AUTHOR: [illegible]

TITLE: Third order aberrations in the width of a linear image formed by a [illegible]

and magnetic fields [illegible] described by the [illegible] the two fields may have different strengths. The third order trajectory equations given by A.D.Dymnikov, T.Ya.Fishkova, and S.Ya.Yavor (ZhTF, 34, 1711, 1964) are [illegible] by the variation of constants method and the ten third-order aberration [illegible] considered and it [illegible] coma, and distortion. In spite [illegible]

Card 1/2

L 52012-65

ACCESSION NR: AP5012

NR REF SOV: 005

ACCESSION NR: AP5...

AUTHOR: Shpak, Ya.V.; Yavor, S. Ya. 21 B

TITLE: Achromatic electromagnetic quadrupole lenses with noncoincident axial field distributions. 2

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 5, 1965, 947-950

TOPIC TAGS: electron optics, magnetic quadrupole lens, electrostatic quadrupole lens, chromatic aberration

...paper by the same authors on ...ZhTF ... for ...matic if the ... image position ... calculated for ... with electrostatic and ... fields are rectangularly distributed on the axis ... than the electric field, ...

Card 1/2

L 52024-65

ACCESSION NR: AP5012062

viously described (ZhTF, 34, 1037, [illegible] 20.7 cm long 6 cm aperture magn
quadrupole lens and a 2.6 cm aperture [illegible] quadrupole lens of [illegible]
length consisting of a metal cylinder with [illegible] cut on generatrix. By
the theoretical formula and using the [illegible] and form factor of the mag-
netic lens the form factor of the electrostatic lens was determined. [illegible] of infinitely narrow slits
[illegible]
image shift was 120%, and for an [illegible]
las and 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad
(Physico-technical institute, AN SSSR)

SUBMITTED: 010ct64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 001

Card 2/2 [illegible]

S/057/60/030/008/008/019
B019/B060

AUTHORS: Yavor, S. Ya., Silad'i, M.

TITLE: Armored Cylindrical Magnetic Lenses With an Antisymmetrical Plane

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 8, pp. 927 - 932

TEXT: The present paper deals with the investigation of the focussing and reflecting properties of some types of armored cylindrical magnetic lenses. The construction of these magnetic lenses is discussed with the aid of the scheme shown in Fig. 1, and equations (2) and (3) are derived for the fields of two lens types along the z-axis (Fig. 1). Equation (4) is supplied for the beam with reference to an equation by Ya. L. Khurgin (Ref. 5). The investigation is then extended to electron trajectories parting from a point on the z-axis and from a particle ray lying on the z-axis as far as a certain point $z_0$. Calculated results are supplied in Table 1. The diagram of Fig. 5 shows the image coordinates as a function

Card 1/2

of the lens field, Fig. 6 is a graph depicting the mutual dependence of the image coordinates, and Fig. 7 illustrates the picture position as a function of the number of ampere turns. The diagram in Fig. 7 was drawn with a lens with a symmetrical plane which was produced by changing over the current direction in a magnetic coil from one of the lenses studied here. There are 7 figures, 1 table, and 5 references: 4 Soviet and 1 American.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Physico-technical Institute of the AS USSR, Leningrad)

SUBMITTED: January 16, 1960

YAVOR, S.Ya.; SILAD'I, M.

Formation of uniform magnetic field by a rectangular solenoid of a finite length. Prib. i tekh. eksp. 6 no.1:147-149 Ja-F '61. (MIRA 14:9)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Magnetic fields) (Solenoids)

31719
S/057/61/031/012/005/013
B108/B138

26.2322

AUTHORS: Kel'man, V. M., and Yavor, S. Ya.

TITLE: Achromatic four-pole electron lenses

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 12, 1961, 1439-1442

TEXT: Achromatic lenses for electron microscopes are studied. This kind of achromatic lens can be an assembly of two four-pole lenses - one electrostatic and one magnetic. The symmetry plane of the electric field will coincide with the plane of antisymmetry of the magnetic field. The electrical and magnetic forces acting upon the charged particles have to point in opposite directions. The authors only considered the case in which the electrostatic and magnetic fields are superimposed. The advantage of this design is that in paraxial approximation all particle trajectories may be considered achromatic. The relativistic equations for the trajectories of the charged particles in the lens are

$$x'' - xf(z)Q(v) = 0$$

$$y'' + yf(z)Q(v) = 0$$

X

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31719
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B108/B138

Achromatic four-pole electron lenses.

where $Q(v) = \frac{eH_o}{mcv} - \frac{eE_o}{mv^2}$. $f(z)$ determines the dependence of the electrical and magnetic scalar potentials on the z coordinate. m = relativistic mass. A possible design is shown in Fig. 1. Another design could be with hyperbolic poles and electrodes, with or without laminated electrodes between the main ones. G. A. Grinberg (Izbrannyye voprosy matematicheskoy teorii elektricheskikh i magnitnykh yavleniy, M.-L., 1948) is mentioned. There are 3 figures and 4 references: 1 Soviet and 3 non-Soviet. The 2 references to English-language publications read as follows: P. Grivet, A. Septier. Nucl. Instr. Meth., 6, 126, 243, 1960; M. Y. Bernard. C. R., 236, 185, 1953.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR Leningrad (Institute of Physics and Technology imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: January 26, 1961

Card 2/2

DYMNIKOV, A.D.; FISHKOVA, T.Ya.; YAVOR, S.Ya.

Electron-optical properties of a pseudoaxially-symmetrical quadrupole system. Radiotekh. i elektron., no.10:1828-1831 O '64. (MIRA 17:11)

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

KEL'MAN, Veniamin Moiseyevich; YAVOR, Stella Yakovlevna; ARTSIMOVICH, L.A., akademik, otv. red.; GOL'SHTEYN, G.A., red.izd-va; AREF'YEVA, G.P., tekhn. red.

[Electron optics] Elektronnaia optika. Izd.2., perer. i dop. Moskva, Izd-vo Akad. nauk SSSR, 1963. 362 p. (MIRA 16:6)
(Electron optics)

DYMNIKOV, A.D.; FISHKOVA, T.Ya.; YAVOR, S.Ya.

System of four quadrupole lenses, analogous to axially symmetric lenses. Izv. AN SSSR. Ser. fiz. 27 no.9:1131-1134 S '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR.
(Electron optics)

KEL'MAN, V.M.; YAVOR, S.Ya.; DYMNIKOV, A.D.; OVSYANNIKOVA, L.P.

Achromatic quadrupole lenses. Izv. AN SSSR. Ser. fiz. 27 no.9: 1135-1138 S '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR. (Electron optics)

S/057/63/033/003/018/021
B104/B180

AUTHORS: Kol'man, V. M., and Yavor, S. Ya.

