

I. 23260-66
ACC NR: AF6009153

4
is shielded against the "direct" neutrons, then the only neutrons that can reach the detector are those which were scattered by one another. The reactor could be launched ballistically with a geophysical rocket, and the detector could be an ionization chamber filled with He³. The number of pulses produced by such a chamber during one neutron burst is calculated. The most suitable reactor is found to be a hydride-zirconium reactor with beryllium reflector producing 8.6×10^{17} neutrons. The possible background to be eliminated is discussed. It is concluded that nn-scattering length can be measured by this method with accuracy $\pm 10\%$. The authors thank V. A. Kuznetsov, G. A. Romyantsev, Yu. Ya. Staviiskiy, and V. S. Stavinskiy for interest in the work and valuable discussions. Orig. art. has: 1 figure and 5 formulas.

SUB CODE: 18/20/ SUBM DATE: 30Apr65/ ORIG REF: 003/ OTH REF: 005

Card 2/2 *MAS*

BONDARENKO, I.G.

Relation of an intensive negative magnetic anomaly to a sulfide
manifestation in effusives. Geoliz. sbor. no.8:110-113 '64.

(MIRA 18:6)

1. Gosudarstvennyy geologicheskiy komitet SSSR.

NECHAYEV, S.V.; BONDARENKO, I.G.

Ore-bearing skarns in some negative magnetic anomalies of the southern Donets Basin. Razved. i okh. nedr 26 no.7:6-9
JI '60. (MIRA 15:7)

1. Ministerstvo geologii i okhrany nedr SSSR.
(Donets Basin—Skarns) (Magnetic prospecting)

BOCHDARSKO, I.S., inzh.; MIRONOV, M.M., inzh.

Crano builders strive for technical progress. Stroi. i dor.
mash. 6 no.9:5-8 S '61. (MIRA 14:10)
(Cranes, derricks, etc.)

L 9693-66 EWT(d)

ACC NR. AP5026498

SOURCE CODE: UR/0286/65/000/019/0028/0028

AUTHOR: Bondarenko, N. K.

34
0

ORG. none

TITLE: Device for automatic measurement of the impedance of super-high frequency channels. Class 21, No. 175091

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 28

TOPIC TAGS: superhigh frequency electric impedance, waveguide resistance, coaxial cable

ABSTRACT: This Author Certificate presents a device for automatic measurement of the impedance of super-high frequency channels. The device contains as an impedance detector a section of waveguide (or coaxial line) which is coupled to the detector heads through dumbbell-shaped slots (or inductive loops with a capacitive disk at the top) (see Fig. 1). To broaden the operating frequency band and to increase the accuracy of measurement, the detectors or inductive loops with a capacitive disk at the top (in the case of the coaxial detector) are rotated relative to the longitudinal axis of the waveguide or coaxial line by an angle of $\frac{\pi}{16}$ or $\frac{\pi}{11}$.

Card 1/3

UDC: 621.317.343.3

L 9693-66

ACC NR: AP5026498

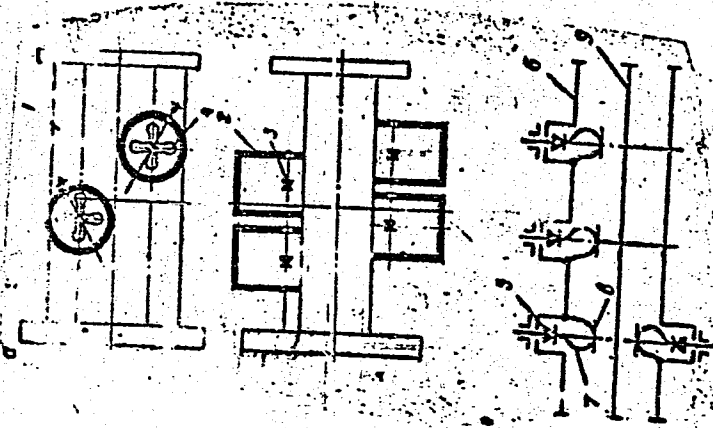


FIG. 1
1- Rectangular wave-
guide
2-circular detector
chamber
3-detector
4-dumbbell shaped slot
5-detector
6-outer conductor of
coaxial line
7-loop
8-disk
9-inner conductor of
coaxial line.

Card 2/3

Card 3/3

ACC NR: AP6033470

SOURCE CODE: UR/0413/66/000/018/0057/0057

INVENTOR: Bondarenko, I. K. ; Oleynikov, V. N.

ORG: none

TITLE: Superhigh frequency discriminator. ²⁵ Class 21, No. 185976

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 18, 1966, 57

TOPIC TAGS: superhigh frequency, frequency discriminator, frequency shift

ABSTRACT: An Author Certificate has been issued for a superhigh frequency discriminator made in the shape of a section of a waveguide or coaxial line above which two detector chambers are placed. To ensure the prompt tracing of frequency shift over a wide wave range, the detectors or coupling loops are positioned in the planes of the cross-sectional piece at a distance of λ and are turned at an angle of 22.5° with respect to the planes (see Fig. 1).
[Translation]

Card 1/2

UDC: 621.317.76:621.328.8:621.315.212

ACC NR: AP6033470

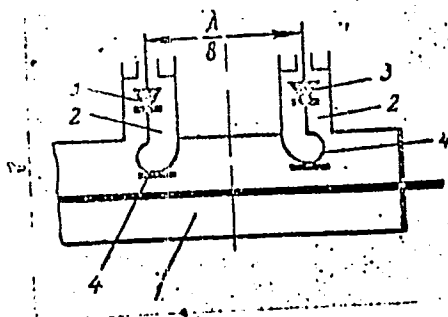


Fig. 1. Superhigh frequency discriminator

- 1—Piece of coaxial line;
- 2—detecting chambers;
- 3—detectors; 4—coupling loops.

SUB CODE: 09/ SUBM DATE: 01Feb65/

Card 2/2

BONDARENKO, Ivan Mikhaylovich, svinar'; POLYAKOVA, V., red.; YAKOVLEVA, Ye.,
tekhn.red.

[I'll fatten off 3000 swine in a year] Otkormliu za god 3000
svinei. Moskva, Moskovskii rabochii, 1960. 35 p. (MIRA 13:11)

1. Sovkhoz "Odintsovo-Vakhromeyevo" (for Bondarenko).
(Swine--Feeding and feeds)

DUN I-CHEN' [Tung I-chen] (Kitay); BONDARENKO, I.N. [translator]

Experiments on the bolting of sugar beets, and characteristics
of sugar beet flowering and fruiting. Agrobiologia no.1:74-78
Ja-F '59. (MIRA 12:4)

1. Sel'skokhozyaystvennaya akademiya Severo-Vostochnogo Kitaya,
g. Kharbin.
(China--Sugar beets)

BONDARENKO, Ivan Petrovich; BRZANOVSKAYA, L.Ya., redaktor; YBLAGIN, A.S.,
tehnicheskii redaktor

[Automatic control in industry] Avtomatika na proizvodstve. Moskva,
Izd-vo "Sovetskaya Rossiya," 1957. 40 p. (Bibliotekha v pomoshch'
lektoru, no.16) (MLA 10:10)
(Automatic control)

U.S.S.R./Mines and Mining:
Drilling, Rock

Aug. 1947

"Results of the School of Multi-cut Drilling by A. I. Sinivolos' Method," N. P. Gubskiy,
I. P. Boncareenko, 2 pp

"Gornyy Zhurnal" No 6

In 1946, six crews working in shafts imeni Kirov according to Sinivolos' method fulfilled their quotas by 205 to 250 percent. This method is so effective that apprentices at the Krivoy Rog workings are being taught it.

PA 17T72

PODARENKO I. P.

