

L 22396-66

ACC NR: AT6011140

0

found that the rates of secular tilts of small crustal blocks (encompassing a few hundred meters) could best be determined by geophysical methods, and for areas of major, continental proportions (hundreds and thousands of kilometers), by geodetic and geological methods. Orig. art. has: 1 figure and 3 tables. [ER]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 004

Card 2/2 *dd*

BONCH-OSMOLOVSKIY, A.G.; IVANOV, G.K.

Circuits for shaping high-intensity magnetic field pulses
approaching rectangular form. Izv. vys. ucheb. zav.; radiotekh.
3 no.6:558-562 NoD '60. (MIRA 14:8)

1. Rekomendovana kafedroy spetsfiziki Leningradskogo elektrot-
ekhnicheskogo instituta imeni V.I. Ul'yanova (Lenina).
(Pulse techniques (Electronics))

~~BUKCH - OSMOLOVSKIY, A. G.~~
AID Nr. 963-2 10 May

CHERENKOV RADIATION FROM AN ELECTRON BEAM IN A DIELECTRIC PIPE
(USSR)

Bonch-Osmolovskiy, A. G. Zhurnal tekhnicheskoy fiziki, v. 33, no. 3, Mar 1963,
296-300. S/057/63/033/003/006/021

Equations are derived describing Cherenkov radiation from a cylindrical electron beam of finite length and radius, arbitrary charge distribution along the axis of the beam, and constant charge density along the cross section of the beam. The beam travels in vacuum along the axis of a dielectric pipe of finite internal and external radius and infinite length whose magnetic permeability is equal to unity and whose medium is transparent within the frequency range considered. It is shown that under these conditions Cherenkov radiation from the beam has a discrete spectrum, owing to emission of different slow waves with a phase velocity equal to the velocity

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AID Nr. 963-2 10 May

CHERENKOV RADIATION FROM [Cont'd]

S/057/63/033/003/006/021

of the beam. Under practical conditions the linewidths in the spectrum will be finite because of damping in the dielectric, the finite path length of the beam (limited length of pipe), and the scatter of electron velocities. High frequencies of emission are shown to be determined only by the thickness of the dielectric and to be independent of the pipe radius. The power emitted at these frequencies is, however, strongly dependent on the internal radius of the pipe. With a small beam diameter the power emitted decreases exponentially with increased frequencies; when beam diameter is determined by pipe diameter, the decay of the spectrum is considerably smaller. A coherence factor is derived which indicates the extent to which the emission of a beam at a particular frequency exceeds the emission at that frequency by a single electron traveling along the axis.

[BB]

Card 2/2

PA 1947115

USSR/Radio - Transceivers

Aug 51

"Concerning the 'Urozhay' Radio Station," V. Bonchuk, Bratskaya MTS, Ukrainian SSR

"Radio" No 8, p. 44

Two years of operation of "Urozhay" station in subject MTS has revealed these defects: The antenna unit is inconvenient because 2 masts had to be set up when the station was operating. further than 15 km from the central station. Noise-suppressing circuits should be added (the central radio station frequently had to shut down

1947115

USSR/Radio - Transceivers (Contd)

Aug 51

when the shops opened because welding operations interfered with reception). The hand microphone is inconvenient for the dispatcher.

1947115

BONCHUK V.

AUTHORS:

Bonchuk, V.A.
Bonchuk, V.A., and But, P.P.

93-57-7-14/22

TITLE:

Decreasing Oil Losses Due to Evaporation (Rezervy snizheniya poter' nefteproduktov ot ispareniya)

PERIODICAL: Neftyanoye khozyaystvo, 1957, Nr 7, pp 47-51 (USSR)

ABSTRACT:

PKhV-1 white coloring on oil tanks is more effective in minimizing oil losses due to evaporation than AL-177 aluminum paint. Table 1 shows that for aluminum paint, oil losses are 1.3-1.5 greater than for white enamel. Tables 2 and 3, and a diagram show that the annual losses of stored gasoline are smaller for white coloring than for aluminum paint. Annual losses were calculated with the aid of a formula worked out by N.N. Konstantinov of the All-Union Scientific Research Institute for the Processing of Petroleum and Gas and for the Production of Synthetic Liquid Fuel (VNII NP). The temperature range was

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Decreasing Oil Losses Due to Evaporation

93-57-7-14/22

determined by the attenuation of thermal waves, a method developed by V.A. Bunchuk of the State Institute for the Design and Planning of Structures, Transportation and Storage in the Petroleum Industry (Giprotransneft'). The coefficient of sunray absorption was determined using the method devised by M.A. Mikheyev, the author of "Principles of Heat Transfer" (Osnovy teploperedach), Gosenergoizdat, 1949. On the basis of these findings the State All-Union Production Office "Lakokraspokrytiye" under the USSR Ministry of the Chemical Industry recommended the testing of white perchlorvinyl gasolineproof enamel PKhV-1 (VTU MKhP No. 2701-51), and the All-Union Scientific Research Institute of Lightning Engineering (VNISI) under the former USSR Ministry of the Electrotechnical Industry recommended the testing of white photostable enamel consisting principally of zinc aluminate pigment. The latter enamel is highly resistant to light and moisture and its coefficient of sunray reflection is 0.85-0.9. As it is produced in limited quantities for special industries and is quite expensive, the authors suggest using PKhV-1 enamel which is

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Decreasing Oil Losses Due to Evaporation

93-57-7-14/22

produced in large quantities by the plants of the USSR Ministry of the Chemical Industry. The authors also recommend the KhSL-1 white enamels and the chemically stable PKhV-101 enamel produced in large quantities by the plants of the same ministry. For metal tanks exposed to the atmosphere the "Lakokraspokrytiye" office recommended: a) one layer of base paint, No. 138 GOST 4056-48, and two layers of AL-177 aluminum paint, or b) one layer of base paint, No. 138 and three layers of PKhV-1 white enamel. Tables 4 and 5 give the results of applying enamel in this sequence to 5,000 cu. m. of oil tank surface. According to Table 5 the white enamel will reduce oil losses due to evaporation by 25-30 percent and cover the capital investment of the painting job in several months. The 1956 petroleum output is expected to amount to 135 million tons. If the average annual output in 1956-60 amounts to 10 million tons of petroleum yielding approximately 50 percent of light

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Decreasing Oil Losses Due to Evaporation

93-57-7-14/22

petroleum products, the loss of light petroleum products due to evaporation in storage will amount to 0.5-1 percent, i.e., a minimum annual loss of 250 thousand tons. This loss can be compensated for by coating the storage tanks with white enamel costing 50 million rubles, the price of 70 thousand tons of petroleum products. Therefore, the authors suggest that the tank farms of the Main Administration for Petroleum Marketing (Glavneftesbyt), and first of all the tank farms in the Southern regions, be adequately supplied with PKhV-1 white enamel and that the USSR Ministry of the Chemical Industry develop and organize the production of tank coatings which will be more durable and more stable than PKhV-1 enamel. There are 5 tables, 1 diagram, 2 Soviet references, and 2 English references.