TITLE: A quadrupole lens with negative chromatic aberration

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 3, 1963, 368-370

TEXT: Quadrupole lenses may have negative chromatic aberration if the ratio between magnetic and electric fields has a certain value. It is assumed that the electrostatic and magnetic fields are superposed in such a way that the symmetry plane of the former coincides with the anti-symmetry plane of the latter. Besides this, the electric and magnetic field forces acting on the charged particle are counter to one another. Under these assumptions $\varphi$ the electrostatic and $\omega$ the magnetic potential will be described by $\varphi = \frac{E_0}{2} f(z)(x^2-y^2)$ and $\omega = H_0 f(z)xy$, where $f(z)$ gives the field distribution along z and $E_0$ and $H_0$ are constants. In the relativistic case the paraxial trajectories have the form

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S/057/63/033/003/018/021
B104/B180

A quadrupole lens with negative ...

$$x'' - xf(z)\left(\frac{eH_0}{mcv} - \frac{eE_0}{mv^2}\right) = 0,$$
$$y'' + yf(z)\left(\frac{eH_0}{mcv} - \frac{eE_0}{mv^2}\right) = 0.$$

The power of the lense is defined by

$$Q = \frac{eH_0}{mcv} - \frac{eE_0}{mv^2} = \frac{e}{m_0 v}\sqrt{1 - \frac{v^2}{c^2}}\left(\frac{H_0}{c} - \frac{E_0}{v}\right),$$

Studying these equations the condition

$$E_0 \frac{c}{v_z} < H_0 < E_0 \frac{2c^2 - v_z^2}{cv_z},$$

for a negative chromatic aberration is derived in the relativistic, and

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S/057/63/033/003/018/021
B104/B180

A quadrupole lens with negative ...

$$E_0\frac{c}{v_z} < H_0 < 2E_0\frac{c}{v_z}.$$

in the non-relativistic case. If $H_0$ satisfies these conditions a combined quadrupole lens will have negative chromatic aberration. There is 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad
(Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: April 2, 1962

Card 3/3

S/057/63/033/004/004/021
B187/B102

AUTHORS: Dymnikov, A. D., Ovsyannikova, L. P., and Yavor, S. Ya.

TITLE: Systems of quadrupole lenses

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 4, 1963, 393 - 397

TEXT: The paper contains the results of calculations for "pseudostigmatic" systems composed of two or four quadrupole lenses of different lengths and giving a point-shaped image of a point-shaped object. The magnification of the system, in the case of the doublet, differs in both planes. This difference can be eliminated in a four-lens system. Conditions for the doublet for point-point image

$$\frac{g+\frac{1}{\beta_2}\operatorname{th}\beta_2 d}{\beta_2 g\operatorname{th}\beta_2 d+1}=\frac{a+\frac{1}{\beta_1}\operatorname{tg}\beta_1 b}{\beta_1 a\operatorname{tg}\beta_1 b-1}=s, \quad (4)$$

$$\frac{g+\frac{1}{\beta_2}\operatorname{tg}\beta_2 d}{\beta_2 g\operatorname{tg}\beta_2 d-1}=\frac{a+\frac{1}{\beta_1}\operatorname{th}\beta_1 b}{\beta_1 a\operatorname{th}\beta_1 b+1}=s. \quad (5)$$

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S/057/63/033/004/004/021
B187/B102

Systems of quadrupole lenses

a denotes the distance of the point-shaped object from the first lens; b and d are the lengths of the lenses and s is their distance; g is the distance between the image and the second lens; $\beta_1$, $\beta_2$ characterize the optical power of the lenses, the first of which focuses and the second one diffracts. If (4) is valid the beam coordinates, at given g, are independent of the divergence of the beam in the x,y plane. In the image plane the linear image is parallel to the y-axis. Equation (5) gives the position of the linear image parallel to the x-axis. If (4) and (5) are fulfilled simultaneously, then the mapping is point-shaped. The magnifications are

$$\left.\begin{aligned} M_x &= \frac{\operatorname{ch}\beta_2 d + \beta_2 g \operatorname{sh}\beta_2 d}{\cos\beta_1 b - \beta_1 a \sin\beta_1 b}, \\ M_y &= \frac{\cos\beta_2 d - \beta_2 g \sin\beta_2 d}{\operatorname{ch}\beta_1 b + \beta_1 a \operatorname{sh}\beta_1 b}. \end{aligned}\right\} \qquad (6)$$

A table gives the calculated numerical values for different cases: $\frac{s}{b} = 0;\ 0.5;\ 1;\ \frac{a}{b} = 0,\ 0.5,\ 1;\ \frac{g}{b} = 1,\ 2,\ 4;\ \frac{d}{b} = 1,\ 2,,4.$ If the distances

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Systems of quadrupole lenses

are the same but if the lens excitation is increased a point-shaped image can be obtained in the same plane but with different values of magnification. In a second table the pertinent numerical values are tabulated. The four-lens system is composed of two identical doublets arranged at a distance a + g in series. The field of the second doublet is turned by 90° with respect to the first one. The beam emerging in a again is focused at a distance g behind the second system. The magnification M varies from 1 to 27 and can be increased. Such systems of quadrupole lenses can be used also for electron or ion microscopes and permit reduction of spherical and chromatic aberration. There are 3 figures and 2 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Leningrad Physicotechnical Institute imeni A. F. Ioffe, AS USSR)

SUBMITTED: April 9, 1962

Card 3/3

L 18357-63 EPA(b)/EWT(1)/BDS/EEC(b)-2/ES(w)-2 IJP(C)/SSD Pd-4/Pi-4/
Pab-4 S/0057/63/033/007/0851/0858
ACCESSION NR: AP3003957

70
69

AUTHOR: Dy*mnikov, A.D.; Yavor, S.Ya.

TITLE: Four quadrupole lenses as the analogue of an axially symmetric system

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 851-858

TOPIC TAGS: electron optics, quadrupole lens

ABSTRACT: The possibility of using quadrupole lenses in electron-optical imaging systems employing high-energy electrons or heavy particles presents certain advantages. Such lenses, however, suffer from what may be called an extreme form of axial astigmatism: the lenses are convergent in one plane and divergent in another. For a single pair of conjugate foci, this axial astigmatism can be compensated by using two quadrupole lenses so mounted that the convergence plane of one lens is the divergence plane of the other. In the present paper a family of optical systems is discussed in which four quadrupole lenses are employed in two symmetric pairs, and astigmatism is compensated at all axial points. These systems are thus analogous to truly axially symmetric lenses. The equations describing the behavior of a single quadrupole lens, on which the subsequent calculations are based, are taken

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L 18357-63

ACCESSION NR: AP3003957

from A.Septier (Advances in Electronics and Electron Physics, 14, 86, 1961). The four-lons axially stigmatic systems are discussed in detail, and it is found that both converging and divergin systems are possible. An experimental investigation of these systems is under way. Orig.art.has: 22 formulas and 7 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR)

SUBMITTED: 04Jun62 DATE ACQ: 07Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 001 OTHER: 003

Card 2/2/

YAVOR, S. Ya.; DYMNIKOV, A. D.; FISHKOVA, T. Ya.; SHPAK, [illegible] V.

"Electromagnetic achromatic systems."

report submitted to 3rd European Regional Conf, Electron Microscopy, Prague, 26 Aug-3 Sep 64.

ACCESSION NR: AP4009920 S/0057/64/034/001/0053/0059

AUTHOR: Fishkova, T.Ya.; Shpak, Ye.V.; Yavor, S.Ya.

TITLE: Charged particle escape from a reflected electron discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.1, 1964, 53-59

TOPIC TAGS: gas discharge, reflected electron discharge, charged particle escape, anomalous charged particle escape, discharge in magnetic field

ABSTRACT: The transverse escape of charged particles from a gas discharge in a longitudinal magnetic field was investigated. Electron reflecting electrodes were provided at the two ends of the discharge region to increase the ionization. Except for the higher degree of ionization achieved, the experiments were similar to those reported by J.F.Bonnal, G.Brifford and C.Manus (Phys.Rev.Lett.6,665,1961; Report No.9 at the Salzburg Conference,1961), and similar anomalous results were obtained. The discharge tube was 200 cm long and 17.8 cm in diameter. The two reflecting electrodes were 11.6 cm in diameter and were separated by 105 cm. One reflector carried a hot cathode 2 or 3 cm in diameter. The discharge current was received by one or more cylindrical anodes somewhat smaller in diameter than the reflecting electrodes.

