"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, Mikhail Dmitriyevich

Geography & Geology

Cartographic projections, Moskva, Izd-vo geodezicheskoi i kartograficheskoi lit-ry, 1946.

Monthly List of Russian Accessions, Library of Congress, March 1952. Unclassified.

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SOLOV'EV, M. Mikhail Dmitriyevich

PHASE I TREASURE ISLAND BIBLIOGRAPHIC REPORT AID 153 - I

Call No.: AF541626

BOOK
Author: SOLOV'EV, M. D., Prof. Dr. of Tech. Sciences
Full Title: PRACTICAL MANUAL OF MATHEMATICAL CARTOGRAPHY
Transliterated Title: Prakticheskoye posobie po matematicheskoy kartografii

Publishing Data
Originating Agency: None
Publishing House: Publishing House of Geodetical and Cartographic Literature
Date: 1952 No. pp.: 178 No. of copies: 4,000
Editorial Staff Tech. Ed.: None
Editor: Starostin, F. A.
Editor-in-Chief: None
Others: Urmayev, N. A., Prof., Kavrayskiy, Prof., Vakhrameyeva, L. A., Ass't. Prof. of Math. Cartography at the Moscow Institute of Engineers of Geodesy, Aerial Surveying and Cartography (MIIGAiK)

Text Data
Coverage: This is a revision and expansion of books by the author that appeared in 1935 and 1938. This book covers the presentation of the surface of an ellipsoid of rotation on a sphere; the change of geographical to polar spherical coordinates; the calculation of cartographic projection; problems that may be solved on the charts; the scale, dimensions and nomenclature of charts, etc. The book is not of essential interest.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOKOLOV, N.D.

Prakticheskoye posobie po matematicheskoy kartografii AID 153 - I

The book is a comprehensive mathematical manual for the construction of charts on different projections, with many auxiliary tables, schematic forms for calculations, and practical mathematical problems, but with few figures, which could clarify the complicated text.

Purpose: The main object of the book is to serve as a manual for laboratory mathematical cartography in colleges of geodesy, but it may also be of practical use in general cartographic work.

Facilities: Central Scientific Research Institute of Geodesy, Aerial Surveying and Cartography, (TsNIIGAIK) special laboratories (not named) and chairs in universities (e.g., Moscow Institute of Engineers of Geodesy, Aerial Surveying and Cartography MIIGAiK)

No. of Russian and Slavic References: None

Avialable: A.I.D., Library of Congress.

2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

KRASOVSKIY, F.N.; ZAKATOV, P.S., redaktor; SOLOV'YEV, M.D., redaktor; KUZ'MIN, G.M., tekhnicheskiy redaktor

[Selected works] Izbrannye sochineniia. Pod red. P.S.Zakatova i M.D.Solov'yeva. Moskva, Izd-vo geodezicheskoi lit-ry. Vol.2. 1956. 219 p. [Microfilm] (MLRA 10:3)
(Geodesy)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.D., prof., doktor tekhn.nauk

Concerning the problem of the choice of projection for a particular cartographic assignment. Trudy MIIGAIK no.22:37-42 '56. (MIRA 13:4)

1. Kafedra matematicheskoy kartografii Moskovskogo instituta inzhenerov geodezii, aerofotos"yemki i kartografii.
(Map projection)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, N. S. (Dr. Tech. Sci.)

The Fundamental problems of mathematical cartography," Geodeziya i Kartografiya, 1957, Nr 12, pp 69-70 (USSR).

report presented at the Sci. Tech. Conf. for Geodesy, Aerial Photography and Cartography, 24-28 Oct 57. In honor of 40th Anniv. October Revolution. Organized by Main Office for Geodesy and Cartography, Home Office USSR, the Military Topographical Office and Inst. for Engineers of Geodesy, Air Survey and Cartography, Moscow.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.D., doktor tekhn. nauk prof.

Perspective projections with multiple representations (perspectives). Trudy MIIGAIK no.31:137-164 '59. (MIRA 13:3)
(Map projection)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

MIKHAYLOV, A.A., otv.red.; MARTYNOV, D.Ya., doktor fiz.-mat.nauk, zam.otv. red.; DURNEV, A.I., doktor tekhn.nauk, red.; SOLOV'YEV, M.D., doktor tekhn.nauk, red.; POPOV, P.I., prof., red.; PARENAGO, P.P., red. [deceased]; FEDYNSKIY, V.V., doktor fiz.-matem.nauk, red.; BAZYKIN, V.V., red.; BRONSHTEN, V.A., red.; SAMSONENKO, L.V., red.izd-va; LEBEDEVA, L.A., tekhn.red.

[Proceedings of the Second Congress of the All-Union Astronomical Geodetic Society] Trudy Vtorogo s"ezda Vsesoiuznogo astronomo-geodezicheskogo obshchestva. Moskva, Izd-vo Akad.nauk SSSR, 1960. 151 p. (MIRA 14:2)

1. S"yezd Vsesoyuznogo astronomo-geodezicheskogo obshchestva. 2d, Leningrad, 1955. 2. Chleny-korrespondenty AN SSSR (for Mikhaylov, Parenago). (Astronomy, Spherical and practical--Congresses) (Geodesy--Congresses)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, Mikhail Fedorovich; POLUNIN, V., red.; PAVLOVA, S., tekhn.red.

[They bring hapiness to people] Oni prinosiat liudiam radost'. Moskva, Mosk.rabochii, 1960. 27 p. (MIRA 14:1)
(Moscow--Clothing industry) (Socialist competition)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.

Much can be learned from the "Bol'shevichka" factory. Mest.prom.i khud.promys. 2 no.4:12-14 Ap '61. (MIRA 14:4)
(Moscow—Clothing industry)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M. G.

"Reconditioning of Mastic-Treated Lead," Elek. Stan., No. 1, 1949. Engr.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV M.G.; SOLODYUK V.A.

Electric Discharges

Testing of tube dischargers. Elek, sta. 23 No.2, 1952.

Inzh

SO: Monthly List of Russian Accessions, Library of Congress, April 1952 1960, Uncl.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOVYEV, M. G.

Agriculture & Plant & Animal Industry.

Growing of perennial fodder grasses for seed. Moskva, Gos. izd-vo selkhoz lit-ry, 1950.

Monthly List of Russian Accessions, Library of Congress, April 1952. Unclassified.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.G.

Strong wheat on the "Rossiia" Collective Farm. Zemledelie 26 no.1:66-67 Ja'64. (MIRA 17:5)

1. Starshiy agronom kolkhoza "Rossiya" Krasnogvardeyskogo proizvodstvennogo upravleniya, Stavropol'skogo kraya.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

ORLOVSKIY, Z.N., dots., kand.tekhn.nauk; SOLOV'YEV, M.I., assistent

Selecting types of air blowing machines for pneumatic-tube transportation units. Trudy RISI no.9:85-95 '57. (MIRA 12:11)
(Pneumatic-tube transportation) (Blowers)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

ANTSUTA, Ye.B., arkhit.; KIRILLOV, N.P., arkhit.; KUZNETSOV, V.V., arkhit.; SLOTINTSEVA, M.N., arkhit.; PYATIN, S.G., inzh. Prinimali uchastiye: CHUYENKO , R.G., arkhit.; MOSEVICH, Ya.Ya., arkhit.; GLAZKOV, F.I., st. tekhnik; GOLUKHOV, G.I., inzh.; SAMSONOVA, T.T., inzh.; KOLESOVA, Ye.Ye., st. tekhnik; MAKAROVA, T.N., tekhnik; SHAMBAT, M.S., inzh.; SEMENOVA, G.V., inzh.; PLATUNIN, Yu.S., gr. inzh. ; VOL'NOVA, T.F., tekhnik; SOLOV'YEV, M.I., inzh.; MOREV, I.A., tekhnik.

[Two-apartment house with two-room apartments; standard plan 1-102-5] Dvukhkvartirnyi zhiloi dom, kvartiry v dve komnaty; tipovoi proekt 1-102-5. Moskva. Al'bom 1. 1960. 27 p. (MIRA 14:10)

1. Moscow. TSentral'nyy institut tipovykh proyektov.
(Apartment houses—Designs and plans)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

NIKIFOROV, Yuriy Yefimovich, inzh.; SOLOV'YEV, Mikhail Ivanovich; ZUKHOVITSKIY, Moisey Yefimovich; KOMAROVSKIY, M.F., red.; GVIRTS, V.L., red. izd-va

[Using foamed polystyrene to insulate exterior wall panels] Opyt primeneniia penopolistirola v kachestve uteplitelia narushnykh stenovykh panelei. Leningrad, 1961. 14 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'naia promyshlennost', no.9) (MIRA 14:7)

(Insulation (Heat)) (Concrete walls) (Styrene)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.I.

Cooling of grain during pneumatic conveying in horizontal tubes. Izv. vys. ucheb. zav.; pishch. tekh. no.6:77-81 '63. (MIRA 17:3)

1. Institut teplo- i massoobmena AN BSSR, laboratoriya sushil'nykh protsessov.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOV/120-59-1-8/50

AUTHORS: Wang Gang-chang, Solov'yev, M. I., Shkobin, Yu. N.

TITLE: A 24 Litre Propane Bubble Chamber (Propanovaya puzyr'kovaya kamera ob'yemom 24 litra)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Vol 6, Nr 6, pp 41-43 and 1 plate (USSR)

ABSTRACT: This bubble chamber was built for work with the synchrophasotron of the Joint Institute for Nuclear Research. The chamber can be filled with other liquids as well as propane if the pressure is less than 30 atm and the temperature is less than 90°C. The chamber is designed for an installation with a permanent magnet having a field of 18000 oersted. Fig.1 shows the construction of the chamber. In this figure the notation is as follows: 1 glass, 2 conical cover, 3 upper window of the chamber, 4 side windows, 5 pipes, 6 needle valve, 7 duralumin discs, 8 expansion valve, 9 T-joint, 10 bellows, 11 a device for limiting the movement of the bellows and the rate of flow of the fluid, 12 collector, 13 illuminator, 14 heater, 15 window for

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SOV/120-59-1-8/50

A 24 Litre Propane Bubble Chamber

photography, 16 recesses for heating the chamber, 17 electromagnetic valve, 18 magnetic screen. The working volume is covered by a large window 3 whose dimensions are 610 x 340 x 110 mm^3. The pressure on the working volume side is partially compensated by the pressure of the gas in the conical cover 2 (15 atm). The working volume is illuminated at 90° to the direction in which photographs are taken. Fig.4 shows a typical photograph obtained with Co^{60}. There are 4 figures and 14 references, of which 3 are Soviet, 1 is Italian and the rest are English.