ASSOCIATION:Giprotransneft' (V.A. Bonchuk)

AVAILABLE: Library of Congress

Card 4/4 1. Oil-Evaporation

STOLANOVIC, Ostoja K.; DIMITRIJEVIC, Borde M.; BONCIC-CARICIC, Jordana A.

A synthesis of 4,4'-bis-methylaminobenzophenone. Glas Hem d.
29 no.9/10:447-451 1963.

Synthesis of 4,4'-bis-methylaminobenzophenone from Michler's
ketone. (Ibid.:453-459

1. Institute of Organic Chemistry of the Faculty of Technology
of the University of Belgrade, Belgrade. Submitted September 5,
1963, July 10, 1964.

CHIOSA, L.; BONCIOCAT, C.; STANCU, Carmen

Microdiffusiometric method for determination of ammonia in
biological products. Stud. cercet. med. intern. 5 no.4:443-
449 '64.

208 C. C. EXCERPTA MEDICA Sec 4 VOL. 11/7 MICROBIOLOGIA

2340. THE CAUSES WHICH MAY ALTER THE INTRADERMAL REACTION WITH ALLERGEN OF H. PERTUSSIS - Asupra cauzelor care pot modifica reacția intradermică cu alergen de B. pertussis la cobai sensibilizați cu germeni vii de B. pertussis - Bonciu C., Soare I., Barber C. and Petrovici M. - MICROBIOL. PARAZITOL. EPIDEMIOL. 1957, 2/3 (234-237)

Infestation of guinea-pigs with Klossiela causes a blocking of the reticular tissues with an abundant iron depot in the tissues of the spleen and the adrenal glands. This partly explains the absence of a skin reaction to the allergen of H. pertussis in guinea-pigs sensitized with living germs. Advanced pulmonary lesions, as well as avitaminosis E and A may contribute to this effect.

Sechter - Iasi (IV, 17)

1277. PATHOGENICITY OF COMMON E. COLI AS COMPARED WITH THAT OF STRAINS OF GROUPS O55 AND O18 ISOLATED FROM CASES OF INFANTILE GASTROENTERITIS. REACTIVITY OF YOUNG ANIMALS TO EXPERIMENTAL INFECTION - Contribution a l'étude de l'action pathogène d'Escherichia coli, espèce type, comparativement à celle des souches des groupes O₅₅ et O₁₈, isolées des cas de gastro-entérite infantile. Réactivité à l'infection expérimentale des animaux en bas âge - Combiescu C., Bonciu C., Popovici M., Zilișteanu C., Rasmerița C. and Vladioanu I. R. - ARCH. ROUM. PATH. EXP. MICROBIOL. 1957, 16/1 (56-68) Tables 3

Pathogenic strains O55 and O18, inoculated intranasally, caused death in 83 and 33% respectively of one-day-old rabbits, whereas a non-pathogenic Esch. coli strain caused no appreciable harm. Sechter - Iasi

DIMITRIU, Ofelia; BONGIU, C.; CERBU, Al.; VASILESCO, Th.

Research on urinary eliminators in human brucellosis. Arch. Roum.
path. exp. microbiol. 20 no.1:21-31 Mr '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" - Service des Zoonoses.

(BRUCELLOSIS urine)

BONCIU, C.; IONESCO, A.; BELIS, V.

A contribution to the study of protoplasmic inclusions in the adrenal medulla of man. Arch. Roum. path. exp. microbiol. 20 no.1:43-52
Mr '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" - Service d'Anatomie Pathologique et de la Chaire de Medecine Judiciaire de l'Institut Medico-Pharmaceutique-Bucarest.

(ADRENAL MEDULLA pathol) (PROTOPLASM)

RUMANIA / Farm Animals. General Problems. Q

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 7266

Author : Boncota, D. I.; Petrea, I.

Inst : ~~NOT~~ given

Title : Green Feeds - the Main Source of Production
in Animal Husbandry

Orig Pub : Re. gospod. agric. stat., 1958, No 3, 13-16

Abstract : No abstract given

Card 1/1

9

BONCIU, C.; DUMITRESCO, R.; PETROVICI, Monica; ROTESCO, C.

Experimental research on the toxicity of atabrine. Arch. roum. path. exp. microbiol. 21 no.1:213-233 Mr '62.

1. Travail de l'Institut "Dr. I. Cantacuzino" -- Service d'Anatomie Pathologique et de la Chaire de Medecine Judiciaire de l'Institut Medico-Pharmaceutique de Bucarest.
(QUINACRINE)

BOTEZ, Virginia; PARASCHIVESCO, Maria; ANGELESCO, I.; BONCIU, C.; PETROVICI,
Monica

Criteria for the evaluation of the activity of BCG vaccine.
Significance of the pancreatic lymph nodes. Arch. roum. path.
exp. microbiol. 21 no.2:443-448 '62.

1. Service du vaccin BCG -- Institut "Dr. I. Cantacuzino" (for Botez,
Paraschivesco). 2. Laboratoire pour le controle d'Etat des serums
et vaccins (for Angelesco). 3. Service d'Anatomie Pathologique --
Inst. "Dr. I. Cantacuzino" (for Bonciu, Petrovici).
(BCG VACCINATION) (PANCREAS) (LYMPH NODES)

BONCIU, C.; DIMITRIU, Ofelia; BOTEZ, Virginia; ANGELESCO, I.;
OLARU, A.; POENARU, Elena; STANICA, Ecaterina; OLINICI, N.;
PETROVICI, Monica; POP, Alexandrina

Contributions to the study of splenic hyalinosis and of its
influence on immunity reactions. Arch. Roum. path. exp.

~~Microbiol.~~ 22 no. 1: 69-91. No. 1163.

(GUINEA PIGS) (SPLEEN) (DISEASE)
(AMYLOIDOSIS) ANTIGEN-ANTIBODY REACTIONS
(IMMUNE SERUMS)

DIMITRIU, Ofelia; VASILESCO, Th; CERBU, Al.; POP, Alexandrina; BONCIU, C.;
PETROVICI, Monica

Comparative study of some vaccines in experimental brucellosis.
Arch. roum. path. exp. microbiol. 23 no.3:661-666 S'63

1. Service des Zoonoses, Laboratoire de la Brucellose (for
Dimitriu, Vasilescu, Cerbu, Pop). 2. Service d'Anatomie Patho-
logique (for Bonciu, Petrovici). Travail de l'Institut "Dr. I.
Cantacuzino", Bucarest.

BONCIU, Olga; BONCIU, G.; PETROVICI, Monica.

Experimental research on the pathogenicity of certain fer-
ruginous bacteria. Arch. roum. path. exp. microbiol. 22
no.4:1039-1044 S-D'63

1. Travail de l'Institut de Balneologie, Bucarest.

BONCIU, C.; BONA, C.; PETROVICI, Monica

Study on the histochemical composition of protoplasm inclusions
in the chromaffin cells of the adrenal medulla in guinea pigs.
Arch. roum. path. exp. microbiol. 23 no.3:827-832 S'63

1. Travail de l'Institut "Dr. I. Cantacuzine; Service d'Anato-
mie Pathologique, Bucarest.

BOTEZ, Virginia, PARASCHIVESCO, Maria; GHEORGHIU, Marina; ANGELESCO, I.;
BONCIU, G.; PETROVICI, Monica.

