ZOLTOWSKI, Zbigniew

Studies on repelling effect of phthalic acid dimethyl ester on mosquitoes. Wiadomości parazyt., Warsz. 4 no.5-6:783-784; Engl. transl. 784-786 1958.

1. Z Wojskowego Centralnego Laboratorium Sanitarno-Higienicznego w Warszawie.

(BENZOATES, effects,
phthalic acid dimethyl ester, mosquito-repelling (Pol))
(MOSQUITOES,
repelling with phthalic acid dimethyl ester (Pol))

ZOLTOWSKI, Zbigniew

Reparations for damages caused by geologic works. Przegl geol 11 no.10:470-472 O'63.

1. Centralny Urzad Geologii, Warszawa.

WROBLEWSKA-MULARCZYKOWA, Zofia; ZOLTOWSKI, Zbigniew; DOBRZYNSKI, Leszek; PRZESMYCKI, Feliks; SZYMULA, Roman; OLKOWSKA, Danuta; SWOBODZINA, Ewa; SZYMANSKI, Stanislaw; KOZLOWSKI, Slawomir; ZUKOWSKI, Kazimierz.

A search for arborviruses previously not known to occur in Poland. II. Serologic and virologic studies in selected areas of Warsaw abd Bialystok. Przegl. epidem. 18 no.4:381-390 '64.

KOZLOWSKI, Slawomir; SZYMANSKI, Stanislaw; ZOLTOWSKI, Zbigniew; ZUKRZEWSKI, Kazimierz; PRZESMYCKI, Feliks; PIEKLOWSKI, Zygmunt; RYSZKOWSKI, Leslaw.

A search for arboviruses previously not known to occur in Poland. III. Preliminary arachno-entomologic study of the Kampinos Forest and adjoining areas. Przegl. epidem. 18 no.4:391-399 '64.

ZOLTOWSKI, Zbigniew

Admission to and temporary occupation of real properties for geological research. Przegl geol 11 no.5:244-246 My '63.

1. Centralny Urzad Geologii, Warszawa.

ZOLTOWSKI, Z.

The scope of activities and the organization of the agencies for geological affairs of the presidia of the voivodeship people's councils. Przegl Geol 10 no.3:169 Mr '62.

ZOLTOWSKI, Zbigniew

The articles of the Institute of Geology. Przegl geol 10 no. 4/5: 245-246. Ap-My '62

1. Centralny Urzad Geologii, Warszawa.

ZOLTOWSKI, Z.

- 1/2 -

ZOLTOWSKI, Zbigniew

Coordination of all departments concerning the hydrogeological and geological engineering activities. Przegl geol 11 no.7: 388-390 Jl '61.

ZOLTOWSKI, Zbigniew

A study on the mechanically active spread of viral infection by mosquitoes. Wiadomosci parazyt. 7 no.2:391-394 '61.

1. Zaklad Epidemiologii Wojsk. Inst. Higieny i Epidemiologii, oraz Zaklad Wirusologii PZH, Warszawa.

(VIRUS DISEASES transm) (MOSQUITOES virol)

ZOLTOWSKI, Z.; WROBLEWSKA-MULARCZYKOWA, Z.

Introductory research in the role of mosquitoes in the transportation of the virus of tick encephalitis. Wiadomosci parazyt. 7 no.2: 395-397 '61.

1. Zaklad Wirusologii PZH, Warszawa.

(ENCEPHALITIS EPIDEMIA transm)
(MOSQUITOES virol)

ZOLTOWSKI, Zbigniew; WROBLEWSKA-MULARCZYKOWA, Zofia

Preliminary studies on the role of mosquitoes in the transmission of tick-borne encephalitis virus. Med.dosw.mikrob. 13 no.3:241-249 '61.

1. Z Zakladu Wirusologii PZH Kierownik: prof. F. Przesmycki Z Wojskowego Instytutu Higieny i Epidemiologii.

(MOSQUITOES virol) (ENCEPHALITIS EPIDEMIC transm)

ZOLTOWSKI, Z. & SZONERT, J.

The Organization of the State Geological Service in Poland, by J. SZONERT, Z. ZOLKOWSKI. Polish, bk, Organizacja Panstwowej Sluzby Geologicznej w Polsce, Warsaw, pp 3-144.

ZOLTOWSKI, Z.

"Instruction Concerning the Determination of the Volume of Deposits of Solid Materials." p.61
(PRZEGLAD GEOLOGICZNY No. 1/2, Jan./Feb. 1954 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3 no. 5, May 1954/Uncl.

ZOLTOWSKI, Z.; JANISZEWSKI, J.

"Exploiting a Local Deposit of Raw Materials." p.20
(PRZEGLAD GEOLOGICZNY No. 1/2, Jan./Feb. 1954 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

ZOLTOWSKI, Z.

"Problems facing economic geology and the documentation of estimates," Przeglad Geologiczny, Warszawa, No 5, May 1954, p. 183.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

ZOLTOWSKI, Z

"Problem of investments in establishments which exploit certain mineral deposits." Przeglad Geologiczny, Warszawa. No 6, June 1954. P. 216

SO: Eastern European Accessions List, Vol 3, No 11, 1954, L. C.

ZOLTCWSKI, Z.

ZOLTCWSKI, Z. Contracts concerning geologic documentation. p. 569.

Vol. 12, Dec. 1955
PRZEGLAD GEOLCGICZNY
TECHNOLOGY
Warszawa, Poland

So: East European Accession, Vol. 5, No. 5, May 1956

ZOLTOYEV, K. D.

ZOLTOYEV, K. D. -- "Mechanical and Electrical Properties of Fine Liquid Films." Sub 26 Jun 52, Moscow Oblast Pedagogical Inst. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

USSR/Physics - Films, Liquid
Mercury
Oct 49

"Electrical and Mechanical Properties of Thin Liquid Films," K. D. Zeltoyev, 8 pp

"Zhur Tekh Fiz" Vol XIX, No 10

151T94

Developed method to obtain a film between solid and mercury surfaces and a film between two mercury surfaces. Worked out simple, reliable method to measure thickness of film. Showed an oil film 10-5 cm thick has exactly the same electrical properties as thicker oil films. Showed that thickness of an oil film formed between two mercury surfaces, gradually

151T94

USSR/Physics - Films, Liquid (Contd) Oct 49

decreases and reaches a size at which electrical resistance of the film approaches zero. Submitted 12 Jun 49.

151T94

126-2-23/30

AUTHOR: Zolutukhin, G. E.

TITLE: Investigation of the thermal conductivity of ordering alloys under conditions of steady state thermal equilibrium. (Issledovaniye teploprovodnosti uporyadochivayushchikhsya splavov v usloviyakh statsionarnogo teplovogo ravnovesiya).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), Vol.IV, No.2, 1957, pp.352-359 (USSR).

ABSTRACT: A. A. Smirnov (1) used successfully the theory of Bragg and Williams for solving the problem of the mobility of the electron in the crystal lattice of an alloy with an arbitrary state and degree of the distant order. Applying the theory of motion of the electron in alloys of arbitrary composition and distant order degree, Smirnov derived an expression for the electric resistance as a function of the concentration of the components and the degree of the distant order. The results of the theoretical calculations of the electric resistance are qualitatively in agreement with experimental data of Johanson-Linde and of Komar (2), who gives experimental data of the electric resistance of alloys of compositions approaching $AuCu_3$ and AuCu. The derived relation is in good agreement with the theory of Smirnov and Rizhanov but is in contradiction with a similar

Card 1/3

Investigation of the thermal conductivity of ordering alloys under conditions of steady state thermal equilibrium. (Cont.)

126-2-23/30

theory of Mito. The investigated alloys comprised alloys the composition of which corresponded to the stechiometric compositions: AuCu, $AuCu_3$, PtCu, $PtCu_3$ and also comprised alloys of intermediate composition. Simultaneous study of the thermal conductivity of ordered and of disordered structures by means of the same method of investigation enabled bringing out more clearly the features of the compared structures. The coefficient of thermal conductivity was measured under conditions of a steady state thermal equilibrium by a method described in an earlier paper (3). A definite sequence in the distribution of atoms was obtained by annealing in certain temperature ranges inside a muffle furnace at a temperature below the critical one. During annealing the temperature was controlled on the basis of the indications of a recording potentiometer; after a certain time the current supplied to the muffle furnace was cut off and the specimens cooled down with a speed of 10 to 12 C/min. After annealing the thermal conductivity of the entire group of alloys was measured. By alternating annealing and measurement of thermal conductivity of the annealed alloys the influence was studied of the order of

Card 2/3

209. ZOLTAN L. and NÉMETH M. State Inst. of Neurosurg., Budapest *The pathological and neurosurgical aspects of tuberculous spondylitis (Pott's disease)* Acta med. Acad. Scient. hung. (Budapest) 1956, 9/4 (345–361) Tables 1 Illus. 16

Study of 80 cases of Pott's disease operated on account of cord complications leads to the conclusion that the compression syndrome is brought about by the specific process involving the intervertebral system or disc (production of proliferative granulation tissue, sequestration, dislocated disc or abscess). A circumscribed focus in the vertebral body does not cause symptoms. Lisle Jr – Oklahoma City, Okla. (VIII, 9, 15)

ZOLTAN, V.

IAJOS, L.; NAGY, D.; GATI, I.; ZOLTAN, V.; GLOS, I.

The gonadotropic activity of the human hypophysis during pregnancy.
Acta med. hung. 10 no.4: 363-373 1957.

1. Department of gynecology and obstetrics, Medical University, Pecs.
(GONADOTROPINS, PITUITARY, physiol.
secretion of a gonadotropic factor exclusively during pregn.)
(PREGNANCY, physiol.
secretion of a pituitary gonadotropic factor exclusively during pregn.)

