

SANKIN, D.I., kand. ekon. nauk; SEMINOV, S.I., kand. ekon. nauk;
BEREZNOY, N.I., kand. ekon. nauk; ZHDANOV, A.I., kand.
ekon. nauk; GORCHAKOV, A.A., inzh.; ZAKHAROV, V.V., inzh.;
YUNOVICH, I.M., inzh.; RYVKIN, A.S., inzh.; KOVRIGIN, V.V.,
ekonomist; DIDENKO, S.I., kand. ekon. nauk; SANDMIRSKIY,
A.T., ekonomist; GONCHARENKO, B.L., kand. ekon. nauk; KOTOV,
V.F., inzh.; EYDEL'MAN, B.I., red.

[Handbook for the economist and planner in an industrial
enterprise] Spravochnik ekonomista i planovika promyshlen-
nogo predpriatiia. Moskva, Ekonomika, 1964. 698 p.
(MIRA 17:6)

Kotov, V F

SUBJECT: USSR/Mining

127-10-7/24

AUTHOR: Kotov, V.F., Engineer.

TITLE: Calculating the Net Cost of Production at Open Mines (O kal'kulyatsii sebestoimosti produktsii na otkrytykh gornykh rabotakh)

PERIODICAL: Gornyy Zhurnal, 1957, #10, pp 32-34 (USSR)

ABSTRACT: The author criticizes different approaches to calculations of net cost employed in open mines of the iron ore industry on the one side and coal industry on the other side.

Many drawbacks in calculation methods are pointed out, and it is proposed to introduce a standard system of calculations and distribution of expenditures among the various articles of the net cost.

The article contains 2 tables. No references are cited.

ASSOCIATION: "VUGI", All-Union Coal Institute

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 1/1

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410019-1

KOTOV, V.F., starshiy nauchnyy sotrudnik.

Determining mining costs while planning coal mines. Ugol' 32 no.1:
30-32 Ja '57. (MLBA 10:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut.
(Coal mines and mining--Estimate and costs)

PERSHIN, I.S.; KOTOV, Y.F., otvetstvennyy red.; GOLUBYATNIKOVA, G.S., red.
izd-va; OSVAL'D, N.Ya., red. izd-va; SHKLYAR, S.Ya., tekhn. red.

[How to lower the net cost of coal at the mine] Kak snizit' sebe-
stoimost' uglia na uchastke shakty. Moskva, Ugletekhizdat, 1958.
18 p. (MIRA 11:7)

(Moscow Basin--Coal mines and mining)

KOTOV, V.F.

Some problems of planning, keeping record of expenditures, and
financial coal mining operations. Ugol' 33 no. 7:40-43 J1 '58.
(MIRA 11:7)

(Coal mines and mining--Accounting)

BACHURIN, A.V.; MARGOLIN, N.S.; KONDRASHV, D.D.; GORICHEV, N.V.;
ROGOVSKIY, N.I.; YAMPOL'SKIY, M.A.; TYUKOV, V.S.;
ROTSHTEYN, L.A.; GERASHCHENKO, V.S.; ~~KOTOV, V.E.~~;
BAZAROVA, G.V., red.; PORTYANNIKOV, N.S., red.;
GERASIMOVA, Ye.S., tekhn. red.

[Commodity and monetary relations during the period of
transition to communism] Tovarno-denezhnye otnoshceniia v
period perekhoda k kommunizmu. Moskva, Ekonomizdat, 1963.
386 p. (MIRA 16:5)

(Economics)

BURSHTEYN, G. Ya., doktor ekonom. nauk; KOTOV, V. F., inzh.

It is necessary to change the planning and financing of expenditures to a simple reproduction of capital assets. Ugol' Ukr. 6 no.10:39-41 0 '62. (MIRA 15:10)

(Coal mines and mining—Finance)

KOTOV, V.F.; MIKHAYLOV, K.F. (Magnitogorsk)

Studying the elements of vector algebra in secondary schools. Mat. v
shkole no.2:59-64, Mr-Apr '63. (MIRA 16:4)
(Algebra—Study and teaching) (Vector analysis)

ALFER'YEV, M.Ya., professor, doktor tekhnicheskikh nauk; KOTOV, V.F.,
redaktor; BEGICHEVA, M.N., tekhnicheskiy redaktor

[Hydromechanics] Gidromekhanika. Moskva, Izd-vo Ministerstva
rechnogo flota SSSR, 1952. 306 p. [Microfilm]. (MIRA 8:7)
(Fluid mechanics)

KOTOV, V. F.

191 - KOTOV, V. F. A general presentation for the fundamental
of dynamics in quantum mechanics. *Soviet Journal of Physics*, 1956
no. 10, pp. 1249-1250. (Sov. J. Phys. 1956)
Generalized theorems of conservation of energy and momentum for
systems of particles. Applying the "Heisenberg" method
[in Russian]. *Soviet Journal of Physics*, 1956, no. 10, pp. 1249-1250.
The generalization is applied to the change in quantity of
action, kinetic energy, and kinetic energy for both stationary and
nonstationary systems.
A generalization of theorems of the conservation of the motion of a body
[in Russian]. *Soviet Journal of Physics*, 1956, no. 10, pp. 1249-1250.
KOTOV, V. F. On the relative kinetic moment of the gyro-
scopic motion. *Soviet Journal of Physics*, 1956, no. 10, pp. 1249-1250.
Translation: Ministry of Supply, Moscow.

[Handwritten signature]

[Handwritten initials]

SOV/124-57-4-3867

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 5 (USSR)

AUTHOR: Kotov, V. F.TITLE: Fundamentals of the Analytical Mechanics of a System of Variable Mass
(Osnovy analiticheskoy mekhaniki dlya sistem peremennoy massy)

PERIODICAL: Uch. zap. or'kovsk. un-ta, 1955, Nr 28, pp 42-55

ABSTRACT: Having postulated the validity of the principle of compatible displacements for an arbitrary system of variable mass with ideal connections, the author obtains a Lagrange equation

$$\frac{d}{dt} \frac{\partial L}{\partial \dot{q}_\nu} - \frac{\partial L}{\partial q_\nu} = \frac{\partial \tau}{\partial \dot{q}_\nu} \quad \left(\tau = \frac{1}{2} \sum_{\nu=1}^n \frac{dm_\nu}{dt} v_\nu^2 \right)$$

where τ is the kinetic energy of the translational motion of radiatively emissive masses

$$L = T + U(F) + U(R)$$

Card 1/2

$$\text{where } U(R) = \sum_{\nu=1}^n \frac{dm_\nu}{dt} u_{\nu r}(t) \cdot r_\nu$$

SOV/124-57-4-3867

Fundamentals of the Analytical Mechanics of a System of Variable Mass

The equations thus obtained help to derive the canonical equations of the dynamics of a variable-mass system. Relative to the case of systems that are subject simultaneously to holonomic and nonholonomic connections the author writes Appell equations which formally do not differ from the analogous equations written for a constant-mass system. He also derives the differential equations of the motion of a free body having a constant mass. He indicates how the general theorems of the dynamics of a variable-mass body may be derived from these equations. As a particular case he obtains the equations of motion of a variable-mass body in the vicinity of a point at rest. Proceeding from the principle of virtual displacements, the author provides a derivation of the principle of least variation in the Ostrogradskiy-Hamilton formulation. The derivation is repeated in terms of Lagrange equations. Three illustrative examples are adduced, of which one is devoted to the derivation of the canonical equations from the principle of least variation.