ASSOCIATION: Ob*yedinennyy institut yadernykh issledovaniy (Joint Institute for Nuclear Studies)

SUBMITTED: January 2, 1958.

Card 2/2

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

24(5) SOV/56-35-4-10/52

AUTHORS: Wang Kang-Ch'ang, Wang Ts'u-Tseng, Ting Ta-ts'ao, Dubrovskiy, L. N., Kladnitskaya, Ye. N., Solov'yev, M. I.

TITLE: Investigation of the Interaction of π^+ Mesons With Carbon at Energies of 250 - 270 MeV With the Help of a Propane Bubble Chamber (Izucheniye vzaimodeystviy π^+-mezonov s uglerodom pri energiyakh 250 - 270 MeV s pomoshch'yu puzyr'kovoy propanovoy kamery)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 899-906 (USSR)

ABSTRACT: The interaction between pions and nuclei (especially C) has already been investigated by a number of papers for $E_\pi < 200$ MeV (Refs 1-4) and for $E_\pi > 200$ MeV (Refs 5-7) partly carried out by means of a cloud chamber and partly by means of scintillation counters. The authors of the present paper investigated the π^+-C-interaction in a propane bubble chamber, which was subjected to the action of a pion beam of the synchrocyclotron of the Ob"yedinennyy institut yadernykh issledovaniy (United Institute for Nuclear Research). The experimental arrangement

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

Investigation of the Interaction of π^+ Mesons With Carbon at Energies of 250 - 270 MeV With the Help of a Propane Bubble Chamber

SOV/56-35-4-10/52

is described and shown by figure 1 . Experimental results: 1.) Elastic π^+-C scattering: for $10^\circ \leq \theta \leq 70^\circ$ the cross section $\sigma_{elast.} = (176 \pm 16)$mb is obtained. For the scattering nucleus the absorption coefficient is $K = 0.54 \cdot 10^{13} cm^{-1}$ and $V = 30$ MeV, $R = 3.2 \cdot 10^{-13}$cm. The dependence $d\sigma/d\Omega(\theta)$ is shown (Fig 2). For $45^\circ < \varphi < 135^\circ$ (isotropic distribution) $\sigma_{elast.} = (192 \pm 18.5)$mb, which agrees well with the diffraction scattering cross section for the above V- and K-values. 2.) Inelastic π^+-D-scattering: Reaction: $\pi^+ + C \rightarrow \pi^+ +$ (N beams)(N=0,1,2...6), $\sigma_{inelast.} = (120^{+38}_{-19})$mb. A table shows the number of stars arranged according to the number of beams (separately for stars with and without mesons).

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

Investigation of the Interaction of π^+ Mesons With Carbon at Energies of 250 - 270 MeV With the Help of a Propane Bubble Chamber SOV/56-35-4-10/52

3.) Absorption of π^+ mesons in carbon and charge exchange: For meson-free stars cross section $\sigma = \sigma_a + \sigma_c = (165^{+34}_{-22})$ mb, where σ_a denotes the absorption cross section σ_c-charge exchange cross section. Table 2 shows the distribution of the number of beams in the stars for meson-free stars, in which connection experimental and theoretical data are compared; figure 5 shows the energy dependence of $\sigma_a/\sigma_{nucleus}$ for pions.

4.) Total inelastic cross section of π^+-C interaction : $\sigma_{inelast} = (296^{+38}_{-19})$ mb. The authors finally thank Professor V. P. Dzhelepov who made it possible for them to work at the Laboratoriya yadernykh problem (Laboratory for Nuclear Problems), and they also expressed their gratitude to R. M. Sulyayev, Yu. A. Shcherbakov, A. I. Filippov, and L. B. Parfenov for their aid in carrying out experiments, and they also thank the

Card 3/4

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

Investigation of the Interaction of π^+ Mesons With Carbon at Energies of 250 - 270 MeV With the Help of a Propane Bubble Chamber SOV/56-35-4-10/52

group of laboratory workers under the supervision of I. A. Ivanovskaya for their assistance in utilizing results. There are 5 figures, 2 tables, and 24 references, 12 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute for Nuclear Research)

SUBMITTED: May 5, 1958

Card 4/4

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VAN GAN-CHAN [Wang Kang-ch'ang]; SOLOV'YEV, M.I.; SHKOBIN, Yu.N.

Propane bubble chamber with a 24-liter capacity. Prib.i tekh. eksp. no.1:41-43 Ja-F '59. (MIRA 12:4)

1.Ob"yedinennyy institut yadernykh issledovaniy.
(Cloud chamber)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, Mikhail I.

"New Data on the Strange Particle Production in Pion-Nucleon Collisions"

paper presented at the Intl Conference on High Energy Physics, Rochester, N.Y. and/or Berkly California, 25 Aug - 16 Sep 1960.

Joint Inst. for Nuclear Reserch, Dubna, USSR

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D048/D006

AUTHOR: Solov'yev, M.I.

TITLE: A New Particle of the Microworld

PERIODICAL: Nauka i zhizn', 1960, Nr 5, pp 8 - 10 (USSR)

ABSTRACT: The author reports on the anti-sigma-minus-hyperon elementary particle discovered in March 1960 at the Laboratoriya vysokikh energiy Ob"yedinennogo instituta yadernykh issledovaniy (Laboratory of High Energy at the Joint Nuclear Research Institute), Dubna. The mass of the negatively charged new anti-particle is 2,340 times greater than that of an electron. Its lifetime is one ten billionth part of one second, after which it desintegrates into a positive pi-meson and an anti-neutron. A group of physicists at the above Institute, headed by the Deputy-Director of the Institute, Professor Wang

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

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D048/D006

A New Particle of the Microworld

Han-Shang (China), and Academician V.I. Veksler, is studying the interaction of negative pi-mesons with an 8-billion electron-volt energy and hydrogen and carbon nuclei. The discovery of the new particle is described in detail and demonstrated by photograph. The following scientists took part in the discovery: Professor Wang Han-Shang, and V.I. Veksler, N.M. Viryasov, Ye.N. Kladnitskaya, A.A. Kuznetsov, A.V. Nikitin and M.I. Solov'yev (USSR), Wang-Tsu-Tsen, Ting Ta-Tsao (China), Nguen Din-ti (Viet-Nam), A. Mikhul (Rumania), Kim-Hi-In (Korea) and I. Vrana (Czechoslovakia). A valuable contribution was made by S. Otvinovskiy (Poland) who developed a method of measuring ionization for determining which charged particle left a trace - the proton, meson or electron. Most of the scientists were under thirty. There are 2 photographs and 1 diagram.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

S/089/60/008/06/15/021
B006/B063 82315

24.6100

AUTHOR: Solov'yev, M. I.

TITLE: Production of $\tilde{\Sigma}^-$-Hyperons by Negative π-Mesons With a Momentum of 8.3 Bev/c

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 6, pp. 562-563

TEXT: The following team of physicists worked with negative pions on the 24-liter propane bubble chamber at the Laboratoriya vysokikh energiy Ob"yedinennogo instituta yadernykh issledovaniy (High-energy Laboratory of the Joint Institute of Nuclear Research): V. I. Veksler, N. M. Viryasov, Ye. N. Kladnitskaya, A. A. Kuznetsov, A. V. Nikitin, M. I. Solov'yev (USSR), Van Gan-chan, Van-Tsu-tszen, Din Da-tsao (China), Nguyen Din Tv (Vietnam), A. Mikhul (Romania), Kim Khi In (Korea), and Irzni Vran (Czechoslovakia). 40,000 photographs of the chamber (magnetic field of 13,000 oe) were taken and evaluated at a pion momentum of 8.3±0.6 Bev/c. The team once detected the production and decay of a $\tilde{\Sigma}^-$-hyperon. A photograph of this event is enclosed (see

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Production of $\tilde{\Sigma}^-$-Hyperons by Negative π-Mesons With a Momentum of 8.3 Bev/c

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B006/B063 82315

red and black insert between pp. 563 and 564), and the pertinent scheme is shown on a smaller scale on p. 563. When interacting with a carbon nucleus, the primary pion produces four charged particles of a high energy (in the scheme: 2,5,7,16), two K^0-mesons, and one low-energy particle (and the recoil nucleus). The decay of particle 2 into particle 3 (positive pion) and a neutral one in the AB-direction in the scheme corresponds very well to the kinematics of the Σ-hyperon decay. At a distance of 7.7 mm from the point of decay, this neutral particle produces a high-energy six-pronged star (tracks 8-13) at point B. On the basis of its energy, the neutral particle was found to be an antineutron. The energy of star production (2300 Mev) is also very close to that of the annihilation of the antineutron. The following reaction is expected to occur at point B: $\tilde{n} + c \longrightarrow He_2^4 + 4p + 3n + \pi^+ + \pi^- + n\pi^0$. For the point O it is assumed that the primary pion has produced a particle not observed so far, i.e., a negative antisigma hyperon that decays at point A: $\tilde{\Sigma}^- \longrightarrow \pi^+ + \tilde{n}$. Because of the existence of the two neutral K-mesons the following reaction may be assumed for point O:

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

Production of $\tilde{\Sigma}^-$-Hyperons by Negative π-Mesons With a Momentum of 8.3 Bev/c

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B006/B063 82315

$\pi^- + c \longrightarrow \tilde{\Sigma}^- + K^0 + \tilde{K}^0 + K^- + p + \pi^+ + \pi^- + \ldots$. The lifetime of these hyperons was determined to be $t_{\tilde{\Sigma}^-} = (1.18 \pm 0.07).10^{-10}$sec. Finally, the author stresses the great scientific importance of this discovery. There are 2 figures.