ZOLTAN, V.

IAJOS, L.; NAGY, D.; GATI, I.; ZOLTAN, V.; GLOS, I.

The gonadotropic activity of the human hypophysis during pregnancy. Acta med. hung. 10 no.4: 363-373 1957.

1. Department of gynecology and obstetrics, Medical University, Pecs.
(GONADOTROPINS, PITUITARY, physiol.
secretion of a gonadotropic factor exclusively during pregn.)
(PREGNANCY, physiol.
secretion of a pituitary gonadotropic factor exclusively during pregn.)

ZOLTOWSKA, ALBINA

MIEROSLAWSKI, Witold; ZOLTOWSKA, Albina

Congenital underdevelopment of the abdominal muscles with simultaneous [illegible]

[illegible] Mar 67.

1. Z Odiz. Noworodkow I Kliniki Chorob Kobiecych A. [illegible] Kierownik [illegible] prof. dr med. [illegible] Kierownik [illegible] prof. dr med. [illegible] Kierownik: prof. dr med. W. Czarnecki. Adres: [illegible] Gdanska, [illegible], ul. [illegible]

(ABDOMINAL WALL, abnorm.

underdevelop. of muscles with congen. dysfunct. of urinary tract (Pol))

URINARY TRACT, abnorm.

dysfunct., with underdevelop. of abdom. muscles (Pol))

ZOLTOWSKI, Z.

Changes in the regulations concerning the determination of geologic characteristics of mining deposits.

P 310 (Przeglad Geologiczny Vol. 4, no. 7, July 1956, Wasszawa, Finland)

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

ZOLTOYEV, K.D.

137-58-5-11156

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 322 (USSR)

AUTHOR: Zoltoyev, K.D.

TITLE: A Universal Generator (Universal'nyy generator)

PERIODICAL: Uch. zap. Buryat.-Mong. gos. ped. in-t, 1956, Nr 10, pp 31-34

ABSTRACT: A generator (G) is described which is capable of producing a high-voltage spark as well as an A-C arc. Such a G can be manufactured by equipping an industrial spark G with a commutator arrangement and certain other components from an arc G. The changeover from arc to spark operation is accomplished by means of simple switching circuits. The author contends that the universal G can fully replace the spark G as well as the twin-feeder G, i.e., that it can be employed for spectral analysis of ferrous and nonferrous metals and their alloys.

S.S.

1. Generators--Development

Card 1/1

ACC NR: AP7005761 SOURCE CODE: UR/0126/67/023/001/0173/0176

AUTHOR: Postnikov, V. S.; Belikov, A. M.; Zolutukhin, I. V.

ORG: Voronezh Polytechnic Institute (Voronezhskiy politekhnicheskiy institut)

TITLE: Effect of cyclic heating and cooling on the fragmental structure of monocrystals of aluminum and cadmium

SOURCE: Fizika metallov i metallovediniye, v. 23, no. 1, 1967, 173-176

TOPIC TAGS: x ray diffraction analysis, cadmium, aluminum, heating, structure cooling, crystal structure analysis / URS-50IM diffractometer

ABSTRACT: The article presents some findings on the effect of cyclic heat treatment (CHT) on the fragmental structure (angle of random orientation, size and mutual orientation of fragments) of monocrystals of 99.99% pure Al and Cd. The maximum temperatures of the cycle were 260 and 600°C and the minimum, 100 and 180°C, for Cd and Al, respectively. Fragmental structure was examined by the method of two-crystal x-ray spectrometry with the aid of a modified URS-50IM diffractometer. In the Al monocrystals the plane of the section coincided with the plane ($\bar{1}$11) and the axis of the specimen coincided with the direction (110). In the Cd

Card 1/3 UDC: 548.4

monocrystals the plane of the section coincided with the plane $(\bar{1}100)$ and the axis of the specimen was parallel to the direction $(11\bar{2}0)$. The increase in fragmentation and changes in the orientation of individual fragments as a result of CHT were determined by photographing the unbounded (nondiaphragmed) reflected beam following every discrete movement of the film and rotation of the monocrystal through 1' for Cd and 1-2' for Al. After this the specimens again were subjected to CHT and again inserted in the holder in their previous position with the aid of a microscope and the beam from the same fragments was photographed. The mean static angles of random orientation of the fragments, which in Al and Cd monocrystals amounted to 20-30' and 5-7', respectively, were determined as a function of the half-width of the recorded curve of oscillation of the monocrystals. Findings: For Al monocrystals, the maximum angle of random orientation is 18'. After 1000 heating cycles there is still no marked change in fragmental structure; the fragments retain their equiaxial shape and there is no marked change in the angles of their mutual orientation. A completely different picture is observed for Cd monocrystals. Their fragments display a lamellar structure and following CHT they are comminuted and bent. The lamellae lie in the (0001) plane and extend in the direction $(11\bar{2}0)$. This is due to the anisotropy of the coefficient of thermal expansion in hexagonal fragmental monocrystals of Cd due to the random orientation of neighboring fragments, and hence also to the occurrence of considerable stresses which may crush the fragments and alter their orientation during CHT." In conclusion the authors wish to express their gratitude to V. A. Likhachev

ACC NR: AP7005761

and A. N. Orlov for discussion of this project and valuable comments." Orig. art. has: 2 figures.

SUB CODE: 11/ 20/ SUBM DATE: 04May66/ ORIG REF: 005/ OTH REF: 002

Card 3/3

BR

ACCESSION NR: AP4033102 S/0120/64/000/002/0036/0039

AUTHOR: Zolotukhin, V. G.; Kham'yanov, L. P.; Bly*skavka, A. A.

TITLE: Calculating the characteristics of multirotor mechanical neutron choppers

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 36-39

TOPIC TAGS: neutron chopper, mechanical neutron chopper, multirotor neutron chopper

ABSTRACT: The problem of the transmission of a neutron beam by a set of rotors can be reduced to a consideration of the successive transmissions by each individual rotor. Next, the relations between the transmission by each rotor and the transmission by all preceding rotors can be established. A one-rotor transmission is described by two consistent equations; these are combined with the equations of the next rotor, and so on. The resulting numerical method was tried

Card 1/2

ACCESSION NR: AP4033102

in calculating the characteristics of a 3-rotor chopper (installed at the First Atomic Power Station) on a digital computer. The transmission function, spectral line, counting rate in the time-analyzer channel and aperture ratio were estimated and found to be in good agreement with experimental results. Orig. art. has: 4 figures and 22 formulas.

ASSOCIATION: none

SUBMITTED: 21May63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: NS NO REF SOV: 003 OTHER: 005

Card: 2/2

ZOLOTUKHIN, V.V.

Reaction formations in Norilsk ores and the problem of disseminated sulfide mineralization in gabbro-dolerites. Dokl. AN SSSR 154 no. 3:600-603 Ja '64. (MIRA 17:5)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom V.S.Sobolevym.

JURETIC, Miro, dr.; ALJINOVIC, Gorica, dr.; ZOLTNER, Damagoj, dr.

Hereditary crura vara. Lijecn. vjesn. 84 no.6:565-573 '62.

1. Iz Djecjeg odjela i Rendgen odjela Opce bolnice i Medicinskog Centra R.M. u Splitu.

(LEG abnorm)

ZOLYAN, T.S.; REGEL', A.R.

Electroconductivity and thermo- e.m.f. in vanadium pentoxide in the solid and liquid states. Fiz. tver. tela 6 no.5:1520-1524 My '64. (MIRA 17:9)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ZOLYAN, T.S.; REGEL', A.R.

Electric conductivity and thermo-e.d.f. of Bi_2O_3 in the solid and liquid states. Fiz. tver tela 5 no.9:2420-2427 S '63.
(MIRA 16:10)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ZAL'KIND, Yu. S.; ZOLYASKINA, Z. N.