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ACC.NR: AP4009920

When a single anode was employed, it was provided with two wall probes, one located midway between the two reflecting electrodes, and one located 16 cm from this midpoint. With the discharge tube filled with argon at 5 x $10^{-4}$ to $10^{-3}$ mm Hg, discharge currents up to 10 A at potentials up to 500 V were observed in longitudinal magnetic fields up to 2100 Oe. The degree of ionization was determined from the attenuation of 3.2 cm and 0.85 cm microwaves. Ionizations up to 7% were deduced from the 3.2 cm measurements. A highly ionized filament was produced on the axis of the discharge by admitting gas through an opening in the center of one of the reflectors. The ionization in this filament was estimated from the 0.85 cm microwave measurements at 50% or greater. When several anodes were employed, the current to the central anode was negative (preponderance of negatively charged particles collected), and the currents to the remaining anodes were positive. The currents to all the anodes behaved in a similar way as the magnetic field was varied: when the field was increased from zero the current would first decrease (in absolute value), reach a sharp minimum at a small value of the field, increase to a broad maximum, and finally decrease again at high fields. The positive ion current to the central wall probe of the single anode was measured as a function of the longitudinal magnetic field while the total discharge current was held constant by adjusting the applied potential or the cathode temperature. In these measurements the probe was kept

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ACC.NR: AP4009920

30 V negative with respect to the anode. The positive ion current first increased with increasing field, then decreased to a broad minimum, and finally increased again at high fields. The initial increase and subsequent decrease of the ion current are briefly discussed. The anomalous increase of the ion current at high field strengths is not explained. Orig.art.has: 8 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR, Leningrad (Physical-Technical Institute, AN SSSR)

SUBMITTED: 12Nov62 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: PH NR REF SOV: 002 OTHER: 003

Card 3/3

ACCESSION NR: AP4009927 S/0057/64/034/001/0105/0109

AUTHOR: Yavor, S.Ya.; Siladi, M.

TITLE: Electron-optical properties of two dimensional electric and magnetic fields having a neutral plane

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.1, 1964, 105-109

TOPIC TAGS: electron optics, electromagnetic lens, two dimensional electromagnetic lens, neutral plane, electrostatic lens, cylindrical electrostatic lens

ABSTRACT: The electromagnetic fields discussed in this paper are those static fields for which a rectangular Cartesian coordinate system x,y,z can be introduced such that the fields are independent of x, and under reflection in the x-y plane (neutral plane) the electric field is invariant and the magnetic field changes sign. The electron-optical properties of such fields are important for the design of double focusing mass spectrometers and other particle analyzers. By a process that the authors call separation of variables, but which appears to be elimination of ds and dx between Puthagoras' theorem and two differential equations for the trajectory, a second order linear differential equation is derived for the projection of the tra-

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ACC.NR: AP4009927

jectory on the y-z plane. This equation is homogeneous in z, in which respect it differs from the corresponding equation for those two dimensional fields for which the magnetic field is invariant (instead of changing sign) under reflection in the neutral plane. From the homogeneity of the trajectory equation it is concluded that the y coordinates of object and image points produced by particles with the same x component of velocity are connected by Newton's relation. This is illustrated by computations relating a magnetic lens described elsewhere. A "fictitious potential" is introduced corresponding to the y component of the particle velocity. The equation of the trajectory is transformed with the aid of the fictitious potential to a form similar to that appropriate to an axially symmetric lens. The case of a purely electrostatic field is considered separately, and an equation is derived for focusing of an obliquely incident beam by a cylindrical electrostatic lens. Fields for which the trajectories can be obtained in closed form are discussed briefly. Two examples are found, and the corresponding trajectories are derived. Orig.art.has: 24 formulas, 1 figure and 1 table.

2/3
Card

ACCESSION NR: AP4012966 S/0020/64/154/004/0821/0823

AUTHORS: Yavor, S. Ya.; Dy*mnikov, A.D.

TITLE: Achromatic multipolar lens

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 821-823

TOPIC TAGS: optics, electron optics, lens, achromatic lens, multipolar lens, achromatic multipolar lens electrostatic field, octupole lens

ABSTRACT: An achromatic multipolar lens consists of combined electrostatic and magnetic lenses. The planes of symmetry of the electrostatic field are matched with the antisymmetry planes of the magnetic field, whereupon the forces acting on the charged particle in these planes are directed in opposition to each other. The distribution of the electrostatic $\varphi$ and magnetic $\omega$ potentials can be obtained from the expression for a certain potential $\psi$ which is periodic with respect to the angle $\vartheta$

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ACCESSION NR: AP4012966

$$\psi(r, \vartheta, z) = \sum_{m=0}^{\infty} \sum_{\nu=0}^{\infty} (-1)^{\nu} \frac{m!}{4^{\nu} \nu! (m+\nu)!} r^{m+2\nu} [\Phi_m^{(2\nu)} \cos m\vartheta + \Omega_m^{(2\nu)} \sin m\vartheta]. \quad (1)$$

In this case, $\Phi_m$ and $\Omega_m$ are certain functions dependent upon $z$. If the fields have N planes of symmetry (2N electrodes or terminals), then the distribution of the potential must satisfy the following conditions (with symmetrical excitation)

$$\psi\left(\vartheta \pm 2k \frac{\pi}{N}\right) = \psi(\vartheta) \quad (2)$$

$$\psi\left[\vartheta \pm (2k+1) \frac{\pi}{N}\right] = -\psi(\vartheta), \quad k = 0, 1, 2, \ldots \quad (3)$$

$$m = N(2n-1), \quad n = 1, 2, \ldots$$

In connection with a varying distribution of the electrostatic and magnetic fields with respect to the coordinate system, we can write

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ACCESSION NR: AP4012966

$$\varphi(\vartheta) = \varphi(-\vartheta), \tag{4}$$

$$\omega(\vartheta) = -\omega(-\vartheta). \tag{5}$$

From here:

$$\varphi(r, \vartheta, z) = \sum_{n=1}^{\infty} \sum_{\nu=0}^{\infty} (-1)^{\nu} \frac{[N(2n-1)]!}{4^{\nu}\nu\,[N(2n-1)+\nu]!} \Phi_{N(2n-1)}^{(2\nu)} r^{N(2n-1)+2\nu} \cos N(2n-1)\vartheta \tag{6}$$

$$\omega(r, \vartheta, z) = \sum_{n=1}^{\infty} \sum_{\nu=0}^{\infty} (-1)^{\nu} \frac{[N(2n-1)]!}{4^{\nu}\nu![N(2n-1)+\nu]!} \Omega_{N(2n-1)}^{(2\nu)} r^{N(2n-1)+2\nu} \sin N(2n-1)\vartheta \tag{7}$$

The lens field near the axis was examined. Authors assumed that binomial coefficients are connected by the equality

$$C_N^l = \frac{N-l+1}{l} C_N^{l-1}, \tag{8}$$

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Then

$$x'' = -\frac{e}{m_0 v^2}\sqrt{1-\frac{v^2}{c^2}}\left[\Phi_N - \frac{v}{c}\Omega_N\right]\times$$
$$\times\left[C_N^1 x^{N-1} - 3C_N^3 x^{N-3}y^2 + 5C_N^5 x^{N-5}y^4 - \ldots\right],$$
$$y'' = +\frac{e}{m_0 v^2}\sqrt{1-\frac{v^2}{c^2}}\left[\Phi_N - \frac{v}{c}\Omega_N\right]\times \qquad (9)$$
$$\times\left[2C_N^2 x^{N-2}y - 4C_N^4 x^{N-4}y^3 + 6C_N^6 x^{N-6}y^5 - \ldots\right].$$

The condition for achromaticity will be the equality to zero of the first derivative with respect to velocity, of the right sides of (9). The connection between the electrostatic and magnetic fields for a given velocity $v_0$ can then be found by

$$\Phi_N(z) = \frac{v_0 c}{2c^2 - v_0^2}\Omega_N(z) \qquad (10)$$

or, in a non-relativistic approximation

$$\Phi_N(z) = \frac{v_0}{2c}\Omega_N(z). \qquad (11)$$

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ACCESSION NR: AP4012966

The ratio between the coefficients $\overline{\Phi}_N$ and $\Lambda_N$ is identical for all lens, independent of the number of poles contained in them. Orig. art. has: 1 figure and 15 equations.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F. Ioffe Akademii nauk SSSR (Physics-engineering institute Academy of Sciences SSSR)

SUBMITTED: 10Sep63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 000

Card 5/5

ACCESSION NR: AP4019973 S/0020/64/154/006/1321/1324

AUTHOR: Dy*mnikov, A. D.; Fishkova, T. Ya.; Yavor, S. Ya.