Aug. 1947

USSR/Mineral Industries
Mines and Mining

"Rapid Preparations of Cuts for Clearing Excavations," I. A. Kutsakovskiy, D. P. Tovstanovskiy I. P. Bondarenko, 3 pp

"Gornyy Zhurnal" No 8

Description of work done by I. A. Kutsakovskiy's crew in exploiting blocks 0 and 6 of shaft Imeni Kirov. Tabular record of fulfillment of norms for 1947 on an average of 165 percent.

PA 17T7h

BONDARENKO I. P.

PA 17775

USSR/Mineral Industries
Mines and Mining

Aug 1947

"Restoration of Top Cagers in Shafts Yuzhaya and
imeni Kirov," I. P. Bondarenko, 2 pp

"Gornyy Zhurnal" No 8

Short description of work done in restoring top
cagers of both shafts. Gives diagrams of the
top cagers before and after restoration.

17775

BONDARENKO I. P.

USSR/Mineral Industries
Mines and Mining

Aug 1947

"Lifting of Ferro-concrete Bunkers at Shaft Izmeni
Kirov," I. P. Bondarenko, 1 p

"Gornyy Zhurnal" No 8

The two bunkers at this shaft were damaged by the
Germans during the war. Describes very briefly
the method by which these bunkers were put back
into operating condition.

17T77

PA 61/49174

BONDARENKO, I. P.

USSR/Mining
Blasting
Ore Deposits

Aug 48

"Use of Mine Blastholes in a System of Subdrift
Cave-Ins in the Mine Imenti Kirov," I. P.
Bondarenko, Mining Engg, 4 pp

"Gor Zhur" No 8

Describes system for exploiting certain mines by
drilling a series of blastholes at different
levels. Shows sketches of the blasthole system,
and tabulates data on number of cartridges in
each hole. Includes tables for loss of ore in

61/49174

Aug 48

USSR/Mining (Contd)

this process. found to be an efficient method of
extracting ore, and is recommended for extension
to similar ore deposits.

61/49174

Bondarenko, I.P.

BONDARENKO, I.P., inzh.; PALEY, D.I., inzh.; BONDARENKO, I.I., inzh.

More attention should be paid to the training of specialized
miners. Bezop. truda v prom. 2 no.1:13 Ja '58. (MIRA 11:1)
(Miners)

BONDARENKO, I.P., inzh.; YEVDOKIMOV, G.N., inzh.; BEZLADNOV, V.Ya.

On the article "Increase cross sections of haulageways." Bezop.
truda v prom. 2 no.2:22-23 F '58. (MIRA 11:2)

1. Nachal'nik upravleniya Krivorozhskogo okruga Gosgortekhnadzora
SSSR (for Bondarenko). 2. Glavnyy inzhener upravleniya Kazakh-
stanskogo okruga Gosgortekhnadzora SSSR (for Bezladnov).
(Mining engineering)

BONDARENKO, I.P., inzh.

An inspector of the State Technical Mine Inspection has prevented
a group accident. Bezop. truda v prom. 2 no.8:37 Ag '58.

(MIRA 12:7)

(Dniepropetrovsk Province--Mining engineering--Safety measures)

SOV/68-59-1-8/26

AUTHORS: Bondarenko, I.P., Kamenetskiy, G.D. and Dovbnya, K.I.

TITLE: On the Choice of a Rational Shape of Lining of Coke-oven Doors (O vybore ratsional'noy konfiguratsii futerovki dverey koksovykh pechey)

PERIODICAL: Koks i Khimiya, 1959, Nr 1, pp 33 - 34 (USSR)

ABSTRACT: The service life of door linings made from various types and shapes of refractory bricks (shown in Figures 1-4) is compared. It is pointed out that bricks M119 and M120 shaped as in Figure 4, at present used in the Zaporozhe ovens, give the best service life of 3-4 years. This type of brick is recommended for future replacements and new batteries. In addition, it was found that the service life of 3-4 years for the above bricks is obtained when the beginning of the service coincides with the starting up of the new batteries. After replacement the service life decreases by about 50%. This is ascribed to the fact that when starting ovens, the doors are placed when the temperature of the oven is above 800 °C so that the lining bricks undergo an additional firing slowly attaining their operating temperature. It is therefore

Card 1/2

SOV/68-59-1-8/26

On the Choice of a Rational Shape of Lining of Coke-oven Doors

considered that a special camera for firing lining bricks with the door directly in the region of counterforts should be designed by Giprokoks. There are 4 figures and 1 table.

ASSOCIATION: Zhdanovskiy koksokhimicheskiy zavod
(Zhdanovskiy Coking Works)

Card 2/2

SOV/68-59-8-24/32

AUTHORS: Tamarin, M.D., Candidate of Technical Sciences and
Bondarenko, I.P.

TITLE: From the Experience of Operation of a Quenching Tower
Built from Slag Blocks (Opyt ekspluatatsii bashni
tusheniya iz litykh shlakovykh blokov)

PERIODICAL: Koks i khimiya, 1959, Nr 8, pp 52-53 (USSR)

ABSTRACT: Quenching towers built from ordinary clay brick
showed considerable wear of internal walls and floor.
Freezing of water saturated bricks during winter
contributes considerably to this wear. In 1955 a
quenching tower was built on the Zhdanov Works from
cast slag blocks (380 x 180 x 120 mm). After 4 years
of operation no noticeable wear was observed. In
another quenching tower the floor made from cast
slag blocks showed no wear after 6 years. The use of
slag blocks for lining the floor and walls of quenching
towers is recommended.

ASSOCIATIONS: Zhdanovskiy filial nauchno-issledovatel'skogo instituta
nadshakhtnogo stroitel'stva (Zhdanov Branch of the
Scientific Research Institute for Surface Building for

Card 1/2

SOV/68-59-8-24/32

From the Experience of Operation of a Quenching Tower Built from
Slag Blocks

mines)(Tamarin,M.D.); Zhdanovskiy koksokhimicheskiy zavod
(Zhdanov Coking Works) (Bondarenko, I.P.).

Card 2/2

BONDARENKO, I.P.

On the use of blast-furnace gases for the decomposition of phenolates. Koks i khim. no.10:54 '60. (MIHA 13:10)

1. Zhdanovskiy koksokhimicheskiy zavod.
(Phenoxide) (Gases)

VOLOSHIN, A.I.; BOGOYAVLENSKIY, K.A.; AKHTYRCHENKO, A.M.; TURIK, I.A.;
 ZHIDKO, A.S.; LYALYUK, V.S.; GABAY, L.I.; ONOPRIYENKO, V.P.;
 STARSHINOV, B.N.; BABIY, A.A.; SAVELOV, N.I.; Primali
 uchastiye: TORYANIK, E.I.; VASIL'YEV, Yu.S.; SHEMEL', T.I.;
 SENYUTA, V.I.; BONDARENKO, I.P.; AMSTISLAVSKIY, D.M.;
 ANDRIANOV, Ye.G.; SERGEYEV, G.N.; ZAMAKHOVSKIY, M.A.;
 LYUKIMSON, M.O.; IVONIN, V.K.; TSIMBAL, G.I.; SEN'KO, G.Ye.;
 KONAREVA, N.V.; SOLODKIY, Yu.L.; LUKASHOV, G.G.; TARASOV, D.A.;
 GORBANEV, Ya.S.; SUPRUN, I.Ye.; TIKHOMIROV, Ye.I.; KONONENKO, P.A.;
 PROKOPOV, V.N.; GULYGA, D.V.; PLISKANOVSKIY, S.T.; PONOMAREVA, K.Ye.

Effect of the length of coking on coke quality and the performance
 of blast furnaces. Koks i khim. no.12:26-32 '61.