Card 3/3

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

S/056/60/038/02/17/061
B006/B011

24 6600

AUTHORS: Yan Gan-chan, Wan Tsu-tsson, Sin Ze-tsan, Ivanov, V. S., Kaltsher, Ts. Y., Kladnitskaya, Ye. V., Kulyutina, L. A., Nguyen Din Ty, Ristin, A. V., Shlyapnikov, P. A., Solov'yev, E. I., Sorokoumov, E., Shafranov, E. D.

TITLE: Investigation of the Elastic Scattering of π^--Mesons With a Momentum of 6.8 Bev/c on Protons by Means of a Propane Bubble Chamber

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 2, pp 426-431

TEXT: For the purpose of making a contribution to the problems of proton structure, the authors investigated the scattering of negative 6.8-Bev/c pions on protons (wave length $\lambda = 0.112 \cdot 10^{-13}$ cm) in a 24-liter propane bubble chamber placed in a magnetic field of 15,700 oe. The experimental setup is shown in Fig. 1. The momentum distribution of π^--mesons was determined from 112 investigated tracks, and is shown in Fig. 2. The mean momentum was (6.8±0.6) Bev/c. A total of 3500 frames was interpreted, and

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550 events were selected from all two-pronged stars. The measured values were processed by an electronic computer. The root-mean-square error in the angular determination was $\Delta\theta_\pi = 26'$ and $\Delta\theta_p = 1°16'$. The correction for track curvature did not exceed 20'. The elastic π^-p-scattering events were identified by the criteria discussed here: Coplanarity (Fig. 3); angular correlation (Fig. 4); recoil proton range. Among the 550 events investigated, 218 were regarded as being elastic. Fig. 5 shows the distribution of these 218 events along the chamber axis. In the so-called effective region of the chamber (45 cm with a total length of 55 cm), 211 out of the 218 events were recorded. The distribution of these 211 events according to the azimuthal angle of the recoil proton is shown in Fig. 6. In 113 cases the recoil proton track was on top, in 100 it was below, in 115 at the left, in 98 at the right. An estimation of the percentage of quasielastic scattering events in the total number of elastic cases 66. The cross section of the reaction investigated was found to be

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$\sigma_{el}(\theta'_c > 4°) = 3.75^{+0.25}_{-0.35}$ mb, by taking into account a π^- admixture of (5±2)%, with a total π^- track length of $1.15 \cdot 10^6$ cm. θ'_c is the scattering angle in the center-of-mass system. The total π^-p interaction cross section was estimated as being (30±5) mb. The final part of the present paper offers an analysis of experimental results on the basis of the optical model, with the proton being regarded as a homogeneous, sharply bounded sphere with a radius $R = 1.05 \cdot 10^{-13}$ cm. The nucleonic absorption coefficient K is assumed to be $K = 0.71 \cdot 10^{13}$ cm^{-1}. Results are compared with those yielded by experiments (Table, Figs. 7,8). The authors finally thank Academician V. I. Veksler and I. V. Chuvilo for their discussions, M. A. Smirnov, Yu. K. Zaryatnikov, Yu. I. Mazurov, N. A. Semarin, Ye. Ye. Ivanova, and L. V. Zolina for their assistance. There are 8 figures, 1 table, and 8 references: 2 Soviet and 6 American.

Card 3/4

ASSOCIATION: Obyedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: August 28, 1959

Solov'yev, E. I.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VAN GAN-CHAN [Wang Kang-ch'ang]; VAN TSU-TSZEN [Wang TS'u-TSeng]; DIN DA-TSAO [Ting Ta-ts'ao]; IVANOV, V.G.; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; NGUYEN DIN-TY; NIKITIN, A.V.; OTVINOVSKIY, S.Z.; SOLOV'YEV, M.I.

Creation of antiprotons in the interaction of π^--mesons with nucleons. Zhur.eksp.i teor.fiz 38 no.3:1010-1011 (MIRA 13:7)

1. O"byedinennyy institut yadernykh issledovaniy.
(Protons) (Mesons) (Nucleons)

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B006/B056

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AUTHORS: Van Gan-chan, Van Tsu-tszen, Veksler, V. I., Vinzhanov, V.M., Vrana, I., Din Da-tsyan, Ye Chi Ye, Kalinichenko, Ye. I., Kuznetsov, A. A., Mikhul, A., Nguyen Din Ty, Sidelin, A. T., Solov'yev, M. I.

TITLE: Production of a Σ^--Hyperon by Negative π^--Mesons With a Momentum of 0.3 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 4, pp. 1356 - 1359

TEXT: In the present "Letter to the Editor", the authors give a detailed report on the case of a Σ^--production and decay discovered by them for the first time among 40,000 bubble-chamber photographs. The chamber happened to be in a 13,700-oe magnetic field. The photograph concerned is represented as well as the track scheme. The tracks are numbered, and the individual stars are denoted as "point A, B, C, ...". The exact data of the tracks and stars, respectively, are given in tables (Table 1: "Kinematics at point A"; Table 2: "Kinematics at point B"; Table 3:

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"Kinematics at point C"; and Table 4: "Kinematics at points C' and C"). The individual tracks are identified, and the charges and momenta (measured and calculated) of the particles, the kinetic and mass energies, and the total energy are given. For the stars B and C also the energy balance is given. For B, the following is considered to be the most probable reaction: $\bar{n} + C \rightarrow He^4_2 + 4p + 3n + \pi^+ + \pi^- + \pi^0$. For the primary star (Tables 3 and 4) the following reaction is assumed: $\pi^- + C \rightarrow \Sigma^- + K^0 + K^0 + K^- + p + \pi^+ + \pi^-$ + recoil nucleus. The lifetime of the Σ^--hyperon was calculated to be $(1.18 \pm 0.07) \cdot 10^{-10}$ sec. [illegible] and B. P. Chivinovsky are mentioned. There are 2 figures, 4 tables, and 4 references: 3 Soviet and 1 US.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 24, 1960

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Solovyev, M.I.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

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AUTHORS: Van Gan-chan, Van Tsu-tsezn, Vekslar, V. I., Vrana, I., Din Da-tsao, Ivanov, V. G., Kim Khi In, Kladnitskaya, Ye.N., Kuznetsov, A. A., Nguyen Din Ty, Nikitin, A. V., Solov'yev, M. I., Khofmokl', T., Chen Lin-yan'

TITLE: Non-conservation of Parity in Strong Interaction Involving Strange Particles

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 6(12), pp. 1854-1856

TEXT: The authors wanted to obtain an experimental proof for the non-conservation of parity in strong interaction. The proof suggested by Solov'yev for the longitudinal polarization of a Λ^0 hyperon produced in nuclear collisions served as experimentum crucis. A number of experiments at low and medium energies failed. This "Letter to the Editor" presents the preliminary results of experiments with nuclear collisions and high energies. In analysis has been made of the angular asymmetries in decays of Λ^0 hyperons produced in π^-p collisions at 7-8 Bev. A total of

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34,000 photographs were taken, 14,000 at 6.8 Bev/c and 20,000 at ~8 Bev/c. Altogether, 175 Λ^0 and 33 Λ^0 or K^0 particles were detected; the systematic error in the 208 events was ± 6 particles. The asymmetry in the Λ^0 decay was studied in the coordinate system shown in the accompanying figure. The asymmetry in the β^- angular distribution is the up-down asymmetry ($a\bar{P}_3$), that of θ^-_c is the forward-backward asymmetry ($a\bar{P}_1$), and that of φ^- is the right-left asymmetry ($a\bar{P}_2$). $a\bar{P}_1$ was calculated from the formula $a\bar{P}_1 = \frac{2}{N}\sum_{i=1}^{N} \cos\theta_i^c \pm \sqrt{3\left[1-(a\bar{P})^2\right]}/N$, where a is the asymmetry factor of the Λ^0 hyperons in the case of total polarization ($\bar{P} = 1$); $\bar{P}_1$ is the mean polarization of Λ^0; θ^c is the angle between the Λ^0 decay proton and the direction of motion of the Λ^0 particle. The other asymmetries were calculated analogously. Results are collected in Table 2. Right-left and up-down asymmetries were not observed. The forward-backward asymmetry obtained may indicate the non-conservation of parity in strong interaction for strange particle production; however, the present stage of investigation does not exclude all errors. The investigations

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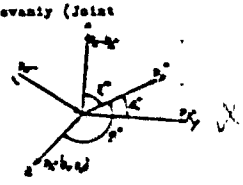
are being continued. There are 1 figure, 2 tables, and 8 references: 3 Soviet and 5 US.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 1, 1960

Table 2

p_{π^-}	n	$a\bar{P}_1$	$a\bar{P}_2$	$a\bar{P}_3$
π^-	104	−0.38 ± 0.15	0.08 ± 0.17	0.03 ± 0.17
	104 + (4)	−0.38 ± 0.15	0.08 ± 0.16	0.07 ± 0.14
	104 + (4) + (9)	−0.37 ± 0.15		
$p_{\pi^-} > 1200$	68	−0.08 ± 0.19	0.14 ± 0.21	0.26 ± 0.21
	68 + (28)	−0.09 ± 0.17	0.06 ± 0.17	0.21 ± 0.17
Sum p_{π^-}	172	−0.24 ± 0.12	0.08 ± 0.12	0.11 ± 0.11
	172 + (33)	−0.26 ± 0.12	0.08 ± 0.12	0.12 ± 0.12
	172 + (33) + (9)	−0.24 ± 0.12		



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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VEKSLER, V.I.; VRANA, I.; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIHUL, A.K.; MIHUL, Ye.K.; NGUYEN DINH TU; PENEV, V.N.; SOLOV'YEV, M.I.; HOFMOKI, T.; CHEN-LING-YEN.