Study on BCG strain variants resistant to streptomycin, INH and PAS. II. Vaccinat properties in the absence or presence of a treatment with the homologous tuberculestatic. Arch. roum. path. exp. microbiol. 22 no.4:951-960 S-D'63

1. Institut "Dr. I. Cantacuzino"; Service du vaccin BCG (for Botez, Paraschivesco; Gheorghiu). 2. Laboratoire Central pour le Controle d'Etat des Serums et des Vaccins (for Angelesco). 3. Institut "Dr. I. Cantacuzino"; Service d'Anatomie Pathologique (for Bonciu, Petrovici).

ILIESCO, M.; RADU, I.; BONCIU, C.; PETROVICI, Monica; BOTEZ, Virginia
[deceased]; GHEORGHIU, Marina; PARASCHIVESCO, Maria

Research on the role of organ isoimmunization in the infectious
process caused by an attenuated *Mycobacterium* (BCG). Arch. Roum.
path. exp. microbiol. 23 no.4:939-950 D '64.

1. Travail de l'Institut "Dr. I. Cantacuzino", Service de Sero-
logie (for Iliesco, Radu), Service d'Anatomie Pathologique (for
Bonciu, Petrovici), Service du vaccin BCG et de la TBC experimen-
tale (for Botez, Gheorghiu, Paraschivesco). Submitted June 1, 1964.

ANTONIU, R., ing.; SALAY, G., ing.; DROCAN, N., dr.; GHEDERIM, V., ing.
BONCIU, G., biolog; MARCOCI, S., biolog; MARCULESCU, I.,
radiochemist.

Studies on the conditions of utilizing domestic waters and
sewage for irrigation of agricultural areas, made on the
experimental grounds at Tuzla, Constanta region, in 1961.
Studii prot epur apelor 4:61-147 '63.

BONCIU, O.

"Studies on the anaerobic flora of soils" by A. Prevot and others. Reviewed by O. Bonciu. Microbiologia (Bucur) 3 no.5:452 S-0'58.

BONCIU, Olga

Contribution to peat microbiologic study (peat of Poiana
Stampei Pilugani and Poiana Stampei Casoi). Rev biol 8
no.3:281-311 '63.

1. Institut de Balneologie et de Physiotherapie, Bucarest.

BONCIU, Olga; BONCIU, C.; PETROVICI, Monica.

Experimental research on the pathogenicity of certain fer-
ruginous bacteria. Arch. roum. path. exp. microbiol. 22
no.4:1039-1044 S-D'63

1. Travail de l'Institut de Balneologie, Bucarest.

L 31253-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6022826

SOURCE CODE: RU/0018/65/000/003/0121/0126

AUTHOR: Iliescu, Constantin--Iliyesku, K.; Boncoi, Gheorghe--Bonkoy, G. B2

ORG: none

TITLE: New calculation method for determining the dimensions of the active parts of forging dies. Durability of tools

SOURCE: Constructia de masini, no. 3, 1965, 121-126

TOPIC TAGS: durability, material deformation, die, metal forging

ABSTRACT: The authors present a number of graphs to be used for the calculation of appropriate dimensions for forging die components in terms of the thickness of the material, the amount of wear expected, and the degree of bending required. They also discuss the factors affecting the durability of such tools and show how to calculate it on the basis of various factors. Orig. art. has: 12 figures, 12 formulas, and 1 table. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 13 / SUBM DATE: none / SOV REF: 002

Card 1/1

UDC: 621.983.001.24

0915

0810

BOHOCIA, N.

BOHOCIA, N. Among the Cernavoda builders. p: 1.

Vol. 8, no. 359, Dec. 1956

CONSTRUCTIVUL

TECNOLOGIC

BURARIA

So: East European Accession, Vol. 6, No. 5, May 1957

BONGOTA, Nicu, correspondent

After 11 months. Constr Buc 15 no.726:l 7 D '63.

COSMA, Frederic; KISS, Ladislau, tehnician de normare; IENCIU, Traian;
BARBALATA, St.; ENESCU, Constantin, tehnician; HOTUPAN, Florian,
corespondent; BONCUT, Remus

Problems connected with the organization of production brigades.
Constr Buc 16 no.746:3 25 April '64.

1. Trustul Regional de Constructii de Locuinte, Cluj (for Kiss).
2. Seful serviciului organizarea muncii, Trustul Regional de Constructii de Locuinte, Cluj (for Cosma).
3. Seful serviciului organizarea muncii de la grupul de santiere nr.2 Sibiu, Trustul Regional de Constructii de Locuinte, Brasov (for Ienciu).
4. Seful serviciului organizarea muncii de la grupul de santiere nr.1, Trustul Regional de Constructii de Locuinte, Galati (for Barbalata).
5. Seful serviciului organizarea muncii, Directia generala constructii-montaj, Bucuresti (for Boncut).
6. Trustul Regional de Constructii de Locuinte, Arges (for Enescu).

BONCZAK, Bazyli; FIRKOWSKI, Ryszard; JATCZAK, Jerzy

Efficiency measurement of the neon telescope. Nauki matem
przyrod Lodz no.17:41-45 '64.

1. Department of Experimental Physics, University, Lodz.

ADONAJLO, Aniela; BONCZAK, Jerzy

Tapeworm infection in the light of an intestinal disease clinic in the northern section of Praga in Warsaw. Przegl. epidem. 15 no.4:425-427 '61.

(TAPEWORM INFECTIONS epidemiol)

ADONAJLO, Anđela; BONCZAK, Jerzy; KOPERSKA, Krystyna

Ambulatory control of lambliasis. Wiadomosci parazyt. 8 no.4:475-479
'62.

1. Poradnia Schorzen Jelitowych, Warszawa.
(GIARDIASIS prev & control) (HOSPITAL OUTPATIENT SERVICE)

BONCZAK, Jerzy; ADONAJLO, Aniela

Analysis of cases of bacillary dysentery treated under ambulatory conditions. *Przegl. epidem.* 18 no.1:19-23 '64.

1. Z Poradni Schorzen Jelitowych Warszawa -- Praga Polnoc (Kierownik: lek. med. J. Bonczak) i z Zakładu Epidemiologii Państwowego Zakładu Hygieny (Kierownik: prof. dr. J. Kostrzewski).

BONCZAK, Jerzy; KOPERSKA, Krystyna

Analysis of cases of *Trichuris trichiura*. Wlad. parazyt. 11
no.1:25-29 '65

1. Poradnia ~~Sci~~ ~~arsan~~ ~~telitowych~~ i Laboratorium Bakteriologiczno-
Parazytologiczne, Warszawa.

Eudowa wnętrza ziemi (Structure inside the globe), by W. Bonczkowski.
Reported in New Books, (Nowe Książki), No. 6, March 15, 1956.