(MIRA 15:2)

1. Ukrainskiy uglekhimicheskiy institut (for Voloshin,
 Bogoyavlenskiy, Akhtyrchenko, Turik, Zhidko, Lyalyuk, Toryanik,
 Vasil'yev, Shemel'). 2. Zhdanovskiy koksokhimiicheskiy zavod
 (for Gabay, Senyuta, Bondarenko, Amstislavskiy, Andrianov,
 Sergeyev, Zamakhovskiy, Lyukimson, Ivonin, TSimbal). 3. Ural'skiy
 nauchno-issledovatel'skiy institut chernykh metallov (for
 Onopriyenko, Starshinov, Babiy, Sen'ko, Konareva, Solodkiy).
 4. Zavod "Azovstal'" (for Savelov, Lukashov, Tarasov, Gorbanev,
 Suprun, Tikhomirov, Kononenko, Prokopov, Gulyga, Pliskanovskiy,
 Ponomareva).

(Coke)

(Blast furnaces)

PHASE I BOOK EXPLOITATION

SOV/6408

Bondarenko, Ivan Petrovich, and Nadezhda Vasil'yevna Budarova

Osnovy dozimetrii i zashchity ot izlucheniya (Fundamentals of Dosimetry and Radiation Protection) Moscow, "Vysshaya shkola", 1962. 297 p. 6000 copies printed.

Ed.: Ye. L. Stolyarova; Ed. of Publishing House: D. Ya. Koptevskiy; Tech. Ed.: V. A. Murashova.

PURPOSE: The book is intended as a textbook for students at schools of higher education.

COVERAGE: The book is based on a series of lectures on radiation safety given by the author since 1954 at the Moscow Engineering Physics Institute for students of all departments. It is intended to fill the need for a book which is neither too erudite and specialized, nor too general and superficial. The book covers the basic concepts of dosimetry and control, gives the principles of calculation of shielding and shielding materials, describes

Card 1/8

Fundamentals of Dosimetry (Cont.)

SOV/6408

special apparatus and shielding techniques, explains decontamination and waste disposal, discusses instruments and methods of measuring activity, and describes instruments and methods for dosimetric control. The author thanks Docent Ye. L. Stolyarova, Docent B. P. Golubev, Professor K. K. Aglintsev, and Professor A. K. Gus'kova for valuable comments and advice. References are listed by chapters at the end of the text. There are 94 citations: 84 from Soviet sources (including 18 translations), and 10 from English sources.

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Ch. II. Basic Quantities and Units of Measurement	11
Activity and units of activity	11

Card 2/8

KHANIN, I.M.; KARTSYNEL'M.B.; YAKOVLEV, V.I.; PORTYENKO, V.A.; BONDARENKO, I.P.

Intensification of the process of benzene recovery. Koks i khim.
no.9:40-43 '62. (MIRA 16:10)

1. Dnepropetrovskiy khimiko-tehnologicheskiy institut (for Khanin, Kartaynel', Yakovlev).
2. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy koksokhimicheskoy promyshlennosti (for Portyenko).
3. Zhdanovskiy koksokhimicheskiy zavod (for Bondarenko).
(Shrubber (Chemical technology))
(Benzene)
(Coke industry--By-products)

PHASE I BOOK EXPLOITATION

SOV/6408

Bondarenko, Ivan Petrovich, and Nadezhda Vasil'yevna Budarova

Osnovy dozimetrii i zashchity ot izlucheniya (Fundamentals of Dosimetry and Radiation Protection) Moscow, "Vysshaya shkola", 1962. 297 p. 6000 copies printed.

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Card 1/8

7

Fundamentals of Dosimetry: (Cont.)

SCV/6408

special apparatus and shielding techniques, explains decontamination and waste disposal, discusses instruments and methods of measuring activity, and describes instruments and methods for dosimetric control. The author thanks Docent Ye. L. Stolyarova, Docent B. P. Golubev, Professor K. K. Aglintsev, and Professor A. K. Gus'kova for valuable comments and advice. References are listed by chapters at the end of the text. There are 94 citations: 84 from Soviet sources (including 18 translations), and 10 from English sources.

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BONDARENKO, Ivan Petrovich; BUDAROVA, Nadezhda Vasil'yevna; STOLYAROVA,
Ye.L., red.; KOPTEVSKIY, D.Ya., red.izd-va; MURASHOVA, V.A.,
tekhn. red.

[Fundamentals of dosimetry and radiation protection] Osnovy dozi-
metrii i zashchity ot izlucheni. Moskva, Vysshaia shkola, 1962.
297 p. (MIRA 16:3)
(Radiation--Dosage) (Radiation--Safety measures)

BABAYEV, V.I., inzh.; GRANOVSKAYA, R.M., inzh.; ZHIVOTKOVA, L.V.;
BONDARENKO, I.S.

Removal of suspended matter from neutralized wastes in the
manufacture of synthetic fatty acids. Masl.-shir. prom. 29
no.3:32-34 Mr '63. (MIRA 16:4)

1. Shebekinskiy kombinat sinteticheskikh zhirnykh kislot i
zhirnykh spirtov.
(Acids, Fatty) (Industrial wastes)

BONDARENKO, I.T., otvetstvennyy redaktor; GRISHAYENKO, M.I., redaktor;
~~WAGNER~~
KOROVENKOVA, Z.A., tekhnicheskiy redaktor

[Filling of mined areas; materials of the technical conference on
problems of filling mined areas in Kuznetsk Basin mines] Zakladka
vyrabotannogo prostranstva; materialy tekhnicheskogo soveshchania
po voprosam sakladki vyrabotannogo prostranstva na shakhtakh Kuznets-
kogo basseina. Moskva, Ugletekhnizdat, 1954. 77 p. (MIRA 8:3)

1. Vsesoyuznoye nauchnoye inzhenerno-tekhnicheskoe gornoe obshchestvo.
Zapadnosibirskoye i kemerovskoye otdeleniya.
(Kuznetsk Basin--Coal mines and mining)

BONDARENKO, I. V., Cand of Agric Sci -- (diss) "Persimmons in Central Asia. (Biologico-ecological and silvicultural properties, and cultivation experiences)." Tashkent, 1957, 24 pp (Tashkent Agricultural Institute), 140 copies (KL, 29-57, 91)

BONDARENKO, I.V.
USSR/Cultivated Plants - Subtropical and Tropical.

M-6

AGs Jour : Ref Zhur - Biol., No 3, 1958, 11075
Author : Bondarenko, I.V.
Inst :
Title : The Persimmon In Central Asia.
Orig Pub : Sots. s. kh. Uzbekistana, 1957, No 3, 58-60

Abstract : Although there are 190 varieties of persimmons, growing mainly in the tropics of the eastern hemisphere, only one, the common persimmon, grows wild in the USSR. The virgin persimmon can be grown in many regions of the Central Asian irrigated agriculture zone, and the common and eastern persimmon in warmer regions. The virgin persimmon is inferior to the eastern variety in the size of its fruit, but it is very aromatic and contains a large quantity of sugars, is frost-resistant, and less sensitive to soil and climatic conditions. It is recommended that the common persimmon and the virgin persimmon be regrafted

Card 1/2

BONDARENKO, I.V.

Occurrence of wild persimmon (*Diospyros lotus* L.) in Central Asia.
Bot. zhur. 42 no. 1: 72-77 Ja '57. (MLRA 10:2)
(Pamir-Alay--Persimmon)

BONDARENKO, I. V.

69

PHASE I BOOK EXPLOITATION

SOV/5435

Kiselev, P. N., Professor, G. A. Gusterin, and A. I. Strashinin, Eds.

Voprosy radiobiologii. t. III: Sbornik trudov, posvyashchenny 60-letiyu so dnya rozhdeniya Professora M. N. Pobedinskogo (Problems in Radiation Biology. v. 3: A Collection of Works Dedicated to the Sixtieth Birthday of Professor M[ikhail] N[ikolayevich] Pobedinskiy [Doctor of Medicine]) Leningrad. Tsentr. n-issl. in-t med. radiologii M-va zdravookhrananiya SSSR, 1960. 422 p. 1,500 copies printed.

Tech. Ed.: P. S. Peleshuk.

PURPOSE: This collection of articles is intended for radiobiologists.