Ethers

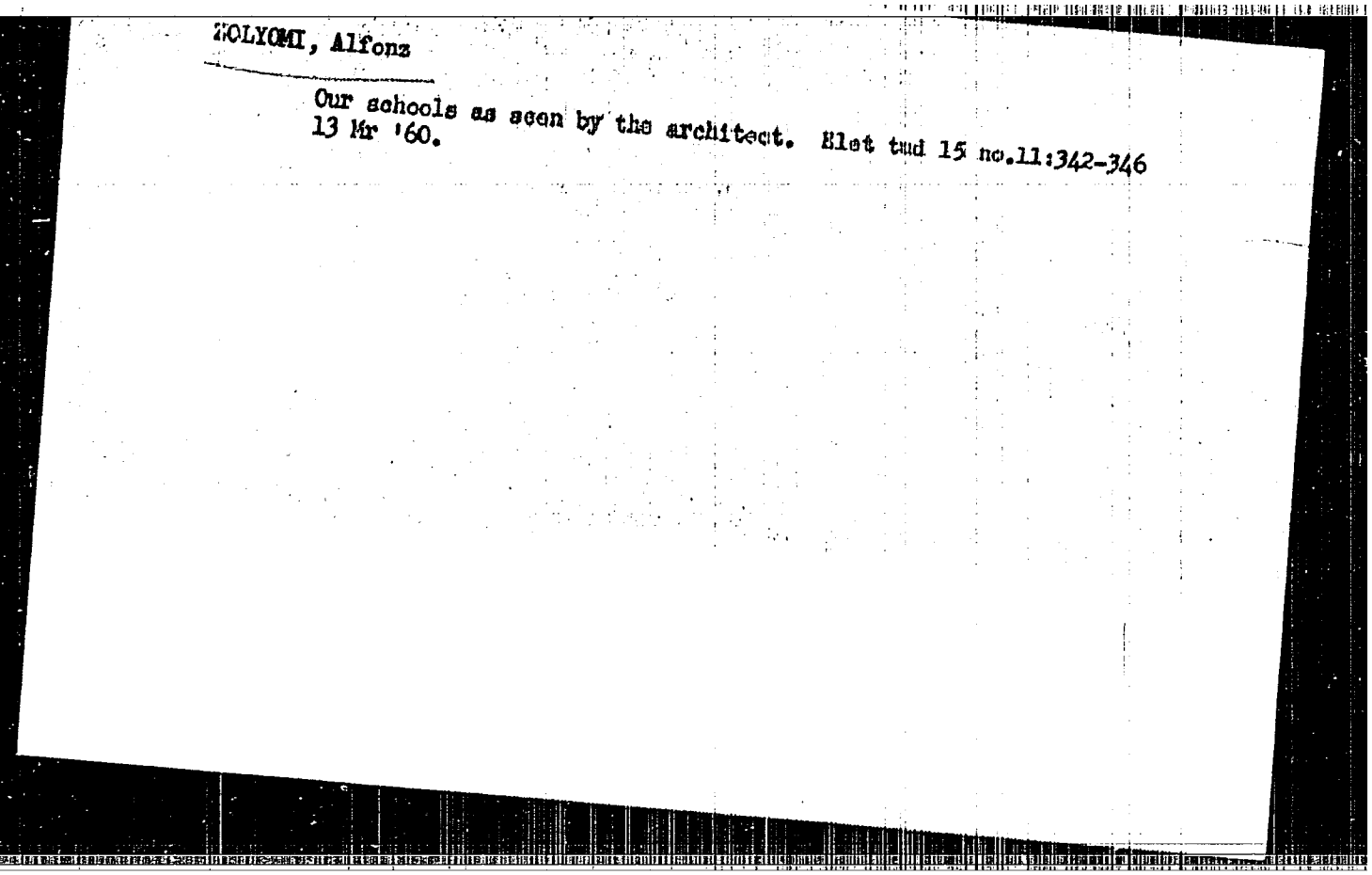
Addition of hydrogen to acetylene derivatives. Catalytic hydrogenation of methyl and ethyl ethers of 2, 7-dimethyl-octadiyne-3, 5-diol-2, 7. Zhur. ob. khim. 22, No. 12, 1952.

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

TALETAVICIUS, Vladas; ZOLYNAS, Ricardas; PRANAITIENE, R., red.; PAKENYTE, O., tekhn. red.

[Sand concrete, a building material of the future] Smelio betonai - progresyvi statybine medziaga. Vilnius, Valstybine politines ir mokslines literaturos leidykla, 1962. 24 p. (MIRA 15:12)

(Concrete)



ZOLYOMI, Alfonz

Our schools as seen by the architect. Elet tud 15 no.11:342-346
13 Mr '60.

ZOLYOMI, B.

Synecologic studies of a basiphile-calciphile indicator-forest plant (Lithospermum purpureo-coeruleum). Acta bot Hung 9 no. 3/4 461-472 '63.

1. Korresp. Mitglied der Ungarischen Akademie der Wissenschaften; Botanisches Forschungsinstitut der Ung. Akademie der Wissenschaften, Vacratot; Mitglied, Redaktionskollegium, "Acta Botanica Academiae Scientiarum Hungaricae."

JANKO, B.; ZOLYOMI, B.

Salvia nutans L. and × Salvia betonicifolia Kttl. in Hungary. Acta bot Hung 8 no.3/4:263-277 '62.

1. Botanisches Institut der Ungarischen Akademie der Wissenschaften, Vacratot. 2. Mitglied, Redaktionskollegium, "Acta Botanica Academiae Scientiarum Hungaricae." (for Zolyomi).

ZOLYOMI, Balint, dr.

Scientific work of the Botanical Section of the Museum of Natural History. Term tud kozl 6 no.5:225-226 My '62.

1. Magyar Tudomanyos Akademia levelezo tagja; es Termeszettudomanyi Muzeum Novenytar Geobotanikai Munkakozosseg vezetoje, Budapest.

ZOLYOMI, Balint

Sandor Javorka, 1883-1961; an obituary. Magy tud 68 no.11:683-686 N '61.

1. Magyar Tudomanyos Akademia levelezo tagja; igazgato, Magyar Tudomanyos Akademia Botanikai Kutato Intezete, Vacratot.

(Javorka, Sandor) (Botanists, Hungarian)

ZOLYOMI, B.

An account of the work of the Botanical Garden and Geobotanical Laboratory of the Hungarian Academ of Sciences. (To be contd.). p. 425.

A MAGYAR TUDOMANYOS AKADEMIA V. OKZTALYA BOICGIAI CSOPORTJANAK KOSIEMENKI. Budapest, Hungary. Vol. 2, no. 4, 1959

Monthly List of East European Accessions (EEAI). LC. VOL. 9, no. 1, Jan 1960

Uncl.

ZOLYOMI, B.

An account of the work of the Botanical Garden and Geobotanical Laboratory of the Hungarian Academy of Sciences. Pt. 2, p. 51.

A MAGYAR TUDOMANYOS AKADEMIA V. OKZTALAY BOIOGIAI CSOPORTJANAK KOSIEMENEI. Budapest, Hungary. Vol. 3, no. 1, 1969

Monthly List of East European Accessions (EEAI). LC. Vol. 9, no. 1, Jan 1960

Uncl.

ZOLYOMI, Balint; KASZAB, Zoltan

Report on the Lvov conference dealing with the research on the flora and fauna of the Carpathian Mountains. Magy tud 68 no.1: 56-57 '61. (EEAI 10:8)

1. Magyar Tudomany szerkesztobizottsagi tagja(for Zolyomi) (Carpathian Mountains) (Fauna) (Flora)

ZOLYOMI, B.

" History of the Evolution of Hungary's Vegetation Since the Last Interglacial Epoch," p. 367.
(Acta Biologica Academiae Scientiarum Hungaricae, Vol.4, No.3/4, 1953, Budapest.)

SO: Monthly List of East European Accessions, Vol.2, No.9 Library of Congress, September 1953, Uncl.

ZOLYOMI, I.

ZOLYOMI, I. Faults occurring in high-power electric machines and suggestions for their eliminations. p. 3.

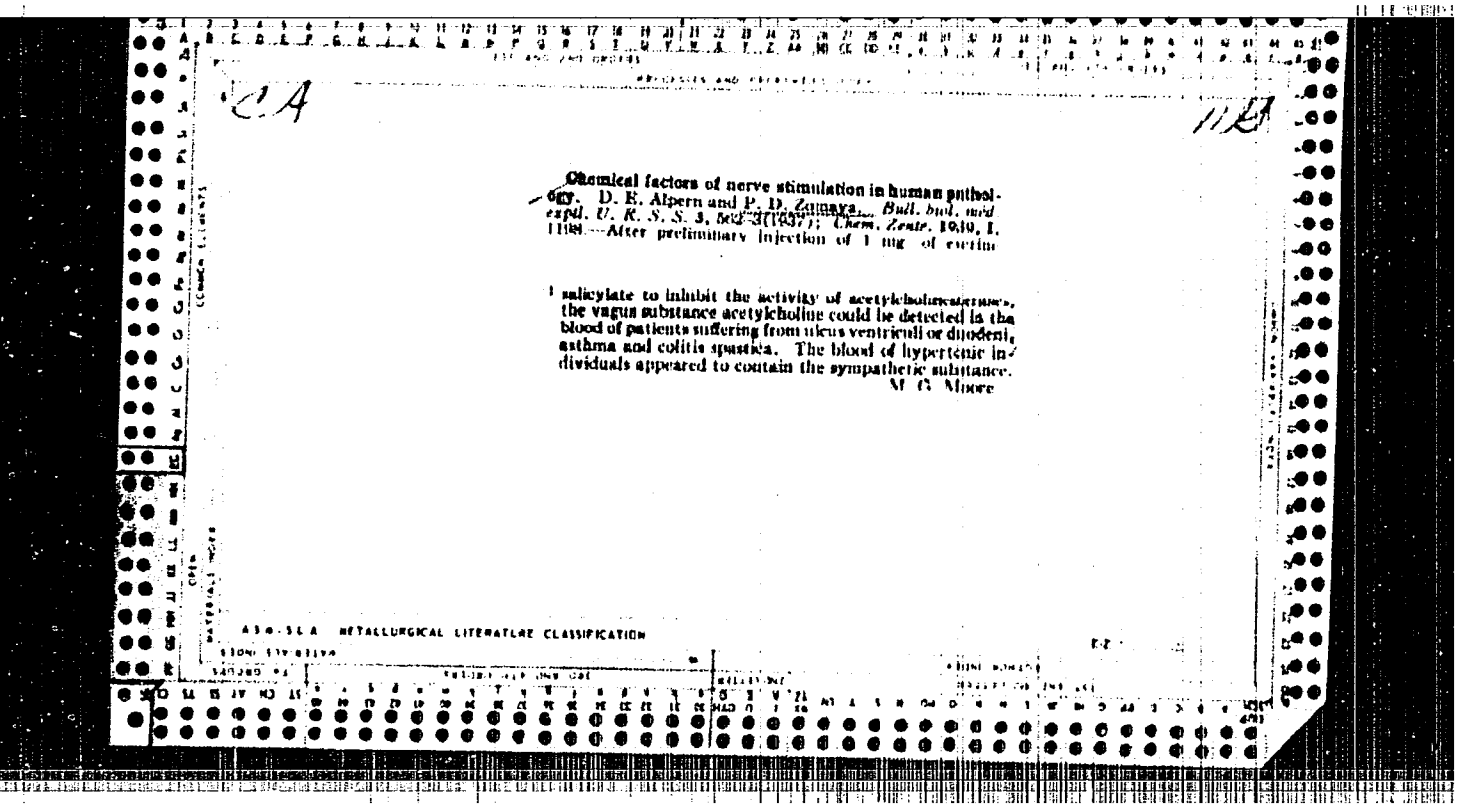
Vol. 4, No. 1, Jan. 1956.
VILLAMOSSAG.
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

ZOLYOMI, L.