REGOS, Janos, dr.; BONCZOS, Laszlo, dr.; SCHNORCH, Maria

Data on the evaluation of porphyrin and its isomers in case of porphyrinuria caused by lead and other factors. Munkavedelem 8 no.4/6:43-45 '62.

1. "Munkavedelem" szerkeszto bizottsaganak tagja (for Regos).

BONCZOS, Laszlo, dr.; FODOR, Anna, dr.; GOMBAS, Bela, dr.; KLEBERT, Lajos, dr.

Occupational diseases of persons working with chromium with special regard to the injuries of the mucous membranes in the upper respiratory tract. Munkavedelem 10 no.1/3:36-38 '64.

1. Ganz-MAVAG Factory Dispensary.

BONDAKOV, G.

Accounting for materials produced in subsidiary enterprises of cooperative farms. p.32.
KOOOPERATIVNO ZEMELIE, Solya, Vol. 11, no. 4, Apr. 1956.

SO: Monthly List of East European Accessions, (EEAL), IC, Vol. 5, No. 6 June 1956, Uncl.

BONDAKOV, G.; KULSHEV, A.

The accounting of the manufacture of products. p. 33.
(KOOPERATIVNO ZEMEDELIE, No. 7, July 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

BONDAKOV, G.; KULISHEV, A.

New method for making an account of the day's work in plant cultivation. p. 30.
(Kooperativno Zemedelie, Vol. (12), no. 2, Feb. 1957. Sofia, Bulgaria)

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

BONDALET, S.I.

Prevention of injuries in the construction organizations of the
Sakhalin State Trust for the Design, Planning and Development of
Coal Mines. Vop. travm. i ortop. no.13:23-25 '63.

(MIRA 18:2)

BONDALETOV, M., mashinist kombayna

Live and work the communist way. Mast. ugl. no.10:9 0 '59
(MIRA 13:3)

1. Rukovoditel' brigady kommunisticheskogo truda karagandinskoy
shakhty No. 1 "Vertikal'naya".
(Karaganda Basin--Coal miners)

BONDALETOV, V.N.

Method for calculating electromagnetic forces and their work during random varying interlinkage of currents, mutual inductances, and self-inductances. Trudy MEI no.64:179-198 '65.

Calculation of e.m.f. induced in a current carrying coil passed through by a conducting stage. Ibid.:199-212

(MIRA 19:1)

BONDALEVICH, V., kandidat na meditsinskite nauki

Congenital intestinal obstruction. Khirurgia, Sofia 9 no.10:
869-873 1956.

1. Minski meditsinski institut bolnichna khirurgichna klinika
Direktor: I. Stelmashonok.
(INTESTINAL OBSTRUCTION, in infant and child,
congen. (Bul))

BONDALEVICH, V. Ya.

Bondalevich, V. Ya.

"The significance of anatomic sutures of the vessels, nerves, and mesentery of the small intestine in the operation of plastic surgery of an artificial digestive tract." Moscow State Medical Inst. Minsk, 1956. (Dissertation for the Degree of Doctor in Medical Sciences).

Knizhnaya letopis'
No. 21, 1956. Moscow.

BONDALEVICH, V.Ya.

Case of myxoglobulosis of the appendix vermiformis. Nov.khir.
arkh. no.4:78 J1-Ag '57. (MIRA 10:11)

1. Minskiy meditsinskiy institut
(APPENDIX (ANATOMY)--TUMORS) (CYSTS)

BONDALEVICH, V. Ia., Kandidat na meditsinskite nauki.

Artificial plastic esophagus. Khirurgia, Sofia 11 no.7:596-601 1958.

1. Visssh Meditsinski Institut; Minsk Katedra po bolnichna khirurgia.

Zav. katedrata: prof. I. M. Stelmashonok.

(ESOPHAGUS, surg.

plastic repair, technic & statist. (Bul))

BONDALEVICH, V.Ya.; GUSEVA, L.N.

Work of the White Russian Republic Surgical Society, Zdrav. Belor.
5 no.9:77'S 159.

(MIRA 12:12)

(WHITE RUSSIA--SURGICAL SOCIETIES)

BONDALEVICH, V. IA k.m.n.

A method for enlarged resection of the stomach with the preservation of duodenal patency. (Experimental studies). Khirurgia, Sofia 14 no.7:561-572 '61.

1. Meditsinski institut, Minsk Katedra po bolnichna khirurgia. Zav. katedrata prof. I. M. Stelmashonok.

(GASTRECTOMY exper)

STEL'MASHONOK, I.M.; BONDALEVICH, V.Ya.

Blood supply of the jejunum functioning as an artificial esophagus.
Khirurgia 37 no.2:100-104 F '61. (MIRA 14:1)

1. Iz gospi'tal'noy khirurgicheskoy kliniki (dir. I.M. Stel'ma-
shonok) Minskogo meditsinskogo instituta.
(JEJENUM—BLOOD SUPPLY) (ESOPHAGUS—SURGERY)

BONDALEVICH, V.Ya.

Method for extensive resections of the stomach with restoration of
duodenal patency. Eksper. khir. i anast. 9 no.1:38-43 Ja-F '64.

(MIRA 17:12)

1. Kafedra gospi'tal'noy khirurgii (zav. I.M.Stel'mashonok) Minskogo
meditsinskogo instituta.

L 31003-66 FBD/EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c)
ACC NR: AP6007801 SOURCE CODE: UR/0185/66/011/002/0217/0218
WG/WH

AUTHOR: Starunov, M. H.; Yer'omka, V. D.; Bonchkova's'kyy, V. Y.

ORG: Institute of Radiophysics and Electronics, AN UkrSSR, Khar'kov (Instytut radiofizyky i elektroniky AN URSR)

TITLE: Laser with maximum Q switching

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 2, 1966, 217-218

TOPIC TAGS: laser optics, laser modulation, resonator, laser r and d, Q switching

ABSTRACT: Whereas in earlier experiments Q switching was usually effected by interrupting the coupling between the active rod and only one resonator mirror, the authors investigated the properties of a laser in which the coupling with both mirrors is interrupted. An estimate shows that the gain can be increased in this case to almost the theoretical 50%. Two variants of such a laser were tested (Fig. 1). Two ruby crystals each 24 cm long and 1.25 cm in diameter were used. One crystal operated in the Q-switching mode. The ends of the crystals and the hypotenuse faces of the total-reflection prisms were coated with MgF₂ and CaF₂ films, respectively. The resonator comprised alternating dielectric coatings of CaF₂ and ZnS (2 and 14 layers) on plate glass and the prism. The plate was rotated at 12,000 rpm. The pump illumination came from two IFP-15000 and four IFP-5000 lamps and was suffi-

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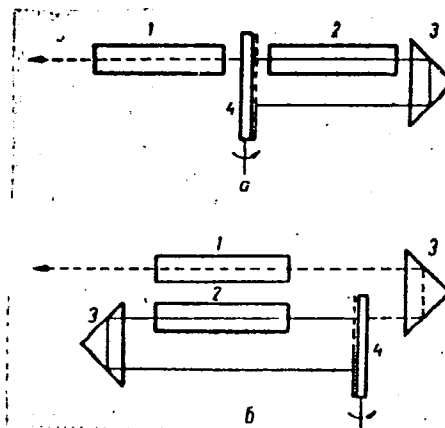
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L 31003-66