A. I. Zenkin

Card 2/2

KOTOV, V.F.

Application of helical computations to the addition and factoring
of motions of solid bodies. Uch. zap. Ped. inst. Gerts. 125:
207-216 '56. (MLRA 9:12)

(Screws, Theory of) (Motion)

SOV/124-58-2-1731

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 35 (USSR)

AUTHOR: Kotov, V. F.

TITLE: Contribution to the Theory of New-type Rockets (K teorii raket novogo tipa)

PERIODICAL: Tr. Odessk. un-ta, 1956, Vol 146, ser. matem. n., Nr 5, pp 79-84

ABSTRACT: Initially the author repeats, in a more simple form, the derivation of the relativistic equation of motion of a photon rocket obtained by Sanger. The author then derives the classical equation of motion of a photon rocket under the assumption that its speed has an upper limit and is always less than the speed of light. He then presents the theory of the atomic rocket in the classical approximation, wherein he takes into account that not only the "defective" mass, but also the inert (or "slag") mass, are ejected.

K. P. Stanyukovich

Card 1/1

124-58-6-6265

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 6, p 2 (USSR).

AUTHORS: Grigor'yan, A. T., Kotov, V. F.

TITLE: Aspects of the History of Antique Mechanics (O nekotorykh voprosakh istorii antichnoy mekhaniki)

PERIODICAL: V sb.: Istor. -matem. issledovaniya. Nr. 10. Moscow, Gostekhizdat, 1957, pp 671-675

ABSTRACT: Bibliographic entry

Card 1/1 1. Mechanics--History

GERTS, Genrikh [Hertz, Heinrich Rudolf]; GRIGOR'YAN, A.T.; POLAK, L.S.;
KOTOV, V.F. [translator]; SULIMO-SAMUYLO, A.V. [translator];
ARTOBOLEVSKIY, I.I., red.; GUROV, K.P., red.izd-va; NOVICHKOVA,
N.D., tekhn.red.

[Principles of mechanics, presented in a new form] Printsipy
mekhaniki, izlozhennye v novoi svyazi. Izd.podgotovili A.T.
Grigor'ian, L.S.Polak. Obshchaia red. I.I.Artobolevskogo.
[Translated from the German]. Moskva, Izd-vo Akad.nauk SSSR,
1959. 386 p. (MIRA 12:4)

(Mechanics, Analytic)

KOTOV, V.F.

Development of the theory of the multistage rockets in the works of
K.E. Tsiolkovski. Trudy Inst. ist. est. i tekhn. 34:273-286 '60.
(MIRA 14:2)

(Rockets (Aeronautics))

KOTOV, V.F.

Characteristics of the arrangement of Pascal lines. Izv. vys.
ucheb. zav.; mat. no.1:65-73 '62. (MIRA 15:1)

1. Magnitogorskiy gosudarstvennyy pedagogicheskiy institut.
(Geometry, Analytic)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410019-1"

AID P - 4848

Subject : USSR/Engineering
Card 1/1 Pub. 103 - 8/26
Author : Kotov, V. I.
Title : Cotton and paper polishing disks
Periodical : Stan. 1 instr., 2, 23-24, F 1956
Abstract : The author presents some results of his study in the field of polishing and grinding with abrasives and other materials, such as felts, cotton and paper. The problem of the replacement of high-priced materials with more abundant and cheaper cotton and paper may eventually be solved by some combination of the above materials. Three tables and 2 photos.
Institution : None
Submitted : No date

KOTOV, V.I.

Radial stresses and displacement of points of the sectional wheel
center of a crane caused by press fitting of the shaft. Trudy
Ural.politekh.inst. no.104:96-104 '61. (MIRA 14:6)
(Cranes, derricks, etc.) (Strains and stresses)

24 5730

39815
S/057/62/032/008/001/015
B104/B102

AUTHORS: Zhuravlev, A. A., Ivanov, I. N., Karmasin, M., Kotov, V. I.,
Myae, E. A., Oboznyy, V. A., Obukhov, Yu. L., and Petukhov,
V. A.

TITLE: Study of the particle motion in a ring synchrotron

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 8, 1962, 905 - 913

TEXT: The perturbed equation of free particle oscillations in a synchrotron (ZhTF, no. 10, 1253, 1961) is derived in the following form:

$$\xi + (A_{0z} + A_{1z} \cos N\theta + A_{2z} \cos 2N\theta) \xi = (\delta F_{0z} + \delta F_{1z} \cos N\theta + \delta F_{2z} \cos 2N\theta) \Delta z \quad (10)$$

ξ is the deviation of the particles from an orbit,

and

$$\delta F_z \approx -ar_1 [1 + (k+2)q_1 \cos N\theta] \Delta f(\theta),$$

$$\delta F_z \approx (A_{0z} + A_{1z} \cos N\theta + A_{2z} \cos 2N\theta) \Delta z(\theta),$$

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S/057/62/032/008/001/015
B104/B102

Study of the particle motion...

characterize the deviations in radial and vertical direction, $\Delta f(\theta)$ describes the deviations from the ideal field distribution. The general solution of this equation leads to the equation for the disturbed orbit and to a study of the distortions that arise when disturbances occur in some sectors of the synchrotron. Such distortions were determined experimentally with the aid of seven special targets built into the accelerator chamber. Good agreement was obtained between experimental and theoretical results. The equation of motion $\xi + v^2 \xi = F$, which holds if an external force F (electrical field strength \mathcal{E}) exists, producing a forced oscillation, if

$$F = \frac{e\mathcal{E}^2}{\omega_0 B} \cos\left(\frac{\Omega}{\omega_0} \theta + \gamma_i\right) \delta(\theta - \theta_i) \quad (15)$$

(uniform field with azimuthally localized action), furnishes

$$f(\theta) = \frac{e\mathcal{E}^2}{2\pi\omega_0^2 B} \sum_{n=-\infty}^{\infty} \frac{\cos\left[\frac{\Omega}{\omega_0} \theta + \gamma_i + n(\theta - \theta_i)\right]}{\omega_0^2 - \left(\frac{\Omega}{\omega_0} + n\right)^2} \quad (16)$$

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KOTOV, V. I.

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8/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

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

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

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

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Nauchnaya konferentsiya...

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

design of 30-Mev electron linear accelerator; Ye. G. Pyatnov, A. A. Olaskov, V. G. Lopato, A. I. Pinogenov, G. N. Skepskiy, V. D. Seleznev, experimental characteristics of low-energy electron linear accelerators; G. A. Zeytlenk, V. M. Levin, S. I. Piskunov, V. L. Smirnov, V. K. Khokhlov, radiocircuit parameters of JNB (LUS)-type accelerators; G. A. Tyagunov, O. A. Val'dner, B. M. Gokhberg, S. I. Korshunov, V. I. Kotov, Ye. M. Moroz, accelerator classification and terminology; O. S. Milovanov, V. B. Varakein, P. E. Zenkevich, theoretical analysis of magnetron operation; A. G. Tragov, P. R. Zenkevich, calculation of attenuation in a diaphragmated waveguide; Yu. P. Lazarenko, A. V. Ryabtsev, optimum attenuation length for linear accelerator; A. A. Zhigarev, R. Ye. Yeliseyev, review on trajektographs; I. G. Morozova, G. A. Tyagunov, review on more than 500 ion sources; M. A. Abroyan, V. L. Komarov, duoplasmatron-type source; V. S. Kuznetsov, A. I. Solnyshkov, calculation and production of intense ion beams; V. M. Rybin (Ye. V. Arzenskiy), inductive current transmitters of high sensitivity; V. I. Korosa, G. A. Tyagunov, kinetic description of linear acceleration of relativistic electrons; A. D. Vlasov, phase oscillations in linear accelerators; E. L. Burshcheyn, G. V. Voskresenskiy, beam field effects in the waveguide of an electron linear accelerator; B. S. Bobovikov,

