APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

30098
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B125/B102

The magnetic-field...

Legend to Fig. 4: (1) Experimental points, (2) points of the curve $A \sin(2\pi\theta/(\theta_p + \theta_b))$, (3) sector.

Fig. 5. Distribution of the magnetic field along the spiral lines for three sectors.

Legend: (1) Sector.

Fig. 6. Radial distribution of the magnetic field.

Legend: (1) Curve found by direct measurement, (2) curve found from (1) considering the function of azimuthal distribution of the field.

Fig. 7. Azimuthal distribution of the magnetic field in the air gap between sectors.

Legend: (1) Field generated by the principal coil, (2) entire field, (3) field of the compensating coil, (4) sector, (5) air gap.

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The magnetic-field...

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neighboring sectors. By investigation of the simulated magnetic field, the law of the distribution of the ampere turns of the principal and of the compensating coils was found. Varying the current in these coils, the rate of increase of the magnetic field with respect to radius and amplitudes of modulation can be varied within certain limits. This fact facilitates the development of an accelerator with spiral sectors. There are 11 figures and 4 references: 2 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: K. R. Symon, D. W. Kerst, L. W. Jones, L. J. Laslett, K. M. Terwillinger. Phys. Rev., 103, 1837, 1956; T. Ohkawa. Rev. of Sci. Instr., 29, 108, 1958.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 28, 1961

Fig. 1. Geometry of a spiral sector.

Legend: (1) Center of the machine.

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the magnetic system of an accelerator with spiral sectors. This device had the parameters $k = 9$, $H_{min} = 11$ oe, $H_{max} = 300$ oe, $R_{min} = 45$ cm, $R_{max} = 65$ cm, $\zeta = 65^{o}$, $C = 2$, $N = 10$, $\theta_s = 45^{o}$, $\theta_p = 14^{o}$. Fig. 1 shows shape and dimensions of a sector. Magnetic measurements were made by a method based on the galvanomagnetic Hall effect. An n-type Ge crystal served as pickup for the Hall electromotive force. Fig. 4 shows the experimentally found azimuthal distribution of the field for a fixed value of the radius and also the sinusoidal line of the period $\theta_p + \theta_b$ which is equal to the period of the magnetic system. For R = const, the azimuthal distribution can be represented as $H(\theta) = H(\theta_o)(1 + A \sin\frac{2\pi\theta}{\theta_p + \theta_b})$.

According to these experimental data, the amplitude

$$A = \frac{H(\theta)_{max} - H(\theta)_{min}}{H(\theta)_{max} + H(\theta)_{min}}$$

was equal to 0.2. Further experimental results are given by Figs. 5 - 8. The compensating field consists of the fields from the compensating coils wound on the lateral surfaces of the two

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30096
S/057/61/031/011/013/019
B125/B102

29,4230 (1532)
26.4331

AUTHORS: Volodichev, N. N., Grishin, V. K., Koval'skiy, S., Lobanov, Yu. N., and Savenko, I. A.

TITLE: The magnetic-field characteristics of a strongly focusing accelerator with spiral sectors

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 11, 1961, 1350-1357

TEXT: The authors' experimental study of the possibility of generating a field of the type

$$H_z|_{z=0} = H_0\left(\frac{R}{R_0}\right)^k F\left(N\theta - N\operatorname{tg}\xi \ln\frac{R}{R_0}\right), \qquad (2)$$

$$H_R|_{z=0} = H_\theta|_{z=0} = 0,$$

by means of spiral sectors had the following aims: Guarantee of a radial dependence of the field $\langle H_z \rangle = H_0(R/R_0)^k$, study of the modulation frequency F, of procedures for its correction and of the possibility of determining a sufficiently high modulation coefficient $A \simeq 2$. In the arrangement described, a magnetic three-sector element modulates part of

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26372
S/089/61/011/002/009/015
B102/B201

Particle distribution in a charged ...

(period 2π) but otherwise arbitrary; this is a consequence of the indeterminacy of the solution. This arbitrariness is restricted by the conditions of application of the integrodifferential equation. However, the stability of the distribution function F (i.e., of a given configuration) is neither dependent upon the number of particles nor on the mean energy E_0, but depends exclusively upon the form of the function ψ. The break-up of a primarily homogeneous cluster into 2, 3 ... m parts is about equally probable. The cluster will remain intact only under most special initial conditions; generally, it will break up into several parts. I. M. Samoylov and A. A. Sokolov (Zhurn. eksper. i teor. fiz. 39, 257 (1960)) observed such clusters in betatron-type devices; the results of their observations agree with theoretical findings. Gratitude is expressed to A. A. Kolomenskiy and A. N. Lebedev. There are 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

SUBMITTED: January 30, 1961

Card 3/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

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26372
S/089/61/011/002/003/015
B102/B201

Particle distribution in a charged ...

$z = \int_{E_c}^{E} \frac{dE}{v}$; $\varphi = \omega - \omega_c$; v is the velocity of particles with energy E; subscript c denotes all such quantities as refer to the energy E_c. The equilibrium density distribution F of charged particles is given by $\frac{\partial F}{\partial z} e\mathcal{E} + (v\omega')_c z \frac{\partial F}{\partial \varphi} = 0$, where $\mathcal{E}$ denotes the field of particles, and e their charge; the prime denotes the derivation with respect to E. $\mathcal{E} = -\frac{e\lambda}{R\gamma^2} \frac{\partial \xi}{\partial \varphi}$, where ξ is the linear particle density; R is the mean orbital radius; $\gamma = E/E_0$; λ is a coefficient depending on the ratios of the transverse dimensions of the beam to those of the slit. Usually, $\lambda = 2\text{-}3$. Thus, the equilibrium density distribution can be described by the nonlinear integrodifferential equation

$\frac{\partial F}{\partial z} \frac{d}{d\varphi} \int_{-\infty}^{\infty} F\, dz + \alpha z \frac{\partial F}{\partial \varphi} = 0$, where $\alpha = (R^2\gamma^2 v\omega')_c / e^2\lambda$. For $\alpha > 0$ $(\omega' < 0)$ the solution is given by $F = (\psi^2 - \frac{\alpha^2}{\pi^2} z^2)^{1/2}$, where $F \geq 0$; $\psi = \psi(\varphi)$ is periodic

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26372
S/089/61/011/002/009/015
B102/B201

24.6761

AUTHOR: Grishin, V. K.

TITLE: Particle distribution in a charged beam in a storage system

PERIODICAL: Atomnaya energiya, v. 11, no. 2, 1961, 183-184

TEXT: The problem of particle storage in high-current magnetic systems is closely related to a study of the effects of space charge, which, under certain conditions, may affect the motion of particles considerably. It has been shown earlier (C. Nielsen et al. Symposium CERN, 1959) that in systems where $d\omega/dE < 0$ (ω - frequency, E - energy of particles), the azimuthal homogeneous distribution of particles is unstable due to the effect of the longitudinal proper field, and the primarily homogeneous cluster is broken up into several parts. $d\omega/dE < 0$ in all weakly focused systems and also in strongly focused ones beyond the critical energy; therefore, this case is of special interest. The author has determined the self-consistent azimuthal inhomogeneous particle distribution, and now presents results of an examination of stability of this distribution. The motion of particles in the range of energy E_c is described by

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86273

An Investigation of Orbits in Highly Focusing Accelerators With Constant Magnetic Field

S/188/60/000/005/002/010
B019/B056

$$\frac{\mu_x}{\pi} \approx \left(11.9\frac{k+3.5}{N^2} - 0.11\right)\delta^{1.5} + 0.285$$

$$\frac{\mu_z}{\pi} \approx 0.93(\delta - 1) + 1.13\left(\frac{2}{\sqrt{k+1}} - 0.03\right) \qquad (13)$$

are given. On the basis of relations (10) and (13) a suitable accelerator of this type may easily be selected. The author thanks A. A. Kolomenskiy for discussions and advice. There are 1 figure and 5 references: 3 Soviet and 2 US.

ASSOCIATION: NIIYaF kafedra uskoriteley (NIIYaF, Department of Accelerators)

SUBMITTED: September 15, 1959

Card 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

86273

An Investigation of Orbits in Highly Focusing Accelerators With Constant Magnetic Field

S/188/60/000/005/002/010
B019/B056

r_p - the "size" of the orbit, which is determined by the equation $p = -e/cH_z(r_p)r_p/f$, where p is the particle momentum. Equation (2) is solved by successive approximation:

$$\xi = \frac{R^{1/k+1}}{2}\left\{\xi_0 + \xi_1 \cos N\vartheta_1 + \frac{\xi}{2\cos^2 \frac{1}{2}\vartheta_1 N}(1 - \cos 2N\vartheta)\right\} \quad (6) .$$

Here, ξ_0, ξ_1, and R are defined by voluminous expressions. For the curvature radius of the orbit after some steps $\varrho = r_p f^{-1}\xi^{-k}$ (10) is obtained. $f(N\vartheta + 2\pi) = f(N\vartheta)$, $-1 \leqslant f \leqslant 1$ holds; k = const and N is the number of the periodicity elements. The stable orbits are really stable, if the betatron oscillations are stable. Their stability is, in turn, connected with the conditions $|\cos \mu_x| \leqslant 1$ and $|\cos \mu_z| \leqslant 1$. The empirical formulas

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S/188/60/000/005/002/010
B019/B056

26,2322

AUTHOR: Grishin, V. K.