ACC NR: AF6007801

Fig. 1. Diagram of laser resonator in which the coupling between the active rod and both reflectors is interrupted. 1, 2 -- Ruby crystal, 3 -- internal-reflection prism, 4 -- plane-parallel glass plate with two dielectric coatings.



cient to cause lasing without mirrors of one crystal, by reflection from the free ends, or else of two crystals with bleached ends. In the case of a two-layer coating on the semitransparent mirror, the output energy was somewhat larger than 5 j and 30% more than in the case of a free plate. Under certain conditions, an energy of 11 j was obtained in variant a, as a result of the fact that the reso-

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I 31003-66
ACC NR: AP6007801

nator was Q-switched twice during the pump pulse. The focused giant pulse produced breakdown in air. The laser pulse repetition frequency was 0.1 cps. Orig. art. has: 1 figure and 1 formula. [02]

SUB CODE: 20/ SUBM DATE: 10Aug65/ ORIG REF: 005/ OTH REF: 002
ATD PRESS: 4214

Card 3/3 LC

BONDAR', A.

Business accounting on sections of track divisions. Zhel.dor.
transp. 36 no.5:83-84 My '55. (MIRA 12:5)

1. Nachal'nik distantii puti, stantsiya Darnitsa Yugo-Zapadnoy
dorogi. (Railroads--Accounts, bookkeeping, etc.)

BORZHKOV, P.; YUDOVICH, M.; BONDAR', A.

Consolidated balance of a statistical report. Den. 1 kred. 16
no.11:70 N '58. (MIRA 11:12)
(Odessa--Banks and banking--Accounting)
(Machine accounting)

EONDAR, Artur

International cooperation in the construction of automobiles.
Pt. 2. Motor 11 no.45:3 11 N '62.

PA 22/49111

BONDAR, A. A.

USSR/Electricity
Rectifiers

Oct 48

Currents, Electric - Rectifier

"The Influence of Varying Capacity on the
Frequency Dependence of a Rectified Current
and the Efficiency of the Rectifiers," A. A.
Bondar, Engr, Gor'kiy, 1 3/4 pp

"Elektrichestvo" No 10

Shows that, given correct choice of second
harmonic phase during double half-period
rectification, periodically changing capacity of
solid rectifiers increases rectified current at the
expense of power of second harmonic of DC current.

22/49111

Bondar, A.D.

81999

S/120/60/000/03/039/055
E032/E514

21.3200

AUTHORS:

Bondar, A.D., Yemlyaninov, A.S., Klyucharev, A.P.,
Lishenko, V. N. Medyanik, A.D. Nikolaychuk and
O. Ye. Shalayeva

TITLE:

Preparation of Metal Foils from Pure Isotopes 19

PERIODICAL:

Pribory i tekhnika eksperimenta, 1960, No 3,
pp 134-136

ABSTRACT:

A summary is given of the various methods which can be used to prepare metal foils of Ni, Cu, Zn, Cd, Co, Mn, Fe, Ag, Cr, Pb, Be, Ge and Zr suitable for use as targets in nuclear scattering experiments. The authors have used three methods for obtaining thin (0.1-10 μ) foils, namely, electrolytic deposition, direct evaporation in vacuum, and thermal dissociation. In any of these methods it is important to choose a suitable base which can then be removed, since the foils must frequently be used on their own. The apparatus used in the electrolytic method is shown in Fig 1. In the latter figure 1 is the anode (platinum), 2 is a perspex cylinder, 3 is a copper

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E032/E514

Preparation of Metal Foils from Pure Istopes

packing, 4 is the cathode, 5 is a copper contact for the cathode and 6 is the base (perspex). This device was used to obtain free foils of Ni, Cu, Zn, Cd, Fe, Pb, Co, Mn, Ag and Cr. The first six of these were obtained both from naturally occurring elements and elements enriched with stable isotopes. The various electrolytes used to obtain the foils are shown in column 3 of the table on p 135. In order to obtain thin foils of Ge isotopes, available in samples of a few tens of mg, the graphite evaporator shown in Fig 2 was employed. The evaporator was mounted directly on the copper leads (2). A tantalum plate 0.1 mm thick was placed above the evaporator at a distance of about 3 cm. In this way a Ge layer 3 to 4 μ thick was obtained from 15 to 20 mg of the isotope. The film was separated from the base by bending the latter. In order to prevent damaging the Ge film, it was covered with a thin layer of varnish. In order to obtain thin foils of Be, a beryllium oxide heater was used, as described by Sinel'nikov in Ref 8. 1 to 2 μ thick Be foils could be obtained in this way. Zr foils 5 to 10 μ thick were

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Preparation of Metal Foils from Pure Isotopes

obtained by the thermal dissociation method. The sample was in the form of ZrI_4 , placed in a special sealed ampoule. The compound was dissociated at a hot molybdenum base. The iodine was pumped off and removed by a cold trap, while the Zr was deposited on the molybdenum base. The molybdenum base was then dissolved in nitric acid. The amount of Zr necessary was 30 to 40 mg. The metal films obtained by the above methods were found to be stable during experiments with 5.5, 6.8 and 20 MeV protons. There are 2 figures, 1 table and 10 references, 8 of which are Soviet and 2 English.

ASSOCIATION: Fiziko-tekhnicheskiiy institut AN UkrSSR
(Physico-Technical Institute, Ac.Sc., UkrSSR)

SUBMITTED: May 22, 1959

Card 3/3

pa

Bondar', A.D.

82000

S/120/60/000/03/040/055
E032/E514

21.3200

AUTHORS: Bondar', A.D., Klyucharev, A.P., Lishenko, L.G. and Nikolaychuk, A.D.

TITLE: Preparation of Isotopic Chromium Targets¹⁹ from Cr₂O₃

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3,
pp 137-138

ABSTRACT: A new method is reported which can be used to obtain CrI₂ at 300°C in a molybdenum glass container and then convert it into ductile chromium foils. The authors had at their disposal stable isotopes of chromium in samples of about 100 mg each and in the form of Cr₂O₃. In order to transform Cr₂O₃ into the soluble form, the usual method described by Nekrasov (Ref 5) was employed. The chromium was then deposited on an Hg cathode from a 0.1 N sulphuric acid solution. In order to obtain a complete separation of the chromium, a current of 0.75 A was passed for 1.5 to 2 hours. The amalgam obtained in this way was then filtered through chamois leather under vacuum. After removing the surplus mercury the chromium Card 1/4 amalgam was placed in the apparatus shown in Fig 1. The