Card 3/4

BALAYEV, Ye.Ye.; BALYUKOV, I.I., tekhnolog; ISAYEVA, R.A.; KOTOV, V.I.;
TIMOFEEYEV, N.G., master; MAYAKIN, N.I., pomoshchnik mastera

Is there a need for warp hangers in automatic weaving? Tekst.-
prom. 22 no.9:37-38 S '62. (MIRA 15:9)

1. Zaveduyushchiy proizvodstvom Pavlovo-Pokrovskoy fabriki Moskovskogo oblastnogo soveta narodnogo khozyaystva (for Balayev).
2. Tekhnicheskii otdel Pavlovo-Pokrovskoy fabriki Moskovskogo oblastnogo soveta narodnogo khozyaystva (for Balyukov).
3. Starshiy normirovshchik Pavlovo-Pokrovskoy tkatskoy fabriki Moskovskogo oblastnogo soveta narodnogo khozyaystva (for Isayeva).
4. Nachal'nik tsekha Pavlovo-Pokrovskoy tkatskoy fabriki Moskovskogo oblastnogo soveta narodnogo khozyaystva (for Kotov).
(Weaving) (Automatic control)

RO-57, V. 2

118. Production of hollow concrete blocks. (See also Concrete Masonry
18, No. 6, 1951-1952). Hollow blocks have been developed as a unit, either to replace the
solid plaster covering the exterior layer following the solid brick wall, or to replace
the solid brick wall itself by hollow blocks on the outside and inside with an insulating
filler between. The blocks are extruded and are 1 1/2 ft. long, 9 in. wide and 1 1/2 in. thick.
There are 12 cavities 10 mm. in dia. Each block weighs 6.7 lb. and has a cavity volume
of 18% & thermal conductivity of 0.5 per cent. 16% and tensile strength of
1,100 lb./sq. in. The blocks are extruded with a slot-type mouth-piece which has cores
in the center of the slot. The drying is very rapid, and the total manufacturing costs
are said to be 20% lower than those of red-brick. (3 Sec.)

KOTOV, V.I., inzh.

Aluminothermic process refractory. Ogneupory 18 no.6:280-281

Je '53.

(MIRA 11:10)

(Refractory materials) (Aluminothermy)

KOTOV, V. I.

Reprint

① Method

Journal of the American
Ceramic Society
Vol. 37 No. 5
May 1, 1954
Cements, Limes, and Plasters

Sulfoaluminate cement burned at low temperatures. *V. I. KOTOV. Tsement, 19 (6) 12-14 (1953).*—Raw materials for sulfoaluminate cement (lime and local clay that was treated with 60% H₂SO₄ or petroleum pitch of the same concentration) were burned at 400°C. for 2 hr. Three types of cement were made. (a) Clay cement: A mixture of sulfated clay and 43% by weight of Ca(OH)₂ was made into briquettes, fired at 700° for 2 hr., and ground with 15% CaO. (b) Belite cement: Sulfated clay and 150% by weight of Ca(OH)₂ were made into briquettes, fired at 1000° for 4 hr., cooled rapidly to stabilize dicalcium silicate, and ground. (c) Alite cement: Sulfated clay and CaCl₂ (1:1) in an iron tube were kept in a furnace at 600° for 2 hr., with steam passing through the tube continuously. The crushing strength of specimens was 173 kg./cm.² for a after 140 days in water, 500 kg./cm.² for b after 28 days in water, and 170 kg./cm.² for c after 14 days in water. B.Z.K.

PATENTS

KOTOV, V., inzhener; ALEKSEYEV, G.

Aging and frost resistance of bricks. Stroi.mat., izdel.i konstr.
1 no.6:17-20 Je '55. (MLRA 9:1)

1.Nachal'nik Leningradskoy oblastnoy laboratorii stroitel'nykh
materialov (for Alekseyev).
(Bricks)

AUTHOR:

Kotov, V. I.

72-2-2/10

TITLE:

Effect of a Gas Medium on the Firing of Articles of Carbonaceous Clay (Vliyaniye gazovoy sredy na obzhig izdeliy iz karbonatnykh glin)

PERIODICAL:

Steklo i Keramika, 1957, Vol. 14, No. 2, pp. 8-11 (U.S.S.R.)

ABSTRACT:

Conclusions are drawn as follows from the experiments described in the article: It is advantageous to do the firing of ceramic articles of carbonaceous clay in an oxidizing gas medium spread equally over the entire cross section of the furnace shaft. The presence in the furnace of a reducing medium at a temperature of 1125-1155° will lead to the formation of black iron spots and even to the melting of the articles. The clays researched show poor caking tendency and small interval of caking. In an oxidizing medium, the caking interval equals 750°; the beginning of the caking, 1100°; maximum shrinking, 6% at 1165°. In a reducing medium, the

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AUTHOR: Kotov, V.I. SOV/80-59-1-4/44

TITLE: Sulfoaluminate Cements From the Products of Reactions in Solid State (Sul'foaluminatnyye tsementy iz produktov reaktsiy v tvrdom sostoyanii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, ³² No. 1, pp 26-35 (USSR)

ABSTRACT: The author investigated the possibility of obtaining a hydraulic binding material with lesser heat consumption, based on the study of the activity of the calcinated clay from the Bel'gorskoye deposit. The raw material for investigation was a brick clay containing mainly montmorillonite minerals. Experiments carried out repeatedly to find out the optimum temperature for clay calcination have shown that the most active binding material is obtained when the clay is calcinated at a temperature of 600 to 650°C. The calcination at a higher temperature lowers the activity of the clay cement ("glinit") obtained. The author studied the properties of this "glinit"-cement and arrived at the following conclusions: 1. It is characterized by a very slow rate of hardening. The normal initial hardening is possible only in a humid medium; a water medium can be used for hardening only on the 8th day after humid hardening; an air medium stops the process of hardening; 2. The properties of the binding material can be improved by a compound of the hydrosulfoaluminate with the calcium silicate which is

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SOV/80-59-1-4/44

Sulfoaluminate Cements From the Products of Reactions in Solid State

formed in reactions in solid state; this compound ensures the hardening under any conditions: hydraulic, humid, aerial and in vapor. It is possible that sulfoaluminate cements may turn out to be valuable hydraulic binding materials. There are 3 tables, 3 diagrams, 3 graphs and 27 references, 24 of which are Soviet, 1 French and 2 English.

SUBMITTED: March 22, 1957

Card 2/2

KOTOV, V.I.

Crystallization of plaster of Paris in a calcium chloride solution.
Zhur. prikl. khim. 33 no.12:2643-2651 D '60. (MIRA 14:1)
(Plaster of Paris)

KOTOV, V.I.; SEMENYUSHKIN, I.N.