TITLE: Spherical aberration of a two-dimensional electrostatic quadrupole lens without antisymmetric planes

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1321-1324

TOPIC TAGS: spherical aberration of electrostatic lens, quadrupole electrostatic lens, electron microscope lens, spherical aberration correction, electron microscope, spherical aberration

ABSTRACT: In the present paper, a method has been developed for the correction of spherical aberration which is based on the maintaining of symmetry planes of the field in the absence of antisymmetry planes. An example of such asymmetry is presented by an electrostatic lens which has different distances between electrodes of the same sign. The possibility of such a correction is shown on a two-dimensional electrostatic quadrupole lens. In the equations for trajectories of

Card 1/2

ACCESSION NR: AP4019973

charged particles, terms are considered which are necessary for the computation of aberrations of the third order. The computation shows that spherical aberration cannot be compensated along the whole image. The length of the linear image is not greatly affected by spherical aberration. The suggested method of correction permits one either to reduce the spherical aberration along the whole length of the image, or to completely compensate it in the center. Orig. art. has: 3 figures and 24 equations.

ASSOCIATION: Fiziko-tekhicheskiy institut im. A. F. Ioffe Akademii Nauk SSSR (Physics-Engineering Institute, Academy of Sciences, SSSR)

SUBMITTED: 24Sep63 DATE ACQ: 23Mar64 ENCL: 00

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

Card 2/2

YAVOR, S.Ya.; SILADI, M.

Electron-optical properties of two-dimensional electric and magentic fields with a mean plane. Zhur. tekh. fiz. 39 no.1:105-109 Ja '64. (MIRA 17:1)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad i Institut tekhnichskoy fiziki Vengerskoy Akademii nauk.

FISHKOVA, T.Ya.; SHPAK, Ye.V.; YAVOR, S.Ya.

Escape of charged particles from a discharge with reflected electrons. Zhur. tekh. fiz. 39 no.1:53-59 Ja '64. (MIRA 17:1)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

YAVOR, S.Ya.; DYMNIKOV, A.D.; OVSYANNIKOVA, L.P.

Experimental study of a quadrupole lens with zero or negative chromatic aberration. Zhur. tekh. fiz. 39 no.1:99-104 Ja '64.(MIRA 17:1)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

ACCESSION NR: AP4040307 S/0057/64/034/006/1037/1039

AUTHOR: Shpak, Ye.V.; Yavor, S.Ya.

TITLE: A pseudo-axially symmetric system of four iron-free magnetic quadrupole lenses

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1037-1039

TOPIC TAGS: electron optics, electron lens, magnetic quadrupole lens

ABSTRACT: In continuation of earlier work on systems of quadrupole lenses having axially symmetric first order optical properties (A.D.Dymnikov, S.Ya.Yavor,ZhTF, 33,851,1963; A.D.Dymnikov,T.A.Fishkova and S.Ya.Yavor, Izv.AN SSSR,Ser.fiz.27,1131, 1963), several iron-free magnetic quadrupole lenses of the type shown schematically in Fig.1 of the Enclosure were constructed and tested. The conductors parallel to the z axis were equidistant, and the angle $\alpha$ was accordingly 90°. The peculiar distribution of the windings was adopted in an effort to minimize the z-component of the field on the axis and to improve the distribution of the x- and y-components. The optical properties of the lens were calculated in the thin conductor approximation, and the formula is given for calculating the object and image distances. Seve-

Card 1/4

ACCESSION NR: AP4040307

ral lenses of aperture (2R) 7.0 and 12 cm and lengths (l) from 14.5 to 41.2 cm were tested with 4 to 7 keV electrons on the electron optical bench, both singly and in three pseudo-axially symmetric combinations of four lenses each. The windings of these lenses measured approximately 11 x 11 $mm^2$ and had 50 or 64 turns. Agreement between the measured and calculated properties indicated that the thin lens approximation was adequate for these lenses. The relation between the currents in the inner and outer lenses required to achieve pseudo-axial symmetry was determined experimentally for each of the three combinations; the measurements were in agreement with the theory. The focal length and the position of the unit planes of one of the combinations were also determined as functions of the current in the outer lenses; these measurements also agreed with the theory. A comparison of pseudo-axially symmetric systems with different lengths and separations of the component lenses, and a discussion of the selection of these parameters for optimum performance are promised for the future. "The theoretical curves were calculated by A.D.Dy*mnikov and T.Ya.Fishkova, to whom the authors convey their gratitude." Orig.art.has: 5 formulas and 3 figures.

Card 2/4

ACCESSION NR: AP4040307

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR Leningrad (Physico-technical Institute, AN SSSR)

SUBMITTED: 24 Oct63 DATE ACQ: 19Jun64 ENCL: 01

SUB CODE: EM, OP NR REF SOV: 002 OTHER: 000

Card 3/4

ACCESSION NR: AP4040307

ENCLOSURE: 01

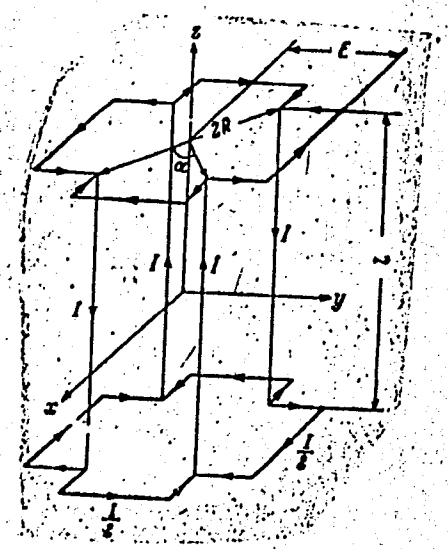



Fig.1. Iron-free magnetic quadrupole lens

Card 4/4

BSD/AFETR/AFWL/SSD/ESD(dp)/ESD(gs)/ESD(t)
ACCESSION NR: AP4045286

S/0057/64/034/009/1711/1714

AUTHOR: Dyemshkov, A. D.; Fishkova, T. Ye.; Yavor, S. Ya.