Innovators should expedite the work of maintenance of power plants! p. 6.
UJITOK LAPJA, Budapest, Vol. 7, no. 12, June 1955.

SO: Monthly List of East European Accessions, (EEAI), LC, Vol. 4, no. 10, Oct. 1955, Uncl.



CA

11B

Chemical factors of nerve stimulation in human pathology. D. E. Alpern and P. D. Zamara. *Bull. biol. med. exptl. U. R. S. S.* 3, 502–3(1937); *Chem. Zentr.* 1940, I, 1188.—After preliminary injection of 1 mg. of eserine salicylate to inhibit the activity of acetylcholinesterase, the vagus substance acetylcholine could be detected in the blood of patients suffering from ulcus ventriculi or duodeni, asthma and colitis spastica. The blood of hypertenic individuals appeared to contain the sympathetic substance.
M. G. Moore

A30-51A METALLURGICAL LITERATURE CLASSIFICATION

ZOMBAI, Erzsebet; KELENYI, G.

Myeloperoxydase activity in normal rat bone marrow. Acta biol. acad. sci. Hung. 14 no.1:51-56 '63.

1. Department of Pathology, Medical University, Pecs (Head: G. Romhanyi).

(PEROXIDASES) (BONE MARROW) (BODY WEIGHT)
(HEMORRHAGE) (LEUKOCYTE COUNT)
(EOSINOPHILS)

ZOMBAI, Erzsebet; KELENYI, Gabor

Myeloperoxydase activity of rat bone marrow. Kiserl. orvostud. 15 no.2:153-157 Ap '63.

1. Pecsi Orvostudomanyi Egyetem Korbonctani Intezete.
(BONE MARROW) (PEROXIDASES) (BODY WEIGHT)
(LEUKOCYTES) (METABOLISM)

ZOMBAI, Pal

"Atlas of the world commodities" by O. Jonasson, B. Carlsund. Reviewed by Pal Zombai. Geod kart 15 no.4:308-309 '63.

ZOMBAI, Pal

"Geography of Afghanistan" by J. Humlum. Reviewed by Pal Zombai. Geod kart 15 no.5:397-398 '63.

ZOMBAI, Pal

"Atlas of Western Europe" by J. Dollfus. Reviewed by Pal Zombai.
Geod kart 15 no.1:76 '63.

ZOMBAI, Pal

"Antarctica." Reviewed by Pal Zombai. Geol kart 15 no.2: 146-147 '63.

ZOMBIK, Istvan, okleveles banyamernok; MUCS, Bela, okleveles banyamernok

Loading mechanization and its achievements in the winnings of the Bakony Bauxite Mine Enterprise. Bany Lap 97 no.11: 760-765 N '64.

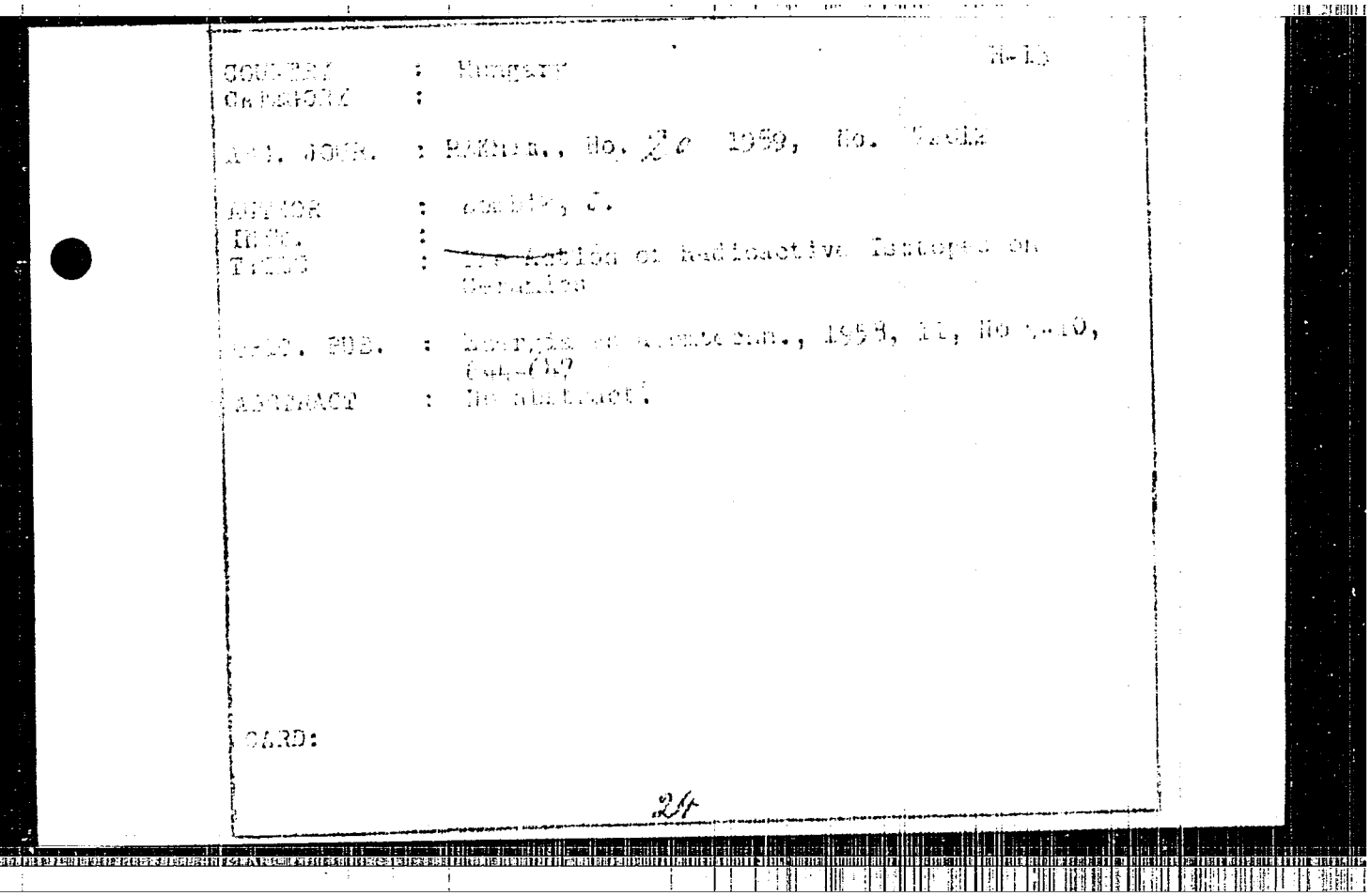
1. Bakony Bauxite Mine Enterprise, Halimba.

[illegible], J.

Radioactive radiation effects on pottery, p.681.

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodasi Tudomanyos Egyesulet)
Budapest, Hungary
Vol. 11, no.9/10, Sept./Oct. 1958

Monthly List of East European Accessions (LEAI) LC., Vol. 8, no.7, July 1959
Uncl.



SOURCE : Hungary
CATEGORY :
AUTHOR : [illegible], J.
INST. :
TITLE : [illegible] Action of Radioactive Isotopes on [illegible]

PUB. : Kiserl. es Kozlem., 1958, 11, No 1-2, [illegible]
ABSTRACT : No abstract.