On strange particle production in $\pi^- p$ interaction. Dubna, Izdatel'skii otdel Ob"edinennogo in-ta iadernykh issledovanii, 1961. 9 p.

(No subject heading)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BIRGER, N.G.; WANG KANG-CH'ANG; WANG TS'U-TSÊNG; TING TA-TS'AO; KATYSHEV, Yu.V.; KLADNITSKAYA, Ye.N.; KOPYLOVA, D.K.; LYUBIMOV, V.B.; NGUYEN DIN TY; NIKITIN, A.V.; PODGORETSKIY, M.I.; SOLOV'YEV, M.I.

[Inelastic interaction of 6.8 Bev/s π^--mesons and nucleons] Neuprugie vzaimodeistviia π^--mezonov s impul'som 6,8 Bev/s s neuklonami. Dubna, Ob"edinennyi in-t iadernykh issl., 1961. 30 p. (MIRA 14:11)

(Mesons) (Nucleons)

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2

C/026/61/017/005/001/006
F050/F004

AUTHOR: Wang, Kang-ch'ang (3769/3227/2490); Wang, Chu-hsiang (3769/4376/5046); Viryasov, N. M.; Ting, Ta-chao (0002/1129/6856); Kim, Hi-in (6855/5593/0088); Kladnitskaya, Ye. N., Kuznetsov, A. A.; Mikhul, A.; Nguyen, Din-ti (7086/0002/6337); Nikitin, A. V.; and Solov'yev, M. L.

TITLE: Production of Ξ^- hyperons by the use of π^- mesons with a momentum of 7000 Mev/c and 8000 Mev/c

PERIODICAL: Wu Li Hsüeh Pao, v. 17, no. 5, 1961, 205-213

TEXT: The productive cross section σ ($\sigma = 3.6 \pm^{2.5}_{2.1} \mu\delta$/N at 6800 Mev/c, $\sigma = 10.6 \pm^{4.4}_{3.2} \mu\delta$/N at 8000 Mev/c), mass M_{Ξ^-} ($M_{\Xi^-} = 1317.0 \pm 2.2$ Mev), and lifetime τ_0 ($\tau_0 = 3.5 \pm^{3.4}_{1.2} \times 10^{-10}$ sec) of Ξ^- hyperson were determined by the use of π^- mesons having momentums of 6800 Mev/c and 8000 Mev/c. In early investigations Ξ^- hyperons

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were found by experiments with cosmic rays. A butane bubble chamber 24 liters in volume in a permanent magnetic field of 13700 gauss was used. The chamber was irradiated by a bundle of mesons with momentums of 7000 Mev/c and 8000 Mev/c. The result was 27,000 and 75,000 negatives obtained recording momentums of 6800 ± 600 Mev/c and 8000 Mev/c of π^- mesons. A three-dimensions amplifier and projector were used to trace the negatives twice and some negatives were traced three times. In the tracing process those events which could be classified with Ξ^- hyperon decay scheme $A \rightarrow V^0 + B$, $V^0 \rightarrow C + D$, by appearance were selected. The following standards were applied in the determination of Ξ hyperons: (1) V^0 must coincide with kinematics of the decay scheme $\Lambda^0 \rightarrow p + \pi^-$. (2) The refraction point must be within the Λ^0 decay plane. The vertical momentum of π^- meson and proton p, which came from Λ^0 decay relative to the projecting direction of Λ^0, must be in equilibrium. (3) The Λ^0 decay particles should lie on the plane formed by particles A and B. (4) At the refraction point, the vertical momentum of particles Λ^0 and B particle must be in equilibrium. (5) The events must satisfy kinematics of Ξ^- hyperon decay scheme

$$\Xi^- \rightarrow \Lambda^0 + \pi^- + 65 \text{ bev}$$

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Among all the events there were 11 events which satisfied all 5 standards. Three events coincided well with the kinematics of Ξ^- decay and have been classified with Ξ^- hyperon. Of all Ξ^- hyperons, one was obtained by the bundle of π^- mesons with 6800 Mev/c and then were obtained by the bundle of π^- mesons with 8000 Mev/c. The results of this experiment are listed in four tables: (1) Table 1 lists data of defined Ξ^-. All these data were average values which were obtained by using a microscope to measure two — four times independently. It also lists the decay energy Q and lifetime of all Ξ^- hyperons found in their own coordinate system. (2) Table 2 lists all data concerning the primary stars. These stars have been analyzed as the source of Ξ^- hyperons. (3) Table 3 lists the momentum p^* in a π^- N mass center system, vertical momentum $p^{\perp}$, and projecting angle θ^* of Ξ^- hyperons (suppose Ξ^- hyperons were produced by the impact of π^- mesons to free nuclei). The average vertical momentum ($p^{\perp}_{\Xi^-}$) of Ξ^- hyperon is equal to 318 $\pm$ 35 Bev. This value is approximate to the vertical momentum of proton and Λ hyperon. This table also lists the characteristics of the following angles: (a) θ^*_{Λ} is the projecting angle of Λ^0 which is projected out from Ξ^- hyperon decay process under its equilibrium

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system. (b) θ_p^* is the projecting angle of p which was projected out from the decay process in its equilibirum system. (c) $\omega_{\Xi^-\Lambda^0}$ is the intersection angle between Ξ and Λ^0 decay planes. In the distribution of θ_Λ^* and $\omega_{\Xi^-\Lambda^0}$, no asymmetry was observed. (4) Table 4 lists the events which seems to be Ξ^-. Among these events, four were in the same plane and fourteen were in different planes. Most of these events in the same plane were induced by $\pi^+\pi$ mesons; the others in different plane events may have been induced by π^+, π^- or K^- mesons. Thanks are extended to V. L. (Wei Ke Shih Lai Erh), I. V. (Chi Wei Lo), L. P. (Chi Lo Wei Yeh Fu), N. L. (Pa Pu La Fe), K. V. (Chi Ho Lo Fu), and L. N. (Chii Lao Yeh Fu). There are 3 figures and 4 tables. The English-language references read as follows: C. Franzinetti and G. Morpurgo. Suppl. Nuovo Cim. 6 (1957), 565; W. B. Fowler et al. Nuovo Cim. 11 (1959), 428.

SUBMITTED: March 20, 1961

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

Solovyev, M.I.

S/056/61/040/002/012/047
B102/B202

AUTHORS: Wang Kang-ch'ang, Wang Ts'u-tseng, Tekeler, V. I., Vrana, I., Ting Ta-ts'ao, Invanov, V. S., Klimnitskaya, Ye. N., Kuznetsov, A. A., Nguyen Din Ty, Nikitin, A. V., Solov'yev, M. I., Ch'eng Ling-yen

TITLE: Production of $\Lambda^0(\Sigma^0)$ hyperons and K^0 mesons in π^-p interactions with a π^- meson momentum of 6.8 ±0.6 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 464-474

TEXT: The $\Lambda^0(\Sigma^0)$ and K^0 production in π^-p collisions has hitherto been studied only for threshold momenta of (0.9 - 1.4) Bev/c; to explain the nucleon structure and the interaction, studies must be made at higher energies. The studies described were made with a 24-liter propane bubble chamber and a constant magnetic field of 13,700 oe. The experiment is described in Ref. 2 (ZhETF, 39, 426, 1960). The pictures were taken with a stereo-photocamera with "Russarplazmat" objectives (focal length 67 mm). The pictures were evaluated 2 or 3 times with stereo-magnifiers and reprojectors.

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In this case, efficiency was 91 and 96%. Λ^0 and K^0 particles were selected according to rigorous rules. Altogether, 233 events conforming to these criteria were observed; space coordinates, angles, and momenta of these events were calculated by the electronic computer "Iral". The values obtained were geometrically corrected (consideration of the observation probabilities for Λ^0 and K^0 decays in the chamber volume as well as for Λ^0 and K^0 production). The number of events, in which 0, 2, 4, or 6 charged particles were observed besides K^0 and/or Λ^0 particles are given in Table 1. The mean number of charged particles accompanying a Λ^0 or K^0 production was 2.5±0.1; also K^- mesons were observed among these charged particles. The neutral particles recorded were produced in the reactions

$$\pi^- + p \to \Lambda^0 + K^0 + nn$$
$$\pi^- + p \to \Sigma^0 + K^0 + nn$$
$$\pi^- + p \to \Lambda^0 + K^0 + nn$$
$$\pi^- + p \to \Sigma^0 + K^0 + nn$$
$$\pi^- + p \to K^0 + \bar{K}^0 + N + nn$$
$$\pi^- + p \to K^0 + K^0 + N + nn$$
$$\pi^- + p \to \bar{K}^0 + K^0 + N + nn$$

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Production of ...

$\sigma(Y^0K^0) = \sigma(1) - \sigma(2)$, $\sigma(Y^0K^0) = \sigma(3) - \sigma(4)$ also the reactions

$\sigma(K^0\Lambda^0) = \sigma(5)$, $\sigma(K^0K^0) = \sigma(6)$, $\sigma(\bar{K}^0K^0) = \sigma(7)$

$$\sigma(Y^0K^0) = \sigma(Y^0K^0) - \sigma(\bar{Y}^0K^0), \qquad \pi^- + p \to \Sigma^0 + K^0 + n\pi \qquad (8,9)$$

$$\sigma(K^0, K) = \sigma(K^0\Lambda^0) + \sigma(K^0K^0) - \sigma(\bar{K}^0K^0) \qquad \pi^- + p \to \Sigma^0 + K^0 + K^0 + n\pi \qquad (10)$$

$$\pi^- + p \to \Sigma^0 + K^0 + K^0 + n\pi \qquad (11)$$

were possible. In the following, the reactions are referred to only by these figures; the cross sections are indicated by (2). The total cross section of $\Lambda^0(\Sigma^0)$ and K^0 production on free protons was found to be 2.0 ± 0.35 mb taking account of all corrections, including the Λ^0 admixture and the efficiency of observation. In this case, $\sigma(Y^0K^{0,0}) = 0.8 \pm 0.25$ mb, $\sigma(K^0\Lambda) = 1.2 \pm 0.3$ mb, $R = \sigma(Y^0K^{0,0})/\sigma(K^0\Lambda) = 0.7 \pm 0.2$. Momentum and angular distributions are illustrated in several diagrams. The mean transverse momenta of Λ^0 and K^0 particles, 368 ± 35 and 333 ± 35 Mev/c, respectively, were equal within the limits of measurement errors. $Y^0K^{0,0}$ and $K^0\Lambda$ pair production cross sections. The experimental results indicate that at Λ^0 energies of 9 Bev, the $K^0\Lambda$ pair production cross section is higher than that of $Y^0K^{0,0}$. The ratio reads

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Production of ...