TITLE: An Investigation of Orbits in Highly Focusing Accelerators With Constant Magnetic Field 19

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 5, pp. 6 - 10

TEXT: By means of the successive approximation, the particle orbit in an accelerator with highly focusing and constant magnetic field is studied. First, the stable orbit of the accelerator is investigated, the author proceeding from the differential equations

$$H_z|_{z=0} = H_0(r/r_0)^k f; \quad H_r|_{z=0} = H_\vartheta|_{z=0} = 0 \quad (1) .$$

The stable orbit is described by the differential equation

$$\xi'' - 2\frac{\xi'^2}{\xi} - \xi = -f\xi^{k+2}\left(1 + \frac{\xi'^2}{\xi^2}\right)^{3/2} \quad (2),$$

where $\xi = |\vec{r}_e|/r_p$, and $\vec{r}_e$ is the radius vector of the stable orbit,

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GITIS, E.I., Prinimali uchastiye: GRISHIN, V.K.; MATYUKHIN, N.Ya.; SHAMSHUR, V.I., red.; LARIONOV, G.Ye., tekhn.red.

[Automatic electric control of radio units; parts of automatic and calculating systems of aircraft radio installations] Elektroradioavtomatika; elementy avtomaticheskikh i vychislitel'nykh ustroistv aviatsionnykh radioustanovok. Moskva, Gos.energ.izd-vo, 1959. 422 p. (MIRA 12:3)

(Radio in aeronautics) (Automatic control)
(Electronic calculating machines)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACCESSION NR: AP4013418

ASSOCIATION: moskovskiy gosudarstvenny*y universitet im. M.V.Lomonosova (Moscow State University)

SUBMITTED: 02Jan63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH, SD NR REF SOV: 006 OTHER: 005

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACCESSION NR: AP4013413

mean lifetime independent of position. The phases of the cyclotron oscillations are averaged out, the source function is assumed to be independent of azimuth, and the linearized equation for small perturbations about the steady state solution of this averaged Liouville equation is written. An expression for the longitudinal (azimuthal) electric field given by A.A.Kolomenskiy and A.N.Lebedev (AE,7,549,1959; CERN Symposium,p.115,1959) and by C.Nielsen and A.Sessler (CERN Symposium,p.238, 1953) is inserted, the equation is subjected to a Laplace transformation in time and a Fourier transformation in azimuth, and the dispersion equation is derived. A particular form is inserted for the (azimuth independent) source function, and the stability is discussed briefly. The finite lifetime of the particle can make the solution stable under conditions in which it would otherwise be unstable. A bell-shaped source function is inserted in the averaged Liouville equation and the reulting equation is briefly discussed. A certain class of perturbations is shown to be stable. "The author expresses his gratitude to A.A.Kolomenskiy and A.N.Lebedev for valuable discussion." Orig.art.has: 19 formulas.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACCESSION NR: AP4013418 S/0057/64/034/002/0307/0310

AUTHOR: Grishin, V.K.

TITLE: Longitudinal stability of charged particle beams undergoing stationary processes in cyclic accelerators

SOURCE: Zhurnal tekhn.fiz., v.34, no.2, 1964, 307-310

TOPIC TAGS: particle beam, particle beam stability, longitudinal stability, accelerator, cyclic accelerator, particle injection, cyclotron

ABSTRACT: The longitudinal stability of the charged particle beam in a cyclic accelerator is discussed theoretically with the possibility of particles entering and leaving the beam taken into account. The though is expressed that the results obtained may prove to be useful in explaining phenomena occurring in transition processes (e.g.injection), but no specific applications are mentioned. The motion of the particles is described by the Hamiltonian given by K.Symon and A.Sessler (CERN Symposium,p.44,1956) and by A.N.Lebedev (ZhTF,29,1339,1959). The corresponding Liouville equation is written with an arbitrary source function to describe particle creation (i.e.,entrance into the beam). Particle destruction is described by a

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OVCHINNIKOV, Semen Ivanovich; PUSHKIN, Pavel Semenovich; GRISHIN, V.I., kand. tekhn. nauk, retsenzent; NOVIKOV, V.S., inzh., retsenzent; PLEMYANNIKOV, M.N., red.; DUKHOVNYY, F.N., red.

[Organization and planning of light industry enterprises] Organizatsiia i planirovanie predpriiatii legkoi promyshlennosti. Moskva, Izd-vo "Legkaia industriia," 1964. 275 p.
(MIRA 17:5)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.I., kand. tekhn. nauk, ispolnyayushchiy obyazannosti dotsenta

Determining the expedient tasks for the conveyor sewing line in shoe manufacture. Nauch. trudy MTILP no.24:120-127 '62. (MIRA 16:7)

1. Kafedra organizatsii proizvodstva i ekonomiki legkoy promyshlennosti Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

(Shoe manufacture)
(Assembly-line methods)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

BASS, I.B., prof., doktor tekhn. nauk; GRISHIN, V.I., kand. tekhn. nauk.

Balanced conveyor-flow sheets. Izv.vys.ucheb.zav.; tekh.leg.prom. no.4:22-28 '58. (MIRA 11:12)

1.Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Assembly-line methods)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V. I.

GRISHIN, V. I. -- "Reserves of Worker Time and Ways of Using Them in Boot and Shoe Production in the Preparation of Shoe Paste." Min Higher Education USSR, Moscow Technological Inst of Light Industry imeni L. M. Kaganovich, Moscow, 1955
*(Dissertation for the Degree of Candidate in Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

*For the Degree of Candidate in Technical Sciences

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

3(2),3(4)

AUTHOR: None Given SOV/6-59-6-21/22

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografia, 1959, Nr 6, pp 74-75 (USSR)

ABSTRACT: At the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers), the Ordinary Scientific Conference took place on April 22-24. A. I. Ivanov, Docent, Candidate of Philosophic Sciences, spoke on "The Outstanding Work of Materialistic Philosophy". A. N. Baranov, Chief of the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) spoke "On the Seven-year Plan for the Development of Topographic-geodetic and Cartographic Work". The following reports were delivered in the geodetic section: A. M. Faynzil'ber, Professor, "Some Integrals of the Surface Theorems and Their Application to the Mechanics of Artificial Satellites of the Earth".- A. V. Kondrashkov, Docent, "Radio-electronics and Geodesy".- G. V. Bagratuni, Docent, "Accuracy in the Solution of Inverse Position Computations by the Coordinates of Different Geodetic Systems".- P. F. Shokin, Docent, "Gravimetry in the Present Stage of Development".- Yu. V. Mokhov, Assistant, reported on the influence of rounding errors on the accuracy of solution of linear equation systems.- V. D. Pol'shakov, Candidate of Technical Sciences, spoke on the "Investigation of the Rules of Distribution of Errors in Generalizing the Relief in Surveys".- N. D. Drozdov, Post-graduate Student, reported on the solution of linear systems for the adjustment of geodetic networks.- V. M. Korolevtsev, Docent, demonstrated an apparatus designed by him for parallactic traversing with a short constant vertical basis.- The following reports were delivered in the aerophotogeodetic section: A. S. Valayev, Docent, reported on a parallactic reducer, an additional device to the stereo-comparator.- N. N. Veselovskiy, Docent, spoke on the possibility of generalizing the formulas for the air survey of outlines and altitudes.- B. N. Rodionov and N. P. Zakharov, Docents, reported on a band-shaped central shutter for aerial cameras, B. N. Rodionov on a stroboscopic collimator sight, B. N. Rodionov and Engineer V. I. Yerkhov on the scheme of a computing device for the automatic entry of the airplane into the route for air surveys.- Ye. P. Arzhanov presented some simplifications for the computation of constants of aerial cameras.- Yu. N. Kozhetsov, Post-graduate Student, spoke on the use of rapid film recording for the investigation of aerial-camera shutters.- V. I. Grishin, Engineer of the Gectokhkontora Gosplana RSFSR, spoke "On Some Results and Tasks in the Execution of Large-scale Photo-theodolite Surveys".- The following reports were delivered in the cartographic section: Professor V. I. Sukhov spoke on the content of the new map on a scale of 1 : 2,500,000.- Professor A. I. Preobrazhenskiy spoke on "Mineral Resources of the USSR and Their Representation on Economic Maps".- S. S. Sudakova, Assistant, reported on the method of geographic field research during the preparatory editorial work at the object of cartography.- A. S. Tolstoukhov, Assistant, reported on the improvement of relief representation of wooded flat country on the topographic map on a scale of 1 : 10,000.- Yu. S. Bilich, Assistant, reported on maps of apartment building in the atlases of the oblast'.- In the section of building of apparatus, I. I. Men'chikov, Docent, spoke on the life of A. S. Popov.- N. V. Yakovlev, Assistant, reported on reflecting lenses, Professor I. G. Sarkin on the increase in accuracy in measuring physical magnitudes, Engineer V. M. Nazarov on vertical axial systems for highly accurate optic theodolites, V. S. Usov, Assistant, on sighting with telescopes with zone plates, P. P. Zakharov, Assistant, on the automatization of evaluation of image couples.

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Card 3/4

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L 10941-67

ACC NR: AT6022293

where

$$\varphi_k(x)=\int_{y_k}^{y_{k+1}} F(x, y)dy, \quad y_n=l_2, \quad y_k=(k-1)\frac{l_2}{n},$$

$$\omega_k=b^k\omega_n.$$

Here $x = \ell_1 t/T$, with T the interval within which the function f(5) is specified ($0 \leq t \leq T$). To estimate the capabilities of the approach, the author carries out an extensive mathematical analysis which shows that under appropriate similarity conditions the analyzer must have a number of filters equal to the number of quantization rows, and the eigenfrequencies of the filters must agree with the carrier frequencies of the transformation. The minimum interval between carrier frequencies is a function of noise. Orig. art. has: 24 formulas.