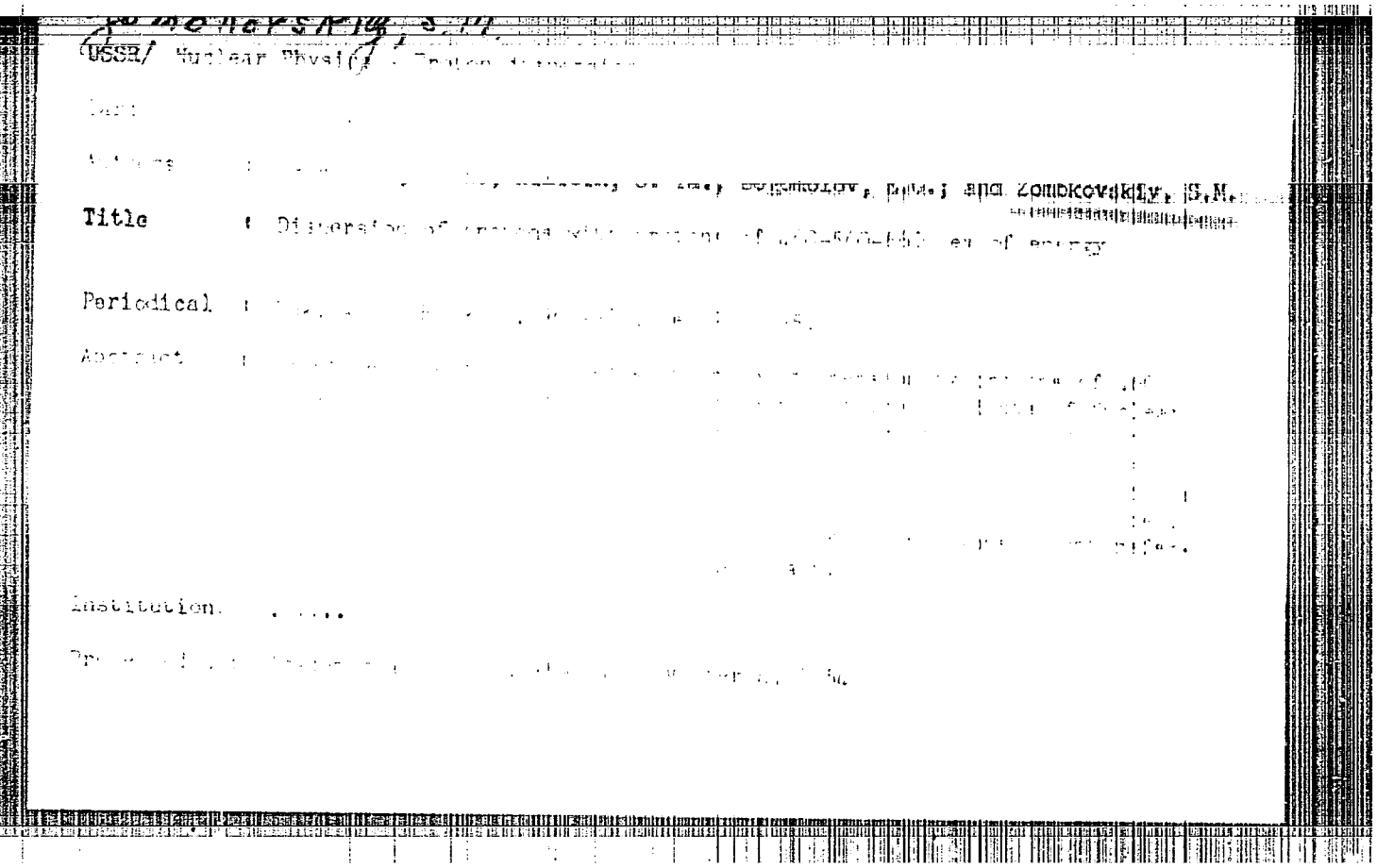
GARD:

21

TYURIN, V.F., vedushchiy inzhener; ZOMBKOVSKAYA, R.V., red.; ANTONYUK, P.D., tekhn.red.

[Equipment for the manufacture of electrodes] Oborudovanie dlia proizvodstva elektrodov. Moskva, TSentr.biuro tekhn. informatsii, 1958. 37 p. (MIRA 13:10)

1. Russia (1917- R.S.F.S.R.) Moskovskiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva.
(Electrodes) (Welding research)



USSR/ Nuclear Phys[illegible]

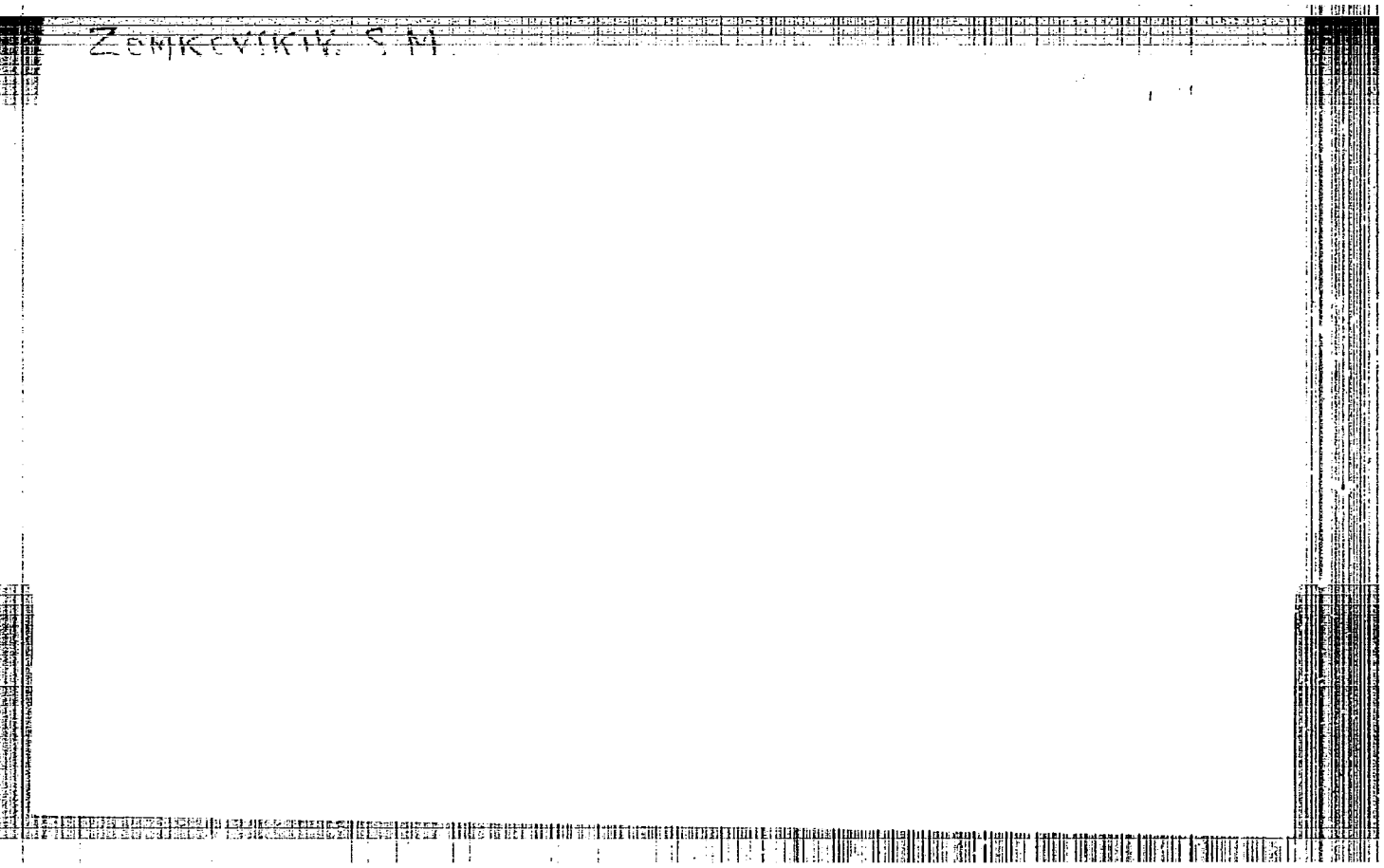
Author :

Title : Dispersion of [illegible] of energy

Periodical :

Abstract :

Institution :



NIKITIN, S.Ya.; SELEKTOR, Ya.M.; BOGOMOLOV, Ye.G.; ZOMBKOVSKIY, S.M.

Scattering of 460-660 Mev protons by protons. Izv.AN SSSR.Ser.fiz. 19 no.5:561-572 S-O '55. (MLRA 9:4)
(Cosmic rays) (Nuclear physics)

ZOMBKOVSKIY, S.M , KOCHKUROV, E.G., NIKITIN, G.Y. and SOLNTSEV, V.M.

Elastic small angle scattering of 660 MeV protons by protons (II/59)

CERN-Symposium on High Energy Accelerators and Pion Physics.

Geneva, 11-23 June 56
In.Branch #5

ZOMBKOVSKIY, S.M., [redacted]GOMOLOV, E.G., NIKITIN, S.Ya., SELIKTOR, Ya.M.

"Elastic Scattering of Protons with an Energy of 660 MeV by Protons at Small Angles," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

ACCESSION NR: AP4042376 S/0056/64/047/001/0100/0106

AUTHORS: Aynutdinov, M. S.; Zombkovskiy, S. M.; Selektor, Ya. M.; Shulyachenko, V. N.

TITLE: Inelastic interaction of 3.5-BeV/c negative pions with protons

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 100-106

TOPIC TAGS: inelastic scattering, negative pi meson, pion scattering, proton scattering, resonance scattering, bubble chamber

ABSTRACT: This investigation was motivated by the growing evidence that the statistical theory cannot explain multiple production processes in either pion proton or proton proton collisions. The negative pion beam from the ITEF proton synchrotron was momentum-analyzed by a deflecting magnet, collimated, and directed to a liquid-hydrogen bubble chamber of 25 cm diameter, placed in a 14 kOe field. Particu-