Opposite beams of elementary particles. Priroda 51 no.6:45-48
Je '62. (MIRA 15:6)

1. Ob'yedinennyy institut yadernykh issledovaniy, Dubna.
(Particles (Nuclear physics))

L 3776-66 EWI(m)/EVA(m)-2 IJP(c) GS
ACCESSION NR: AT5007947

S/0000/64/000/000/0693/0697

44
35
BT

AUTHOR: Zinov'yev, L. P.; Issinskiy, I. B.; Kotov, V. I.; Kulakova, Ye. M.;
Pavlov, N. I.; Myznikov, K. P.

TITLE: The utilization of parametric resonance in the 10-Bev synchrophasotron for particle output

SOURCE: International Conference on High Energy Accelerators, Dubna, 1963.
Trudy. Moscow, Atomizdat, 1964, 693-697

TOPIC TAGS: high energy accelerator, electron paramagnetic resonance, focusing accelerator

ABSTRACT: Accelerated particles with pulse length of less than 100 μ sec are of great importance in current physical experiments. Great interest is shown in the possibility of applying the parametric (half-integral) resonance. Such a possibility has been discussed in the literature especially in application to conditions of weak-focusing and strong-focusing accelerators. Utilization of the resonance $\nu_x = 1/2$ for the rapid hurling of the accelerated beam against the target in a small 70-Mev synchrotron permitted one to obtain good results. The present report discusses the results of investigations conducted on the synchrophasotron at the

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L. 3776-56

ACCESSION NR: AT5007947

Joint Institute of Nuclear Research to clarify the expediency of artificially exciting the resonance $\nu_z = 1/2$ for hurling the accelerated particles against the target and for extracting the proton beam from the accelerator's chamber. The resonance conditions were created by way of variation in an identical manner of the field index n in two neighboring quadrants such that the mean value of n in the accelerator corresponded to the condition of resonance. The resonance force here is determined by the magnitude of the first harmonic of the excitation (A. A. Kolomenskiy, A. N. Lebedev, *Teoriya tsiklicheskikh uskoriteley* (Theory of Cyclical Accelerators), Moscow, Fizmatgiz, 1962). Under real conditions the exciting field was created with the help of windings arranged inside the accelerator's vacuum chamber. The inductance of the windings arranged to about 3 mega-henries, which limited the rate of growth of the excitation. Numerical calculations carried out on an electronic computer on the exact equations of motion of the particles in the magnetic field showed that, for obtaining the resonance conditions, it is necessary to create the configuration of the magnetic field such that the index n in the excited quadrants reach values close to 0.9 for a duration of 300 microseconds (about 400 revolutions). The following topics are discussed: the dependence of the field index n upon the radius for currents of 340 amperes and none in the ex-

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L 3776-66

ACCESSION NR: AT5007947

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citer winding; radial hurling of particles on the target 10 cm and 20 cm from the target; dependence of the duration of beam collision with the target upon the radial position of the target relative to the orbit for various excitations; dependence of the depth of hurling upon excitation and radial position of the target; the angle of flight of the particles into the gap of the deflector as a function of the moment of flight. "The authors thank Academician V. I. Veksler for his helpful discussions; L. A. Smirnova and N. N. Govorun for their help in the numerical computations; V. N. Buldakovskiy, A. I. Kryukov, Yu. F. Kusagin, V. S. Mironov, M. I. Mikitayev, et al., for their participation in developing and adjusting the emulsion experiments." Orig. art. has: 8 figures.

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

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP

NO REF SOV: 004

OTHER: 003

Card 3/3

ACCESSION NR: AP4031622

S/0053/64/082/004/0707/0748

AUTHORS: Vagin, V. A.; Kotov, V. I.; Semenyushkin, I. N.

TITLE: Methods of high-energy particle separation

SOURCE: Uspekhi fizicheskikh nauk, v. 82, no. 4, 1964, 707-748

TOPIC TAGS: particle acceleration, particle spectroscopy, particle spectrum, separation, relativistic particle, high energy particle

ABSTRACT: The existing and proposed methods for the separation of high-energy particles are systematized and described. Some of the problems involved in separation of low-yield high-energy particles and their importance to research are discussed. The presently developed electrostatic separators are shown to be inadequate for higher energies presently available and planned to be produced with future accelerators. Electrodynamic separators, which have a higher energy range are described. It is indicated that when it comes to

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ACCESSION NR: AP4031622

production of pure beams of ultrarelativistic particles, it will become necessary to separate the particles on the basis of other attributes than are presently used, for example the differences in such characteristics of their nuclear interactions as total cross sections, kinematics, and angular distributions. High-frequency separators now under construction in several laboratories, including the SSSR Joint Institute of Nuclear Research, are described. The section headings are: I. Introduction. II. Separation by using the distinguishing features of the interaction between particles and their decay properties (1. The absorber method. 2. Muon beams. 3. Neutrino beams.). III. Electrostatic separators (1. Principle of electrostatic separation. 2. Schematic diagram of electrostatic separator. 3. Ion-optical system of separator. 4. Example of existing separator. 5. Region of application of the method of electrostatic separation.). IV. Electrodynamic separators (1. Principles. 2. Motion of charged particle in high-frequency fields. 3. High-frequency separator for Stanford two-mile linear electron accelerator.

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ACCESSION NR: AP4031622

4. OIYaI electrodynamic particle separator. 5. CERN high-frequency separator. 6. Region of application and prospects of development of high-frequency separators.). Conclusion. Orig. art. has: 22 figures, 93 formulas, and 4 tables.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 07May64

ENCL: 03

SUB CODE: NP

NR REF SOV: 012

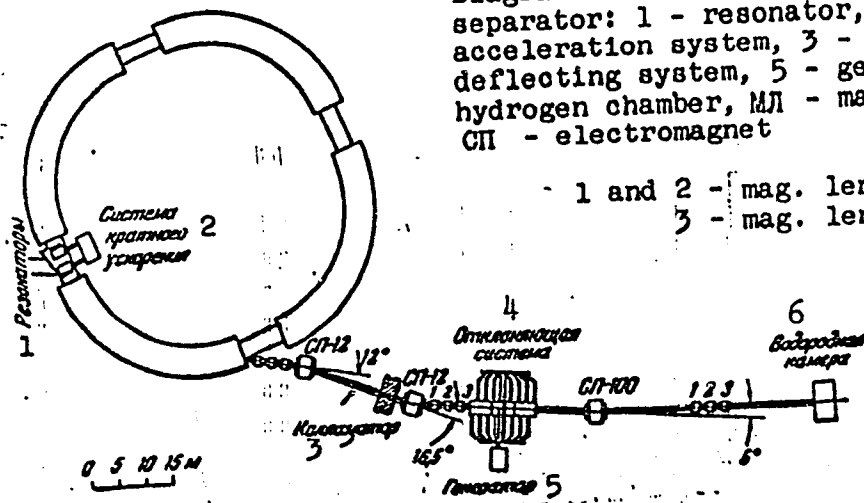
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Card 3/6

ACCESSION NR: AP4031622

ENCLOSURE: 01

Diagram of OIYaI electrodynamic particle separator: 1 - resonator, 2 - multiple acceleration system, 3 - collimator, 4 - deflecting system, 5 - generator, 6 - hydrogen chamber, МЛ - magnetic lens, СИ - electromagnet