SUB CODE: 06/ SUBM DATE: 08Apr66/ ORIG REF: 003

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACC NR: AT6022293 SOURCE CODE: UR/0000/66/000/000/0061/0067

58

AUTHOR: Grishin, V. G.

ORG: none

TITLE: Some estimates of a method for image to sound conversion 16

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya bioniki. Doklady, Moscow, 1966, 61-67

TOPIC TAGS: vision, perception, bionics, image converter, pattern recognition, acoustics, mathematic space

ABSTRACT: The author elsewhere proposed and experimentally studied a method (Doklady XXI Vsesoyuznoy nauchonoy sessii NTOR i E. M., 1965, Bionika) for image to sound conversion where the image given in the form of an F(x, y) function within the $0 \leq x \leq l_1$; $0 \leq y \leq l_2$ portion of the plane is converted into a sound signal of the form

$$f(t)=\sum_{k=1}^{n} \varphi_k(at) \sin \omega_k t,$$

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L 10960-67 EWT(d)/EWP(1) IJP(c) BB/GG/GD
ACC NR: AT6022292 SOURCE CODE: UR/0000/66/000/000/0055/0060

AUTHOR: Grishin, V. G.

ORG: none

TITLE: The connection between the visual and audio spaces for a method of image to sound conversion

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya bioniki. Doklady. Moscow, 1966, 55-60

TOPIC TAGS: vision, perception, bionics, image converter, pattern recognition, mathematic space

ABSTRACT: The author elsewhere proposed and studied experimentally (Doklady XXI Vsesoyuznoy nauchoy sessii NTOR i E. Bionika, M., 1965) methods for image-to-sound conversion aiming at unburdening the vision of operators. It is of interest to study the given transformation algorithm from the point of view of general criteria of the pattern recognition theory without direct connections with operator psychology. Consequently, the criteria, such as the interval between the classes of images and metric parameters of classes in N-dimensional index spaces within which one can realize (as points) arbitrary classes, are investigated mathematically. Technical limitations are compared with the results of mathematical simplifications of the exact theory. Orig. art. has: 21 formulas.

SUB CODE: 06/ SUBM DATE: 08Apr66/ ORIG REF: 002

Card 1/1

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

L 10357-67
ACC NR: AP6029551

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of operator recognition quality of the auditory displays on the display duration is also discussed in some detail. Orig. art. has: 2 formulas, 2 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 11Apr66/ ORIG REF: 002/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

L 10357-67

ACC NR: AP6029551 SOURCE CODE: UR/0103/66/000/008/0149/0151

AUTHOR: Grishin, V. G. (Moscow)

ORG: none

TITLE: Some properties of a class of image-to-sound conversion

SOURCE: Avtomatika i telemekhanika, no. 8, 1966, 149-151

TOPIC TAGS: auditory display, acoustics, spectrum analysis, pattern recognition

ABSTRACT: A class of auditory displays is discussed where the sound signal has amplitude contours in the instantaneous spectrum

$$|S(\omega_1, t)| = \left| \int_0^t e^{\alpha(\tau - t)} f(\tau) e^{-j\omega\tau} d\tau \right|,$$

which are very close to the corresponding visual image B(x,y), i.e.

$$|S(f_1(y), f_2(x))| \approx B(x, y).$$

This class of conversions (from visual images to sound) is considered promising with the possibility of operators recognizing complicated visual images under conditions of information overloading. To reduce noise in the conversion process, the advantage of using a preliminary "smoothing" image as the input to the recording device is discussed, and experimental data are presented to verify this contention. The dependence

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L 44699-66

ACC NR: AP6031340

4

quantities on the scattering angle; these are reported in a separate preprint (JINR, E-2743, Dubna, 1966). It is seen from the results that to eliminate the ambiguity of the phase shift analysis at 400 Mev it is necessary to carry out at least one experiment on triple np scattering. The planning of such an experiment and the determination of the optimal angle at which the measurements must be made are described in a report by Lehar et al. (JINR, E-2332, Dubna, 1966). It turns out that under the existing conditions the most effective means of eliminating the aforementioned ambiguity is to measure the parameters D and A at c.m.s. angles 60 and 55° respectively. The authors thank E. Dudova, N. V. Volchkova, T. D. Timofeyeva, and Ya. Fingerova for help with the work. Orig. art. has: 2 tables.

SUB CODE: 20/ SUBM DATE: 19May66/ ORIG REF: 003/ OTH REF: 016

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACC NR: AP6031339 SOURCE CODE: UR/0386/66/004/003/0106/0110

AUTHOR: Bem, Ya.; Grishin, V. G.; Ryabtsov, V. D.

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

TITLE: Bremsstrahlung of Electrons with E = 2.4 Gev

SOURCE: Zh. eksper. i teoret. fiz. Pis'ma v redaktsiyu. Prilozheniye v. 4, no. 3, 1966, 106-110

TOPIC TAGS: bremsstrahlung, propane bubble chamber, electron interaction, meson bombardment, pion, muon, high energy interaction

ABSTRACT: In view of the lack of experimental data on the bremsstrahlung of electrons with energies higher than 1000 Mev, the authors investigated the bremsstrahlung of electrons with E = 2.4 Gev with the aid of the 24-liter propane chamber of the LVE OIYaI. The chamber was placed in a 13.7-kG magnetic field and bombarded by a beam of π^- and μ^- mesons and electrons with pc = 4.00 ± 0.06 Gev. The electron content of the primary beam was determined in separate experiments and found to be (2.0 ± 0.6)%. The selected events in the fiducial region of the chamber satisfied the following requirements: 1) the interaction was produced by the primary particle; 2) the particle energy prior to interaction was $E_1 \geq 1400$ Mev; 3) the particle energy after interaction was $E_2 < 500$ Mev. Altogether, 67,000 frames were scanned and 179 events found. Out of the 179 secondary particles, 112 were identified as electrons. The experi-

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ACC NR: AP6023639

with a definite dip in the region where v = 0.5 (v - ratio of the positron and γ-quantum energies). The distributions with respect to v are symmetrical about v = 0.5 for all photon energies within ~5%. The authors thank A. A. Kuznetsov, V. B. Lyubimov, V. L. Lyuboshits, M. I. Podgoretskiy, and Z. Trka for useful discussions. Orig. art. has: 1 figure, 1 formula, and 2 tables.

SUB CODE: 20/ SUBM DATE: 19Apr66/ ORIG REF: 002/ OTH REF: 010

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

L 36245-66 EWT(m)/T

ACC NR: AP6023639 SOURCE CODE: UR/0386/66/004/001/0036/0039

AUTHOR: Bem, Ya.; Grishin, V. G.; Kistenev, E. P.

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

TITLE: Production of electron-positron pairs by high-energy gamma quanta

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 1, 1966, 36-39

TOPIC TAGS: electron positron pair, pair production, differential cross section, photoconductivity, pion proton interaction, gamma interaction, propane bubble chamber

ABSTRACT: Since there are at present no quantitative data on the differential cross section for the photoproduction of e^+e^- pairs at gamma energies higher than 500 Mev, the authors investigated the production of such pairs by γ quata of energy 10 - 1000 Mev with the aid of the 23-liter propane bubble chamber of LVE OIYaI. The quanta were produced by π^-p collisions with momenta 4 and 7 Gev/c. A total of 3645 e^+e^- pairs were selected for the analysis. The procedure for measuring the electron and positron energies in the propane chamber, with allowance for the radiation and ionization corrections, is described in another paper (OIYaI Preprint R-2636, 1966). The obtained experimental data are in good agreement, within ± 15%, with the Bethe-Heitler theory (Proc. Roy. Soc. London, A146, 83, 1934) for gamma energies 10 - 5000 Mev. With increasing γ-quantum energy, the distribution changes from a flat-topped curve to one

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.G.; KISTENEV, E.P.; MU TSZYUN' [Mu Chün]

Scattering of 4 Gev/c π^--mesons on electrons. IAd. fiz. 2 no.5:886-891 N '65. (MIRA 18:12)

1. Ob"yedinennyy institut yadernykh issledovaniy.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

L 4383-66

ACC NR: AP5020264

Nuclear Research)

SUBMITTED: 22Jan65 ENCL: 00 SUB CODE: NP

NR REF SOV: 001 OTHER: 001

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

L 4383-66 EWT(m) DIAAP

ACC NR: AP5020264 UR/0367/65/002/001/0131/0134

17
B

AUTHOR: Grishin, V. G.

TITLE: On the possible existence of new boson resonances decaying with emission of gamma quanta

19

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 131-134

TOPIC TAGS: electromagnetic interaction, strong nuclear interaction, boson, meson interaction

ABSTRACT: This is a continuation of earlier work (with G. I. Kopylov, OIYaI Preprint R-1750, 1964) on the masses of hypothetical strange mesons (called L mesons), when their decay into other particles via strong interaction would be forbidden by the laws of conservation of strangeness (S), isotopic spin (T), ordinary spin (J), G-parity, C-parity, and spatial parity (P). Whereas the earlier paper dealt with L mesons with $I = S = 0$, the present paper deals with $I = 1$, $S = 0$, $J \leq 1$ and $I = 1/2$, $S = \pm 1$, $J < 1$. It is shown that if L mesons have a mass in the range from 140 to 560 MeV and if $S = 0$, $I = 1$, and $J \leq 1$, these mesons will decay mainly via the electromagnetic channel emitting gamma quanta. The situation is similar if the L-meson masses lie between 500 and 780 MeV and $S = \pm 1$, $I = 1$, and $J \leq 1$. These decays have not been investigated experimentally as yet. Orig. art. has: 19 formulas and 2 tables.