COVERAGE: The book contains 49 articles dealing with pathogenesis, prophylaxis, and therapy of radiation diseases. Individual articles describe investigations of the biological effects of radiation carried out by workers of the Central Scientific Research Institute for Medical Radiology of the Ministry of Public Health, USSR. [Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR] during 1958-59. The following

Card 1/10

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SOV/5435

Problems in Radiation Biology (Cont.)

topics are covered: various aspects of primary effects of radiation; the course of some metabolic processes in animals subjected to ionizing radiation; reactions in irradiated organisms; morphologic changes in radiation disease; and reparation and regeneration of tissues injured by irradiation. Some articles give attention to the effectiveness of experimental medical treatments. No personalities are mentioned. References accompany almost all of the articles.

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Card 2/10

Problems in Radiation Biology (Cont.)

SOV/5435

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Card 4/10

BONDARENKO, I.V.

Investigation of gas exchange in irradiated animals performing
muscular work. Radiobiologiya 1 no.2:242-246 '61.. (MIRA 14:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy
radiologii, Leningrad.

(X RAYS--PHYSIOLOGICAL EFFECT)
(EXERCISE) (RESPIRATION)

BONDARENKO, K. F., inzh.; VIKHOREV, G.A., inzh.

Determining the height of coil spiral fins on the basis of
the condition of the volume of metals. Trudy OTIPiKhP 12:
117-120 '62. (MIRA 17:1)

1. Kafedra kholodil'nykh ustanovok i kafedra kholodil'nykh
mashin Odesskogo tekhnologicheskogo instituta pishchevoy
i kholodil'noy promyshlennosti.

FA 70T94

BCNDARENKO, K. K.

USSR/Medicine - Hygiene and Sanitation, May 1948
Industrial
Medicine - Legislation, Medical

"Practice of Inspection of Industrial Enterprises
of the Zaporozhskiy Oblast," K. K. Bondarenko, 14 pp

"Gig i San" Vol XIII, No 5

It is hoped that the Office of State Sanitation In-
spection will determine exact sanitation laws that
all organizations which are expecting to build in
the future will abide by. It is also necessary to
keep within sanitation requirements established by
GOST.

70T94

BONDARENKO, K.K.; AMELIN, N.I.

Ventilation of hot workshops. Gig. sanit., Moskva No.1:33-40 Jan 52.
(GIML 21:4)

1. Of Zaporozh'ye Oblast Sanitary Epidemiological Station.

BONDARENKO, K. P.

DOBROVENSKIY, V.V.; BONDARENKO, K.P.

Automatic bench drill for hard materials. Zav.lab. 22 no.10:1257-1258
'56. (MIRA 10:5)

1. Institut kristallografi Akademii nauk SSSR.
(Drilling and boring)

BONDARENKO, K.P.

120-6-28/36

AUTHORS: Distler, G.I., Bondarenko, K.P., and Dobrzanskiy, G.F.

TITLE: A Polarizing Attachment to the MKC-11 Infra-red Spectrometer (Polyarizatsionnoye prispobleniye k infrakrasnomu spektrometru IKS-11)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 106 - 108 (USSR)

ABSTRACT: The MKC-11 infra-red spectrometer is widely used in the USSR. A simple polarising attachment to this spectrometer was developed at the Institute of Crystallography of the Ac.Sc.USSR (Institut Kristallografi, AN SSSR). The polarising element consists of 8 polished plates of silver chloride 0.2 - 0.25 mm thick. The set of plates is at about 26° to the beam and is isolated from metal parts since silver chloride reacts strongly with metals. Provision is made for the rotation of the specimens and the device as a whole. The instrument has an average transmission of 30 to 40% and the degree of polarisation is 99 to 100%. The instrument can be used in the region $1 - 20 \mu$. Fig.1 shows a sectional drawing of the device; Fig.2 its general appearance and Fig.3 a typical spectrum obtained. There are 3 figures,

ASSOCIATION: Institute of Crystallography of the Academy of Sciences
Card 1/2 of the USSR

Polarizing Attachment to the MKC-11 Infra-red Spectrometer.
(Institut Kristallografii AN SSSR)

SUBMITTED: April 16, 1957.

AVAILABLE: Library of Congress.

Card 2/2

SOV/120-58-5-21/32

AUTHORS: Grum-Grzhimaylo, S. V., Bondarenko, K. P., Klimusheva, G. V.

TITLE: An Attachment to the SF-4 for Studying Absorption in Crystals
(Prisposobleniya k SF-4 dlya issledovaniya pogloshcheniya kristallov)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 83-86
(USSR)

ABSTRACT: A description is given of an attachment to the SF-4 quartz photoelectric spectrophotometer which may be used to measure the absorption of polarised light in crystals in the temperature interval -170 to 500°C, as well as the absorption of crystalline powders on reflection. A photograph of the attachment is shown in Fig.1. A schematic drawing of the attachment is shown in Fig.2. It consists of a cylindrical box, 5, which contains a hole which lets in the beam of light from the instrument. The box contains a front coated aluminium mirror, 6, 70 mm in diameter. Below this mirror there is a plane mirror, 8, (7 x 15 mm²). This is kept in position by means of the clamp, 9, 10, and directs the beam of light onto the specimen which is placed in the ebonite cap, 11, whose diameter is 12 mm. This cap may be rotated in the horizontal plane by means of the handle 13. The same handle controls
Card 1/2 another cap which contains a standard substance which can be

SOV/120-58-5-21/32

An Attachment to the SF-4 for Studying Absorption in Crystals

turned into the light beam when necessary. By means of the handle 13 the specimen and the standard are in turn placed under the mirror, 8 . The light which is scattered by the powder in 11 is intercepted by the spherical mirror, 6 , which directs it onto the photocell immediately below (Fig.2). 200 mg of the material are required in each experiment. In order to measure absorption of polarised light in crystals the system is modified to include a polarising prism. Provision is made for carrying out experiments at high and low temperatures. There are 3 figures and 4 references, of which 3 are Soviet and 1 is English.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Academy of Sciences of the USSR)

SUBMITTED: October 9, 1957.

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34057

S/123/62/000/003/012/018
A004/A101

1.1800
AUTHOR: Bondarenko, K. S.

TITLE: Increasing the resistance to wear of components by sulfidization and sulfocyaniding of their surface layer

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1962, 46, abstract 3B239 ("Mashinostr. i energ. Kazakhstana. Nauchno-tekh. sb." 1961, no. 1(II), 16-19)

TEXT: It was found by investigations carried out that, to increase the resistance to wear by sulfidization, it is necessary that under the sulfide layer performing the role of a solid lubricant, should be a metal layer with a high N and C-content. This is attained by sulfocyaniding. A layer of sulfur-containing compounds on the surface accelerates the running in of the friction couple, improves the oil adsorption and prevents galling and seizing. The solid sublayer of the carbonitride phases and nitrides ensures a durable preservation of a high resistance to wear of well run-in surfaces. At the Chimbentskiy zavod pressov-avtomatov (Chimbent Automatic Press Plant) sulfidization is carried out in a liquid medium and with a paste, while sulfocyaniding is effected in a

Card 1/2

34057

Increasing the resistance to wear of components ...

S/123/62/000/003/012/018
A004/A101

bath of the composition: 75% $K_4F(CN)_6$, 13% NaOH and 12% $Na_2S_2O_3$. Sulfo-
cyanided nuts were tested on the $\Phi A 127$ (FA127) friction press No. 662,
sulfidized in the experimental shop according to a 100-hour cycle, in idle run,
and for 1 hour with impacts on a rigid backing on the $\Phi A-122$ (FA-122) friction
press. The test results were satisfactory. Replacing 30 bronze nuts by sulfid-
ized cast iron nuts resulted in savings for the plant of some 6,000 rubles.
The manufacture of sulfocyanided nuts is by 10 - 20 rubles more expensive, but
their resistance to wear is considerably higher. ✓

N. Il'ina

[Abstracter's note: Complete translation]

Card 2/2

CHUKLIN, S., doktor tekhn.nauk; BONDARENKO, L., inzh.