TITLE: Spherical aberration of a combined electrostatic and magnetic quadrupole lens

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.9, 1964, 1711-1714

TOPIC TAGS: electron optics, spherical aberration, magnetic lens, quadrupole lens

ABSTRACT: The authors and collaborators have previously described a combined electrostatic and magnetic [illegible] can be made achromatic by proper [illegible]

1/2

L 34965-65
ACCESSION NR: AP4045286

the information of the trajectory at the object point) was found to be 1/2 for an

[illegible] Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physi-

[illegible]

2/2

TOPIC TAGS: quadrupole lens, axisymmetric system

**ABSTRACT:** This is a continuation of an earlier author's work (Zh TF, [illegible], 33, [illegible]). A set of quadrupole lenses similar to an axisymmetric system is

Card 1/3

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-Technical Institute AN SSSR)

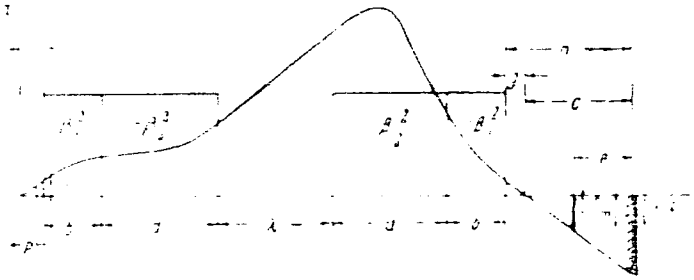
SUBMITTED: 28Jun63 ENCL:

SUB CODE: PH, OP NO REF SOV: 002 OTHER:

Card 2/3

ACCESSION NR: AP4044681

ENCLOSURE: 1



Determination of critical characteristics of a
[illegible] quadruple system by the
[illegible]

Card 3/3

SHPAK, Ye.V.; YAVOR, S.Ya.

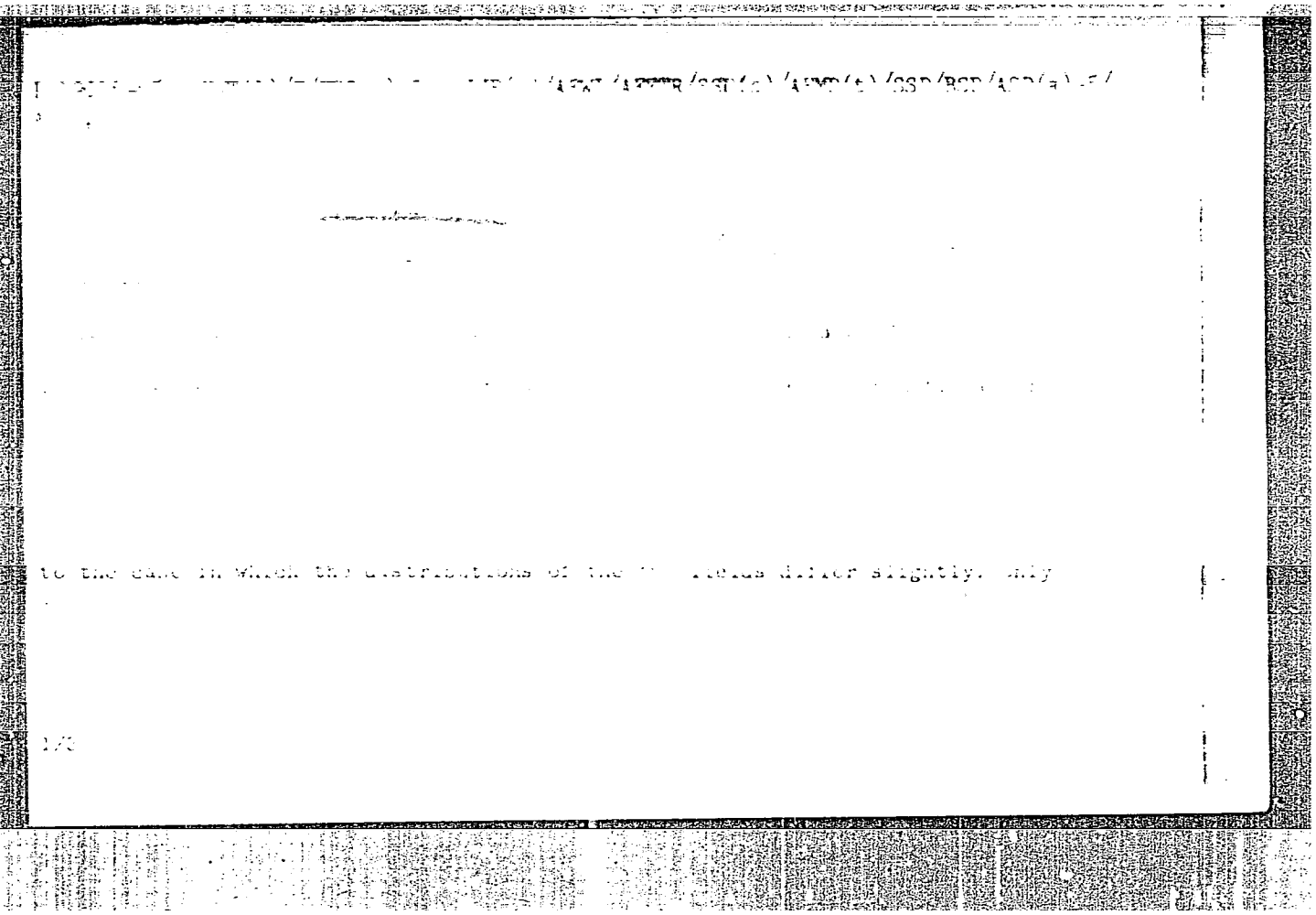
Pseudosymmetrical system of four air-core magnetic quadrupole lenses. Zhur. tekh. fiz. 34 no.6:1037-1039 Je '64. (MIRA 17:9)

1. Fiziko-tekhnicheskiy institut imeni Ioffe AN SSSR, Leningrad.

DYMNIKOV, A.D.; FISHKOVA, T.Ya.; YAVOR, S.Ya.

Spherical aberration of a composite quadrupole lens. Zhur. tekh. fiz. 34 no.9:1711-1714 S '64. (MIRA 17:10)

1. Fiziko-tekhnicheskiy institut imeni Ioffe AN SSSR, Leningrad.



the magnetic [illegible] discussed in some detail. The equations [illegible]