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$$R = \frac{\sigma(Y^0K^0) + \sigma(Y^0K^+)}{\sigma(K^0K^0) + \sigma(K^0K^-) + \sigma(K^0K^+)} = 0.7 \pm 0.2.$$

The authors only studied K^0K^0, K^0K^-, and K^0K^+, and obtained

$$R = \frac{\sigma(Y^0K^0) + \sigma(Y^0K^+)}{\sigma(K^0K^0) + \sigma(K^0K^-) + \sigma(K^0K^+) + \sigma(K^+K^-)} = 0.5 \pm 0.15.$$

Near the production threshold (0.95 Bev), $\sigma(Y^0K^0) = 1.1$ mb; it drops to 0.4 mb at 1.2 Bev, and increases again to 0.6 mb at 1.3 Bev. The ratio $\sigma(Y^0K)/\sigma(K^0K)$ was experimentally determined to be 0.7; the theoretically obtained value (statistical theory) was 7.5. Mean multiplicity of charged particles: At 6.8 Bev, not only strange particles but also charged and uncharged particles were produced. In the case of multiple pion production, the mean number of charged particles was $\bar{n}_s = 3.2 \pm 0.2$, and in strange-particle production, $\bar{n}_s = 2.5 \pm 0.1$. Pions constitute the main part of charged particles. It can be concluded from the energy balance in a production event that the number of pions produced together with a strange particle is lower than in the case of ordinary multiple pion production. This is in

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Production of ...

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agreement with the experimental results. The number of neutral pions accompanying strange particle and normal multiple production is 2±[illegible] 0.5±0.[illegible]2 was obtained for [illegible]. Angular and momentum distributions. The experimental results are illustrated in diagrams. In the center-of-mass system, the [illegible] hyperons show a strong tendency to depart in backward direction. [illegible] This asymmetry was also observed in [illegible] pair-production events. Table 1 gives numerical data concerning the angular distribution of [illegible] and [illegible] pairs in the c. m. s. Mesons produced together with [illegible] hyperons from a forward emission group at [illegible] 2 [illegible] are [illegible]-mesons. [illegible] At higher values of [illegible] this asymmetry is less distinct. Transverse momenta. One of the most interesting results was that [illegible] hyperons and nucleons produced in inelastic collisions without strange-particle production had the same distribution and the same mean transverse momenta which are independent of multiplicity. The interaction radius in strange-particle production can be estimated from the root-mean square transverse momenta. The [illegible] obtained is [illegible] cm. The [illegible] thank D. I. Blokhintsev, M. A. Markov, V. I. Veksler, V. S. Barashenkov, V. G. [illegible] for discussion, L. P. [illegible], N. I. Pavlov, E. B. Cheshkov.

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Production of

L. N. Belyayev for help in the experimental work and T. Khofacki and Kim [illegible] in the verification of the results. N. G. Birger and [illegible] are [illegible]. There are [illegible] figures, 4 tables and 9 references: [illegible] Soviet [illegible]. The two references to English-language publications read as follows: Ref. [illegible] Ann. Intern. Conf. on High Energy Physics at CERN, Geneva [illegible]; Ref. [illegible] G. Maenchen, W. Fowler, W. [illegible], R. Wright, Phys. Rev. [illegible]

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September [illegible], 1960

Fig. [illegible]. Momentum distributions of D^{0} hyperons in the c. m. s.: a) total spectrum, b) that of backward (solid line) and forward (dashed line) emitted [illegible] hyperons.
Fig. [illegible]. Angular distribution in the c. m. s.: number of events given in parentheses.

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22124

S/056/61/040/003/004/031
B102/B202

24.6900 (1155, 1191, 1559)

AUTHORS: Wang Kang-ch'ang, Wang Ta'u-tseng, Viryasov, N.M., Ting Ta-ts'ao, Kim Khi In, Kladnitskaya, Ye.N., Kuznetsov, A.A., Mikhul, A., Nguyen Din Ty, Nikitin, A.V., Sodov'yev, M.I.

TITLE: Production of Ξ^- hyperons by π^- mesons with the momenta 7 and 8 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 3, 1961, 734 - 740

TEXT: The authors present comprehensive material concerning the production of Ξ^--hyperons by negative high-energy pions in a 24-l propane bubble chamber which was in a constant field of 13,700 oe. These experiments have already been described in an earlier paper (ZhETF, 32, 426, 1960). 27,000 photographs were evaluated 2 - 3 times for pions with 6.8-0.6 Bev/c and 75,000 for pions with ~8 Bev/c. The authors chose those events which corresponded to a decay of cascade particles according to the mode

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22124

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Production of Ξ^- hyperons by ...

$A \to V^0 + B$, $V^0 \to C + D$ as well as all singly-pronged stars from the vertex of which a V^0 particle departed. Altogether, 90 events were chosen; they were measured by means of DMM-21 (UIM-21) microscopes, and the results were evaluated by means of an electronic computer of the type "Ural". 11 events of a Ξ^--decay ($\Xi^- \to 1^0 + \pi^- + 65$ Mev) were identified according to rigorous criteria. The angular and momentum characteristics of the identified Ξ^- hyperons are given in Table 1. The events nos. 171-218 and nos. 19-179 are schematically shown in Figs. 1 and 2, respectively. The Table gives the data concerning the decay energy Q and the lifetime (until the decay) of the Ξ^- hyperons. The mean value of Q from the 11 Ξ^- decay events was $Q = 61.9 \pm 2.2$ Mev from which the hyperon mass $M_{\Xi^-} = 1317.0 \pm 2.2$ Mev was calculated. The mean lifetime was $\tau_0 = (3.5^{+3.4}_{-1.2}) \cdot 10^{-10}$ sec. The mean free path of the π^- mesons in Ξ^--hyperon formation in propane was $l = (2.02^{+2.86}_{-0.84})$ cm for a momentum of 6.8 Bev/c and $l = (0.68^{+0.29}_{-0.20})$ cm for ~8 Bev/c. Assuming that the Ξ^--hyperon production cross section is nu-

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22124

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B102/B202

Production of Ξ^- hyperons by ...

clei is $\sim A^{2/3}$, $\sigma = 3.6^{+2.5}_{-2.1}$ μb is obtained with 6.8 Bev/c and $\sigma = 10.6^{+4.4}_{-3.2}$ μb with ~8 Bev/c. Table 2 gives data on the primary stars with Ξ^- hyperon production. Table 3 shows the momentum (p^*), transverse momentum ($p_\perp^*$), angle of departure (θ^*) of the various particles as well as the angle between the decay planes (ω^*). Table 4 presents data on the "background" events (4 complanar and 4 noncomplanar ones) where V^0 particles were identified as Λ particles. Finally, the authors thank V.I. Veksler and I.V. Chuvilo for discussion, L.P. Zinov'yev, N.I. Pavlov, K.V. Chekhlov, L.N. Belyayev and various teams of technicians for their assistance. There are 3 figures, 4 tables, and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 30, 1960

Card 3/~~4~~ 3

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BIRGER, N.G.; VAN GAN-CHAN [Wang Kang-ch'ang]; VAN TSU-TSZEN [Wang TS'u-tsêng]; DIN DA-TSAO [Ting Ta-ts'ao]; KATYSHEV, Yu.V.; KLADNITSKAYA, Ye.N.; KOPYLOVA, D.K.; LYUBIMOV, V.B.; NGUYEN DIN TY; NIKITIN, A.V.; PODGORETSKIY, M.I.; SMORODIN, Yu.A.; SOLOV'YEV, M.I.; TRKA, Z.

Inelastic interactions of 6.8 Bev./c π^--mesons with nucleons. Zhur. eksp. i teor. fiz. 41 no.5:1461-1474 N '61. (MIRA 14:12)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Collisions (Nuclear physics))
(Mesons) (Nucleons)

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MUKHIN, A.; SOLOV'YEV, M.; CHUVILO, I.

Tenth International Conference on the Physics of High-energy Particles. Usp. fiz. nauk 73 no.4:775-790 Ap '61. (MIRA 14:4)
(Particles (Nuclear physics)—Congresses)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; VAN YUN-CHAN [Wang Yung-chang]; VIRYASOV, N.N.; DU YUAN'-TSAY [Du Yuan-cai]; KIM KHI IN; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; NGUYEN, DIN TY [Nguyen Dinh Tu]; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.

[Properties of π^0-mesons produced together with strange particles in π^--p and π^--c-interactions] Izuchenie svoistv π^0-mezonov, rozhdaiushchikhsia so strannymi chastitsami v π^--p i π^--c vzaimodeistviiakh. Dubna, Ob"edenennyi in-t iadernykh issledovanii, 1962. 10 p. (MIRA 16:10)

(Mesons)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VAN YU-CHAN [Wang Yung-ch'ang]; VEKSLER, V.I.; DU YUAN'-TSAY [Tu Yuan-ts'ai]; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, A.; NGUYEN DIN TY; PEREV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.; SARANTSEVA, V.R., tekhn. red.