Aspects of heat transmission and utilization of the "Kaskad"
apparatus. Mas. ind. SSSR 29 no.5:20-22 '58. (MIRA 11:10)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy
promyshlennosti.

(Meat industry--Equipment and supplies)
(Refrigeration and refrigerating machinery)

BONDARENKO, L.A.; KUDOYAROV, G.Sh.

Necessity of constructing the Ufa-Kuybyshev pipelines. Neft.
khoz. 40 no.10:62-64 0 '62. (MIRA 16:7)

(Pipelines)

BONDARENKO, L.A.; KUDOYAROV, G.Sh.

Centralized base for Ufa petroleum refineries. Transp. i khran.
nefti no.1:30-32 '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniyu
nefti i nefteproduktov.

BONDARENKO, L.A.; KUDOYAROV, G.Sh.

Methods for the determination of the level of mechanization in
the transport and storage of petroleum and petroleum products.
Transp. i khran. nefi pt. c no.2:34-37 '63. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniya
nefti i nefteproduktov.

SHCHERBAKOV, Yu.M.; BONDARENKO, L.A.

Hydro sounding wells. Nefteprom.delo no.11:35-39 '63. (MIRA 17:3)

1. Neftepromyslovoye upravleniye "Oktyabr'neft'".

BONDARENKO, L.A.; KUDOYAROV, G.Sh.; YAKOVLEVA, Ye.I.

Problems of the transportation of petroleum products from
Bashkiria. Trudy NIITransneft' no.3:182-188 '64.

(MIRA 18:2)

BESSALOV, V.S.; PANASOVSKIY, V.A.; KOROL', A.G.; TEREMENKO, L.A.; BONDARENKO,
L.F.; TIMOFEYEV, M.A.; SHIRYAYEV, D.T.

Outbreak of tularemia on Biryuchiy Island. Zhur.mikrobiol., epid.
i immun. 41 no.5:54-57 My '64. (MIRA 18:2)

1. Khersonskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya
i Rostovski, protivochumnyy institut.

S/128/60/000/002/002/002
A133/A133

AUTHORS: Shkol'nikov, E. M., Bondarenko, L. G., Zakharov, V. A.,
Chichagova, N. P.

TITLE: The practice of modifying cast iron with cerium alloys

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1960, 36-37

TEXT: Reporting on a work carried out by Giredmet, NAMI and the Gor'kovskiy avtozavod (Gor'kiy Automobile Plant) to study the effect of cerium as a modifier of cast iron, the authors point out that misch metal was the first cerium-type modifier used to obtain nodular cast iron. Since cerium is no more in such short supply and the production will be considerably increased under the present Seven-Year Plan, the cost of cerium modifiers will be cut and, according to the author, will amount to 20-25 rubles/kg. Laboratory tests were carried out to study the modification effect of misch metal, ferrocerium and ferrocerium alloys with up to 70% magnesium additions on cast iron whose composition was similar to that used at the Gor'kiy Automobile Plant for the fabrication of

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The practice of ...

S/128/60/000/002/002/002
A133/A133

crankshafts, viz. 3.2-3.5% C, 2-2.5% Si, 0.8% Mn, 0.1-0.2% P, 0.007-0.010% S (cast iron previously desulfurized by magnesium), 0.025-0.030% S (cast iron obtained from a heat of foundry blast-furnace pig iron and steel), 0.09-0.10% S (cupola iron). The laboratory tests proved that the modifying effects of misch metal and ferrocerium were practically equal, so that ferrocerium is given preference since it is cheaper. The authors emphasize that it is expedient to add a certain amount of Mg to the ferrocerium, and Giredmet has developed ferrocerium alloys with 70% Mg. If up to 5% Mg is added, there is no pyroeffect during the addition of foundry alloy; up to 15% Mg results in an insignificant pyroeffect. If the Mg content is increased, all those difficulties will arise which are typical for the modification with pure Mg. The ferrocerium consumption is considerably reduced if 10-12% Mg are added; therefore, all the following laboratory tests were carried out with ferrocerium alloys containing 12-15% Mg - ФЦМ (FTSM). The residual cerium content in cast iron after modification amounts to 0.03-0.06%. The residual S content in cerium cast iron

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A133/A133

is always higher than in magnesium cast iron. Of an initial S content of 0.2 and 0.4%, some 50% is eliminated. With an FTSM consumption of 0.95% the S content of cupola iron decreases from 0.10 to 0.06%. In contrast to the laboratory tests, the first experimental modification of crankshaft cast iron with ferrocerium of 15% Mg at the Gor'kiy Automobile Plant showed a perceptible pyroeffect and intensive bubbling of the cast iron in the ladle. To investigate this phenomenon a series of FTSM alloy melts with different Mg contents was produced, and it was found that, under industrial conditions, only cerium alloys with up to 7% Mg addition rendered satisfactory results. For subsequent tests some 200kg FTSM-6 with 6-7% Mg were produced, of which about 1,000 crankshafts for "Volga" and "Chayka" cars were cast. During the whole test period not a single crankshaft was rejected because of "black spots", and since 1957 the Plant has not received complaints because of defects of the magnesium and cerium cast iron crankshafts. The main technological features of the FTSM-6 cast iron modification are the following: The FTSM-6 and Cm75 (Si75)

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The practice of ...

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A133/A133

modifiers are added to the cast iron successively; 0.3% FTsM-6 in lumps weighing 150-250 kg are put into the ladle when the cast iron is tapped from the electric furnace, and 0.4% Si75 are added to the cast iron in the pouring ladle. Soda is used as slagging additive, the addition of cryolite is not necessary. The S content of the cast iron prior to modification should not exceed 0.02%. The actual tapping temperature of the metal should be in the range of 1,420-1,450°C. The advantages of the FTsM-6 alloy over metallic magnesium as modifier are: absence of the pyroeffect, insensitiveness towards a temperature increase of cast iron prior to modification, a practically non-existing temperature drop of the metal during modification (20°C), the possibility of reducing the cast iron superheating temperature in the electric furnace prior to tapping by 120-150°C, which will increase the furnace productivity by 12-15%, and the insensitiveness towards demodifiers (Ti, Pb, Sn). A disadvantage of the FTsM-6 alloys is that it increases the tendency of cast iron to form cementite on the surface. There are 4 figures

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S/137/61/000/011/087/123
A060/A101

AUTHORS: Ioffe, V. M., Burov, V. M., Shkol'nikov, E. M., Bondarenko, L. G.,
Zakharov, V. A., Chichagova, N. P.

TITLE: Cerium modifiers for obtaining cast iron with spherical graphite

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 3, abstract 11I9
(V sb. "Polucheniye izdeliy iz zhidk. met. s uskoren. kristalli-
zatsiyey". Moscow - Kiyev, Mashgiz, 1961, 147-149)

TEXT: The conditions were clarified under which it is possible to use for
modifying a Ce alloy instead of Mg. In using the Ce alloy, it can be fed into
the ladle directly while filling it with the crude iron. The necessity for the
high-temperature heating up of the crude iron and of using an autoclave and
cryolite drops out. It was established that Fe-Ce alloy with 5 - 8% Mg is suit-
able for use under steel-plant conditions. 25 experiments were carried out in
modifying crude iron with Ce. An alloy of Zr (ФЛМ6 [FTSM6]) was introduced into
the ladle in the quantity of 0.27 - 0.28 % of the weight of the crude iron. It
was established that alloys of Fe-Ce with 5 - 8% Mg make it possible to modify
the crude iron directly in the ladle without any protective devices, and the

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Cerium modifiers for obtaining ...