L 19016-65

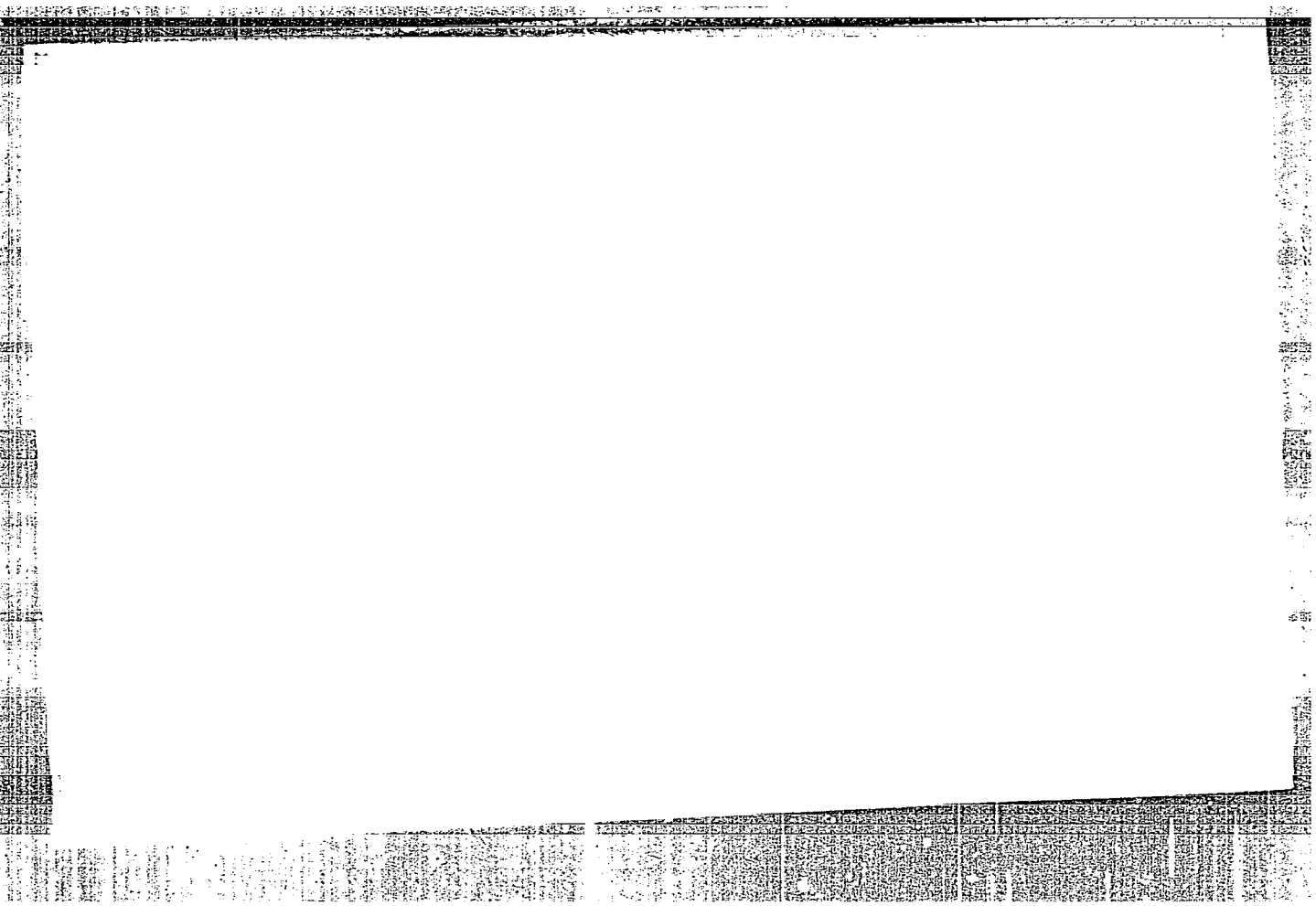
ACCESSION NR: AP4049041

AUTHOR: [illegible] Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR, Leningrad (Physico-[illegible] Institute, AN SSSR)

SUBMITTED: 30Mar64 ENCL: 00

SUB CODE: [illegible] NR REF SOV: 001 OTHER: 000

3/3



L 59638-65
ACCESSION NR: AP4049042

lens. A quadrupole doublet, therefore, cannot be simultaneously achromatic in both of two mutually perpendicular planes containing the axis. The corresponding equation for a thin lens doublet is written, and it is shown that in this case the chromatic aberrations of the image position and the magnification cannot simultaneously vanish even in one plane. A symmetric quadrupole quadruplet is discussed

Card 2/2 ADP

SOV/0037/65/035/003/0402/0404

AUTHOR [illegible]

TITLE: Relativistic motion of charged particles in a two-dimensional electron optical system containing a [illegible]

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 3, 1965, 402-404

TOPIC TAGS: electron optics, relativistic electron, electron lens

ABSTRACT: The authors discuss the motion of a charged particle in a two-dimensional static electromagnetic field possessing a mid-plane with respect to which [illegible]

[illegible] equations for the motion of a particle moving in the mid-plane [illegible] four homogeneous lines [illegible] for the axial symmetric case [illegible] of a particle [illegible] equations. An equation for vertical focusing previously given by the authors (ZhTF 34 155 1964)

Card 1/2

L 40934-05
ACCESSION NR: AP5007280

Orig.art.has: 14 formulas.

ASSOCIATION: Institut tekhnicheskoy fiziki Vengerskoy AN, Budapesht (Institute of [illegible] Budapest)

SSSR)

SUBMITTED 16Jul64 ENCL: 00 SUB CODE: NP,OP

NR REF SOV: 003 OTHER: 000

Card 2/3

AUTHOR: [illegible] 72

9/0057/65/035/003/0431/0440

[illegible] Ya

TITLE: Influence of the geometric parameters on the optical properties of a system of four quadrupole lenses, analogous to an axially symmetric lens

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.3, 1965, 431-440

[illegible] axial symmetry

quadruplets are capable [illegible] advantages over axially symmetric lenses, including possibility

Card 1/2

[illegible] 2n

Results of these calculations in graphical form are suitable for preliminary [illegible]

[illegible]

Association [illegible] im A.F. Ioffe AN SSSR Leningrad
(Phys[illegible]

SUBMITTED: 21Mar64 ENCL: [illegible] SUB CODE: [illegible]

[illegible]

Card 2/3

AUTHOR: Dymnikov, A.D., Fiskova, T.Ya., Yavor, S.Ya.

TITLE: Spherical aberration in the width of a line image formed by a combined quadrupole lens

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 759-761

TOPIC TAGS: electron optics, electron lens, quadrupole lens, spherical abberation

ABSTRACT: The authors emply their differential equation for the trajectory in a [illegible] to find the spherical aberration in the width of a line image. The spherical aberration in the converging plane is always positive, but outside this plane it [illegible]

Card 1/2

[illegible] is necessary to include the second derivative of the first [illegible]

in formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad
(Physico-technical Institute, AN SSSR)

SUBMITTED 16Jul64 ENCL: 00 SUB CODE: EM, OP

NR REF SOV: 003 OTHER: 000

Card 2/2

ACCESSION NR: AP5012060 UR/0057/65/035/005/0935/0939

AUTHOR: Yavor, S.Ya.

TITLE: Motion of a charged particle in an axially symmetric electromagnetic field with a median plane

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35 no. 5, 1965, 935-939

[illegible] field, magnetic field,

Card 1/2

ACCESSION NR: AP5012050

median plane trajectory is derived.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad
(Physico-Technical Institute, AN SSSR)

SUBMITTED: [illegible] ENCL: 00 SUB CODE: EM, OP

NR REF SOV: 005 OTHER: 001

Card 2/2

L 54759-65 EWT(l) Pq-4 IJP(c) UR/0057/65/035/006/1068/1076

ACCESSION NR: AP5015631

AUTHOR: Dymnikov, A.D.; Fishkova, T.Ya.; Yavor, S.Ya.

TITLE: Spherical aberration of a combined quadrupole lens with a bell-shaped field distribution

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 1068-1076

TOPIC TAGS: electron optics, magnetic quadrupole lens, electrostatic quadrupole lens, spherical aberration

[illegible] spherical aberration of a combined [illegible] lens similar to those for [illegible]

[illegible] strength on the axis [illegible] which the electric and magnetic [illegible]

Card 1/2

L 54759-65
ACCESSION NR: AP5015631

$1/(1 + (z/d)^2)^2$, where z is the axial coordinate and d is a constant. Curves are given showing the spherical aberration coefficients as functions of the total excitation and of the ratio of the electric to the magnetic field strength. The spherical aberration of a doublet [illegible]

has: 39 formulas and 5 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR, Leningrad (Physico-technical Institute, AN SSSR)

SUBMITTED: 16Dec64 ENCL: 00 SUB CODE: OP, EM

NR REF SOV: 002 OTHER: 001

Card 2/2

DYMNIKOV, A.D.; FISHKOVA, T.Ya.; YAVOR, S.Ya.

Spherical aberration of a combined quadrupole lens with rectangular field distribution. Dokl. AN SSSR 162 no.6:1265-1268 Je '65. (MIRA 18:7)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR. Submitted January 9, 1965.

L 36550-66 EWT(1)/T IJP(c)

ACC NR: AP6015754 (A,N) SOURCE CODE: UR/0048/66/030/005/0739/0741

AUTHOR: Dymnikov,A.D.; Fishkova,T.Ya.; Yavor,S.Ya.