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Preparation of Isotopic Chromium Targets from Cr_2O_3

amalgam was introduced through the tube 7 into the retort 8 and the tube was sealed off. Next, an iodine ampoule 2 was introduced through the tube 5. The block 4 was introduced through the tube 5 in a similar way and the latter was sealed off. The whole assembly was connected to a vacuum pump through the tube 3 and the retort was placed in a furnace in which it was heated up to 200°C. The mercury was driven off from the amalgam into the receiver 1 and the whole apparatus was sealed off at A, while the mercury receiver was sealed off at B. The block 4 was then used to break the iodine ampoule, the iodine was driven into the retort and the apparatus was sealed off at B. The retort was then heated to 300°C for 30 to 40 min and the chromium iodide obtained was collected in 6. The surplus iodine and mercury iodide was driven into the retort by heating the ampoule 6 up to the knee A to 300°C. The ampoule containing the chromium iodide was

Card 2/4 sealed off at C. The ampoule containing the chromium

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E032/E514

Preparation of Isotopic Chromium Targets from Cr_2O_3

iodide was broken under toluene and the chromium iodide together with the toluene was placed in a ceramic crucible lined with molybdenum foil. All the subsequent operations were carried out in a metal vacuum chamber connected to the vacuum pump through a liquid nitrogen trap. The latter condensed all the volatile products such as toluene, iodine etc. The evaporator employed is shown schematically in Fig 2 in which 1 are current leads, 2 are insulators, 3 is a tungsten spiral, 4 is a ceramic crucible, 5 is a molybdenum jacket, 6 is a flange, 7 is the molybdenum lining, 8 is a ceramic crucible, 9 is a molybdenum container and 10 is a holder. After the toluene had been driven off the molybdenum foil base was heated to about 1050°C and the chromium iodide to 800°C . On striking the molybdenum foil the chromium iodide dissociated, the chromium was deposited on the base and the iodine was condensed out

Card 3/4 by the trap. In this way chromium foils 1 to 15μ thick

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Preparation of Isotopic Chromium Targets from Cr_2O_3
could be obtained. There are 2 figures and five
Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR
(Physico-Technical Institute, Ac.Sc., UkrSSR)

SUBMITTED: May 22, 1959

X

Card 4/4

S/048/60/024/007/011/011
B019/B060

AUTHORS: Bondar', A. D., Yemlyaninov, A. S., Klyucharev, A. P.,
Lishenko, L. G., Medyanik, V. N., Nikolaychuk, A. D.,
Shalayeva, O. Ye.

TITLE: The Production of Isotope Targets¹⁹ for Nuclear Research

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, ✓
Vol. 24, No. 7, pp. 929-933

TEXT: This article is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy held in Moscow from January 19 to 27, 1960. Methods of preparing foils from 16 elements are discussed. The authors used three methods for the preparation of free foils: electrolytic deposition, evaporation in vacuum by heating, and thermal dissociation. The principal characteristics of the three methods are briefly outlined. In the case of the electrolytic deposition, e.g., the selection of the right electrolyte is extremely important, the working conditions play a great part and so does the regeneration of the isotope. In the method of thermal dissociation, an important factor is the selection of the chemical compound

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The Production of Isotope Targets for Nuclear Research

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B019/B060

and the temperature conditions, and as for the evaporation method, material and construction of the vaporizer are very important. Table 1 gives data for the preparation of foils from the elements Ni, Cu, Co, Zn, Cd, Mn, Fe, Ag, Cr, Sn by the electrolytic procedure, and specifies the compositions of electrolytes and the operational conditions in electrolysis. The lead foils were prepared by using 30 - 50 mg of lead, the electrolyte was 25% perchloric acid with an addition of gelatin. In order to obtain a homogeneous Pb deposition, the anode was rotated eccentrically. The preparation of Ge and Be foils by the evaporation method has been described a number of times, but the large isotope losses have never been avoided. With a view to reducing these losses the authors made use of a graphite crucible (Fig. 2), out of which Ge and Be were evaporated onto tantalum. The preparation of foils from other elements by this method is briefly dealt with. Foils of Zr, Ti, and Cr were prepared by thermal dissociation. This method involves the use of volatile compounds of these metals; the apparatus shown in Fig. 3 for the preparation of Zr and Ti iodides is accurately described. To prepare chromium iodide, the authors developed a new procedure. They prepared a paste-like silver chromium amalgam and thence obtained chromium iodide sealed in an ampul with the device shown in Fig. 4 at a temperature

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The Production of Isotope Targets for Nuclear
Research

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of 300°C. The ampul was broken under toluene and the chromium iodide was poured into a crucible (Fig. 5) together with the toluene. The crucible was then evacuated in a vacuum chamber, the toluene was evaporated, and the iodide was then heated to 800°C. The evaporating iodide was passed over a heated base, where it decomposed. The chromium deposited on the base, while the iodine was intercepted. The targets prepared by the methods described exhibit good properties. There are 5 figures, 1 table, and 10 references: 9 Soviet and 1 US.

ASSOCIATION: Fiziko-tekhnicheskii institut Akademii nauk USSR
(Institute of Physics and Technology of the Academy of
Sciences UkrSSR)

Card 3/3

S/120/61/000/002/036/042
E032/E114

AUTHORS: Bondar', A.D., Karev, V.N., and Klyucharev, A.P.

TITLE: Preparation of isotopic magnesium foils from magnesium oxide

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.2, pp.177-178

TEXT: Russell et al. (Ref.3) have described a method for the preparation of isotopic magnesium. The present authors suggest that this method suffers from the disadvantage that the magnesium specimen contains magnesium oxide and tantalum impurities. Moreover, it cannot easily be used to obtain relatively thick targets, or targets in the form of a pure magnesium foil. The present authors use the following method: 100-150 mg of the isotopic magnesium oxide and 250-400 mg of lanthanum are ground down until the grain size is of the order of 1 mm. They are then inserted in layers into the crucible shown in Fig.1. The crucible contains a filter 3 which is prepared from molybdenum shavings. The crucible is then inserted into the furnace 5 (Fig.2). The reduction and evaporation of magnesium is carried out in the vacuum system shown in Fig.2 (at pressures at Card 1/4

S/120/61/000/002/036/042
E032/E114

Preparation of isotopic magnesium foils from magnesium oxide (10^{-5} - 6×10^{-6} mm Hg). Temperatures of the order of 700-1300 °C are necessary and the reaction times involved range from a few minutes to a few hours, depending on the form of the original materials employed. The reduced metallic magnesium is collected on the target 1 which is cooled by liquid nitrogen. Owing to the intensive cooling of the target the magnesium foil is frequently found to crack. In order to obtain a continuous foil the magnesium is again evaporated from the same furnace on to the uncooled target. Depending on the amount of metal employed and the distance to the target, 2 - 60 μ foils can be obtained by this method. The target is in the form of a polished tantalum foil. The target surface is carefully rubbed with ceresin and finally with soft cotton. Magnesium foils can then be separated from the target with the aid of a razor blade. Foils having a thickness of less than 5 μ can be removed by immersing the target in water or alcohol. The reduction and evaporation process is very dependent on the absence of oxidizing impurities. These can be removed with the aid of hydrogen or some
Card 2/4

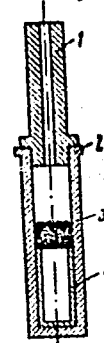
Preparation of isotopic magnesium .. S/120/61/000/002/036/042
E032/E114
other reducing agent.