S/137/61/000/011/087/123
A060/A101

crude iron undergoing modification by a Ce alloy should not contain $>0.03\%$ S, so that the casting be pure and have no nonmetallic impurities - modification products. The microstructure and the characteristics of Mg- and Ce-crude irons are practically the same. ✓

A. Savel'yeva

[Abstracter's note: Complete translation]

Card 2/2

SHKOL'NIKOV, E.M.; LAKEDEMONSKII, A.V.; BONDARENKO, L.G.; ABRAMENKO, Yu.Ye.;
PETUKHOV, S.A.

Cast camshafts for the ZIL-111 engine. Lit. proizv. no.5:7-8 My '62.
(MIRA 16:3)

(Automobiles—Engines)

(Iron founding)

IAKEDMONSKIY, A.V., kand. tekhn. nauk; SHKOL'NIKOV, E.M., kand. tekhn.
nauk; ABRAMENKO, Yu.Ye., inzh.; BONDARENKO, L.G., inzh.;
SELEZNEVA, Ye.D., inzh.

Cast distributing shafts for forced carburetor engines. Lit.
proizv. no.12:40-41 D '65. MIRA 18:12)

BONDARENKO, L.M.

Echinococcal cysts of rare locations. Khirurgia, no.11:75-76
N '55. (MIRA 9:6)

1. Iz onkologicheskogo otdeleniya Voroshilovgradskoy oblastnoy
bol'nitsy.
(HYDATIDS)

BONDARENKO, L.M., inzh.

Economically efficient rough surface. Avt.dor. 26 no.9:9 S '63.
(MIRA 16:10)

BONDARENKO, L.M.; TELEGIN, M.Ya.

Selecting efficient methods for roughing road surfaces. Avt.dor.
22 [i.e.23] no.9:14-15 S '60. (MIRA 13:9)
(Ukraine--Roads, Gravel)

BONDARENKO, A.I., kand.tekhn.nauk; BONDARENKO, L.M., inzh.

Repairing pavements under winter conditions. Avt. dor. 23 no.10:19
O '60. (MIRA 13:10)
(Pavements, Concrete—Maintenance and repair)

LIPSKIY, Yu.N.; BONDARENKO, L.N.; LEPIKHIN, R.S.; LYASHCHENKO, V.P.;
POSPERGELIS, M.M.; SUGROBOV, N.K.

New means of astronomic observations; study of celestial bodies
by means of television. Priroda 52 no.7:96-99 J1 '63.

(MIRA 16:8)

1. Astronomicheskii institut im. P.K.Shternberga, Moskva.
(Television in astronomy)

BONDARENKO, L. N.

~~IVASHEV, G. D.~~

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PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

Book (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Yo. M. Lobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

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Transactions of the Tashkent (Cont.)

SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

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Transactions of the Tashkent (Cont.)

SOV/5410

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

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IN ENGINEERING AND GEOLOGY

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7

Taksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes

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Flakwin, I. N., V. N. Smirnov, and L. P. Starchik [Institut gornogo dela AN SSSR - Mining Institute AS USSR]. Use of Alpha-Radiation of Po^{210} for the Quantitative Control of En- richment Productions Containing Beryllium, Boron, Fluorine, and Aluminum		293
Srapenyants, R. A., and B. B. Nefedov [Vsesoyuznyy n.-i. insti- tut mekhanizatsii sel'skogo khozyaystva - All Union Scientific Card 14/20		

BONDARENKO, L.N.

S/169/61/000/011/027/065
D228/D304

AUTHORS: Alekseyev, F.A., Yerozolimskiy, B.G., Bepalov, D.F.,
Bondarenko, L.N., Boytsik, L.P., Popov, N.V.,
Khaustov, A.I., Romanovskiy, V.F., Shimelevich, Yu.S.
Shkol'nikov, A.S., and Yudin, L.I.

TITLE: The result of applying neutron impulse methods and
apparatus for investigating borehole logs

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 34,
abstract 11A304 (V sb. Yadern. geofiz. pri poiskakh
polezn. iskopayemykh, M., Gostoptekhizdat, 1960, 3-20)

TEXT: A borehole impulse generator of neutrons is described to-
gether with the method of impulse-neutron neutron-logging (INNL). A
description is given for the electronic layout of the borehole ge-
nerator of neutrons and the surface apparatus for impulse neutron
logging. During laboratory tests of the generator a stable mean neu-
tron yield of $\sim 2 \times 10^7$ neutr./sec. was obtained at 100 kv. of acce-
lerating voltage in the tube. The impulse duration amounted to 100
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The result of applying neutron ...

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μsec, the transmission frequency being 400 c/s. The neutron generator was used in the commercial testing of INNL. INNL readings against oil-bearing beds exceed by 10 times those for aquiferous beds containing mineralized water, at a delay time of 1000 μsec. Certain impediments and limitations of thermal impulse neutron-logging in different oil- and water-saturated beds are indicated, and the requirements for the apparatus are stated. Further prospects are indicated for the application of impulse neutron generators. [Abstractor's note: Complete translation].

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BONDARENKO 3.11.
AID Nr. 990-5 14 June

SINGLE PULSE HIGH-VOLTAGE NANOSECOND GENERATOR (USSR)

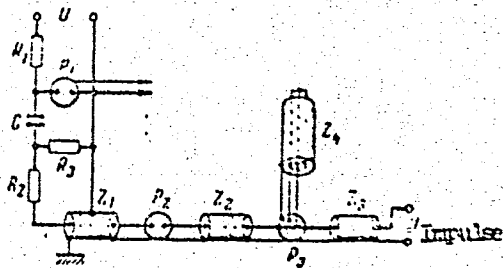
Yerzolimskiy, B. G., L. N. Bondarenko, V. P. Prikhod'ko, Yu. A. Mostovoy, A. K. Shévchanko, and Yu. G. Matveyev. Pribory i tekhnika eksperimenta, no. 2, Mar-Apr 1963, 93-97. S/120/63/000/002/022/041

A generator has been developed by the Institute of Nuclear Physics in Novosibirsk for the control of a 100 Mev electron beam in a synchrotron with a diameter of 1 mm.

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SINGLE PULSE HIGH-VOLTAGE [Cont'd]

S/120/63/000/002/022/041



The generator drives a load of not less than 13 ohm. and produces single pulses with an amplitude of 100 kv, a rise time of 1 nanosec, and a duration of 10 to 12 nanosec. The basic advantages of the generator are high speed and overvoltage discharging, with the aid of which the leading edge and the duration of the high-voltage pulse is formed.

The operation of the generator is as follows [see illustration]. Capacitor C is charged through resistor R up to a voltage V_0 from a rectifier. At a given moment of time a 6 to 8-kv triggering pulse with a rise time of 0.1 μ sec is applied to a gap between the grounded electrode of discharger P_1 and its auxiliary electrode. The main gap of the generator (filled with nitrogen at a pressure up to 20 atm-gauge) breaks through in 0.1 μ sec following the breakthrough of the triggering gap. Capacitor C charges

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SINGLE PULSE HIGH-VOLTAGE [Cont'd]

S/120/63/000/002/022/041

the storage line with wave impedance Z_1 up to voltage $V_1 = V_0 C / (C + C_1)$, where C_1 is the capacitance of Z_1 . Therefore, the voltage of discharger P_2 rises to V_1 during a period of 0.1 to 0.2 μsec , creating the necessary over-voltage. After the breakdown of discharger P_2 along line Z_2 a voltage wave with a rise time of 1 nanosec is propagated. At discharger P_3 the wave is divided and applied to the load through line Z_3 . At the same time, it is fed to discharger P_3 through line Z_4 , which short-circuits line Z_2 and causes voltage V_2 to drop to zero. [GS]

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AID Nr. 995-19 21 June

S/120/63/000/002/022/047

ERRATUM. On page 3 of issue 990 the sentences beginning on line 10 should read as follows: "The basic advantages of the generator are high speed and the use of overvoltage dischargers, by which the leading edge and the duration of high-voltage pulses are formed."