[Generation of Λ K^0 and K^0K^0 pairs in π^-p interactions at π^--meson energies of 7-8 Bev/c.] Izuchenie rozhdeniia Λ K^0 i K^0K^0-par v π^-p - vzaimodeistviiakh pri impul'se π^--mezona 7-8 Bev/s. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1962. 15 p. (MIRA 15:6)

1. Institut Atomnoy fiziki, Bukharest. (for Mikhul).
(Mesons) (Nuclear reactions)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VEKSLER, V.I.; VIKYASOV, N.K.; VRANA, I.; KIM KH IN; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; NGUYEN DIN TY; SOLOV'YEV, M.I.; KHOFNOKL', T.; CHEN LIN-YAN'; SARANTSEVA, V.R., tekhn. red.

[Polarization of Λ-hyperons produced in π^--p-interactions at an energy of 7-8 Bev]Izuchenie poliarizatsii Λ-giperonov pri rozhdenii v π^--p-vzaimodeistviiakh s energiei 7-8 Bev. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 23 p. (MIRA 15:10)

(Hyperons--Decay) (Mesons--Decay) (Protons)

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[illegible], V.A., [illegible], V.I., [illegible], N.[illegible], [illegible],
[illegible], [illegible], Ye. N., [illegible], A.A., [illegible], A., [illegible], [illegible], V.N.,
[illegible], Ye. S., [illegible], M. I.

"Study of ΛK and $\Lambda_1^* K$ Pair Production in $\pi^- p$ and $\pi^- C$ Interactions at the 7-8 Gev/C Momentum of π^- Mesons"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1960

Joint Institute for Nuclear Research
Laboratory of High Energy Physics

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M. I.

S/056/62/043/003/013/063
B102/B104

AUTHORS: Wang Yung-chang, Vekslor, V. I., Tu Yüen-ts'ai, Kladnitskaya, Ye. N., Kuznetsov, A. A., Mikhul, A., Nguyen Din Ty, Penev, V. N., Sokolova, Ye. S. Solov'yev, M. I.

TITLE: Investigation of ΛK^0 and $K^0\bar{K}^0$ pair production in $\pi^- p$ interactions with π^- meson momentum of 7-8 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 815-822

TEXT: Pair production events, including 52 $(\Lambda+K^0)$, 37 $(K^0+\bar{K}^0)$, 16 either $(\Lambda+K^0)$ or $(\bar{K}^0+K^0)$ and two $(\Lambda+K^0+\bar{K}^0)$ were observed among 60,000 photographs made with a 24-liter propane bubble chamber. The momentum and angular distributions of the π^+, Λ and K^0 particles were determined. Also the distribution of

$$Q = [2(E_{\Lambda(K)}E_K - P_{\Lambda(K)}P_K \cos\vartheta_{\Lambda(K),K}) + m^2_{\Lambda(K)} + m^2_K]^{1/2} - m_{\Lambda(K)} - m_K \quad (1)$$

(P - momenta)

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Investigation of ΛK^0 and... S/056/62/043/003/013/063
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[illegible] and the results obtained were confronted with the theoretical [illegible] (Monte Carlo method). Results: The mean K^0 momentum from [illegible] pairs [illegible] ± [illegible] Mev/c, from $K^0\bar{K}^0$ pairs [illegible] ± [illegible] Mev/c. In the [illegible] (55 ± 9)% of the events the Λ particles from ΛK^0 pairs flew [illegible] and those from the K^0 forward. In (33 ± 7)% they both flew [illegible]. In (12 ± 4)% they both flew forward or the Λ forward and the [illegible] (this distribution indicates a contribution of peripheral interaction). The Λ-hyperon distribution has a peak at $-1 < \cos\theta_\Lambda < -0.8$. For the $K^0\bar{K}^0$ pairs a maximum in the K^0 distribution was observed at [illegible] $< \cos\theta_{K^0} < +1$. In (47 ± 12)% of the cases the both K^0 mesons flew in opposite directions, in (25 ± 7)% both flew backward and in (28 ± 8)% both forward. From the angular distribution it can be concluded that in $K^0\bar{K}^0$ pair production besides the S-wave states with higher l will exist. The Q-distribution for these pairs has a maximum in the range 50-150 Mev/c. There are 14 figures.

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Inst Atomic Physics Bucharest

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; BOYADZHIYEV, A.V.; VAN YUN-CHAN[Wang Yung-ch'ang]; VEKSLER, V.I.; VIRYASOV, N.M.; KIM KHI IN; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MAL'TSEV, V.M.; NGUYEN, DIN TY; PENEV, V.N.; SOLOV'YEV, M.I.; ZRELOVA, N.N., tekhn. red.

[Production of $\Lambda(\Sigma^0)$-hyperons and K^0-mesons in the interaction of 7 Gev. π^--mesons with carbon] Rozhdenie $\Lambda(\Sigma^0)$-giperonov i K^0-mezonov pri vzaimodeistvii π^--mezonov s energiei 7 Gev s uglerodom. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1963. 18 p. (MIRA 17:2)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; VAN YUN-CHAN [Wang Yung ch'ang]; VEKSLER, V.I.; VIRYASOV, N.M.; VRANA, I.; DU YUAN'-TSAY [Tu Yuan ts'ai]; KIM KHI IN; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, E.; NGUYEN, DIN TY; PATERA, I.; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.; KHOPMOKL', T.; MIKHUL, A.

[Production of Λ-hyperons and K^0-mesons in π^-p-interactions at an energy of 7-8 Bev] Issledovanie protsessov rozhdeniia Λ-giperonov i K^0-mezonov v π^-p- vzaimodeistviiakh pri energii 7-8 Bev. [n.p. n.d.] 26 p. (MIRA 16:10)

(Mesons) (Hyperons)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

5

S/056/63/044/001/017/067
B108/B100

AUTHORS: Voksler, V. I., Viryasov, N. M., Vrana, I., Kim Khi In, Kladnitskaya, Ye. N., Kuznetsov, A. A., Nguyen Din Ty, Solov'yev, M. I., Khorneki', T., Chen Ling-yen

TITLE: The polarization of Λ-hyperons produced in π^-p-interactions at an energy of 7 - 8 Bev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 84 - 99

TEXT: 60000 photographs were examined of the interaction of π^--mesons of 7 - 8 Bev/c with protons in a 24-liter propane bubble chamber in a permanent magnetic field of 13,700 oe. Method and apparatus have already been described (Wang Kang-ch'ang, M. I. Solov'yev, Yu. N. Shkobin. PTE, 1, 41, 1959; M. I. Solov'yev, Proc. of the 1960 Ann. Int. Conf. on High Energy Physics at Rochester, p. 388; Wang Kang-ch'ang et al. ZhETF, 39, 1854, 1960). The Λ-hyperons were unpolarized during their production. This follows from the fact that there is no asymmetry in the angular distributions of the protons from the decay of the Λ-hyperons relative to the hyperon momentum. The angular distributions of the Λ-hyperon produc-

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The polarization of Λ -hyperons ... S/056/63/044/001/017/067
B108/B180

tion planes relative to the production planes of the K-mesons and pions are nearly isotropic. The results agree with the law of conservation of parity in strong interactions involving strange particles. There are 13 figures and 4 tables.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: July 31, 1962

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S/056/63/044/002/007/069
B102/B186

8

AUTHORS: Belyakov, V. A., Wang Yung Ch'ang, Veksler, V. I., Viryasov, N. M., Vrana, I., Tu Yüan-te'ai, Kim Khi Ying, Kladnitskaya, Ye. N., Kusnetsov, A. A., Mikhul, E. Nguyen Din Ty, Patera, I., Penev, V. N., Sokolova, Ye. S., Solov'yev, M. I., Khofmokl', T., Cheng Ling-yen, Mikhul, A.

TITLE: Investigation of Λ-hyperon and K^0-meson production processes in $\pi^- p$ interactions at 7-8 Bev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 2, 1963, 431-443

TEXT: The c.m.s. momentum and angular distributions determined for the Λ and K^0 particles produced in πp interactions are given and discussed. The measurements were made using a 24-liter propane bubble chamber in a field of 13,700 oe. The total momentum spectrum of the Λ-hyperons produced in the reactions

$$\pi^- + p \to \Lambda(\Sigma^0) + K^0 + n\pi, \quad (1)$$
$$\pi^- + p \to \Lambda(\Sigma^0) + K^+ + n\pi \quad (2)$$

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are shown in Fig. 1, compared with theoretical results. As it may be seen the statistical theory describes the experimental curve very well if the isobars and the cases with $p_p - p = \Delta < 700$ Mev are neglected. $\Delta < 700$ Mev corresponds to $\sim 30\%$ of all Λ, these being produced in peripheral interactions. The Λ angular distribution has a distinct backward peak ($\bar{n}_{\Lambda}/\bar{n}_{\Lambda} = 0.18 \pm 0.02$). With increasing multiplicity n_s the agreement between experiment and statistical theory improves. The Λ angular distribution and the distribution with respect to $p_{\perp}$ is virtually independent of n_s. The overall mean of the transverse momentum is 383 ± 12 Mev/c; for $\Delta < 700$ Mev, $\bar{p}_{\Lambda_{\perp}} = 295 \pm 14$ Mev/c and for $\Delta \geqslant 700$ Mev, $\bar{p}_{\Delta_{\perp}} = 432 \pm 18$ Mev/c. For the $K^0(\bar{K}^0)$ mesons produced in the reactions

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$$\pi^- + p \rightarrow \begin{cases} K^0 + \Lambda(\Sigma^0) + n\pi, & (1) \\ K^0 + \bar{K}^0 + N + n\pi, & (3) \\ K^0 + K^- + N + n\pi, & (4) \\ \bar{K}^0 + K^+ + N + n\pi, & (5) \\ K^0 + \Sigma^\pm + n\pi. & (6) \end{cases}$$

the total momentum spectrum measured (Fig. 4) is weaker than that calculated according to the statistical theory. The angular distribution (Fig. 5) has, besides the isotropic part, a forward peak ($\bar{n}_{K^0}/\bar{n}_{K^0} = 1.61 \pm 0.15$). The forward-backward ratio decreases with increasing n_s. For the charged pions arising in Λ-production events the momentum distributions are, for $p_\pi^* \geqslant 400$ Mev/c, well described by the statistical theory without taking the isobars into account; for $p_\pi^* < 400$ Mev/c it is higher than that obtained from theory. The angular distributions for $n_s = 2, 4, 6$ are characterised by