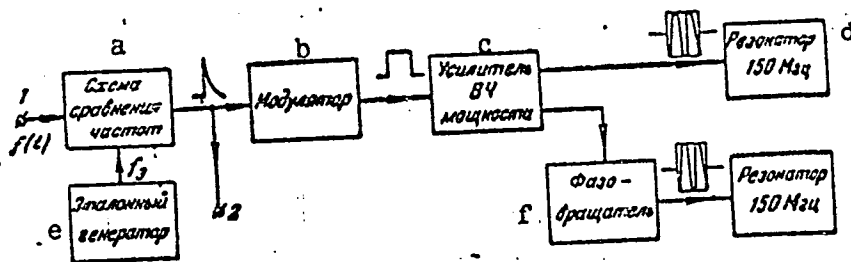


1 and 2 - mag. lens МЛ -17
3 - mag. lens МЛ -16

Card 4/6

ACCESSION NR: AP4031622

ENCLOSURE: 02



Block diagram of multiple-acceleration system used in OIYaI electrodynamic separator: 1 - accelerating frequency of OIYaI proton synchrotron, 2 - pulse to turn off the accelerating voltage. a - frequency comparison circuit, b - modulator, c - hf power amplifier, d - 15 Mc resonator, e - standard generator, f - phase shifter

Card 5/6

PETUKHOV, Valentin Afanas'yevich, Laureat Leninskoy premii;
KOTOV, Vladlen Ivanovich

[Modern particle accelerators] Sovremennye uskoriteli
chastits. Moskva, Nauka, 1965. 37 p. (MIRA 18:8)

L 25492-66 EPF(n)-2/EWA(h)/EWT(1)/ETC(f)/EWG(m) IJP(c) AT
 ACC NR: AP6011389 SOURCE CODE: UR/0057/86/036/003/0453/0459

AUTHOR: Brodskiy, Yu.Ya.; Vagin, V.A.; Kotov, V.I.

ORG: none

TITLE: Asymmetric waves in plasma waveguides

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no.3, 1966, 453-459

TOPIC TAGS: plasma waveguide, dispersion equation, wave propagation, electromagnetic wave

ABSTRACT: By asymmetric waves the authors understand waves that do not possess full axial symmetry. The electric and magnetic fields of the waves discussed in this paper have the form $F(r) \exp [i(ft - kz + n\theta)]$ in cylindrical coordinates r, θ, z , where f is the frequency, k is a propagation constant, and n is an integer not less than 1. The propagation of these waves is discussed in three types of plasma waveguide: 1) the region $r < a$ is empty and the region $r > a$ is filled with an isotropic plasma with dielectric constant $(f^2 - f_0^2)/f^2$, where f_0 is the plasma frequency; 2) the region $r < a$ is empty, the region $a < r < b$ is filled with the isotropic plasma of case 1), and the surface $r = b$ is conductive; and 3) the region $r < a$ is filled with a plasma that is highly magnetized by an axial magnetic field, the region $a < r < b$ is empty or filled with an isotropic nondispersive medium, and the surface $r = b$ is conductive. Case 1) is treated in most detail. The dispersion equation is derived and its roots are discussed separately for slow waves, waves with phase velocity c

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UDC:538.566

L 25492-66

ACC NR: AP6011389

(the velocity of light in vacuum), and fast waves. Asymmetric waves with phase velocity c always have a positive group velocity; in this respect their behavior differs from that of symmetric waves. In the limit of very high phase velocity the dispersion equation factors into two equations representing two groups of hybrid waves. Cutoff conditions and dispersion curves for waves of these groups are presented graphically. The propagation of asymmetric waves in plasma waveguides of types 2) and 3) is discussed in much less detail; the essential equations are given and some limiting forms are pointed out. Orig. art. has: 27 formulas and 5 figures.

SUB CODE: 20

SUBM DATE: 29Mar65

ORIG. REF: 004

OTH REF: 008

Card

2/2

cc

L 13436-66 EWT(1) IJP(c)

ACC NR: AP6002436

SOURCE CODE: UR/0057/65/035/012/2150/2153-

AUTHOR: Kolpakov, O.A.; Kotov, V.I.

ORG: none

TITLE: Radiation of a magnetic dipole moving through a cylindrical resonator or a structured waveguide

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no. 12, 1965, 2150-2153

TOPIC TAGS: ~~electromagnetic wave~~, magnetic dipole, resonator, waveguide, radiation, ~~plasma radiation~~

ABSTRACT: The authors calculate the radiation of a magnetic dipole moving parallel to its dipole moment along the axis of an open cylindrical resonator, along the axis of a slotted waveguide consisting of a sequence of identical equally spaced rings, or through a circular opening in an infinite plane conducting sheet. The work is a continuation of earlier work of the authors (ZhTF, 34, 1387, 1964) and of the authors and Om Sang Ha (ZhTF, 35, 26, 1965) on the radiation of a point charge under similar circumstances. The mathematical treatment is similar to that employed in the references cited and is not described in detail in the present paper. Expressions are given for the Fourier components of the radiated energy. The magnetic dipole excites TE, rather than TM modes, in the resonator. On traversing the cylindrical resonator the magnetic dipole radiates relatively more energy into the higher frequencies than does a point