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L 4237-66 EWT(m)/EPA(w)-2/EWA(m)-2 LJP(c) OS

ACCESSION NR: AT5007979

S/0000/64/000/000/1065/1072

51
B41

AUTHOR: Abramyan, Ye. A.; Bender, I. Ye.; Bondarenko, L. N.; Budker, G. I.;
Glagolev, G. B.; Kadymov, A. Kh.; Neshkov, I. N.; Naumov, A. A.; Pal'chikov, V.
Ye.; Panasyuk, V. S.; Popov, S. G.; Protopopov, I. Ya.; Rodionov, Yu. I.;
Samoylov, I. M.; Skrinskiy, A. N.; Yudin, L. I.; Kon'kov, N. G.; Mostovoy, Yu. A.;
Nezhevenko, O. A.; Ostreyko, G. N.; Petrov, V. V.; Sokolov, A. A.; Timoshin, I. Ya.

TITLE: Work on the strong-current accelerators¹⁹ of the Nuclear Physics Institute,
SO AN SSSR. (I) Strong-current pulse accelerators with spiral storage of the elec-
trons. (II) Strong-current accelerators with one-revolution capture of the in-
jected electrons

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy.
Moscow, Atomizdat, 1964, 1065-1072

TOPIC TAGS: high energy accelerator, electron accelerator, electron beam, betatron,
plasma

ABSTRACT: The work on developing strong-current electron ring accelerators
was begun in 1965 by the authors at the Nuclear Physics Institute, Siberian Depart-
ment, Academy of Sciences SSSR, with the object of studying the possibility of

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ACCESSION NR: AT5007979

forming relativistic stabilized beams. In the laboratories of the Institute experimental studies were carried out on the four methods for obtaining large ring currents of relativistic electrons: (1) spiral method of storing the electrons in installations of the betatron type with subsequent betatron synchrotron acceleration (Budker G. I. CERN Symposium 1, 68 (1956)); (2) obtaining of limiting electron currents by means of the injection of electrons from a strong-current linear accelerator into a ring chamber of large aperture with subsequent synchrotron acceleration; (3) storage of electrons in tracks (parking orbits) with constant magnetic field by means of the multiple injection of electrons from another less strong-current accelerator; this method is utilized for the storage of electrons and positrons in experiments with colliding beams (expounded in detail by G. I. Budker in the present collection, p. 274); (4) obtaining of large electron currents by means of the acceleration of electrons by a ring plasma. The present report discusses the first two methods under the following topics: (I) pulsed iron-less betatron with preliminary charge storage (B-2 device); strong-current pulsed synchrotron B-2S; pulsed strong-current betatron with spiral storage (B-3 device). (II) iron-less one-turn strong-current synchrotron (BSB); strong-current pulsed synchrotron B-3M. (Orig. art. has: 7 figures.

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L 4237-66

ACCESSION NR: AT5007979

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute,
SO AN SSSR)

SUBMITTED: 26May65

ENCL: 00

SUB CODE: NP.

NO REF SOV: 001

OTHER: 001

Beh
Card 3/3

BONDARENKO, L.N.

Spectropolarimetry of the twilight sky in the zenith. Astron. zhur.
41 no.2:383-386 Mr-Apr '64. (MIRA 17:4)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

BONDARENKO, L.N.; GINDILIS, L.M., kand. fiziko-matem. nauk

Brief news. Zet. i vsel. 1 no.3:38,63 and 69 My-Je '65.

(MIRA 18:8)

L 1168-66

ACCESSION NR: AP5012834 ⁴⁴¹⁵
AUTHOR: Bondarenko, M. (Chief)

UR/0348/65/000/004/0019/0019
632.981.1

TITLE: Use of a crop duster for spraying

SOURCE: Zashchita rasteniy ot vreditel'ey i bolezney, no. 4, 1965, 19

TOPIC TAGS: agriculture, aerosol, weed killer, ⁴⁴¹⁵ plant parasite

ABSTRACT: The modification of the OPS-30B crop duster previously described by Dunskiy and Paykin (Zashchita rasteniy, 1959, No. 4) was tried out in practice in Kazakhstan in 1964 for weed control. The changes required to transform the duster into a sprayer are described in detail, and it is reported that an effective aerosol can be produced by the air flow of 100-129 m/sec derived from the duster. When drawn by a "Belarus" tractor, moving at an angle of 45-135° with the direction of the wind, the sprayer can cover strips 30-50 m wide at a dose of 15-20 liters/hectare. These modifications can be carried out in the workshop of any collective or state farm. Orig. art. has: 1 figure.

ASSOCIATION: Upravleniye zashchity rasteniy Kazakhstana (Administration for Plant Protection of Kazakhstan)

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18
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L 1468-66

ACCESSION NR: AP5012834

SUBMITTED: 00

ENCL: 00

NO REF SOV: 000

OTHER: 000

SUB CODE: 18

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I 17301-55 EAT(m)/EPA(m)-2/EWA(m)-2 Pak-10 IIP(c) GS

ACCESSION NR: AT5007921

S/0000/64/000/000/0274/0287 26
67
B41

AUTHOR: Bayyer, V. N.; Blinov, G. A.; Bondarenko, L. N.; Yerozollinskiy, B. G.;
Korobeynikov, S. S.; Mironov, Ye. S.; Naumov, A. A.; Onuchin, A. P.; Panasyuk,
V. S.; Popov, E. G.; Sidorov, V. A.; Sil'yestrov, G. I.; Skrinitskiy, A. N.;
Khabakhpashev, A. G.; Auslender, V. L.; Kiselev, A. V.; Kushnirenko, Ye. A.;
Livshits, A. A.; Rodionov, S. N.; Synakh, V. S.; Yudin, L. L.; Abramyan, Ye. A.;
Vasserman, S. B.; Vechev, V. V.; Dimov, G. I.; Papadichev, V. A.; Protodopov,
I. Ya.; Budker, G. I.

TITLE: Colliding electron-electron, positron-electron, and proton-proton beams

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.
Trudy. Moscow, Atomizdat, 1964, 274-287TOPIC TAGS: high energy interaction, high energy plasma, particle physics, par-
ticle beam, charged particle beamABSTRACT: In the Institute of Nuclear Physics, Siberian Department, Academy of
Sciences SSSR, programs on high-energy particle physics are mainly concerned with
work on colliding charged particle beams. The Institute considers it unsuitable

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ACCESSION NR: AT5007921

for its purpose to install huge accelerators whose construction requires large resources outlaid and long time. For work on colliding electron-electron, positron-electron, and proton-proton beams, three installations are being built, which are in various stages of readiness. Work on colliding electron beams was conducted at the institute (then a laboratory of the Institute of Atomic Energy named I. V. Kurchatov) in the Fall of 1956, after Kerst's report on accelerators with colliding proton beams of the FFAG type. By that time Soviet scientists had already acquired some experience in obtaining large electron currents; in particular, the mentioned laboratory had installed and then abandoned a device for the spiral storage of electrons (G. I. Budker and A. A. Neumov, CERN Symposium, 1, 76 (1956)), by which, subsequently, circulating currents of the order of 100 amperes were obtained. In 1957 two variants of this device were considered at the same time. The first one consisted of two accelerators with spiral storage and subsequent transition of the particles to synchrotron state in comparatively narrow paths. The second one had storage rings with constant magnetic field and frequent external injection because of the damping of the oscillations under the action of radiation. The first variant was more cumbersome; the second variant contained an element not developed at that time, namely a 100-kilovolt commutator of 10 kilo-amperes with nanosecond front. At the end of 1957, the first positive results were obtained