ORG: none

TITLE: Dependence of the spherical aberration coefficients of a quadrupole lens on the object distance (rectangular model) /Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v. 30, no. 5, 1966, 739-741

TOPIC TAGS: electron optics, spherical aberration, magnetic quadrupole lens, electrostatic field

ABSTRACT: Equations given elsewhere by the present authors (Dokl. AN SSSR, 162, 1265 (1965)) have been employed to calculate, with the aid of a computer, the spherical aberrations of magnetic and electrostatic quadrupole lenses. Curves are presented showing each of the four spherical aberration coefficients of both types of quadrupole lens as functions of the object distance for different values of the excitation. The principal spherical aberration coefficient for the converging plane is always positive and has a minimum; the relation between excitation and object distance for the minimum value of this coefficient is presented graphically. The spherical aberration in the width of a linear image in the median plane for a magnetic quadrupole lens is compared

Card 1/2

L 36550-66

ACC NR: AP6015754

with the corresponding quantity for an analogous axially symmetric lens; for equal object distances and focal lengths, the quadrupole lens has the smaller spherical aberration. Orig. art. has: 4 formulas, 9 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 001

Card 2/2 MLP

DYMNIKOV, A.D.; FISHKOVA, T.Ya.; YAVOR, S.Ya.

Spherical aberration of a compound quadrupole lens with a bell-shaped field distribution. Zhur. tekh. fiz. 35 no.6:1068-1076 Je '65. (MIRA 18:7)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

L 3455-66 EWT(1) IJP(c)
ACCESSION NR: AP5017204 UR/0020/65/162/006/1265/1268

AUTHORS: Dymnikov, A. D.; Fishkova, T. Ya.; Yavor, S. Ya.

TITLE: Spherical aberration of a combined quadrupole lens with rectangular field distribution

SOURCE: AN SSSR. Doklady, v. 162, no. 6, 1965, 1265-1268

TOPIC TAGS: electron optics, magnetic quadrupole lens

ABSTRACT: In order to get around the mathematical difficulties involved in using a rectangular model for the calculation of spherical aberrations, the authors have derived for the spherical aberration expressions which do not contain the derivatives of the fields in explicit form. These expressions were obtained by solving, by perturbation theory, trajectory equations given in an earlier paper (ZhTF v. 34, 1711, 1964), and by subsequently transforming the obtained formulas by integration by parts. The particular analysis pertains to a field which is bounded in the axial direction when a pointlike object lying on the axis, as well as its linear image, are both situated in

Card 1/2

L 3455-66

ACCESSION NR: AP5017204 3

a field-free space. Plots of the coefficients of spherical aberration, obtained on the basis of these calculations, are included. The results were compared with experimental data for a parallel beam and were found to be in good agreement. This report was presented by B. P. Konstantinov. Orig. art. has: 3 figures and 19 formulas

ASSOCIATION: Fiziko-tekhnicheskiy institut im A. F. Ioffe Akademi nauk SSSR (Physicotechnical Institute, AN SSSR)

74,55

SUBMITTED: 31Dec64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 001

BVK

Card 2/2

TYAVODA, O. (Chekhoslovakiya, Bratislava); YAVOR, T. (Chekhoslovakiya, Bratislava)

Study of the deformation of plates on models. Stroi. mekh. i rasch. soor. 3 no.5:21-24 '61. (MIRA 14:10)
(Structural frames--Models) (Elastic plates and shells)

VAGIN, S.B.; GORDINSKIY, G.Ye.; GRIBOVA, Ye.A.; DUBROVSKAYA, M.A.; ZHDANOV, M.A., prof.; ZYUZINA, N.G.; KARTSEV, A.A.; KNYAZEV, V.S., dots.; LEONOVA, R.A.; POKROVSKAYA, L.V.; SUDARIKOV, Yu.A.; YUDIN, G.T., dots.; SOKOL'SKAYA, Z.V.; TOMKINA, A.V.; USPENSKAYA, N.Yu., prof.; FOMKIN, K.V., kand.geol-min.nauk; CHERNYSHEV, S.M.; YAVORCHUK, I.V.; BAKIROV, A.A., prof., red.; DEMENT'YEVA, T.A., ved. red.

[Geological conditions and basic characteristics of oil and gas accumulations in the limits of the Epi-Hercynian Platform in the south of the U.S.S.R.] Geologicheskie usloviia i osnovnye zakonomernosti razmeshcheniia skoplenii nefti i gaza v predelakh epigertsinskoi platformy iuga SSSR. Pod obshchei red. A.A.Bakirova. Moskva, Nedra. Vol.2. 1964. 306 p. (MIRA 17:12)

1. Moscow. Institut neftekhimicheskoy i gazovoy promyshlennosti.

YAVORITSKIY M.V.

16.6100

38295
S/021/62/000/006/003/013
D251/D308

AUTHOR: Yavoryts'kyy, M.V.

TITLE: Vector currents with simply-connected dependence

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 6, 1962, 715 - 719

TEXT: The author generalizes the concept of simply-connected dependent currents considered in his earlier work (DAN URSR, 1251 /1961/) to establish a type of current that will be invariant, in some sense with respect to queues. This problem was raised by B.V. Hnyedenko. A sequence of n-dimensional, mutually independent, equally distributed random vectors with independent non-zero components, is considered. From these a current with simply-connected dependence of dimensionality n is derived. The concepts of stationary and ordinary flow are introduced and theorems on the derivative of the probability function and on the properties of stationary flow are established It is also proved (Theorem 4) that if a current with singly-connected dependence of dimensionality $n \neq 0$ enters a unilinear system of queues with losses and if the duration of the queues are mutually

Card 1/2

dependent, the out-going current will have simply-connected dependence and the dimensionality n + 1. Further, theorems on the properties of the currents are proved and it is stated that when the ingoing is a stationary Poisson current the concepts of the probability of loss and the part of occupation coincide.

ASSOCIATION: Instytut matematyky AN URSR (Institute of Mathematics of the AS UkrSSR)

PRESENTED BY: B.V. Hnyedenko, Member of the AS UkrSSR

SUBMITTED: November 10, 1961

YAVORKOVSKIY, I.; SOLOVEY, D.Ya.

Cases of familial leukemia. Probl. gemat. i perel. krovi 5 no. 12:49-50 '60. (MIRA 14:1)
(LEUKEMIA)

YAVORKOVSKIY, L.I., kand.med.nauk

Diagnostic significance of lactic acid in gastric juice. Vopr.klin. lech.zlok.novoobraz., Riga. 2:53-62 1955

1. Respublikanskaya klinicheskaya bolnitsa (glavvrach -N.K.Dabola).

(GASTROINTESTINAL DISEASES, diagnosis,
lactic acid determ. in gastric juice (Rus))
(GASTROINTESTINAL SYSTEM, neoplasms
diag., determ. of gastric juice lactic acid (Rus))
(LACTIC ACID, determination,
in gastric juice, diag. value in gastrointestinal malignant & benign dis. (Rus))
(GASTRIC JUICE,
lactic acid, determ. in diag. of gastrointestinal (Rus))

YAVORKOVSKIY, L.I.

YAVORKOVSKIY, L.I.; MAY, L.A.; pri tekhnicheskom uchastii E.Ya.Krumin'

Methods for a quantitative determination of vitamin $B_{12}$ in blood serum by using Escherichia coli. Lab.delo 3 no.6:3-7 N-D '57. (MIRA 11:2)

1. Iz Respublikanskoy klinicheskoy bol'nitsy (galvnyy vrach Z.N. Shelemina) i Respublikanskoy stantsii perelivaniya krovi (zav. A.Ye.Trilisskiy) Latviyskoy SSR.
(VITAMINS--B) (ESCHERICHIA COLI)

YAVORKOVSKIY, L.I.

YAVORKOVSKIY, L.I., kand.med.nauk (Riga)

Pathogenesis and therapy of funicular myelosis. Klin.med. 35 no.7: 131-133 Jl '57. (MIRA 10:11)

1. Iz gematologicheskogo otdeleniya (zav. G.A.Fonarev) Rizhskoy respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach - kandidat meditsinskikh nauk F.F.Grigorash).