There are 2 figures and 8 references; 7 Soviet and 1 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
Physico-technical Institute, AS Ukr.SSR)

SUBMITTED: April 2, 1960

Fig.1



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Legend, Fig.2. Vacuum chamber.

- 1 - target;
- 2 - base
- 3 - shutter
- 4 - crucible
- 5 - furnace
- 6 - freezeout
- 7 - belljar

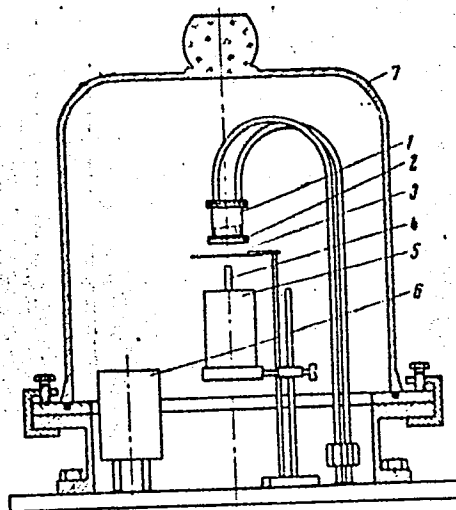


Fig.2

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S/120/61/000/004/020/034
E202/E592

AUTHORS: Bondar, A. D., Karev, V. N. and Klyucharev, A. P.
TITLE: Preparation of thin foils from the isotopic alkali
and alkaline earths metals

PERIODICAL: Pribory i tekhnika eksperimenta no. 4, 1961, 136-139

TEXT: The authors describe the preparation of metallic foils of Na, K, Rb, Cs and Li, Ca, Sr, Ba which were used as targets for proton beams of linear accelerators. Two distinct methods are described, viz. by the decomposition of the corresponding azides, and by the reduction of oxides in vacuo with metallic lanthanum powder. For the first method the azides of all the above metals, except lithium, were prepared in an aqueous medium and subsequently evaporated and frozen to prevent the moisture pick-up. Lithium azide was prepared according to the method described by N. Hofman (Ref. 7: *Bang Acta chem scand.*, 1957, 11, 581). The azides of Na, K, Rb and Cs were decomposed in a sealed glass vessel which was evacuated to approximately 10^{-3} mm Hg. and heated slowly to 150°C . When the decomposition started the heating was terminated, but after its completion the temperature

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Preparation of thin foils

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E202/E592

was increased again. Precautions were taken to degass the collected metal at 350-360°C, and transfer it by gentle heating into another vessel evacuated to 10^{-4} mm Hg, and finally depositing it in a small glass ampoule. The authors found that the rather high decomposition temperatures of 275-395°C may be lowered to 160-190°C and the yield of the above metals made substantially stoichiometric if small quantities of barium azide are added to the alkali metal azides. The authors attempted to decompose the azides of Li, Ca, Sr and Ba in vacuo in a different type of apparatus. Here, the azide was placed in an armco iron crucible which in turn was placed in a quartz vessel. The crucible was fixed to a conical condenser, also made of armco iron, connected to a copper cooler. The azides were decomposed below 300°C and then the temperature was increased to 800-900°C, with the subsequent distillation of the metal which finally collected in the condenser. This method gave 70% yield in the case of Sr and Ba, and only 20% yield in the case of Ca. In the case of lithium the decomposition of the azide was always too violent resulting in an explosion. Hence, for the preparation of Li, Ca, Sr and Ba foils the authors used another method, based on

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Preparation of thin foils ...

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E202/E592

the reduction of the corresponding oxides with powdered lanthanum. The procedure of this method closely follows the method used by J. B. Platt and D. H. Tombouljian (Ref. 9: Rev. Scient. Instrum., 1941, 12, 612) in the preparation of magnesium foils. Calcium foils of 1-5 μ thickness prepared according to the last method from stable isotope enriched carbonate, withstood proton irradiation of 5.4 and 6.8 MeV and 10^{-9} - 10^{-10} amp for many hours. There are 2 figures, 3 tables and 9 references: 4 Soviet and 5 non-Soviet. The English-language references read as follows: Ref. 2: L. N. Russell, W. E. Taylor, J. N. Cooper, Rev. Scient. Instrum., 1952, 23, 764; Ref. 3: D. H. Randall, M. L. Smith, Nature, 1955, 175, 1041; Ref. 9: Quoted in text.

ASSOCIATION: Fiziko-tehnicheskij institut AN UkrSSR
(Physico-technical Institute AS UkrSSR)

SUBMITTED: July 18, 1960

Card 3/3

S/032/62/028/012/004/023
B124/B101

AUTHORS: ~~Bondar', A. D.~~, Karev, V. N., Klyucharev, A. P., and
Nikolaychuk, A. D.

TITLE: X-ray spectrum analysis of thin metal foils

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 12, 1962, 1446 - 1448

TEXT: Non-destructive determination of impurities in thin titanium, chromium, and zirconium foils was carried out by X-ray spectrum fluorescence analysis. The foils were obtained by decomposing the corresponding iodides on a molybdenum base which was then dissolved in nitric acid. Molybdenum diffuses into the foils at 1050 - 1250°C. Specimens of 20 mm diameter resulting from vacuum metallization of molybdenum on an aluminum film were used as external standards. If the foils are $\approx 1 \mu$ the molybdenum content can be found directly on the calibration curve. If the molybdenum distribution is irregular, it can be determined approximately by irradiation from both sides. If the total impurity forms a thin layer on one side of the foil, then $I_2' = I_0 e^{-\mu x}$ (2)

Card 1/2

X-ray spectrum analysis ...

S/032/62/028/012/004/023
B124/B101

with $A = \left(\frac{1}{\sin \beta_1} + \frac{1}{\sin \beta_2} \right)$, and $\mu = \mu_0$, holds approximately for the reduction in absorption of the $\text{MoK}\alpha$ radiation from the other side. I is the intensity of $\text{MoK}\alpha$ -radiation on the side where the base is, μ_2 is the mass coefficient of absorption of the foil for characteristic X-rays, β_1 and β_2 are the angles between the foil surface and the primary and characteristic rays respectively, and ρ is the surface density of the foil in $\mu\text{g}/\text{cm}^2$. If molybdenum is distributed on the surface, $I_1 = I_2 e^{\mu \rho A}$ (3) is obtained on the assumption that the experimental value I_2 is given by reducing any intensity I_1 . The actual molybdenum value corresponds best with the mean value of I_1 and I_1' . There are 1 figure and 2 tables. The most important English-language reference is: P. D. Zeman, H. A. Leibhafsky, J. Electrochem. Soc. 103, 157 (1956).

ASSOCIATION: Fiziko-tekhnicheskii institut Akademii nauk USSR (Physico-technical Institute of the Academy of Sciences UkrSSR)

Card 2/2

ACCESSION NR: AP4033611

S/0032/64/030/004/0438/0439

AUTHORS: Karev, V. N.; Bondar', A. D.; Klyucharev, A. P.