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

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.G.

Resonance interactions of elementary particles. Usp. Fiz. nauk 86 no.1 71-123 My '65. (MIRA 18:5)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.G.

[Resonance interactions between elementary particles; boson resonances] Rezonansnye vzaimodeistviia elementarnykh chastits; bozonnye rezonansy. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1964. 84 p. (MIRA 17:4)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.G.; PODGORETSKIY, M.I.

Some consequences of the long lifetime of η- and ω-mesons. Zhur. eksp. i teor. fiz. 45 no.3:783-786 S '63. (MIRA 16:10)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Mesons--Decay)

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Charge exchange between π^- mesons ... S/056/62/043/002/007/011
B102/B104

angular distribution, is anisotropic and has a sharp maximum in forward direction. The energy distribution in the laboratory system has a [illegible] for low energies and drops exponentially. The upper bound of the π^-p charge exchange cross section was estimated by three methods and found to be

$\sigma_{ex} \leqslant 0.1^{+0.25}_{-0.1}$ mb. The lower bound is given by $\sigma_{ex} \geqslant 0.07$. This value was obtained from the elastic $\pi^{\pm}p$ scattering cross sections. There are 2 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research). Fiziko-tekhnicheskiy institut AN Uzbekskoy SSR (Physicotechnical Institute AS Uzbekskaya SSR) (M. A. Aripov)

SUBMITTED: March 2, 1962

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

S/056/62/043/002/037/053
B102/B104

AUTHORS: Aripov, N. A., Grishin, V. G., Sil'vestrov, L. V., Strel'tsov, V. N.

TITLE: Charge exchange between π^- mesons with energies of 7-8 Bev and protons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 2(8), 1962, 394-398

TEXT: $\pi^- p$ charge exchange reactions of the type $\pi^- + p \to nn^0 + n$ [illegible] were analyzed in a 24-liter propane bubble chamber. [illegible] photos, 376 events of type (1) were detected with an efficiency of [illegible]. The tracks were measured with an [illegible]-21 (UIM-21) microscope, the [illegible]tions were made with an electronic computer of the OIYAI. m was found to be 2.8 ± 0.2 (the statistical theory of multiple production gives m = [illegible]). Angular and energy distributions were measured for the γ-quanta (1[illegible] events) which form e^+e^- pairs and accompany the disappearance of π^- mesons. The π^0 angular distribution, which in the c.m.s. practically agrees with the [illegible]

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

S/188/62/000/006/016/016
B125/B104

On the problem of the ...

the development of the instability in an electron accumulator with $\gamma = 60$, $R = 10^2$ cm, $N = 5 \cdot 10^{13}$, field index $n = 2/3$ has the value of $T \sim 1/p \sim 10^{-7}$ sec which is of the order of several revolutions. The phenomenon discussed here has to be taken into account in the accumulation of particles, in reactions in opposed beams, during an injection, etc. It can also be used for the self-control of beams.

ASSOCIATION: NIIYaF

SUBMITTED: June 20, 1962

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tion $F = F_0(z) + f(t,z,\psi)$ for the state of the beam satisfies a linear kinetic equation. The solutions of the dispersion relation resulting from this kinetic equation determine the asymptotic behavior of the perturbations. F_0 is the equilibrium distribution which is homogeneous with respect to the phase. The study of the perturbations uniformly distributed in the vertical sense is significant for every interval of x and ψ. The two kernels of the integral equations for f correspond with the two extreme cases where the dimensions of the perturbations along the beam axis are much greater or much smaller than the radial dimensions of the beam. The frequencies p of the plasma oscillations for a given $F_0(z)$ follow from this integral equation. With an accuracy of $(\Delta z/z_0)$, the formulas

$$p = ik\beta z - ik\psi\left(1 \pm \sqrt{1 - 8\beta z_0/\psi}\right), \quad \psi = \frac{e^2 N |I'_{00}\pi/k}{8\pi m_1^2 \omega \sqrt{z_0 y_0 R}}.$$

are obtained for the first type of perturbation. For $\beta > 0$ the distribution is always unstable, for $\beta < 0$ the density performs small steady oscillations of the frequency, determined by Imp. For this case, $\beta = 5g_1^2/12\omega^3 + 3g_1/8\omega$. The duration of

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26.2314
26.2322

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B125/B104

AUTHOR: Grishin, V. G.

TITLE: On the problem of the transverse stability of charged beams in accumulating systems

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1962, 83 - 85

TEXT: Some transverse space-charge effects in cyclic systems, especially the nonlinear isoenergetic oscillations of particles in the radial direction of a beam, are studied. In a linear treatment of this problem (A. A. Kolomenskiy, A. N. Lebedev. CERN Symposium, 1959, p. 115) no account is taken of the nonlinear effects of the "negative mass". The amplitude of the radial oscillations $\ddot{x} + \omega^2 x = g_1 x^2 + g_2 x^3 + (e\mathcal{E}/m\omega\gamma^2)$ is assumed to be great enough to excite nonlinear effects. $\mathcal{E}$ denotes the field of the fluctuations, $\gamma = E/E_0$, E is the total particle energy. The amplitude A and the phase φ of these nonlinear oscillations depend on time to a relatively slight extent. The perturbation $f \ll F_0$ in the distribution func-

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TSIGANOV, Ye. N. and GRISHIN, V. G.

"Analysis of the Elastic PP-Scattering at High Energies"

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

Joint Institute for Nuclear Research
Laboratory of High Energies, Dubna, 1962

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ARIPOV, R.A.; GRISHIN, V.G.; SIL'VESTROV, L.V.; STREL'TSOV, V.N.; SAMANTSEVA, V.R., tekhn. red.

[Charge-exchange in 7 to 8 Bev. π^- -mesons on protons] π^- -mezonov s energiei 7-8 Bev na protonakh. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 7 p. (MIRA 15:4)

1. Fiziko-tekhnicheskiy institut Akademii nauk Uzbekskoy SSR (for Aripov).
(Nuclear reactions) (Mesons) (Protons)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

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BANNIK, B.P.; GAL'PER, A.M.; GRISHIN, V.G.; KOTENKO, L.P.; KUZIN, L.A.; KUZNETSOV, Ye.P.; MERZON, G.I.; PODGORETSKIY, M.I.; SIL'VESTROV, L.V.

Elastic scattering of 2.8 and 6.8 Bev./c $\pi^{\pm}$-mesons on carbon. Zhur. eksp. i teor. fiz. 41 no.5:1394-1401 N '61. (MIRA 14:12)

1. Ob"yedinennyy institut yadernykh issledovaniy i Fizicheskiy institut imeni P.N. Lebedeva AN SSSR.
(Mesons--Scattering) (Carbon)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ARIPOV, R.A., sotrudnik; GRISHIN, V.G.; SIL'VESTROV, L.V.; STREL'TSOV, V.N.

Scattering of 7 - 8 Bev π^--mesons on nucleons involving large momentum transfer. Zhur.eksp.i teor.fiz. 41 no.4:1330-1331 O '61. (MIRA 14:10)

1. Ob'yedinennyy institut yadernykh issledovaniy. 2. Fiziko-tekhnicheskiy institut AN Uzbekskoy SSR (for Aripov).
(Mesons- Scattering)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

BANNIK, B.P.; GRISHIN, V.G.; SIL'VESTROV, L.V.

Elastic scattering of 8.7 Bev. protons on photographic emulsion nuclei. Zhur. eksp. i teor. fiz. 40 no.6:1653-1657 Je '61. (MIRA 14:8)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Photography, Particle track)
(Protons—Scattering)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

BANNIK, B.P.; GALPER, A.M.; GRISHIN, V.G.; KOTENKO, L.P.; KUZIN, L.A.; KUZNETSOV, Ye.P.; MERSON, G.I.; PODGORETSKIY, M.I.; SIL'VESTROV, L.V.

Elastic scattering of 2.8 and 6.8 BeV/c negative pions on carbon. Dubna, Izdatel'skii otdel Ob"edinennogo in-ta iadernykh issledovanii, 1961. 20 p.

(No subject heading)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ARIPOV, R.A.; GRISHIN, V.G.; SIL'VESTROV, L.V.; STREL'TSOV, V.N.

[Scattering of 7-8 Bev. π^--mesons on nucleons involving a large momentum transfer] Rasseianie π^--mezonov s energiei 7-8 Bev na nuklonakh s bol'shoi peredachei impul'sa. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1961. 5 p.
(MIRA 14:10)

1. Fiziko-tekhnicheskiy institut AN Uzbekskoy SSR (for Aripov).
(Mesons--Scattering)

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84591

Inelastic Interaction of [illegible]
With Nucleons

S/056/60/[illegible]
[illegible]

The authors thank D. I. Blokhintsev and V. I. Veksler for discussions.
There are 4 figures, 3 tables, and 7 references: 6 Soviet and 1 US.