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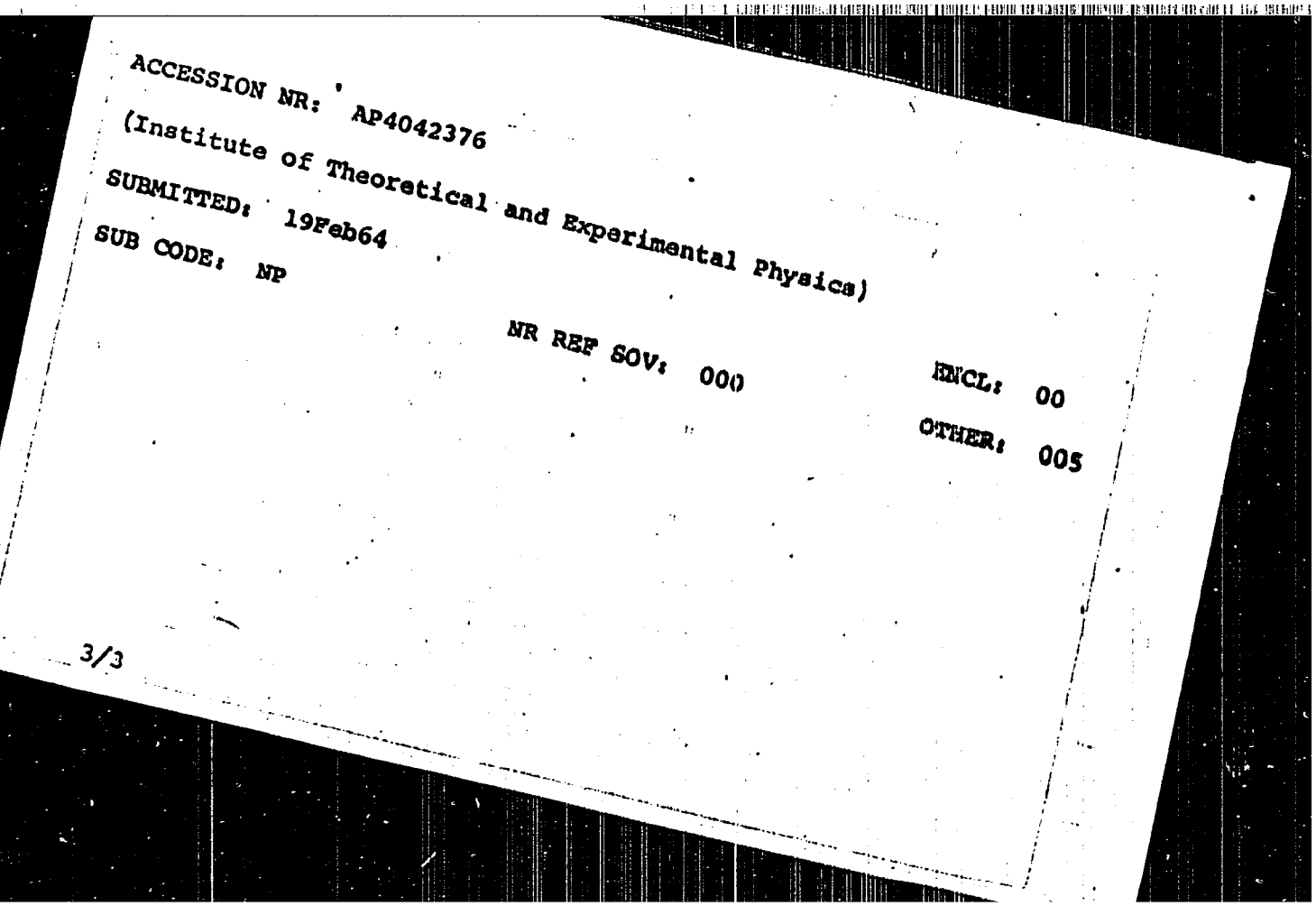
ACCESSION NR: AP4042376

lar attention was paid to two-prong stars, that is, the reactions

	$\bar{p}^0(\pi^-)$	$\bar{p}^0(\pi^+)$	$\bar{p}_\perp(\pi^-)$	$\bar{p}_\perp(\pi^+)$
Двухлучевые звезды:	500 ± 15	450 ± 15	325 ± 50	345 ± 35
Четырехлучевые звезды:	380 ± 15	—	360 ± 40	—

The angular and momentum distribution of the secondary particles are presented. For the reaction $\pi^- + p \to \pi^- + \pi^+ + n$ there were observed two resonances with masses ~750 (ρ^0 meson) and ~1250 (f^0 meson) MeV. The angular distributions of the two reactions offer evidence in favor of the one-pion exchange mechanism. A hypothesis is advanced that simultaneous production of a ρ^0 meson and isobars with masses ~1300 MeV is possible. "The authors thank A. I. Alikhanov for numerous useful discussions, the mathematics group headed by R. S. Guter for the calculations, and the photograph scanning group headed by D. I. Tumanova and N. V. Vasil'yeva." Orig. art. has: 8 figures and 2 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki



ACCESSION NR: AP4042376

(Institute of Theoretical and Experimental Physics)

SUBMITTED: 19Feb64

SUB CODE: NP

NR REF SOV: 000 ENCL: 00

OTHER: 005

3/3

AYNUTDINOV, M.S.; VASIL'YEVA, N.V.; ZOMBKOVSKIY, S.M.; SHLEKTOV, Ya.M.; SHULYACHENKO, V.N.

Study of four-pointed stars in π^-p-interactions at a primary momentum of 3.5 Gev./s. IAd. fiz. 1 no.6:1071-1078 Je '65. (MIRA 18:6)

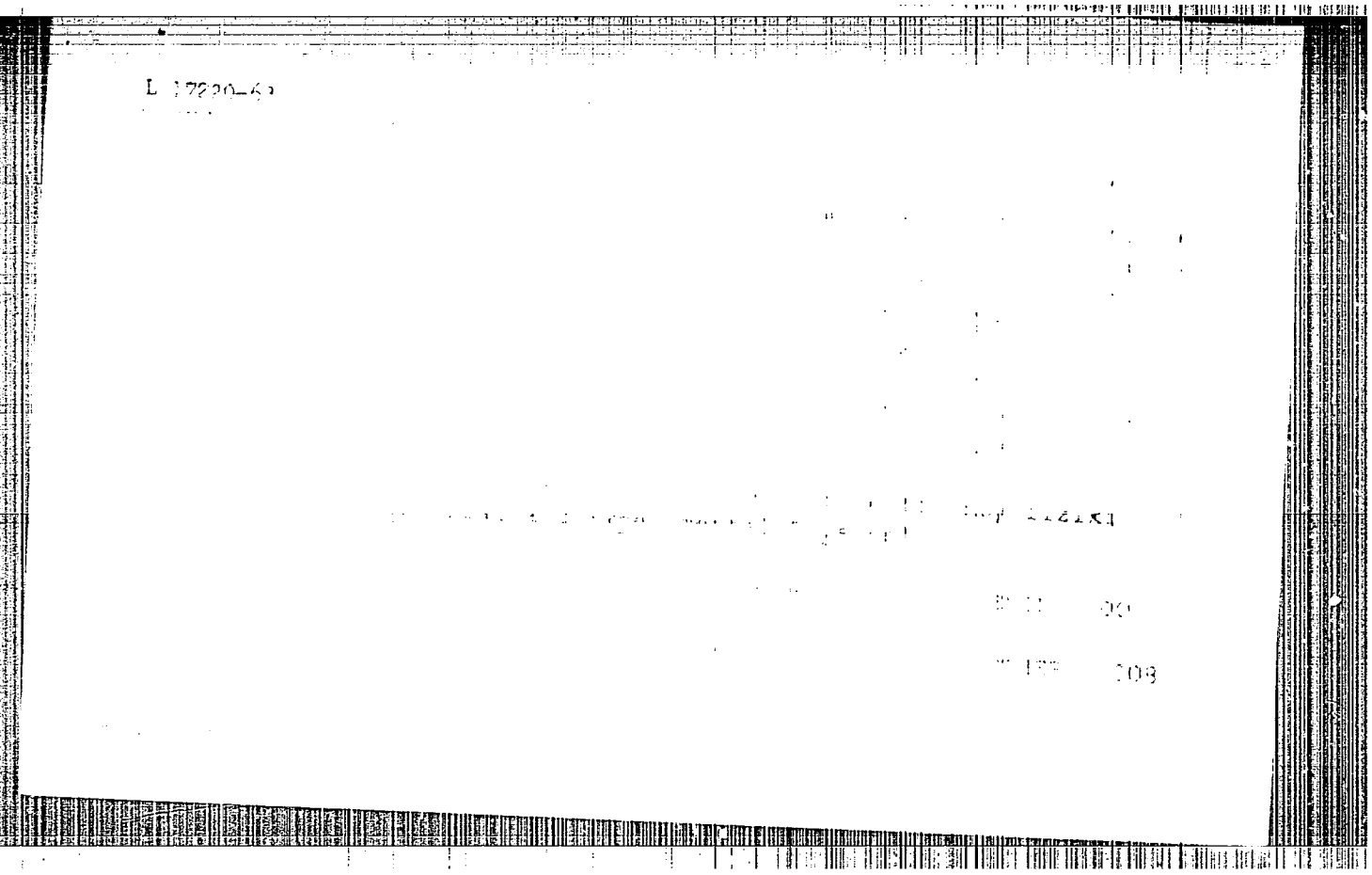
1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; SELEKTOR, Ya.M.; SHULYACHENKO, V.N.

Studying $\pi\pi$-resonances in π-p-collisions at a primary π-meson momentum of 3.5 Bev/c. Zhur. eksp. i teor. fiz. 45 no.5:1682-1684 N '63. (MIRA 17:1)

1. Institut teoreticheskoy i eksperimental'noy fiziki.

ABSTRACT: The elastic scattering of 3.5-BeV/c negative pions by protons was investigated with the aid of a liquid-hydrogen bubble



S/056/63/044/002/004/065
B102/B186

AUTHORS: Aynutdinov, M. S., Zombkovskiy, S. M., Nikitin, S. Ya., Selektor, Ya. M., Shulyachenko, V. N.