35
B

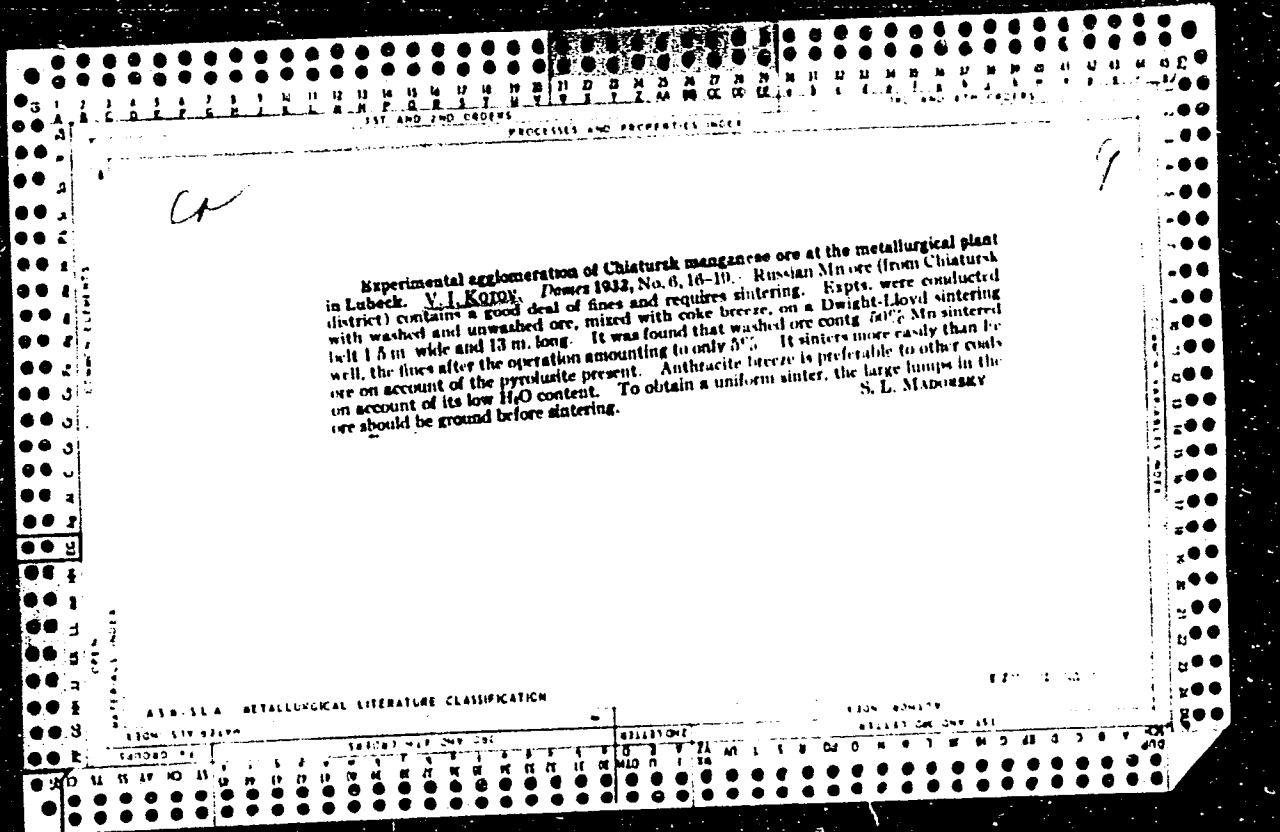
21,441,55

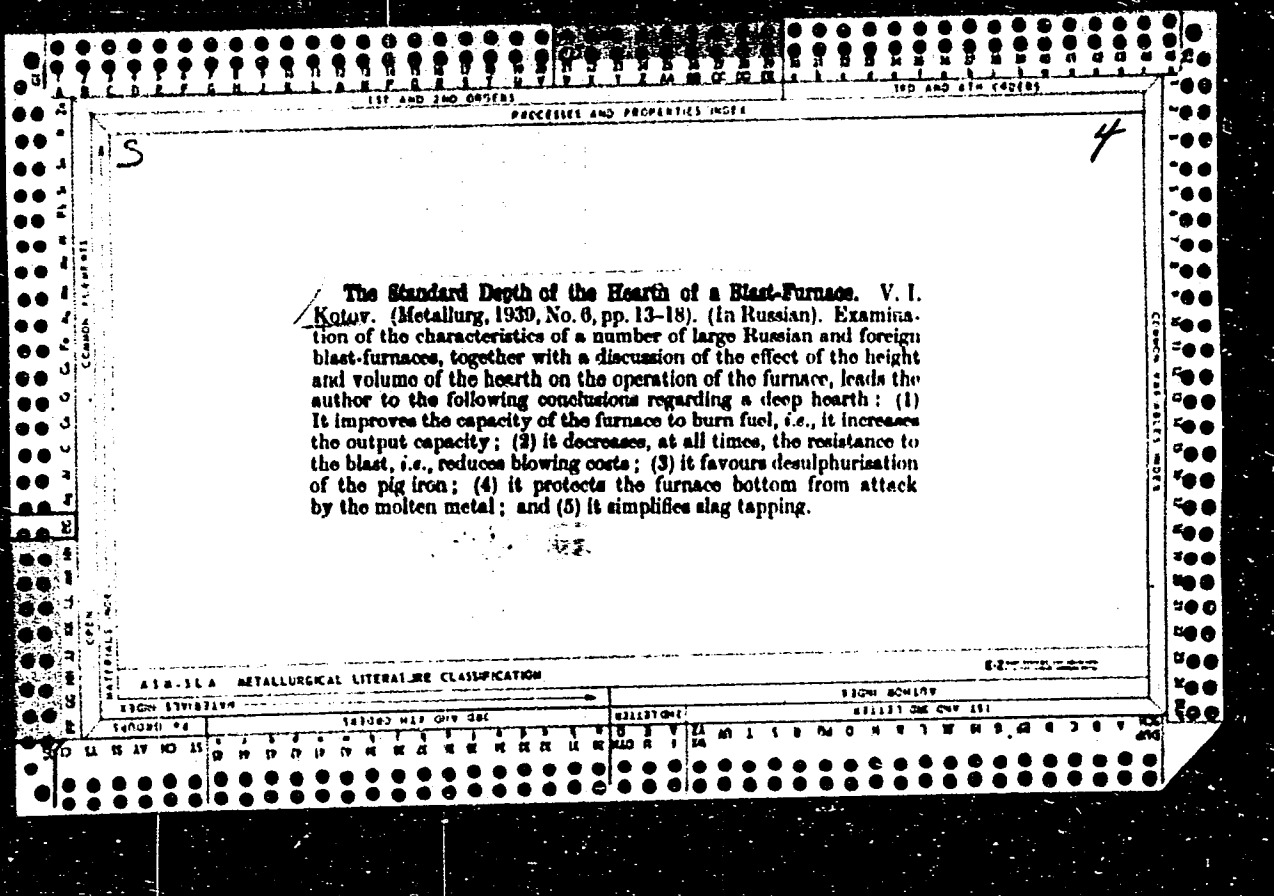
Card 1/2

UDC: 538.561

Card 2/2

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9

C2

TEST AND INGREDIENTS PROCESSES AND PROPERTIES INDEX

Smelting pig iron with high-acidity slags. - V. I. Kotov. Stal 7, 404-0 (1947). - The purpose of this investigation was to find means for desulfurizing pig Fe to permit use of high-S ores and coal. Thirty kg. of conversion pig contg. Si 0.6, Mn 0.9, and S 0.01% was added to 15 kg. of acid slag. At 1400-25°, when the slag and the pig melted, the heat S was added (1% of pig) as FeS. After 40 min. Fe-Mn was added. The more Mn added to the heat, the more S passed into the slag. After 3-5 min. after the addn. of Fe-Mn, the S in the melt decreased from 0.6-0.7% to hundredths of 1%. In a hot heat contg. 2.25-2.5% of Mn, a ratio of S in slag to S in melt of 4-5 can be attained. It is recommended for blast-furnace heats contg. 20 kg. of S per ton of metal to have a slag - heats SiO₂ 45-60, Al₂O₃ 7-30, CaO 15-30, and MnO + contg. MnS 3-7%. The FeS should be at a min. The metal should contain approx. 2.5% of Mn. The charge and the blow should be adjusted for a hot run. Hot metal contg. not more than 0.35-0.4% of S should be tapped into a hot (about 900°) ladle. Desulfurization is finished within the ladle by the Mn in the metal and fused Na₂CO₃ added to the ladle. M. Hoesch

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Kotov, V.I.

130-3-2/21

AUTHORS: Gromov, M. I., Tsylev, L.M., Kakunin, A.M., Kotov, V.I.
and Kaporulin, V. N.

TITLE: Desulphurization of pig iron outside the blast furnace.
(Vnedomennoye obesserivaniye chuguna).

PERIODICAL: Metallurg, 1958,³No.3, pp.3-6 (USSR).