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

SUBMITTED: May 12, 1960

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Card 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

84391

Inelastic Interactions of 9 Bev Protons With Nucleons

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B004/B076

and in pn interactions 2.58±0.14. The identification was made according to Ref. 3 by means of the function $g/g_0 = f(p\beta)$ for pions and protons. The identification was not certain in the range ($1.5 < p\beta < 2.5$ Bevc) where the curves for protons and pions intersected one another (Table 1). The angular distribution of the secondary protons (in c.m.s.) from pp interactions was strongly anisotropic; the same was true for the pions (Fig. 2). The momentum distribution is shown only for the protons emitted backwards (Fig. 3), because due to spurious scattering only the lower limit of $p\beta$ could be determined for forward emission. Fig. 4 gives the angular distribution of protons in pn interactions. Since there is no difference in the values of angular distribution and energy for pp and pn interactions, the authors treat the two together for higher statistical accuracy. The values of $\bar{p}$, $\bar{p}_\perp$, and $\bar{\theta}$ for protons and pions are given in Table 2 for lower ($n = 2,3,4$) and higher ($n = 5,6,7$) multiplicities. The values of $a = \sqrt{\overline{p_\perp^2}/2}$ for the lower and higher multiplicities are given in Table 3. The data show that the character of the interaction is only slightly affected by the number of the secondary charged particles.

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S/056/60/0[illegible]
P004/P0[illegible]

AUTHORS: Van Shu-fen', Vishki, T., Gramenitskiy, I. M., Grishin, V. G., Dalkhazhav, N., Lebedev, N. M., Nomofilov, A. A., Podgoretskiy, M. I., Strel'tsov, V. N.

TITLE: Inelastic Interactions of 9 Bev Protons With Nucleons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 957-960

TEXT: In an earlier work (Ref. 1), the authors carried out the identification of particles and the measurement of their energies only for slow particles. In the present work, the study of pp and pn interactions is continued under conditions permitting the measurement of multiple scattering of fast particles. An НИКФИ-Р (NIKFI-R) emulsion pile was irradiated by 9-Bev protons from the proton-synchrotron of the authors' institute. The inelastic pp (161 events) and pn (94 events) interactions were selected according to the criterion described in Ref. 1. The average number of charged particles in pp interactions was 2.25±0.10

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

BANNIK, B.P.; GRISHIN, V.G.

Interference between Coulomb and nuclear scattering at high energies. Zhur. eksp. i teor. fiz. 39 no. 1:94-96 Jl '60. (MIRA 13:12)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Scattering (Physics))

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.G.; OGIYEVETSKIY, V.I.

Evaluating the smallest radius of a two-particle interaction at high energies. Zhur.eksp.i teor.fiz. 38 no.3:1008-1009 Mr '60. (MIRA 13:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Particles(Nuclear physics))

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

Elastic Scattering of 8.7 bev Protons on Photographic Emulsion Nuclei

76971
SOV/56-37-6-11/55

Physics at CERN, Geneve, p 309; J. W. Cronin, R. Cool, A. Abashian, Phys. Rev. Nr 7, 1121, 1957; I. H. Atkinson, W. H. Hess, V. Perez-Mendez, R. W. Wallace. Phys. Rev. Lett., 2, 168, 1959; N. E. Booth, Mr. B. Ledley, D. Walker, D. H. White, Proc. Phys. Soc. A70 209, 1957; F. F. Chen, C. P. Leavitt, A. M. Shapiro, Phys. Rev. 99,857, 1955.

ASSOCIATION: Joint Inst. Nuclear Research, USSR (Ob'edinenyy institut yadernykh issledovaniy, SSSR)

SUBMITTED: June 9, 1959

Card 5/5

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

Elastic Scattering of 8.7 bev Protons on Photographic Emulsion Nuclei

76971
SOV/56-37-6-11/55

of the optical model of J. W. Cronin, R. Coll, and A. Abashian (cf. Phys. Rev., 107, 1121, 1957):

$$\left(\frac{d\sigma}{d\Omega}\right)_d = \left|k_0\int_0^\infty (1-\exp(-\bar{\sigma}\rho_0 S(b)))\, J_0(k_0 b\sin\theta)\, b\,db\right|^2$$

$$\sigma_d = 2\pi\int_0^\infty (1-\exp(-\bar{\sigma}\rho_0 S(b)))^2\, b\,db.$$

The analysis showed a good accord between the experimental data and the optical model, if compensation is made for refraction in the nucleus. The work was carried out under the guidance of I. M. Gramenitskiy; P. K. Markov and E. N. Tsygankov participated in the discussion of this work; calculations and measurements were done by V. M. Gorbunkov, A. I. Radionov, L. I. Aver'yanova, Z. P. Golovina, T. A. Zhuravleva, N. V. Kirsanova, M. P. Koteneva, A. I. Maklachkova, G. A. Nurusheva, and G. P. Tyupikova. The text contains 2 tables; 4 graphs; and 12 references, 6 Soviet, 1 U.K., 5 U.S. The 5 most recent U.S. and U.K. references are: 1958 Ann. Intern. Conf. on High Energy

Card 4/5

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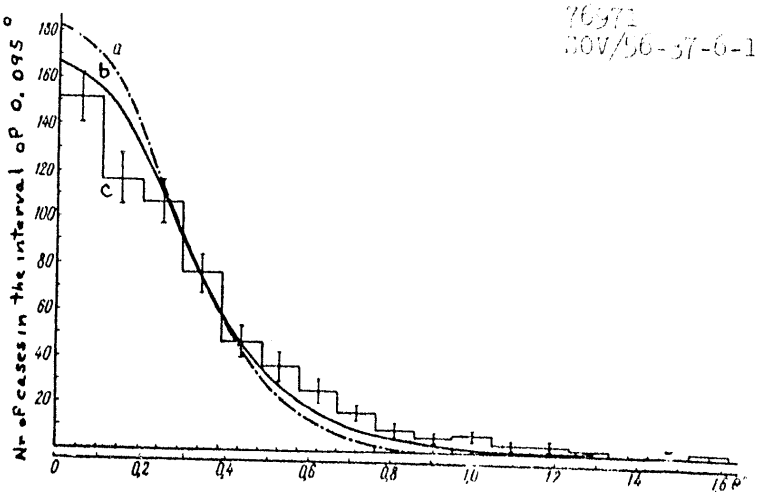

Fig. 1. The angular distribution at the distance R = 95 mm from the edge of emulsion chamber. (a) Calculated angular distribution compensated for the initial angular distribution at R = 5 mm and for multiple coulomb scattering; (b) calculated angular distribution compensated for the initial angular distribution, for the multiple coulomb scattering at $k_1 = 0$; (c) measured angular distribution.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

Elastic Scattering of 8.7 bev Protons on Photographic Emulsion Nuclei

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SOV/56-37-6-11/55

50-60 μ in the emulsion plane and 25-30 μ in the depth; and (4) visual absence of an inclination of the track toward emulsion layer. This method yielded 601 pairs of tracks at a 95-mm distance from the edge of the emulsion. The angular distribution of tracks is plotted in Fig. 1. The mean square root error involved in measuring the angular distribution was $\Delta\theta = 0.03^{\circ}$. In a similar way was measured the angular distribution of 572 pairs at R = 5 mm. The differential and the total cross section of elastic scattering, $(d\sigma/d\Omega)_d$ and σ_d respectively, were calculated on the basis

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24.6200,24.6510,
24.6520,24.6900

76971
SOV/56-37-6-11/55

AUTHORS: Bannik, B. P., Grishin, V. G., Danysh, M. Ya., Lyubimov, V. B., Podgoretskiy, M. I.

TITLE: Elastic Scattering of 8.7 bev Protons on Photographic Emulsion Nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1575-1582 (USSR)

ABSTRACT: A study was made of the elastic scattering of the 8.7 bev protons on photographic nuclear emulsions (type NIKFI-R, 450μ thick). The intensity of the irradiation was approximately 10^4 particles/cm^2. The proton beam passed along the chamber at a 0.7° angle to the plane of the emulsion layer. The distribution and measurement of tracks was done optically under 60 x 10 x 1.5 magnification. The selection of pairs was done according to the following conditions: (1) relativistic ionization; (2) projection of the angle formed by the track with the beam axis at angle $<2^\circ$; (3) distance between tracks not less than

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accurate). By comparison, the relation $f(\vartheta) = f_{opt}(\vartheta) f_0(\vartheta)/f_0(0)$ is obtained, and for the scattering cross section $\sigma(\vartheta) = \sigma_{opt}(\vartheta)\sigma_0(\vartheta)/\sigma_0(0)$; as $f(0) = f_{opt}(0)$, it holds for the scattering cross section of inelastic interaction that $\sigma_{in} = \sigma_{in\ opt} + \int \sigma_{opt}(\vartheta) \left\{ 1 - \sigma_0(\vartheta)/\sigma_0(0) \right\} d\Omega$

These formulas are the same in the center of mass system as in the laboratory system. They are finally briefly discussed on the basis of the results obtained by several investigations (Refs 3 - 7). The authors thank S. M. Bilen'kiy, G. V. Yefimov, V. I. Ogiyevetskiy and R. M. Ryndin for taking part in the discussion. There are 7 references, 2 of which are Soviet

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

SUBMITTED: January 29, 1959

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

24(5), 21( )

AUTHORS: Grishin, V. G., Podgoretskiy, M. I. SOV/56-36-5-60/76

TITLE: Comments on the Optical Nuclear Model (Zamechaniya k opticheskoy modeli yadra)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 5, pp 1593-1594 (USSR)

ABSTRACT: In the present "Letter to the Editor" the authors compare several scattering formulas with the corresponding formulas of the optical model. The formula for the scattering amplitude $f(\vartheta)$ of particles on a center of force (potential $U(\vec{r})$) is given as well as the formula for the case in which the scatterer consists of equal and independent elementary centers. Into the latter the density of the elementary scattering centers is introduced, and by means of it a function is formulated, which plays the part of a generalized form factor. The scattering amplitude is then proportional to the product of the scattering amplitude $f_0(\vartheta)$ on a free elementary center and the form factor. The formula for the scattering amplitude obtained according to the optical model deviates from the latter (which is more

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The Diffraction Scattering of Protons by Protons at 6,15 BeV SOV/56-35-2-26/60

spatial distribution of the absorbing field is derived in quasiclassical approximation, and the mean square p-p interaction range

$$\bar{\rho}^2 = \frac{\int_0^R r^4 K(r)dr}{\int_0^R r^2 K(r)dr} = 0,79 \cdot 10^{-13} \text{cm}$$ is calculated.

