoltage protection device for rectifying semiconductor diode) CZ Pat. No. PV 7039 64

SOURCE: Vynalezy, no. 10, 1965, 10

TOPIC TAGS: semiconductor device, semiconductor diode, Zener diode, zener effect

ABSTRACT: A device is described for protecting a rectifying semiconductor diode, or a group of several parallel or series-parallel connected diodes from overvoltage, and is distinguished by the feature that to the diode of group of diodes is connected a parallel matched polarized breakdown (Zener) diode, or a group of several breakdown diodes connected in series, in parallel or in series-parallel. The Zener voltage on the breakdown diode in the reverse (non-conducting) direction, or the value of the sum of the Zener voltages in the reverse direction in the breakdown diodes connected in series is lower than the breakdown voltage of the diode to be

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protected from overvoltage, or than the value of the sum of the breakdown voltages of the protected diodes connected in series.

SUB CODE: 09. SUBM DATE: 14Dec64

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