TITLE: Multiple production of pions in 7.2 Bev π^-p collisions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 2, 1963, 413-420

TEXT: The authors here continue previous investigations (ZhETF, 1543, 1961) in which they had shown that the resonances observed in inelastic πp collisions (cf. e.g. Phys. Rev. Lett., 6, 624, 628, 1961) play an important part in multiple pion production. Now the angular and momentum distributions of pions and protons are investigated for inelastic π^-p interactions of various multiplicities. The resonances arising in three- and four-pion systems are also studied, and the results are compared with the statistical theory. The measurements were made in a liquid-hydrogen bubble chamber positioned in a magnetic field of 13.5 kbe. The π^- beam was obtained from the inner Be target of a proton synchrotron. The mean beam energy was 7.2 Bev, the π^- momentum distribution was Gaussian with a

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spread of $\approx \pm 0.8$ Bev/c. A total of 13,000 emulsion plates were scanned, and among 1590 πp interaction events found, there were 192 elastic ones. The mean multiplicity was ≈ 3.6, i.e. there were 2-, 4-, 6- and 8-pronged stars with a percentage of 36.6, 49.3, 13.2, and 0.8%, respectively; the cross-sections were 10.0, 13.5, 3.6, and 0.2 mb. The total cross-section was $\sigma_{tot} = 31.0 \pm 3.1$ mb, and $\sigma_{el} = 3.90 \pm 0.54$, $\sigma_{inel} = 27.1 \pm 0.3$ mb. For 2-, 4-, and 6-pronged stars in the c.m.s. the proton momentum distributions differ greatly, whereas the proton angular distributions and the π^- momentum distributions are more similar. The $\pi\pi$-resonances arising in multiple pion production play the main role. It is assumed that in this process resonance states of three or four pions are formed, which decay into lower ones or pions. This is verified in determination of the effective masses of all possible combinations of charged pions for four-pronged stars and in an investigation of the existence of bound states with energies above 1 Bev. There are 12 figures and 2 tables.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: July 21, 1961

Card 2/2

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; NIKITIN, S.Ya.; SELEKTOR, Ya.M. SHULYACHENKO, V.N.

$\pi\pi$-Interaction in multiple π-meson production in πp-collisions. Zhur. eksp. i teor. fiz. 43 no.4:1543-1546 O '62. (MIRA 15:11)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.

(Mesons)
(Nuclear reactions)

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; NIKITIN, S.Ya.; SELEKTOR, Ya.M.; SHULYACHENKO, V.N.

Multiple π-meson production in 7.2 Bev. π^--p-collisions. Zhur. eksp. i teor. fiz. 44 no.2:413-420 F '63. (MIRA 16:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki.

ZOMBKOVSKIY, S. M.

95

S/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inshenerno-fizicheskogo instituta (Scientific Conference of the Moscow Engineering Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400 delegates participating. A review is given of these lectures that are assumed to be of interest for the readers of Atomnaya energiya. They are following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev, design of accelerators for superhigh energies; I. Ya. Pomeranchuk, analyticity, unitarity, and asymptotic behavior of strong interactions at high energies; A. B. Migdal, phenomenological theory for the many-body problem; Yu. D. Fivoyskiy, deceleration of medium-energy antiprotons in matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect; M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium; Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of suboritical plasma;

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S/089/62/013/006/019/027
B102/B186

Nauchnaya konferentsiya...

Ye. Ye. Lovetskiy, A. A. Rukhadze, electromagnetic waves in nonhomogeneous plasma; Yu. D. Kotov, I. L. Rozental', the origin of fast cosmic muons; Yu. M. Ivanov, muon depolarization in solids; V. G. Varlamov, Yu. M. Grashin, B. A. Dolgoshein, V. G. Kirillov-Ugryumov, V. S. Roganov, A. V. Samoylov, μ^- capture by various nuclei; V. S. Demidov, V. G. Kirillov-Ugryumov, A. K. Ponosov, V. P. Protasov, F. M. Sergeyev, scattering of π^- mesons at 5 - 15 Mev in a propane bubble chamber; S. Ya. Nikitin, M. S. Aynutdinov, Ya. M. Selektor, S. M. Zombkovskiy, A. F. Grashin, muon production in π^-p interactions; B. A. Dolgoshein, spark chambers; N. G. Volkov, V. K. Lyapidevskiy, I. M. Obodovskiy, study of operation of a convection chamber; K. G. Finogenov, production of square voltage pulses of high amplitudes; G. N. Alekseakov, problems of color vision; V. K. Lyapidevskiy, relation between number of receivers and number of independent colors; Ye. M. Kudryavtsev, N. N. Sobolev, N. I. Tisengauzen, L. N. Yunitskiy, F. S. Faysulov, determination of the moment of electron transition of oscillator forces and the widths of the Schuhman-Runge bands of molecular oxygen; B. Ye. Gavrilov, A. V. Zharikov, V. I. Rayko, decomposition of the volume charge of intense ion beams; Ye. A. Kramer-Ageyev, V. S. Troshin, measurement of neutron spectra; G. G. Doroshenko, new methods of fast-neutron recording; V. I. Ivanov, dosimetry terminology; R. M. Voroskov,

Card 2/4

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; NIKITIN, S.Ya.; SELEKTRO, Ya.M.; GRASHIN, A.F.

On $\pi\pi$-interaction in π^-p-collisions at an energy of 7.2 Bev. Zhur. eksp. i teor. fiz. 42 no.5:1413-1415 My '62. (MIRA 15:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki.
(Mesons) (Collisions (Nuclear physics))

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; NIKITIN, S.Ya.; SELEKTOR, Ya.M.

Elastic scattering of 7.2 Bev. π^--mesons on protons. Zhur. eksp. i teor. fiz. 42 no.6:1495-1498 Je '62. (MIRA 15:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.

(Mesons—Scattering)
(Protons)

S/056/62/043/004/055/061
B104/B186

AUTHORS: Aynutdinov, M. S., Zombkovskiy, S. M., Nikitin, S. Ya., Selektor, Ya. M., Shulyachenko, V. N.

TITLE: $\pi\pi$-interaction during multiple pion production in πp-collisions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1543-1546

TEXT: $\pi\pi$-interaction was studied on 7.2 Bev primary π^--mesons whose velocity distribution was Gaussian with a half width of 0.8 Bev. 13,000 photographs were taken from a 25 cm wide liquid-hydrogen bubble chamber placed in a magnetic field of 13,500 gauss. The reactions

$$\pi^- + p \to 2\pi^- + 2\pi^+ + n + k\pi^0, \quad (1)$$
$$\pi^- + p \to 3\pi^- + 3\pi^+ + n + k\pi^0, \quad (2)$$

were studied. k is the known number of π^0-mesons. The reactions

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$$\pi^- + p \to 2\pi^- + \pi^+ + p + k\pi^0, \quad (3)$$
$$\pi^- + p \to 3\pi^- + 2\pi^+ + p + k\pi^0 \quad (4)$$

were excluded by identifying the protons from their momenta and by estimating the ionization. The numbers of possible combinations ($\pi^-\pi^-$, $\pi^+\pi^+$, $\pi^+\pi^-$, $\pi^-\pi^0$) as functions of the effective masses have sharp maxima at the mass values of 0.33, 0.44, 0.58, 0.76, 0.99. Evidently, there are resonances at these mass values in the systems with two pions. It is proved that one and the same pion is not involved in two maxima. It is concluded that in systems with equal mass values, but with different isotopic spins and mechanical spins, there exist two resonance systems. This means that in the case of strong interaction there is a degeneracy with respect to the two spins. There are 2 figures and 1 table.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: June 20, 1962

Card 2/2

AYNUTDINOV, M. S.; NIKITIN, S. Ya.; SELIVANOV, Ya. M.; ZOLOTOVSKIY, S. M.

"Investigation of Resonance States in Σ^+ - Meson Systems."

Report presented at the Int. Conference on High Energy Physics, Geneva, 4-11 July 1962

S/056/62/042/006/014/047
B104/B102

AUTHORS: Aynutdinov, M. S., Zombkovskiy, S. M., Nikitin, S. Ya., Selektor, Ya. M.

TITLE: The elastic scattering of 7.2-Bev π^- mesons by protons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1495-1498

TEXT: The elastic scattering of the mesons was measured in a liquid-hydrogen bubble chamber (25 cm diameter) placed in a magnetic field of 13.5 koe. The chamber was exposed to a beam of external π^- mesons from the proton-synchrotron of the Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research). The meson beam was produced in an internal beryllium target, focussed by four quadrupole lenses, analyzed by the magnetic field according to the momentum, and directed to the entrance of the bubble chamber. The meson energy had a Gaussian distribution with a half-width of 0.8 Bev. From 10 to 25 mesons were recorded for each expansion. From 13,700 photographs, 1619 events of πp interactions were found; whereof 192 were identified as

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The elastic scattering of ...

elastic scattering events. The differential cross section of the elastic π^-p scattering was determined for angles between 4 and 28.3° in the c.m.s. (Fig. 2). The scattering amplitude was calculated for $R = 1.02 \cdot 10^{-13}$ cm, $K = 0.70 \cdot 10^{23}$ cm^{-1}, $k_1 = 0$, and $\sigma_{diff} = 4.84$ millibarn with the help of

$$f(\theta) = ik_0 \int_0^R [1 - \exp(-K + 2ik_1\sqrt{R^2 - \rho^2})] J(k_0 \rho \sin\theta)\rho d\rho.$$

Here k_0 is the wave number of the primary pion, k_1 is the change in the real part of the wave number, and K is the absorption coefficient. $\sigma_{abs} = 31 \pm 3.1$ mb; $\sigma_{el}(\theta' \geq 5^0) = 3.90 \pm 0.54$ mb; $\sigma_{el}(\theta^0) = 39.2$ mb/steradian. The results can be expressed very well in terms of the optical model of a proton ($\sigma_{opt}(\theta^0) = 33.5$ mb/steradian). There are 2 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

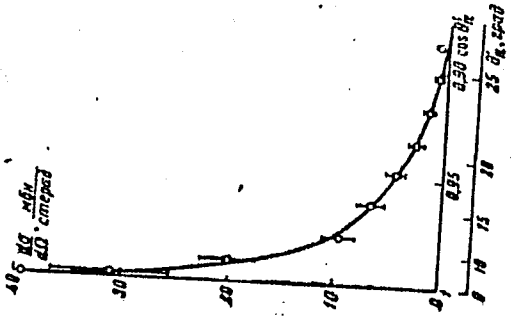
Card 2/3

The elastic scattering of ...