This value agrees well with the electromagnetic proton radius according to reference 8. In conclusion the author thanks R. A. Asanov, V. S. Barashenkov, D. I. Blokhintsev, P. V. Vavilov, and V. I. Ogiyevetskiy for their discussions and L. A. Shustrova for carrying out numerical computations. There are 4 figures and 8 references, 5 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yaternykh issledovaniy (United Institute of Nuclear Research)

SUBMITTED: March 28, 1958

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

21 (0)

AUTHOR: Grishin, V. G. SOV/56-35-2-26/60

TITLE: The Diffraction Scattering of Protons by Protons at 6,15 BeV (Difraktionnoye rasseyaniye protonov na protonakh pri 6,15 BeV)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 2, pp 501-504 (USSR)

ABSTRACT: The elastic proton-proton scattering at E_p=6,15 BeV and small scattering angles ϑ is investigated. For the differential elastic scattering cross section it then holds that $d\sigma/d\omega = |f(\vartheta)|^2$, and for the scattering amplitude $f(\vartheta) = \frac{i\lambda}{2} \sum_{l=0}^{\infty}(2l + 1)(1 - \beta_l)P_l(\cos\vartheta)$ is true; according to experimental data (Ref 2) in connection with E_p=6,15 BeV the empirical formulae

$$d\sigma/d\omega = a^2/(b - \cos\vartheta)^2; \quad d\sigma/d\omega = c \exp(-k\vartheta^2)^2$$

hold (Fig 1). These formulae are discussed. Further, the

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The Diffraction Scattering of Fast Particles SOV/[illegible]

which are Soviet.

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

SUBMITTED: April 23, 1958

Card 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

The Diffraction Scattering of Fast Particles SOV/56-35-1-59/59

"charge exchange" are neglected. Moreover, it is assumed that the real part of these phases is equal to zero: $\mathrm{Re}\,\eta_1 = 0$. The exact solution of this problem will be published later. A diagram demonstrates the values of $\mathrm{Im}\,\eta_1$ for the scattering of negative 1,3 BeV pions. For high energies the quasiclassical approximation may be used with a high degree of approximation. The numerical values of the cross section which were calculated according to the quasiclassical theory agree rather well with the results of previous papers and this is one of the arguments in favor of the applicability of the quasiclassical approximation. For the average square "pion radius" of a nucleon the value $(0,82 \pm 0,06) \cdot 10^{-13}$ cm was found; it corresponds (within the limits of experimental errors) to its value for E = 5 BeV. The example investigated in this paper is a special case of the so-called inverse problem of the scattering theory: from the given scattered wave the interaction potential is to be determined. The authors thank K. Danilov for his help in numerical computations. There are 2 figures and 6 references, 2 of

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

AUTHORS: Blokhintsev, D. I., Barashenkov, V. S., SOV/56-35-1-[illegible]
Grish'n, V. G.

TITLE: The Diffraction Scattering of Fast Particles (Difraktsionnoye rasseyaniye bystrykh chastits)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 35, Nr 1, pp. 311 - 312 (USSR)

ABSTRACT: The structure of elementary particles may be studied by investigation of the elastic scattering of any radiation by these particles. Hitherto only the investigations carried out by the Hofstadter (Khofshtadter) group concerning the scattering of electrons on nuclei and nucleons are known, they permit the determination of the form factor of the electric charge and of the magnetic moment. But also the analysis of the elastical scattering of other particle types makes it possible to obtain important information concerning the structure of the nucleons and nuclei. This paper investigates, as an example, the scattering of negative pions on nucleons. For the sake of simplicity, the dependence of the interaction on the spins and the

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SOV/56-34-5-34/[illegible]

The Use of the Optical Model for the [illegible] 1 [illegible] -p- and p-p-Scattering at High Energies

1. Model nuclei--Applications 2. Particles--Scattering
3. Particles--Energy factors 4. Mathematics--Appliactions

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

SOV/56-34-5-4[illegible]

The Use of the Optical Model for the Analysis of n-p- and p-p-Scattering at High Energies

ing amplitude is small and for the higher energies the scattering can be analysed on the basis of the general scattering theory (without taking into account the spin characteristics of the interaction) or else on the basis of a purely absorbing sphere. At high energies of the colliding particles the total cross sections of the elastic and inelastic interactions of pions and nucleons have equal values. At last the authors thank L. A. Isayeva and L. A. Shustreva who carried out some numerical computations for this paper. There are 3 figures, 4 tables, and 15 references, 4 of which are Soviet.

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

SUBMITTED: December 6, 1957

Card 3/4

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

SOV/56-44-5-24/6

The Use of the Optical Model for the Analysis of n-p and p-p Scattering at High Energies

K of the homogeneous sphere and their optical characteristics k_1 and k_2. K denotes the absorption coefficient of the medium and k_1 the change of the real part of the wave vector of the neutron. The available experimental data on n-p and p-p scattering in the BeV energy range can be satisfactorily described by the optical nucleon model if the range of interaction is represented as a homogeneous sphere with sharp boundaries and with a complex refraction index. It is very probable that the radius R of this sphere has the value $R = (1.08 \pm 0.07) \cdot 10^{-13}$ cm which is independent of the type of the interacting particles and also of the energy of these particles. The values of the absorption coefficient K and the contributions of the real part of the scattering amplitude for γ values of γ are compiled. If the energy increases, the contribution of the real part of the scattering amplitude to the cross section of the elastic interaction is diminished. k_1 therefore, diminishes and approaches the limit value zero. In this case the homogeneous sphere became a totally absorbing sphere. For pion energies of 1.5 BeV and protonenergies above BeV the contribution from the real part of the scatter

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

SOV/[illegible]

AUTHOR: Grishin, V. G.; [illegible]

TITLE: The Use of the Optical Model for the Analysis of n-p and p-p Scattering at High Energies (Primenenie opticheskoy modeli dlya analiza n-p i p-p rasseyaniya pri vysokikh energiyakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, No. 5, pp. [illegible] (USSR)

ABSTRACT: The authors analyse the n-p and p-p scattering at energies above [illegible] Bev in the laboratory system on the basis of a nucleon model according to which the nucleon is considered as an optically homogeneous sphere with sharp boundaries and with a complex [illegible] index. It is assumed that the incoherent elastic scattering may be neglected. The available experimental data that concern the cross sections of scattering for high energies including the total cross sections [illegible], the [illegible] and [illegible] of the elastic and inelastic cross section of n-p and p-p interactions are compiled in a table. The parameters of the optical nucleon model which are to be determined from the experimental data are the radius

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

On the Diffractional Scattering of High-Energy Protons on Protons. 56-4-37/54

There are 1 table and 1 Slavic reference.

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

SUBMITTED: June 28, 1957

AVAILABLE: Library of Congress.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V. G.

AUTHORS: Grishin, V.G., Saitov, I.S. 56-4-37/54

TITLE: On the Diffractional Scattering of High-Energy Protons on Protons. (O diffraktsionnom rasseyanii protonov bol'shykh energiy na protonakh) (Letter to the Editor)

PERIODICAL: Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol. 33, Nr 4, pp.1051-1053 (USSR)

ABSTRACT: The p-p scattering was theoretically investigated. In this connection the following assumptions were made: 1) The dependence of the nuclear forces on the spin may be neglected in the case of high energies. 2) The imaginary part of the scattering amplitude is considerably greater than the real part. It was possible to calculate the effective cross sections σ_t, σ_e, σ_i for high proton energies.

E_p in the Lab.S BeV	R x 10^{-14}cm	σ_t in mb	σ_e in mb	σ_i in mb
2,24	6,6 ± 0,8	44,1 ± 3,7	17,9 ± 3,1	26,2 ± 6,4
4,40	6,9 ± 0,3	33,9 ± 1,8	9,7 ± 1,5	24,2 ± 2,7
6,15	7,2 ± 0,3	31,3 ± 1,5	7,5 ± 1,5	23,8 ± 1,8
8	7,45	30,0	6,4	23,5
10	7,75	28,5	5,4	23,1

The calculated values can very well be used as orientation values.

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GRISHIN, V.B.

Gibbs phenomenon in the approximation of functions by algebraic polynomials. Vop. mat. fiz. i teor. funk. no.1:18-23 '64. (MIRA 18:2)

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GRISHIN, V.

Decision of the Presidium of the Central Committee of the Council of Trade Unions of April 6, 1963. Elektrichestvo no.8:93 Ag '63. (MIRA 16:10)

1. Predsedatel' Vsevoyuznogo tsentral'nogo soveta professional'nykh soyuzov.

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ACC NR: AP6001580

about 50. The ion collectors were designed for a simultaneous measurement of two spectral lines differing in masses from 4 to 6%. A simultaneous recording was also provided for two groups of lines including one group of 34 to 45 amu and the second of 48 to 100 amu. The electronic circuit feeding the ion source was designed for cathode currents up to 2 ma, accelerating voltages of 300 to 1200 v and ionizing voltages of 50 to 100 v. The vacuum system was also described and the MKh1307 apparatus was shown in a photo. Some results of measurements were summarized in a table. A high sensitivity of the MKh1307 spectrometer permits defining the mixtures with contents up to 10^{-4}%. Orig. art. has: 5 figures.