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$$\vec{n}_{\pi^+}/\overleftarrow{n}_{\pi^+} = 1.10 \pm 0.12, \qquad \vec{n}_{\pi^-}/\overleftarrow{n}_{\pi^-} = 1.40 \pm 0.13.$$

The mean number of π^0 mesons produced per π^-p interaction with Λ production is 1.23 ± 0.14. The angular distribution of π^- arising in stars with K^0 production has a flat forward maximum ($\vec{n}_{\pi^-}/\overleftarrow{n}_{\pi^-} = 1.10 \pm 0.10$). The mean number of charged particles produced together with Λ is $n_s = 2.22 \pm 0.13$ which agrees closely with the statistical theory without the isobars. The main part of Λ and K^0 is produced in two-pronged stars. The admixture of $K^0\Sigma^{\pm}$ pairs amounts to less than 20% of the number of $K^0K^- + K^0K^+$ pairs. The momentum distribution of charged pions from π^-p interactions with Λ-hyperon production are characterised by $\bar{p}^*_{\pi^+} = 425 \pm 16$ Mev/c and $\bar{p}^*_{\pi^-} = 444 \pm 15$ Mev/c. From a comparison of these angular distributions it is concluded that processes involving ΛK or $K\bar{K}$ pair production are more central than the usual processes of multiple pion production. If one divides the π^-p interactions with strange particle production into head-on

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and peripheral collisions one can say that those involving $K\bar{K}$ pair production are rather of the head-on type than those with ΛK pair production. There are 15 figures and 2 tables.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

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Fig. 1. Total momentum spectrum of hyperons; dashed line: without correction for recording probability; shaded area: events with Δ< 700 Mev; curves obtained from statistical theory with (I) and without (II) isobars, and without the events with Δ < 700 Mev (II').

Fig. 4. K^0 total momentum spectrum.

Fig. 5. K^0 total angular distribution.

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BELYAKOV, V.A.; VAN YUN-CHANG [Wang Young-ch'ang]; VIRYASOV, N.M.; DU YUAN'-TSAY [Tu Yuan-ts'ai]; KIM KHI IN; KLADNITSKAYA, Ye.N.; KUZNETSOVA, A.A.; NGUEN DIN TY; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.

Properties of π^0-mesons produced together with strange particles in π^-p-interactions and π^-C-interactions. Zhur.eksp.i teor.fiz. 44 no.5:1474-1480 My '63. (MIRA 16:6)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Mesons) (Nuclear reactions)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; VEKSLER, V.I.; VIRYASOV, N.M.; VRANA, I.; KIM KHI IN; KLODNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, A.; NGUYEN DIN TY; SOLOV'YEV, M.I.; KHOFMOKL', T.; CHEN LIN-YAN'

Production of Λ-hyperons by 7-8 Bev. negative π-mesons on hydrogen. Zhur. eksp. i teor. fiz. 45 no.2:88-89 Ag '63. (MIRA 16:9)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Hyperons) (Mesons)
(Nuclear reactions)

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L 15526-63 FCS(f)/EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3005249 S/0056/63/045/002/0090/0092

AUTHORS: Belyakov, V. A.; Wang Yung-ch'ang; Veksler, V. I.; Viryasov, N. M.; Tu Yuan-ts'ai; Kim Khi In; Kladnitskaya, Ye. N.; Kuznetsov, A. A.; Nguyen Din Ty*; Penev, V. N.; Solov'yev, M. I.

TITLE: Polarization of lambda hyperons produced in negative pion -- carbon interactions at 7 GeV energy

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 90-92

TOPIC TAGS: lambda hyperon, pion, carbon, longitudinal polarization, complex nucleus

ABSTRACT: A search was made for Λ hyperons produced in collisions between 7 BeV negative pions and carbon nuclei in order to ascertain whether Λ hyperons produced in complex nuclei have longitudinal polarization and to verify whether the asymmetry in the angular distributions observed by Salmeron and Zichichi (Nuovo cimento v. 11, 461, 1959) depended on the energy of the incident particle or whether the interaction involved complex nuclei. The polarization values obtained for 260 Λ hyperons were found to be -0.01 ± 0.11, -0.06 ± 11, and $+0.04 \pm 11$ for the front-back, right-left, and up-down distributions, respectively, from which

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ACCESSION NR: AP3005249

it is concluded that there is no longitudinal polarization. The authors' colleagues, the laboratory staff, and the staff of the computer center are credited with assostance. Orig. art. has 5 formulas.

ASSOCIATION: Ob"yedinennyiy institut yadernyikh issledovaniy (Joint Inst. of Nuclear Research)

SUBMITTED: 13Mar63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 007

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; BOYADZHIYEV, A.V.; VAN YUN-CHAN; VEKSLER, V.I.; VIRYASOV, N.M.; KHIM KHI IN; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MAL'TSEV, V.M.; NGUYEN DIN TY; PENEV, V.N.; SOLOV'YEV, M.I.

Production of Λ (Σ^0)-hyperons and K^0-mesons in interactions between 7 Gev. π^--mesons and carbon. Zhur. eksp. i teor. fiz. 46 no.5:1586-1597 My '64. (MIRA 17:6)

1. Ob"yedinennyy institut yadernykh issledovaniy.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, N. I.

"Hydrodynamics and heat transfer of a horizontal gas-suspension flow."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Inst of Heat & Mass Transfer, AS BSSR.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

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BELYAKOV, V.A.; VEKSLER, V.I.; VIRYASOV, N.M.; KLADNITSKAYA, Ye.N.; KOPYLOV, G.I.; MIKHUL, A. [Michul, A.]; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.

φ-Meson resonances generated simultaneously with strange particles in π-p-interactions at 7.5 Gev./c. Zhur.eksp.i teor. fiz. 46 no.6:1967-1978 Je '64.

1. Ob"yedinennyy institut yadernykh issledovaniy. 2. Sotrudnik Instituta atomnoy fiziki Rumynskoy Akademii nauk, Bukharest (for Mikhul). (MIRA 17:10)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.I.

"Bubble chambers" by Yu. A. Aleksandrov and others. Usp.fiz.nauk. 84 no.1:199 S '64. (MIRA 17:10)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

BELYAKOV, V.A.; VAN YUN-CHAN [Wang Yung-ch'ang]; VEKSLER, V.I.; VIRYASOV, N.M.; VRANA, I.; DU YUAN'-TSAY [Tu Yuan-ts'ai]; KIM KHI IN; KLODNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, E.; NGUYEN DIN TY; PATERA, I.; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.; KHOFMOKL', T.; CHEN LIN-YAN'; MIKHUL, A. [Mihul, A.]

Study of Λ-hyperon and K^0-meson production in π^-p-interactions at an energy of 7 - 8 Billion Electron Volts. Zhur.eksp. i teor. fiz. 44 no.2:431-443 F '63. (MIRA 16:7)

1. Ob"yedinennyy institut yadernykh issledovaniy. 2. Sotrudnik Instituta atomnoy fiziki v Bukhareste (for Mikhul).

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L 23730-66 EWT(m)/T SOURCE CODE: UR/0367/65/001/002/0338/0350

ACC NR: AP6014814

AUTHOR: Belyakov, V. A.; Veksler, V. I.; Viryasov, N. M.; Klaninitskaya, Ye. N.; Kladnitskaya, E. N.; Kopylov, G. I.; Fenev, V. N.; Solov'yev, M. I.; Solovyev, M. I.

ORG: Joint Institute of Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Baryon resonances in pi- p-interactions at 7.5 GEV with formation of strange particles

SOURCE: Yadernaya fizika, v. 1, no. 2, 1965, 338-350

TOPIC TAGS: baryon, meson, particle interaction, strange particle, hyperon, particle cross section

ABSTRACT: The formation and properties of resonances decaying into Λ-hyperons and $\pi^{\pm}$- mesons were studied. Data are given on the formation cross sections for Y+ (1385) and Y+ (1660)-hypersons in π^- p-interactions at 7.5 GEV/c. The properties and formation characteristics of Y+ (1385)-hyperons and their decay products were investigated. The maximum in the mass spectrum $M_{\Lambda\pi^+\pi^-}$ at the value 1770 MEV was discussed. The
authors thank Professor M. I. Podgoretskiy and Professor I. V. Chuvilo for their interest in the work and their discussions; A. Mikhul, Nugen Din Ty, A. A. Kusnetsov, Ye. S. Sokolova, Du Yuan'-tsay, Van Yun-chan and Kim Khi In for taking part in the first stage of the work. Further thanks is rendered N. F. Markov and V. Ye. Komolov, co-workers at the Computer Center, for carrying out the calculations and the group

Card 1/2

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L 23730-66
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of laboratory workers for the measurements. The authors also thank V. G. Grishin, A. V. Nikitin, E. G. Bubelev, and I. Kurelar for discussing the various problems of this work. Orig. art. has: 9 figures, 2 formulas, and 4 tables. [Based on authors' Eng. abst.] [JPRS]

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

L 23731-66 EWT(m)/T

ACC NR: AP6014815 SOURCE CODE: UR/0367/65/001/002/0351/0365

AUTHOR: Belyakov, V. A.; Veksler, V. I.; Viryasov, N. M.; Kladnitskaya, Ye. N.; Kladnitskaya, E. N.; Kopylov, G. I.; Penev, V. N.; Sol'ov'yev, M. I.—Solovyev, M. I.