TITLE: Determining the thickness of metallic foils from their absorption of characteristic x-rays

SOURCE: Zavodskaya laboratoriya, v. 30, no. 4, 1964, 438-439

TOPIC TAGS: metallic foil, foil thickness, x ray absorption, magnesium, chromium, iron, copper, zinc, chromium iodide, absorption coefficient, surface density

ABSTRACT: Experiments were performed to determine local thickness and character of metal distribution in foils of Mg, Cr, Fe, Cu, Zn, and Pb-Sn. A short-wave x-ray spectrometer with a monitor was used. Measurements were taken with the help of a micrometrically operated collimator mounted in front of the counter aperture. The foil could be moved in a plane perpendicular to the x-ray beam, so that the areas of $0.05 \times 2 \text{ mm}^2$ could be investigated. In order to determine the surface density m_0 , and consequently the thickness of foils, not only the intensities of radiation but also the coefficients of absorption μ_n for a given wavelength must be known. These

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ACCESSION NR: AP4033611

were determined from the absorption of $M\alpha$ radiation. The surface density of Mg foil was obtained from its absorption of $CuK\alpha$, with μ_{Mg} taken as 39.3. In determining the character of metal distribution, the frames containing foil were placed in two mutually perpendicular planes. On Fig. 1 of the Enclosure the mean values of m_0 are shown by dashes, the experimental values by dots. This work represents a continuation of a previous article by V. N. Karev, A. P. Klyucharev, and V. N. Medyanik (Zavodskaya laboratoriya, XXVIII, 12, 1149 1962). Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk, UkrSSR (Physicotechnical Institute, Academy of Sciences, UkrSSR)

SUBMITTED: OO

DATE ACQ: 28Apr64

ENCL: 01

SUB CODE: MM

NO REF SOV: 001

OTHER: 001

Card 2/3

ACCESSION NR: AP4033611

ENCLOSURE: 01

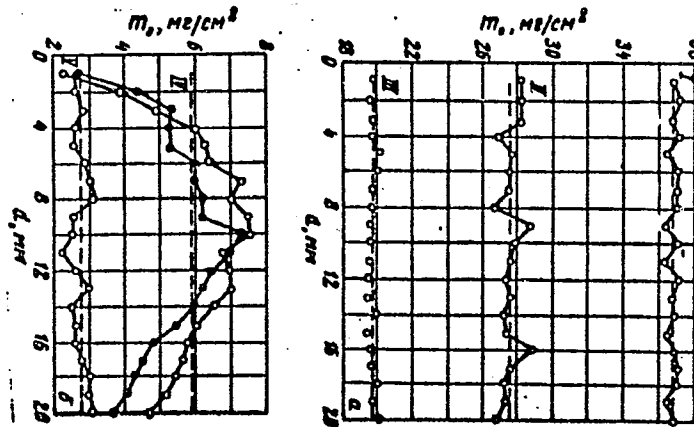


Fig. 1. Distribution of metal in the foils: I. copper; II. electrolytic iron; III. commercial lead-tin; IV. chromium produced by the decomposition of chromium iodide; V. electrolytic chromium.

Card 3/3

SOV/124-57-5-5703

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 88 (USSR)

AUTHOR: Bondar', A. G.

TITLE: An Experimental Investigation of the Transfer of Heat to a Boiling Sodium-hydroxide Solution Circulating Freely in a Vertical Boiler Tube of an Industrial Evaporator (Eksperimental'noye issledovaniye teplootdachi kipyashchim rastvorom yedkogo natra v vertikal'noy trube pri yestestvennoy tsirkulyatsii)

PERIODICAL: Izv. Kiyevsk. politekhn. in-ta, 1956, Vol 17, pp 83-97

ABSTRACT: Results are given of investigations conducted to determine the rate of heat transfer to a boiling solution of sodium hydroxide (NaOH) circulating freely in a vertical tube. The purpose of the investigations was twofold: 1) To obtain data needed to permit reliable design calculations of the heating surfaces of industrial evaporators to be used for concentration of NaOH solutions, and 2) to determine the most favorable conditions of evaporator operation. Included is the schematic diagram of a specially designed experimental apparatus. A detailed description is given of the measuring methods used and of the methods employed in the analysis of the experimental data.

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SOV/124-57-5-5703

An Experimental Investigation of the Transfer of Heat to a Boiling (cont.)

It is noted, in particular, that the specific heat flux q was determined from the amount of condensate that had formed on the respective surfaces of the individual sections of the vertical boiler tube, allowance being made, of course, for the heat loss due to dehydration. The author states that in the respective determinations made of the coefficient of the heat transfer to the boiling NaOH solution α_2 in the two cases of the minimal ($q = 1,700 \text{ kcal/m}^2\text{hr}$) and the maximal ($q = 74,200 \text{ kcal/m}^2\text{hr}$) thermal load the relative error that occurred ranged from 5 to 8%. For the purpose of determining the optimum hydrodynamic boiling conditions for any given concentration of the NaOH solution a series of experiments was conducted wherein in each experiment of the series the apparent level of the boiling solution in the preoxidized-steel vertical boiler tube was different. The tube used for these experiments was 32/38 mm in diameter and 1,500 mm long. Under the given sets of conditions further experiments were conducted for the threefold purpose of: 1) Determining the values of the coefficient α_2 of the heat transfer to the boiling NaOH solution for different concentrations of the solution; 2) working out the relationship between α_2 and q ; and 3) determining the physical properties of 5, 10, and 20% NaOH solutions at secondary-vapor pressures of 1 at, and determining the physical properties of 15, 30, and 40% NaOH solutions at secondary-vapor pressures ranging from 0.62 to 0.76 kg/cm^2 . The author states that,

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SOV/124-57-5-5703

An Experimental Investigation of the Transfer of Heat to a Boiling (cont.)

within the ranges of variation exhibited by the parameters in the experiments described, the ratio of α_2 to q (which ratio is designated in the paper as n) varies between 0.564 and 0.620. These results are in agreement with the findings of other authors. In particular, it is confirmed that the coefficient of the heat transfer to water is greater than the coefficient of heat transfer to an NaOH solution when the heat flux is the same in both cases. The coefficient of heat transfer to an NaOH solution decreases as the solution's concentration increases. Using a special traveling thermocouple, the author is able to show that when a boiling NaOH solution circulates freely in a relatively narrow vertical tube the solution becomes superheated to a significantly higher degree (by as much as $\sim 2^\circ\text{C}$ more) than when it boils in a spacious container. It is pointed out that, under optimum conditions, the highest temperature exhibited by the solution will be encountered, as a rule, in the inlet portion of the vertical boiler tube. Bibliography: 3 references.

G. Ye. Khudyakov

Card 3/3

BONDAR', A.G., kand.tekhn.nauk; MIRGORODSKIY, V.T., inzh.

Estimation of the amount of material needed for ammonia synthesis.
Izv. KPI 20:161-173 '57. (MIRA 11:3)
(Ammonia)

BONDAR, A.G., kand.tekhn.nauk; MIRGORODSKIY, V.T., inzh.

Calculation of the amount of material necessary for preliminary
catalysis in the manufacture of ammonia. Izv. KPI 20:174-185

'57.

(MIRA 11:3)

(Ammonia) (Catalysis)

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