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with a packing discharger of 100 kilovolts, and work stopped on the variant with storage rings. Originally it was proposed to set up two devices: VEP-1 of 2×130 Mev energy, and VEP-2 of 2×500 Mev energy. The VEP-1 was considered as an actual model of an accelerator and as a device for conducting initial experiments at low energies. After the Panofsky report in 1958 on his work with colliding electron beams conducted in his laboratory at Stanford, construction ceased on 500-Mev storage paths and work was continued on the 2×130 -Mev installation. Instead of work on colliding electron beams with energies of 500 Mev, work at the end of 1958 was conducted with colliding positron-electron beams and the planning of the VEPP-2 device was begun, whose main elements are a strong-current electron accelerator and a high-vacuum storage path of 700 Mev energy. At the present time the VEP-1 and VEPP-2 are installed in Novosibirsk. The VEP-1 is in a state of neglect, but at the end of 1964 experiments will be begun with it. Installation of the VEPP-2 has been completed. To obtain a marked effect from the application of colliding proton beams, an accelerator is needed with an energy of at least 10 Gev. Since the ordinary accelerator at such energies is a very bulky machine, it was decided to combine the idea of colliding proton beams with the creation of an iron-less impulse accelerator with very large fields and a neutralized central busbar. This latter work of creating such a machine was reported by the authors at a Moscow conference

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held in 1956. The presence of a field with two directions in an iron-less accelerator with central busbar permits the acceleration of protons toward opposite sides in one machine, which makes possible the collision of protons in case of a suitable race-track. At the present time the Institute is developing a proton device with a magnetic field of about 200 kilogauss and radius of 2 meters for a particle energy of 12 Gev in the beam (equivalent energy is around 300Gev). Tests are being conducted on models, and an effective method of injection by overcharging of negative ions is under study. Also under development are an impulse electric power supply system of 100 million joules capacity and an hf power supply. Since 1958 the Institute has been conducting theoretical investigations on the limits of applicability of quantum electrodynamics [V. N. Bayyer, ZhETF, 37, 1490 (1959), and UFN, 78, 619 (1962)] for the calculation of the radiational corrections to the electrodynamic cross-sections [V. N. Bayyer and S. A. Kheyfets, ZhETF 40, 613-715 (1961) and Nuclear Physics (in print)], and on other problems of high-energy particle physics that are connected with the preparation of experiments on colliding beams [V. N. Bayyer, I. B. Khriplovich, V. V. Sokolov, and V. S. Synakh, in ZhTF, 1961]. The present report takes up under the mentioned three main headings the following pertinent topics: the accelerator-injection, storage paths, electron-optical channel,

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ACCESSION NR: AT5007921

input and output system, experiments on storage, proposed work, experimental set-up, physical layout of magnets, power supply, etc. Orig. art. has: 8 figures.

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Institute of Nuclear Physics, SO AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: EE, NP

NO REF SOV: 012

OTHER: 003

me
Card 5/5

L 45454-65 EWT(1) IJP(o)

ACCESSION NR: AP5007053

S/0120/65/000/001/0178/0181

AUTHOR: Abramyan, Ye. A.; Bondarenko, L. N.; Volosov, V. I.;
Naumov, A. A.; Chirikov, B. V.

TITLE: Magnetic shields passing an eddy electric field

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1965, 178-181

TOPIC TAGS: magnetic shield

ABSTRACT: Construction and design methods of shields capable of segregating magnetic and electric fields are described. Such a shield consists of one or more open turns of a metal sheet or strip around the magnetic flux being shielded. An eddy electric field passes easily through such a shield while a high air-gap reluctance stands in the way of the magnetic flux. One of the designs (the "labyrinth") was intended for a betatron accelerator and had a shielding factor of 300 at 5 kc. An exact calculation of emic-field distribution in a labyrinth is

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ACCESSION NR: AP5007053

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practically impossible, design formulas are offered whose development is based on more or less crude models. The shielding factor estimated by these formulas at 2.7-15.6 kc is in good agreement with experimental data. "The authors wish to thank: G. I. Budker and A. M. Stefanovskiy for their useful discussions, and V. P. Fedunin for developing the methods and building the labyrinths." Orig. art. has: 5 figures, 12 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 28Dec63

ENCL: 00

SUB CODE: EE, EM

NO REF SOV: 004

OTHER: 002

Card 2/2

UKHANOV, Yu.P.; BONDARENKO, L.P.

Mastering the technology of manufacturing unfired dolomite
resin refractories. Met. i gornorud. prom. no.4:52-54

Jl-Ag '65.

(MIRA 18:10)

15-57-5-6113

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5,
pp 58-59 (USSR)

AUTHOR: Bondarenko, L. P.

TITLE: The Geological Position and Structure of the Furi
Intrusive (Eastern Trans-Baikal Region) [Geo-
logicheskoye polozheniye i stroeniye Furinskogo
intruziva (Vostochnoye Zabaykalye)]

PERIODICAL: Tr. In-ta geol. rud. mestorozhd. petrogr. minera-
logii i geokhimii, 1956, Nr 3, pp 302-339

ABSTRACT: The Furi intrusive represents a small part of the
complex Kutomara batholith, which is situated on
the divide between the Gazimur and Borzya Rivers.
The batholith consists of a complex multiphase
intrusive occurring in the axial part of a north-
easterly trending anticlinorium. Structurally,
the batholith involves pre-Jurassic granites and

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15-57-5-6113

The Geological Position and Structure of the Puri (Cont.)

granite gneisses, Jurassic granites of stage I (Alenuy complex) and Jurassic granites of stage II [Tsagan-Oluyevskiy Borshchevochnyy kompleks (complex)]. The Puri intrusive is composed of biotite-hornblende, coarse- and medium-grained granites (Alenuy complex) and their mylonitized and gneissose varieties. In the endogene contact aureole of the intrusive mass, hybrid rocks are extensively developed (syenodiorite, quartz syenodiorite, diorite, and quartz diorite), having formed by assimilation of silicate-carbonate Paleozoic sedimentary rocks and grading into the biotite-hornblende granites. In addition, metamorphosed sedimentary rocks occur in the Puri intrusive. They are preserved as xenoliths in the hybrid rocks and the biotite-hornblende granites. Injection gneisses and dike rocks of the Alenuy complex (Lamprophyres, granodiorite veins, etc.) are also present. Metallogenic rocks in the Alenuy complex are very rare and, in the Puri intrusive, consist of noneconomic skarns with scheelite and cassiterite. Poor molybdenite mineralization, marked in quartz-tourmaline
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15-57-5-0113

The Geological Position and Structure of the Puri (Cont.)

veins and skarns, is apparently associated genetically with the younger leucocratic granites of the Tsagan-Oluyev Borshchevochnyy complex, which cuts and metamorphoses the granites of the Alenuy complex. The Puri intrusive transects and metamorphoses sandstones and conglomerates of the Aketuy and Bazanovo series and is overlain unconformably by the Bokhto series. The post-middle Jurassic age of the intrusive is confirmed also by the determination of absolute age of these granitoidal rocks (120 million years) by the argon method. The chemical composition of the rocks of the Kutomarskiy batholith are given in the table (in percent).

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The Geological Position and Structure of the Furi (Cont.)

Components	1	2	3	4	5	6	7
SiO ₂	71.44	66.29	70.77	68.37	64.58	59.96	68.92
TiO ₂	0.19	0.52	0.32	0.31	0.69	0.58	0.23
Al ₂ O ₃	13.89	16.23	14.99	14.64	16.44	18.17	17.69
Fe ₂ O ₃	1.24	1.74	1.12	0.8	1.14	1.13	0.65
FeO	1.45	1.86	0.75	1.71	1.60	2.62	0.58
MnO	0.05	0.03	0.01	0.05	0.04	0.07	0.14
MgO	0.62	1.74	0.85	1.73	2.51	3.64	0.32
CaO	0.92	2.6	2.25	2.6	3.96	4.66	1.88
Na ₂ O	3.61	2.79	3.66	4.85	3.85	4.34	4.91
K ₂ O	5.52	4.57	4.79	4.55	4.59	3.70	3.99

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