ORG: Joint Institute of Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Meson resonances in pi- p-interactions at 7.5 GEV with formation of strange particles 19 50 34 B

SOURCE: Yadernaya fizika, v. 1, no. 2, 1965, 351-365

TOPIC TAGS: pi meson, strange particle, particle interaction, K meson, mass spectrum

ABSTRACT: Resonances decaying into K° ($\bar{K}$°, K+) and π-mesons are investigated. Cross sections are given for the formation of K* (888) and k (730) -mesons in π- p-interactions at 7.5 GEV/c in events with $\bar{K}K$ pairs, and the contribution (in %) of k°, K*°-mesons in events with Λ K+ pairs is evaluated. Properties and formation characteristics of K*+-mesons are described. Mass-spectra of the K2 π and K3 π systems are investigated. The possibility of the formation of a new resonance U - K° + $\pi^{\pm}$ + $\pi^{\pm}$ + $\pi^{\pm}$ with mass 1660 MEV is indicated. An attempt is made to determine its quantum numbers. Proofs are given for the production of a resonance with mass 1050 MEV, decaying into three π-mesons ($\pi^{+}\pi^{+}\pi^{-}$), which can be identified as the A1-meson.

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L 23731-66

ACC NR: AP6014815

The authors thank Professor M. I. Podgoretskiy and Professor I. V. Chuvilo for their interest in the work and for the discussions; A. Mikhul, Ngen Din Ty, A. A. Kuznetsov, Ye. S. Sokolova, Du Yuan'-tsay, Van Yun-chan and Kim Khi In for taking part in the first stage of the work. Further thanks is rendered to the co-workers at the Computer Center, N. F. Markov and V. Ye. Komolov, for carrying-out the calculations and the group of laboratory workers for the measurements. The authors also thank A. V. Nikitin, V. G. Grishin, E. G. Bubelev, and I. Kurelar for discussing the various problems of this work. Orig. art. has: 13 figures and 3 tables. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 01Sep64 / ORIG REF: 006 / OTH REF: 013

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

[illegible]

[illegible]spension and transport of a granular material in horizontal [illegible]. Inzh.-fiz. zhur. no.10:62-66 [illegible] 1964. (MIRA 17:11)

1. Institut teplo- i massoobmena AN BSSR, Minsk.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Pathogenic study of Entamoeba histolytica strains in Turkmenia. Med. paraz. i paraz. bol. 27 no.4:460-464 Jl-Ag '58. (MIRA 12:2)

1. Iz Ashkhabadskogo instituta epidemiologii i gigiyeny (dir. instituta Yu. V. Skavinskiy).
(ENTAMOEBA HISTOLYTICA,
pathogen. of various strains in Russia (Rus))

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Amebiasis in Turkmenistan. Zdrav.Turk. 3 no.5:32-35 S-O '59. (MIRA 13:4)

1. Iz Ashkhabadskogo instituta epidemiologii i gigiyeny (direktor - dotsent Ye.S. Popova, nauchnyy rukovoditel' - dotsent Ye.Ya. Oley-berman).

(TURKMENISTAN--AMEBIASIS)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Comparative pathogenesis of Entamoeba histolytica strains in Turkmenistan. Med. paraz. i paraz.bol. 28 no.6:710-716 N-D '59. (MIRA 13:12)

(TURKMENISTAN—AMEBIASIS)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SCHENSNOVICH, V. B.; SOLOV'YEV, M. M.

Comparative virulence for rats of strains of Endamoeba histolytica isolated from patients with amebiasis and from healthy carriers. Med. paraz. i paraz. bol. no.6:694-699 '61. (MIRA 15:6)

1. Iz protozoologicheskogo otdela Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye. I. Martsinovskogo Ministerstva zdravookhraneniya SSSR (dir. - prof. P. G. Sergiyev, nav. otdelom - prof. Sh. D. Moshkovskiy)

(AMEBIASIS)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.; POPOVA, A.I.

Detection of cysts of intestinal Protozoa by means of flotation with zinc sulfate. Lab. delo 7 no.1:32-34 Ja '61. (MIRA 14:1)

1. Ashkhabadskiy institut epidemiologii i gigiyeny (dir. Ye. S. Popova).
(INTESTINES—MICROBIOLOGY) (ZINC SULFATE)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Study of the division of Lamblia duodenalis in cultures.
Med. paraz. i paraz. bol. 32 no.1:96-101 Ja-F'63.
(MIRA 16:10)

1. Iz protozoologicheskogo otdela (zav. - prof. Sh.D.Mashkovskiy) Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I.Martsinovskogo (dir. - prof. P.G.Sergiyev) Ministerstva zdravookhraneniya SSSR.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

[illegible]

[illegible] (MIA 17:11)

[illegible]

[illegible] prof. Sh.[illegible]kovskiy) [illegible] meditsiny imeni [illegible] - prof. [illegible] Ministerstva zdravookhraneniya SSSR.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Cytochemical study of Iamblia duodenalis. Med. paraz. i paraz. bol. 32 no.6:675-678 N-D '63 (MIRA 18:1)

1. Iz protozoologicheskogo otdela (zav. - prof. Sh.D. Moshkovskiy) Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I. Martsinovskogo (direktor - prof. P.G. Sergiyev) Ministerstvu zdravookhraneniya SSSR.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Artificial circulation apparatus with nonpulsating administration of blood. Eksper. khir. i anest. 9 no.1:71-73 Ja-F '64. (MIRA 17:12)

1. Tomskoye otdeleniye Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR pri gospital'noy khirurgicheskoy klinike (zav. - A.G.Savinykh [deceased]) Tomskogo meditsinskogo instituta.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

MIZGIREVA, M.F.; SOLOV'YEV, M.M.

Dissemination and some epidemiological problems of amebiasis in Ashkhabad. Med. paraz. i paraz. bol. 32 no.3:329-331 My-Je'63 (MIRA 17:3)

1. Iz Ashkhabadskogo instituta epidemiologii i gigiyeny (dir.-dotsent Ye.S. Popova).

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Selection of methods for treating fractures of the articular process of the mandible. Stomatologiia 43 no.1:50-53 Ja-F'64

1. Kafedra khirurgicheskoy stomatologii (zav. - prof. A.A. K'yandskiy) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M. (Leningrad, Sapernyy pereulok, 12, kv.4)

Treatment of fractures of the articular process of the mandible. Vest. khir. 92 no.5:71-74 My '64. (MIRA 18:1)

1. Iz kliniki khirurgicheskoy stomatologii (zav. - prof. A.A. K'yandskiy) 1-go Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Method of producing clones of Entamoeba histolytica from a culture. Med. paraz. i paraz. bol. 34 no. 5:589-592 S-O '65 (MIRA 19:1)

1. Protozoologicheskiy otdel Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Martsinovskogo Ministerstva zdravookhraneniya SSSR, Moskva. Submitted June 10, 1965.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M. (Tomsk)

Effect of removal of the cardial portion of the stomach on bile secretion. Eksper.khir. 4 no.4:41-42 Jl-Ag '59. (MIRA 12:11)

(BILE)
(STOMACH surg)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Utilization of constant blood flow in artificial circulation. Trudy NIIEKHAI no.5:142-146 '61. (MIRA 15:8)

1. Iz Tomskogo otdeleniya instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR.

(PERFUSION PUMP (HEART))

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M., ordinator

Osteomyelitis of the maxilla in the newborn and nursing children. Stomatologiia 41 no.4:64-67 Jl-Ag '62. (MIRA 15:8)

1. Iz kafedry khirurgicheskoy stomatologii (zav. - prof. A.A. K'yandskiy) I Leningradskogo meditsinskogo instituta imeni Pavlova i Leningradskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach Ye.A. Lopatina).
(OSTEOMYELITIS) (JAWS--DISEASES) (INFANTS--DISEASES)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.M.

Traumatic osteomyelitis of the mandible in peacetime and means for its prevention. Stomatologiia 42 no.2:99-101 Mr-Ap'63 (MIRA 17:3)

1. Iz kafedry khirurgicheskoy stomatologii (zaveduyushchiy - prof. A.A.K'yandskiy) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M.N.

Modernization of a high-frequency furnace for melting and hardening. Prom.energ. 16 no.10:25-26 O '61. (MIRA 14:10)
(Electric furnaces)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

SOLOV'YEV, M. N., and CHEKLOVICH, V. D.

Age of the Metamorphic Rocks in the North Nura-Tau Range (resume in Uzbekistani). Dokl. AN Uzb. SSR, No 8, 1953, 28-29

The metamorphic rocks, considered early paleozoic and familiar from the many pits dug in the north slope of the Nura-Tau, are represented by quartz-mica, chlorite-epidote, silicified and encrusted rocks, quartz-actinolite hornstones (charts), paragneiss, etc. They are observed in a definite zone of action of small intrusives and hydrothermal processes. (RZhGeol, No 1, 1954)

SO: W-31128, 11 Jan 55

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

LEVIN, Mark Mironovich, prof.; ZADOROZHNYY, B.A., dotsent, red.; BELOUSOV, V.A., prof., red.; BOKARIUS, N.N., prof., red.; VOROB'YEV, F.P., assistent, red.; GRISHCHENKO, I.I., prof., red.; DERKACH, V.S., prof., red.; KORSUN', A.Ya., dotsent, red.; KOSHKIN, M.L., prof., red.; KUDINTSEV, V.I., dotsent, red.; PIKIN, K.I., prof., red.; PRIKHOD'KOVA, Ye.K., prof., red.; POPOV, I.D., dotsent, red.; SOLOV'YEV, M.N., prof., red.; SHTEYNBERG, S.Ya., prof., red.; KHARCHENKO, N.S., prof., red.

[Repeated surgery in stomach diseases following operations] Povtornye operatsii pri zabolevaniiakh operirovannogo zheludka. Khar'kov, Izd-vo Khar'kovskogo gos.univ., 1961. 177 p. (Kharkov. Medychnyi institut. Trudy, vol.58). (MIRA 16:2)
(STOMACH--SURGERY)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652310020-1

VIKHERT, A.N.; DOBROGAYEV, R.P.; LYAKHOV, [illegible]; [illegible], A.V.; SOLOV'YEV, M.P.; STEPANOV, Yu.A. [deceased]; SUVOROV, V.G.; STEPANOV, G.Yu., prof., red.

[Design and construction of motor-vehicle and tractor engines] Konstruktsiia i raschet avtotraktornykh dvigatelei. Izd. 2., perer. i dop. Moskva, Mashinostroenie, 1964. 552 p. (MIRA 18:4)

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