S/056/62/042/006/014/047
B104/B102

SUBMITTED: January 30, 1962

Fig. 2. Angular dependence of the elastic scattering cross section.



Card 3/3

24.6700

37893
B/056/62/042/005/044/050
B108/B138

AUTHORS: Aynutdinov, M. S., Zombkovskiy, S. M., Nikitin, S. Ya., Selektor, Ya. M., Grashin, A. F.

TITLE: π-π interaction in π^--p collisions at 7.2 Bev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 5, 1962, 1413-1415

TEXT: In order to collect information on pion multiple production the authors studied 7.2-Bev π^--p collisions using a liquid hydrogen chamber in a magnetic field. The distribution of $\pi^- + p \rightarrow p + \pi^- + k\pi^0$ events according to the square of the pion total energy ω has a narrow peak at $\omega^2 \sim 30$. This is attributed to participation of spin 1 ϱ-mesons in the reaction $\pi^- + p \rightarrow p + \varrho^- \rightarrow p + \pi^- + \pi^0$. The production cross section of ϱ^--mesons is $\sim$1 mbarn. The scattering cross section $\sigma_{\pi\pi}$ for primary momenta of 2.8 Bev/c is about 300 $\pm$ 100 mbarn for ω^2 = 20-30. There are 2 figures.

Card 1/2

π-π interaction in...

S/056/62/042/005/044/050
B108/B138

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: March 5, 1962

Card 2/2

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; NIKITIN, S.Ya.; SELEKTOR, Ya.M.

Liquid hydrogen bubble chamber with a 25 cm. diameter. Prib. i tekh. eksp. 6 no.1:35-39 Ja-F '61. (MIRA 14:9)
(Bubble chamber)

BEKETOV, V.A.; SELEKTOR, Ya.M.; ZOMBKOVSKIY, S.M.; AYNUTDINOV, M.S.

Sealing glass illuminators in liquid hydrogen bubble chambers.
Prib. i tekh. eksp. 6 no.1:182-183 Ja-F '61. (MIRA 14:9)
(Bubble chamber) (Sealing (Technology))

S/120/61/000/001/009/062
E032/E114

AUTHORS: Aynutdinov, M.S., Zombkovskiy, S.M., Nikitin, S.Ya., and Selektor, Ya.M.

TITLE: A 25 cm Diameter Liquid Hydrogen Bubble Chamber

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, pp.35-39

TEXT: A description is given of a liquid hydrogen bubble chamber having a working diameter of 25 cm and a depth of 10 cm. The chamber is operated in a constant magnetic field of 14000 oe (5% uniformity over working region). The expansion is carried out by means of stainless steel bellows, 10 cm in diameter. About 12 litres of liquid hydrogen are necessary in order to cool the chamber from the liquid nitrogen temperature to the liquid hydrogen temperature. The time necessary to cool the chamber from room temperature down to 20 °K is about 24 hours, and under dynamic conditions (expansion after each 14 sec) the liquid hydrogen consumption is 2 to 2.5 litres/hour. The upper and lower pressure on expansion is 5.5 and 1.5 atm respectively. The corresponding temperature of the chamber and the hydrogen bath is 27 °K and 26.5 °K, respectively.

Card 1/2

S/120/61/000/001/009/062
E032/E114

A 25 cm Diameter Liquid Hydrogen Bubble Chamber

The bubble chamber has been used in the π-meson beam of the 7 GeV machine of the Joint Institute of Nuclear Studies, (Ob'yedinennyy institut yadernykh issledovaniy). A detailed sectional drawing of the device is given.
Acknowledgements are expressed to V.A. Beketov and A.P. Besschetniy for developing parts of the chamber and to V.T. Smolyankin and A.A. Sokolov for valuable advice.
There are 4 figures and 4 references: 1 Soviet and 3 non-Soviet.

SUBMITTED: February 5, 1960

Card 2/2

S/120/61/000/001/056/062
E032/E114

AUTHORS: Beketov, V.A., Selektor, Ya.M., Zombkovskiy, S.M., and Aynutdinov, M.S.

TITLE: Vacuum-Tight Glass Windows for Liquid Hydrogen Bubble Chambers

PERIODICAL: Pribory i tekhnika eksperimenta, 1961,No.1,pp.182-183

TEXT: One of the most difficult problems in the design of liquid hydrogen bubble chambers is to produce a reliable vacuum-tight union between the body of the chamber and the glass windows through which the working volume is photographed and illuminated. Existing designs (D. Parmentier Jr., A.J. Schwemin, Ref.1, and V.Z. Kolganov et al. Ref.2) are said to be either unreliable for chamber diameters in excess of 25 cm, or require replacement of the sealing elements after one or two successive working cycles. The present authors have used the design shown in the figure. The copper gasket 1 is inserted into a groove in the body of the chamber and is in contact with the teflon ring 2. In the upper part of the copper gasket there is a rectangular groove carrying a further teflon ring 3. When the arrangement is compressed by

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S/120/61/000/001/056/062
E032/E114

Vacuum-Tight Glass Windows for Liquid Hydrogen Bubble Chambers

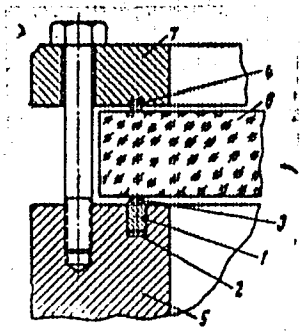
the brass bolts the copper gasket is squashed and the teflon rings provide the vacuum-tight seal. In order to achieve a uniform transmission of pressure to the glass a further copper gasket 4 is placed between the glass and the flange 7. The copper gasket 1 was 3.1 mm wide and 7.5 mm high. The width and height of the teflon ring 3 were 1 and 1.8 mm respectively. Glass windows up to 40-50 cm in diameter can be produced in this way.
There are 1 figure and 2 references: 1 Soviet and 1 non-Soviet.

SUBMITTED: December 10, 1959

Card 2/3

S/120/61/000/001/056/062
E032/E114

Vacuum-Tight Glass Windows for Liquid Hydrogen Bubble Chambers



Figure

Card 3/3

Zombkovskiy, S.M.

Ya

S/120/60/000/03/006/055
E032/E514

246810

AUTHORS: Selektor, Ya. M., Aynutdinov, M.S. and Zombkovskiy, S.M.

TITLE: A Device for Measuring the Pressure and the Level of Hydrogen in Liquid Hydrogen Bubble Chambers 19

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 29-31

ABSTRACT: A description is given of an instrument which can be used to measure the pressure and sudden pressure changes in bubble chambers. The sensitive element is a capacitor. Changes in the pressure lead to changes in the capacitance, and the present paper consists essentially of a description of an electronic circuit which can be used to measure these small changes in the capacitance. The circuit is shown in Fig 1. The working frequency is 200 kc/s. The change in the capacitance is converted into a phase change and this is measured by the circuit. A 40 m cable connects the capacitative probe to the control unit. Steps are taken to compensate changes in the cable capacitance. A sensitivity of 0.5 - 10 μμF per full scale deflection can easily be obtained. The zero drift does not exceed

Card 1/2

81981

S/120/60/000/03/006/055
E032/E514

A Device for Measuring the Pressure and the Level of Hydrogen in Liquid Hydrogen Bubble Chambers

1% of full scale per hour. The instrument can also be used to measure the level of liquid hydrogen and liquid nitrogen in closed metallic containers. In the latter cases use is made of the fact that there is a relatively large difference between the dielectric constant of hydrogen in the vapour and liquid states. In the circuit shown in Fig 1, the alternating voltage from the 200 kc/s oscillator $Л_5$ is applied through the cathode follower $Л_4$ to the grid of the amplifier $Л_1$. The probe unit is connected to the anode of $Л_1$ through the long high-frequency cable K_1. The phase shift at the anode of $Л_1$ is determined by the difference between the oscillator frequency and the resonant frequency of the circuit R_1, L_1, C_1, C. The carrier frequency from the oscillator and the phase-shifted oscillations from the anode of $Л_1$ are applied to the phase detector $Л_2, Л_3$, $Д_1$ and $Д_2$. The output of the phase detector can be connected either to a pointer instrument or a CRO. There is 1 figure.

Card 2/2

SUBMITTED: May 23, 1959

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; SELEKTOR, Ya.M.; SHULYACHENKO, V.N.

Studying the reaction $\pi^- + p \rightarrow 2\pi^- + 2\pi^+ + k\pi^0 + n$ at a momentum of primary π^--mesons of 3.5 Bev./c. Zhur. eksp. i teor. fiz. 47 no.1:383-385 Jl '64. (MIRA 17:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.

AYNUTDINOV, M.S.; ZOMBKOVSKIY, S.M.; SELEKTOR, Ya.M.; SHULYACHENKO, V.N.

Inelastic interaction of 3.5 Bev./c π^--mesons with protons.
Zhur. eksp. i teor. fiz. 47 no.1:100-106 Jl '64.
(MIRA 17:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki.

Zombor, G.; Gyorgy, Z

The Mechanical Measuring Instruments Factory on the road of developing and manufacturing complex automation devices. p.206

MERES ES AUTOMATIKA. (Merestechnikai es Automatizalasi Tudomanyos Egyesulet) Budapest, Hungary. Vol.7, no.8/9, 1959

Monthly List of East European Accessions (EEAI) LC, Vol.8, no.11 November 1959 Uncl.