ABSTRACT: The authors give diagrams (Fig.1) to show the various methods tried in the USSR and abroad for the external desulphurization of pig iron with soda, calcium carbide or other solid reagents. They suggest that their comparative neglect is due mainly to their relative inefficiency and low productivity. The French IRSID method they criticize on the additional grounds that it would be difficult to effect on a large scale, that special arrangements would be required for trapping the lime dust produced, that the finely divided reagent would be difficult to obtain and that nitrogen is not available at many works. They go on to describe a method developed at the Novo-Lipetskiy metallurgical works in which the liquid metal is treated with lime in a rotating vessel, coke being added to maintain a reducing atmosphere. B. Provotorov, A. Nikitin and L. Sidorin participated in this work. Experiments

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130-3-2/21

Desulphurization of pig iron outside the blast furnace.

showed that the desulphurization process is affected by the fluidity of the metal, the quantities of solids added per unit weight of metal, the sizing of the solids and the speed of rotation of the vessel. The internal diameter of the experimental vessels (Fig. 2) was 1050 mm and the length of the cylindrical part 1240 mm; one end was conical. With chrome-magnesite lining no build-up of slag on the walls or chemical disruption of the lining occurred. With speeds of rotation of 2.5 and 4.4 m/sec the sulphur content of the metal fell from 0.085 to 0.05-0.012%. The authors give a nomogram for determining the optimal speeds of rotation in relation to the viscosity of the metal and the vessel diameter, and this shows that the optimal speed for the experimental conditions was 9-10 m/sec which would have given more rapid desulphurization. The method is recommended to other works, the following being given as optimal conditions: lime with a minimal content of silica and carbon dioxide, under 1 mm in particle size and added in a quantity of 1% by weight of the iron; coke of particle size 1-3 mm to be added in a quantity of 0.3-0.5% of the weight of the iron; the entrance of slag or runner sand

Card 2/3

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410019-1

Desulphurization of pig iron outside the blast furnace, 130-3-2/21

into the vessel and the formation of encrustations on the lining to be prevented. An editorial note says that the Gipromez organization is designing a 100-ton capacity vessel. There are three figures.

ASSOCIATION: Institut metallurgii AN SSSR i Novo-Lipetskiy metallurgicheskiy zavod (Institute of Metallurgy AS USSR and the New-Lipetsk Metallurgical Plant.

AVAILABLE: Library of Congress.

Card 3/3

SOV/133-58-10-3/31

AUTHORS: Vasil'chenko, N.I., Kotov, V.I., Nikitin, A.N. and Norik, N.P., Engineers, and Ostroukhov, M.Ya., Candidate of Technical Sciences.

TITLE: The Influence of Blast Temperature on the Dimensions of the Oxidising Zone in a Blast Furnace (Vliyaniye temperatury dut'ya na razmery okislitel'noy zony v domennoy pechi)

PERIODICAL: Stal', 1958, Nr 10, pp 869 - 874 (USSR)

ABSTRACT: In view of the conflicting evidence on the influence of the blast temperature on the dimensions of the combustion zone, the authors carried out an investigation of the problem on a blast furnace of the Novo-Lipetskiy Works (Figure 1) producing foundry iron (2.0-3.5% Si). The furnace output was about 1 000 tons/day, slag basicity CaO/SiO_2 1.05-1.10, blast volume 2 100 - 2 300 m^3/min , blast temperature 800 °C, blast humidity 20 - 25 g/m^3 and top pressure 0.8 atm. During the investigation, the furnace operation was not steady due to a large proportion of fines in the burden. Dimensions of the combustion zone were measured by sampling gases along the tuyère axis and by direct probing with the sampling tube. The experimental

Card1/3

SOV/133-58-10-3/31

The Influence of Blast Temperature on the Dimensions of the Oxidising Zone in a Blast Furnace

results are given in Tables 1, 2 and Figures 2-7. Some special features of furnace operation when an exceptionally long combustion zone was observed are given in Table 3. A large spread of the experimental results was obtained which necessitated a separate study of the operating conditions for cases when exceptionally long and exceptionally short combustion zones were observed. A very short combustion zone is characterised by an unusually high content of either CO_2 or CO . This can be caused by an accumulation of unprepared flux (evolution of CO_2) or unprepared burden.

In such cases, the oxidising zone is limited by this dense accumulation. An exceptionally long combustion zone, out of proportion to the kinetic energy of blast, coincided with periods of an incorrect distribution of the gas stream, particularly with channelling and a considerable increase in the permeability of the central part of the furnace. If the exceptionally short and long combustion zones are excluded, then in a number of cases the dependence of the size of combustion zone on the blast temperature can be detected. The length of the combustion zone as measured

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SOV 133-58-10-3/31

The Influence of Blast Temperature on the Dimensions of the Oxidising Zone in a Blast Furnace

by direct probing increases with temperature at blast rates 2 000, 2 100, 2 250 and 2 300 m³/min (at 2 200 m³/min it decreases and at 2 400 m³/min it remains constant). The oxygen zone (Figures 5 and 6) behaved differently; with increasing temperature it remains in the majority of cases constant or decreases. Thus, increasing temperature or, strictly speaking, kinetic energy of the blast, increases the length of the combustion zone (determined by the position of 2 or 3% of CO₂ or by direct probing) but has practically no influence on the size of the oxygen zone. There are 3 tables, 7 figures and 9 references, 6 of which are Soviet, 2 English and 1 German.

ASSOCIATIONS: Novo-Lipetskiy zavod (Novo-Lipetskiy Works) and
Institut metallurgii AN SSSR (Institute of
Card 3/3 Metallurgy of the AS, USSR)

KOTOV, V.I., gornyy inzh.-elektromekhanik

Overload protection for mine hoisting electric circuits. Ugol'
37 no.8:47 Ag '62. (MIRA 15:9)

1. Kizelovskiy rudoremontnyy zavod.
(Mine hoisting—Safety appliances)

KOTOV, V.I.

Strength calculation of press-fitted joints under the action of
concentrated forces. Trudy Ural.politekh.inst. no.130:130-134
'64. (MIRA 17:10)

Kotov, V.I.

120-6-3/36

AUTHORS: Kotov, V.I., and Sabsovich, L.L.

TITLE: Increasing the Beam-target Impact Time in Synchrotrons and Synchrophasotrons (Uvelicheniye dlitel'nosti soudar-eniya puchka s mishen'yu v sinkhrotronakh i sinkhrofazotr-onakh)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, no.6, pp. 19 - 21 (USSR).

ABSTRACT: A new method of displacing the beam in the 250 MeV synchrotron of the Ac.Sc. USSR is described. If one slowly lowers the amplitude of the high-frequency, accelerating voltage, the region of stability becomes smaller and the particles gradually depart from synchronism. These particles do not on the average receive any energy from the accelerating system and moving along spirals they impinge upon the target. With such a mechanism of displacing the beam one can considerably increase the duration of the beam-target interaction. The duration of the pulse at the target depends on the rate of fall of the amplitude of the HF, the smaller the rate of fall the longer the duration of the pulse. It is shown that the only limitation on this effect is the momentum spread introduced by the above procedure. The amplitude of the HF is calculated subject to the condition that the particle flux at the target is constant. M.S. Rabinovich collaborated.

Card1/2

57-2-24/32

AUTHORS: Kotov, V. I. , Rubin, N. B.

TITLE: Eigenfunctions of the Equation for Free Vibrations of a Feebly-Focusing Accelerator With a Slit Magnet, and Their Use
(Sobstvennyye funktsii uravneniya svobodnykh kolebaniy slabofokusiruyushchego uskoritelya s razreznym magnitom i ikh primeneniya)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 2, pp.365-379
(USSR)

ABSTRACT: The purpose of the present work was an investigation of the eigenfunctions of feebly-focusing accelerator with a slit magnet, as well as their use in the investigation of the influence of fundamental types of excitation of a magnetic field upon the free vibrations in linear approximation. Special attention was in this connection paid to the fact of showing the effectiveness of the method of eigenfunction. For this reason the authors tried to treat the linear resonances as exhaustively as possible. Problems of the "width" of the resonances, the limits of the usability of the linear resonance theory etc.