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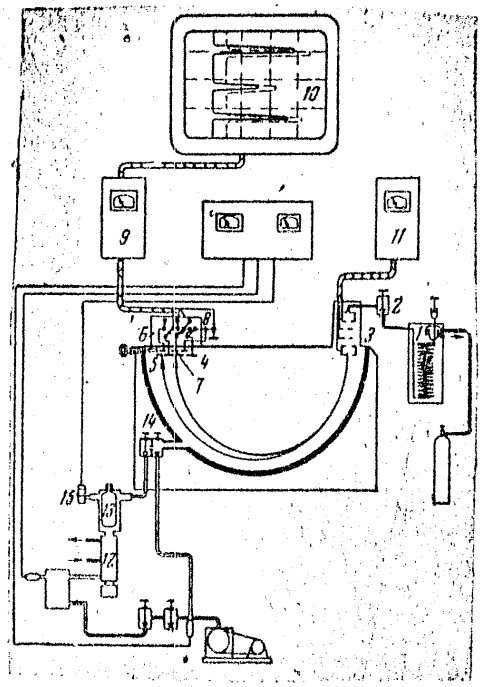

by an electronic potentiometer (10). The ion source was fed from an electonic circuit (11). The small collectors were used for measurements of two mass-spectral lines while the large ones collected the intensities of two line groups. The spectral peaks were measured for each of two measuring channels and their heights were compared. The peak ratio was used for defining tested substances. The design of chromatograph was illustrated and described. It can be equipped either with capillary or packed columns. The ion system consisting of ion source, mass analyzer and ion collectors, was also described and diagrammatically represented. The ion source was placed in the magnetic field of a mass-analyzer. A permanent magnet of about 6000 gausses was used. The resolving power of the mass-spectrometer was

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L 27745-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6001580 SOURCE CODE: UR/0120/65/000/006/0130/0135

AUTHOR: Tal'roze, V. L.; Pavlenko, V. A.; Tantsyrev, G. D.; Grishin, V. D.; Ozerov, L. N.; Kirillova, I. I.; Rafal'son, A. E. Shutov, M. D.

ORG: Institute of Chemical Physics of AN SSSR, Moscow (Institut khimicheskoy fiziki)

TITLE: MKh1307 chromato-mass-spectrometer (Khromass-2)

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 130-135

TOPIC TAGS: chromatography, mass spectrometer

ABSTRACT: The design and operation of MKh1307 mass-spectrometer is described. This spectrometer is formed by combining a chromatograph with a two-beam magnetic mass-spectrometer. A laboratory version of Khromass-2 spectrometer served as a prototype for MKh1307 type. The arrangement of MKh1307 chromato-mass-spectrometer is schematically shown on Card 2/2. The chromatograph (1) is connected via a dose-valve (2) to the ion-source (3) of the mass-spectrometer which is equipped with two large (4 and 5) and two small (6 and 7) collectors. By using a switch (8) the collectors can be connected to a set of two electrometer amplifiers (9). Double ion currents are automatically recorded

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E032/E514

The PMC-2 (RMS-2) Mass Spectrometer Designed for Studying Chemical Reactions and the Determination of Free Radicals

the possible applications of the instrument, data are quoted on the formation of free radicals im the pyrolysis of hydrazine. In these experiments the hydrazine entered from a glass container into a quarts capillary through a control valve. The capillary was heated to a known temperature, as a result of which the hydrazine decomposed into nitrogen, hydrogen, ammonia and some unstable products (Foner and Hudson, Ref.18). Fig.7 shows the distribution of line intensities in the mass-spectrum of hydrazine obtained by the charge transfer method using NH_3^+ ions formed from ammonia. The pressure in the source was 5×10^{-5} mm Hg and the pressure in the chamber of the small analyser was 4×10^{-7} mm Hg. For comparison, the dotted line shows the mass-spectrum obtained on bombarding hydrazine with 50 eV electrons. Fig.8 shows the intensity distribution obtained under similar conditions at 1000°C (dotted lines) and 25°C (continuous lines). Acknowledgments are expressed to Ye. K. Russiyan, B. T. Vorob'yev, B. G. Belov, M. N. Morozov and M. I. Markin for assistance in this work. There are 8 figures and 20 references: 11 Soviet and 9 non-Soviet.

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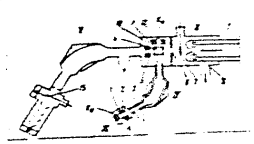
The PMC-2 (RMS-2) Mass Spectrometer Designed for Studying Chemical Reactions and the Determination of Free Radicals

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AS, USSR)

SUBMITTED: October 15, 1959

Fig.2

I - reactor, III - ion gun, IV - small magnetic analyser, V - large magnetic analyser



Card 5/6

E032/E514

The PMC-2 (RMS-2) Mass Spectrometer Designed for Studying Chemical Reactions and the Determination of Free Radicals

Fig.7

Comparison of mass-spectra of hydrazine obtained on electron bombardment (dotted) and charge transfer from NH_3^+ ions (full lines). Key: 1 - relative intensity, 2 - mass number.

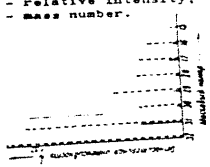
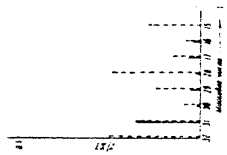


Fig.8

Charge transfer mass spectra of hydrazine and its decomposition products at 1000°C (dotted) and 25°C (full line).



Card 6/6

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9.6150
5.5900 (1043, 1223, 1273)
26.2312
11.1320

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S/120/60/000/006/021/045
E032/E514

AUTHORS: Tal'roze, V.L., Dekabrun, L.L., Tantsyrev, G.D., Frankevich, Ye.L., Vetrov, O.D., Lyubimova, A.K., Lavrovskaya, G.K., Yerofeyev, V.I., Grishin, V.D., Skurat, V.Ye. and Yukhvidin, A.Ya.

TITLE: The PMC-2 (RMS-2) Mass Spectrometer Designed for Studying Chemical Reactions and the Determination of Free Radicals

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No.6, pp.78-84

TEXT: A double magnetic mass-spectrometer designed for studying reactions in the gaseous phase and, in particular, for the determination of free radicals is described. Two methods are used to produce the ions. In the first method the mixture to be analysed is ionized by charge transfer to specially produced ions. The latter are formed in a separate ion gun by means of electron bombardment and are mass-analysed in a small magnetic analyser. In the second method the mixture under consideration is ionized directly by electron bombardment. Quasi-monochromatization is achieved by a method based on that reported by Fox et al. (Ref.11). The gas from the "reactor" is introduced into the ion source in the

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The PMC-2 (RMS-2) Mass Spectrometer Designed for Studying Chemical Reactions and the Determination of Free Radicals

form of a molecular beam which is mechanically interrupted at a known frequency. In distinction to the method described by Foner and Hudson (Ref.2), in which the molecular and ion beams are perpendicular, in the present system the two beams are coaxial, which means that smaller voltages are necessary for the "extraction" of the ions from the ionization region and it is possible to reduce the intensity of the background mass-spectrum. A particular feature of the present instrument is the use (in the measuring part of the spectrometer) of K-stabilization of parameters such as the accelerating voltage, the voltage supplying the detector, the emission current of the ion gun cathode, and the supply voltage for the ion source cathode. This was described by the second of the present authors in Ref.10. The mass numbers are determined from a knowledge of the magnetic field which in turn is measured with the aid of a Hall probe (germanium crystal). The basic mass spectrometric arrangement employed is shown in Fig.2. Products of chemical reactions taking place in the "reactor" I enter the region II through a small aperture in the thin glass diaphragm 8

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in the form of a molecular beam. This molecular beam is collimated further by the diaphragm 6 which separates the volume II from the region in which ionization takes place. A moveable screen 7 is placed in front of the diaphragm 6 and interrupts the molecular beam 33 times per sec. In the case of ionization by charge transfer, the primary ions are produced in the ion gun III. The ion beam formed there is mass analysed in the 60° magnetic analyser IV which has a working radius of 100 mm. The primary ion beam, consisting of ions of the required mass, intersects the molecular beam and charge transfer takes place. In the case of ionization by electron impact, the source becomes analogous to that described by the first and fourth of the present authors in Ref.9. In the case of ionization by a monochromatized electron beam, the modulation of the molecular beam by the chopper 7 is not employed. The ion current in the mass-spectrometer is measured either by a d.c. amplifier or by an electron multiplier. The vacuum chamber of the mass-spectrometer is an all-metal system and all the sections are out-gassed at 300 to 350°C before the operation is begun. As an illustration of

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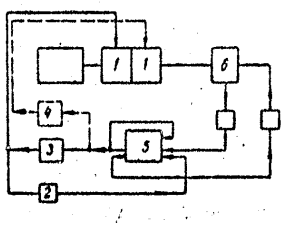
L 24841-66

ACC NR: AP6006367

Fig. 1. 1 - hydraulic volume drive; 2 - 4 - converters; 5 - electronic model of the object of regulation; 6 - regulator.



drives. The output shaft of one of the drives is connected with the shaft of the fuel pump. The output shaft of the second drive is connected with the shaft of the test regulator. Orig. art. has: 1 figure.