(SPINAL CORD, diseases,
funicular myelosis, pathogen. & ther. (Rus))

YAVORKOVSKIY, L.I.; KONAREV, G.A.

Acute leukemia and pregnancy. Probl. gemat. i perel. krovi 3 no.6: 20-23 N-D '58. (MIRA 12:7)

1. Iz Respublikanskoy klinicheskoy bol'nitsy Latviyskoy SSR (glavnyy vrach Z.N. Shelemina).
(LEUKEMIA) (PREGNANCY, COMPLICATIONS OF)

YAVORKOVSKIY, L. I.

MAY, L.A., YAVORKOVSKIY, L.I.

Some problems concerning quantitative determination of vitamin $B_{12}$ in blood serum by means of Escherichia coli [with summary in German]. Biokhimiia 23 no.2:237-243 Mr-Ap '58 (MIRA 11:6)

1. Respublikanskaya stantsiya perelivaniya krovi Latviyskoy SSR i Respublikanskaya klinicheskaya bol'nitsa, Riga.
(VITAMIN $B_{12}$, in blood
quantitative determ. by means of E. coli (Rus))
(ESCHERICHIA COLI,
use in qunatitative determ. of serum vitamin $B_{12}$ (Rus))

SOLOVEY, D.Ya.; YAVORKOVSKIY, L.I., kand.med.nauk

Immediate results of treating chronic myelosis with myleran. Sov.med. 23 no.11:58-62 N '59. (MIRA 13:3)

1. Iz gematologicheskogo otdeleniya Rizhskoy respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach Z.N. Shelemina).

(DUSULFAN therapy)
(LEUKEMIA MYELOCYTIC therapy)

YAVORKOVSKIY, L.I., kand.med.nauk (Riga)

Etiology and pathogenesis of hypovitaminosis B12 [with summary in English]. Klin.med. 37 no.1:68-74 Ja '59. (MIRA 12:3)

1. Iz gematologicheskogo otdeleniya Respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach Z.N. Shelemina).
(VITAMIN B12 DEFICIENCY, etiol. & pathogen.
relation to infect. (Rus))
(INFECTION
relation to pathogen. of hypovitaminosis B12
(Rus))

YAVORKOVSKIY, L.I.

Biochemical diagnosis of funicular myelosis; vitamin $B_{12}$ metabolism in funicular myelosis. Zhur. nevr. i psikh. 59, no.5:538-543 '59 (MIRA 12:7)

1. Gematologicheskoye otdeleniye (zav. G. A. Fonarev) Rizhskoy respublikanskoy klinicheskoy bol'nitsy.

(BONE MARROW, dis.
funicular myelosis, diag. value of blood vitamin $B_{12}$ (Rus))
(VITAMIN $B_{12}$, in blood
in funicular myelosis, diag. value (Rus))

YAVORKOVSKIY, L.I.; PURNE, S.Ya.; SANDLER, G.P.; MEZHARAUPS, S.P. (Riga)

Case of an acquired hemolytic anemia with the presence of a complex of antibodies. Vrach.delo no.10:102-104 O '60. (MIRA 13:11)

1. Respublikanskaya klinicheskaya bol'nitsa imeni P.I.Stradynya i Respublikanskaya stantsiya perelivaniya krovi.
(ANEMIA)
(ANTIGENS AND ANTIBODIES)

YAVORKOVSKIY, L.I.; MAY, L.A.

Serum $B_{12}$ content in leukemias. Probl. gemat. i perel. krovi 5 no. 12:22-25 '60. (MIRA 14:1)
(CYANOCOBALAMINE) (LEUKEMIA)

MAY, L.A.; YAVORKOVSKIY, L.I.

Determination of "free" vitamin $B_{12}$ in the blood serum with Escherichia coli. Biokhimiia 25 no.1:80-85 Ja-F '60. (MIRA 13:6)

1. Institut khimii Akademii nauk Latviyskoy SSR i Respublikanskaya Klinicheskaya bol'nitsa imeni P. Stradyuya, Riga.
(VITAMIN $B_{12}$ blood)
(ESCHERICHIA COLI)

YAVORKOVSKIY, L.I.; MAY, L.A.

Vitamin B12 content of the cerebrospinal fluid. Vop. med. khim. 7 no. 1:25-27 Ja-F '61. (MIRA 14:4)

1. From the Republican Clinical Hospital and the 2d Medical School, Riga.

(CEREBROSPINAL FLUID) (CYANOCOBALAMINE)

YAVORKOVSKIY, L.I.

Permeability of the hematoencephalic barrier to vitamin $B_{12}$; clinical investigations. Vit. res. i ikh isp. no.5:210-219 '61. (MIRA 15:1)

1. Respublikanskaya klinicheskaya bol'nitsa im. P.Stradynya, Riga. (CYANOCOBALAMINE) (CAPILLARIES--PERMEABILITY) (CEREBROSPINAL FLUID)

YAVORKOVSKIY, L.I.; SANDLER, G.P.; SOLOVEY, D.Ya.; PAEGLE, A.G.

Problem of cryoglobulinemia. Terap.arkh. 33 no.1:96-101 '61.
(MIRA 14:3)

1. Iz gematologicheskogo otdeleniya (zav. - kand.med.nauk L.I. Yavorkovskiy) Respublikanskoy klinicheskoy bol'nitsy imeni P. Stradynya.

(GLOBULIN)

YAVORKOVSKIY, L.I. (Riga)

Case of bean poisoning. Klin.med. no.3:141-143 '62.
(MIRA 15:3)

1. Iz gematologicheskogo otdeleniya Respublikanskoy klinicheskoy bol'nitsy imeni P. Stradynya (glavnyy vrach L.G. Shcherbakov).
(ANEMIA) (BEANS--TOXICOLOGY)

YAVORKOVSKIY, L.I.; LININYA, G.P. [Linina, G.]

Streptococcal antibodies in chronic leukemia. Probl. gemat. i perel. krovi 8 no.12:21-25 D '63. (MIRA 17:9)

1. Iz kafedry terapii (zav.- dotsent E.Ya. Preymate) [Preimate, E.] fakul'teta usovershenstvovaniya vrachey Rizhskogo meditsinskogo instituta i bakteriologicheskoy laboratorii (zav. G.P. Lininya) Ratviyskoy respublikanskoy klinicheskoy bol'nitsy imeni P. Stradynya [Stradina] (glavnyy vrach L.G. Shcherbakova).

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Comparison of computations performed with calculation of straight ionization from the ground state, to arrive at probabilities for straight and stepped ionization processes of hydrogen, which have never been studied direc[illegible]y experiment

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Country : USSR
Category : Microbiology - Antibiosis and Symbiosis. Antibiotics F

Abs. Jour : Ref Zhur - Biol., No.19, 1958, 85991

Author : Yavorovskaya, V.Ye.; Mosolov, A.N.
Institut. : -
Title : The Effect of Levomycetin on Dysentery Bacilli in In Vitro Experiments

Orig Pub. : Sb.: Vopr. Dizenterii. Novosibirsk, 1957, 63-69

Abstract : The resistance of dysentery bacilli increases from 10 to 1000 fold when they are cultured in media with increasing concentrations of levomycetin. Under the influence of the latter, there are changes in shape and size of the dysentery bacilli and granularity appears in their cytoplasm. The biochemical properties of the microbes change imperceptibly; there is a reduction in the intensity of fermentation of certain carbohydrates, but there are no changes in the serologic properties of detectable magnitude. - S.P.Shapovalova

Card: 1/1

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(RHEUMATIC FEVER, microbiology,
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isolation & infect. of animals with specific rheum. virus (Rus))

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