SUB CODE: 09,21,18/SUBM DATE: 18Sep64

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L 24841-66 EWT(d)/EWT(m)/T/EWP(1) IJP(c) BB/DJ/GG/WE

ACC NR: AP6006367 SOURCE CODE: UR/0413/66/000/002/0099/0099

AUTHORS: Khusid, A. Z.; Grishin, V. A.; Parfenov, B. P.; Vlasov-Vlasyuk, O. B.

ORG: none

TITLE: An electric analog device. Class 42, No. 178121

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 99

TOPIC TAGS: analog system, electric analog, hydraulic equipment, engine control system

ABSTRACT: This Author Certificate presents an electric analog device for studying and adjusting the regulators of piston engines and gas turbine engines. The device contains an electronic model of the object of regulation and input and output converters for coupling the model of the object with the real apparatus (see Fig. 1). The design reproduces the dynamic characteristics of the piston engine and the gas turbine engine. It contains a hydraulic volume drive, with its input connected through the coupling converters to the electronic model of the object being regulated. The output shaft of the hydraulic volume drive is connected with the shaft of the test regulator. To eliminate "an addition" of the RPM's with an increase of the fuel supply, the device contains two hydraulic volume

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ACCESSION NR: AP4037435

where the omega functions are peak values of the moduli of the continuous $f(x, y)$.

$W^{(r,l)}\tilde{H}^{(\omega_1,\omega_2)}$ designates the class of 2π-periodic functions obtained by taking the r-th order partial derivative with respect to x and the l-th order partial derivative with respect to y of the functions $f(x, y)$ in $\tilde{H}(\omega_1, \omega_2)$. The derivatives are taken in the sense of Weil [Abstracter's Note: Weil-differentiable criteria not given], and this new class also satisfies equations (1). Assymptotic equalities are given for the deviations of Fourier sums from functions of the classes $\tilde{H}(\omega_1, \omega_2)$ and $W^{(r,l)}H(\omega_1, \omega_2)$ with certain constraints on the omega's. The authors also derived similar asymptotic expressions for Wall-Poisson sums and interpolation sums, but these results are not presented in this article. Orig. art. has 11 numbered equations.

ASSOCIATION: Instytut matematyki AN UkrSSR (Institute of Mathematics AN UkrSSR)

SUBMITTED: 27Sep63 DATE ACQ: 03Jun64 ENCL: 00

SUB CODE: MA NO REF SOV: 004 OTHER: 000

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

ACCESSION NR: AP4037435 S/0021/64/000/005/0566/0569

AUTHOR: Gryashyun, V. B. (Grishin, V. B.)

TITLE: Approximation of periodic functions of two variables by fourier sums

SOURCE: AN UkrRSR. Dopovidi, no. 5, 1964, 566-569

TOPIC TAGS: Fourier sum, Fourier series, Fourier sum approximation, Fourier series aproximation, Weil-differentiable function, approximation accuracy, Wall-Poisson sum, Wall-Poisson interpolation sum

ABSTRACT: Asymptotic equalities are given for the deviation of Fourier sums from functions of two variables. $\widetilde{H}^{(\omega_1, \omega_2)}$ is the class of 2π - periodic functions $f(x, y)$ of variables x and y such that

$$\left.\begin{aligned} &|f(x_1, y) - f(x_2, y)| \leqslant \omega_1(|x_2 - x_1|) \\ &|f(x, y_1) - f(x, y_2)| \leqslant \omega_2(|y_2 - y_1|) \\ &|f(x_1, y_1) - f(x_1, y_2) - f(x_2, y_1) + f(x_2, y_2)| \leqslant \\ &\leqslant \omega_1(|x_2 - x_1|)\,\omega_2(|y_2 - y_1|) \end{aligned}\right\}, \qquad (1)$$

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GRISHIN, Vasiliy Alekseyevich, kand. tekhn. nauk; starshiy nauchnyy sotrudnik

Determination of the local coefficient of thermal conductivity in high-voltage insulation using a continuous heat compensation technique. Izv. vys. ucheb. zav. elektromekh. 7 no.4:410-415 '64 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRIS[illegible], [illegible]., [illegible]; KRASKOV, A.A., tekhnik

[illegible] of the investigation of starters used in networks of 660 volt voltage. Sbor. KuZNIUI no.[illegible]-142 '64.
(MIRA 18:9)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

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GRISHIN, V.B. [Hryshyn, V.B.]

Linear methods of summing double Fourier series and best approximations of periodic functions of two variables. Dop. AN URSR no.2: 151-155 '64. (MIRA 17:5)

1. Institut matematiki AN UkrSSR. Predstavleno akademikom AN Ukr SSR Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O.].

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GRISHIN, V.A., kand.tekhn.nauk

Study of heat transfer in electrical machines using a new method. Elektrotekhnika 34 no.9:31-34 S '63. (MIRA 16:11)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V. A.

Heat measurements by the method of current heat compensation. Teplo- i massoper. 1:160-165 '62. (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki, Moskva.

(Heat—Measurement)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

BRIL', M.G.; GIMEYN, B.S.; GRISHIN, V.A.

Prestressed concrete double-cantilever slabs for the roofs of industrial buildings. Prom. stroi. 39 no.5:34-36 '61. (MIRA 14:7)

(Roofs, Concrete) (Reinforced concrete construction)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.A.

Method of fluid compensation in heat measurements and its theory. Inzh.-fiz. zhur. 4 no.10:79-83 O '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki, Moskva.

(Heat--Transmission)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V. A.

"Heat Measurements by the Method of Current Thermal Compensation and Some Results of Comparison."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

TOPOL'SKIY, N.A., inzh.; SIROTKO, F.V., inzh.; GRISHIN, V.A., inzh.; TIGLEYEV, L.V., inzh.

Stand for cleaning pipes from rust and applying anticorrosive waterproof coatings. Suggested by N.A.Topol'skii, F.V. Sirotko, V.A.Grishin, L.V.Tigleev. Rats.i izobr.predl.v stroi. no.8:120-123 '58. (MIRA 13:3)

1. Po materialam tresta Kuzbassshakhtomontazh.
(Pipe, Steel--Cleaning) (Protective coatings)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

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78-2-36/43

I. Investigations Concerning the Simultaneous Solubility of Uranyl Nitrate and Nitrates of Alkaline-Earth Metals in Water

- $Ba(NO_3)_2$ - H_2O at 0, 25 and 50°C. In the system $UO_2(NO_3)_2$ - $Sr(NO_3)_2$ - H_2O three solubility curves were determined at 25°C which correspond to the solubility of $Sr(NO_3)_2 \cdot 4\ H_2O$, of anhydrous strontium nitrate and of hexanitrate-uranyl-nitrate.
$UO_2(NO_3)_2$ - $Ca(NO_3)_2$ - H_2O has critical points at 0 and 25°C in the case of 6,76% $UO_2(NO_3)_2$, 43,32 % $Ca(NO_3)_2$ and 7,92% $UO_2(NO_3)_2$, 50,48 % $Ca(NO_3)_2$.
At the applied temperatures no double salts were detected in any of the three systems. There are 3 figures, 3 tables, and 3 references, 1 of which is Slavic.

SUBMITTED: April 2, 1957

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

Grishin, V. A.

78-2-36/43

AUTHORS: Yakimov, M. A., Nosova, N. F., Grishin, V. A.

TITLE: I. Investigations Concerning the Simultaneous Solubility of Uranyl Nitrate and Nitrates of Alkaline-Earth Metals in Water (I. Izucheniye sovmestnoy rastvorimosti nitrata uranila i nitratov shchelochnozemel'nykh metallov v vode)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2, pp.504-507 (USSR)

ABSTRACT: The solubility in the following three systems was investigated by the isothermic method:

a/ $UO_2(NO_3)_2$ - $Ba(NO_3)_2$ - H_2O

b/ $UO_2(NO_3)_2$ - $Sr(NO_3)_2$ - H_2O

c/ $UO_2(NO_3)_2$ - $Ca(NO_3)_2$ - H_2O

The saturated solutions were filled into glass ampules which were kept in a thermostat for 3-3 1/2 hours. The solubility was investigated at 0, 25 and 50°C. No critical point indicating a double salt was determined in the system $UO_2(NO_3)_2$-

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GRISHIN, V.

In anticipation of the 13th Congress of Soviet Trade Unions.
Vsem. prof. dvizh. no.3:5-9 Mr '63. (MIRA 16:3)

1. Predsedatel' Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.

(Trade unions)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.

The struggle for peace and friendship among nations is the most important task of trade unions. Vsem. prof. dvizh. no.11:3-6 N '60. (MIRA 13:11)

1. Chairman of the Central Council of Soviet Trade Unions, vice-president of the World Federation of Trade Unions.
(World Federation of Trade Unions) (World politics)

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1. GRISHIN, V.

2. USSR (600)

4. Masonry

7. Constructing stonework in livestock barns by the "freezing" method. Sel'.stroi. 7 no. 6, 1952.

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

1. GRISHIN, V.

2. USSR (600)

4. Building

7. Consultation., Sel'. stroi., 7, No.5, 1952

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

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

1. GRISHIN, V., Eng.

2. USSR (600)

4. Windows

7. Correct construction of window frames and doorways in log houses. Sel'.stroi 2 no. 8, 1947

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

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900016-6

GRISHIN, V.

Great objectives of scientific technological societies. NTO no.12: 2-5 D '59 (MIRA 13:3)

1. Predsedatel' Vsesoyuznogo tsentral'nogo soveta profsoyuzov.
(Research, Industrial)

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