Card 1/3

57-2-24/32

Eigenfunctions of the Equation for Free Vibrations of a Feebly-Focusing Accelerator With a Slit Magnet, and Their Use

were not treated. The complete investigation of these problems according to the method of eigenfunctions will be the subject of a separate paper. Part of the material of the present paper is contained in the reports of the year 1954 (references 7 and 8). - The analytic form of the eigenfunctions of the equation for free (betatron) vibrations of a feebly-focusing accelerator with a slit magnet is derived here. The qualities of these eigenfunctions are shown and the essential difference against the functions of a ring-accelerator with regard to the period are specially emphasized. According to the method of series expansions for excitations with respect to eigenfunctions the authors investigated the influence of the distortions of the vertical component of the magnetic field and the mean surface of the magnet upon free vibrations in the absence of a resonance, as well as the nature of the building-up of vibrations in the case of exact resonance. According to the same method the authors investigated the parametric resonance and the linear resonance of the combination of the vertical and radial free oscillations in the case of falling indices n of the magnetic field which correspond to the exact resonance. M. S. Rabinovich

Card 2/3

57-2-24/32

Eigenfunctions of the Equation for Free Vibrations of a Feebly-Focusing Accelerator With a Slit Magnet, and Their Use

placed the topic at the authors' disposal. There is 1 figure, and 11 references, all of which are Slavic.

SUBMITTED: May 20, 1957

AVAILABLE: Library of Congress

- 1. Magnetic fields-Excitation
- 2. Magnetic fields-Distortion

Card 3/3

KOTOV, V.I.

55-2-1/5

AUTHORS:

Kotov, V. I., Kuznetsov, A. E., Rubin, N. D.

TITLE:

The Physical Foundations of Modern Resonance Accelerators
(Fizicheskiye osnovy sovremennykh rezonansnykh uskoritel'ey)

PERIODICAL:

Uspekhi Fizicheskikh Nauk, 1958, Vol. 64, Nr 2, pp. 197-272
(USSR)

ABSTRACT:

At present accelerators are projected or under construction, which permit the acceleration of particles up to energies of 50 BeV. The present survey gives a detailed treatment of autophasing and the various aspects of its realization. Moreover, the stability of the motion of particles within the magnetic fields of the circular accelerators and the effects of various disturbing factors on this motion are discussed in detail. The first section of the survey discusses a number of rules governing the motion of charged particles in a magnetic field. At the beginning, the simplest case of this motion, that is to say, in a homogenous and with respect to time constant field is computed. The following circumstance is of prime importance: In circular accelerators it is insufficient for the magnetic field only to guarantee a

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66359

21,2100

SOV/120-59-5-2/46

AUTHORS: Kotov, V. I., Obukhov, Yu. L. and Pushtarik, V.A.
 TITLE: On the Theory of a Cyclic Phasotron with Radial Sectors
 PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 5, pp 19-22
 (USSR)

ABSTRACT: An analysis is given of the free oscillations in a cyclic phasotron with radial sectors in the ideal case. The analysis is an extension and a generalization of the theory given by Cole, Hoxby et al. (Ref 4) and Symon, Kerst et al. (Ref 6). Formulae are derived which may be used to calculate the geometric parameters of an accelerator (angular apertures of the sectors, frequencies of free oscillations etc.) and also to determine the permissible range of values for the mean field exponent k . The magnetic field in a cyclic phasotron is determined by the function given by Eq (1) which is taken from the paper by Symon et al. (Ref 6). The equations of free oscillations in such a field are of the form given by Eq (3) which are taken from the paper by Kotov et al. (Ref 7). Eqs (3) are solved assuming that the instantaneous orbit consists of a circular orbit of radius ρ_1 in the

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SOV/120-59-5-2/46

On the Theory of a Cyclic Phasotron with Radial Sectors

positive and ρ_2 in the negative sectors, while in the interval between them it is a straight line (Fig 1). It is also assumed in the solutions of Eq (3) that the local field exponent on the orbit remains constant within each sector and is equal to the mean value of the exponent (along the orbit) for the given sector. Under these assumptions the equations of motion are of the form given by Eq (13). It is shown that a change in the mean field exponent has a much stronger influence on the frequency of radial oscillations than on the frequency of vertical oscillations.

There are 1 figure and 9 references, 3 of which are Soviet, 1 German and 5 English.

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

SUBMITTED: September 2, 1958

Card2/2

KOTOV, V. I.

PHASE I BOOK EXTRACTATION 807/5553

Pchelintseva, O. M., ed.
Ubbinkhelli, abomik stany (Accelerators; Collection of Articles) Moscow,
Academiya, 1960. 121 p. Errata slip inserted. 5,000 copies printed.

Scientific Ed.: B.M. Yablokov; Ed.: G.M. Pchelintseva; Tech. Ed.: B.A. Vlasova.
PURPOSE: This collection of articles is intended for scientists and engineers
engaged in the construction and operation of particle accelerators.

COVERAGE: These original articles treat specific problems arising in the operation
of present-day accelerators, particularly linear electron accelerators. A new
accelerator put into operation at the Ukrainian Scientific-Technical Institute
(Ukrainian Physicochemical Institute) is described and problems in the dynamics
of particles in linear electron accelerators are discussed. New methods are
discussed for the extraction of particles in accelerators. Problems associated
with the shaping of permanent magnetic fields and the acceleration of multicharge
ions are also treated. The changeover of the series cyclotron to the phaseotron
acceleration mode with a view to increasing the energy of accelerated particles
is described, and some problems connected with the bunching of particles are
elaborated. No personalities are mentioned. References accompany each
article.

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Kozlov, V.I., A.P. Kuratsov, and E.N. Pukhin. Effect of Multiple
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KOTOV, V. I.

21.2000 also 153P
AUTHORS: Petukhov, V. A., Gubanov, I., Zhuravlev, A. A., Kuznetsov, M.
Kotov, V. I., Nys, E. A., Obukhov, Yu. L., Sokhor, V. I.,
Sizak, Yu. Buda, P., Dobiasch, I., Marak, M., Pukatko, T.,
Svetov, L. V.

TITLE: The model of the ring proton synchrotron

PERIODICAL: Atomnaya energiya, v. 9, no. 6, 1960. 491-495

NOTE: The ring proton synchrotron which is a powerful focusing
accelerator with a magnetic field constant with respect to time, has been
described in 1953 by A. A. Kolesenskiy, V. A. Petukhov, and M.S. Rabinovich
and independently of them, in 1955 by Sazon (Phys.Rev. 29, 1152 (1955)).
The new designs seem to be able to produce very intensive accelerated-
particle beams. A model of this ring synchrotron (with radial sectors)
has been constructed in the Ob'yedinennyy Institut Yadernykh Issledovaniy
(Joint Institute of Nuclear Research). The electro-magnet consists of
eight elements arranged periodically, each of which has a direct and an
inverse sector; it also has two straight sections. The azimuthal

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5/089/60/009/006/007/011
8102/2312

The model of the ring...

dimension of the direct sector, which focuses the beam in radial
direction, is 22.30', and that of the inverse sector, which brings about
the vertical focusing, is 7.30'. The inverse sectors cause the critical
parameter of the ring synchrotron to be bigger than that of a standard
strongly focusing accelerator. The ratio of the maximum radial to the
orbit to the minimum radius of curvature is approximately equal to 3. The
coils generating the field are arranged such that the magnetic field in-
creases with the radius of the orbit according to H = H_0(1 + R/R_0)^4, i.e.,
it increases from 42.0e at R = 35 cm to 54.0e at R = 53 cm. The magnet
exhibits the characteristic that the gap between its poles increases in
proportion to the gap radius. Therefore, the vertical dimensions of the
vertical sectors will also change from 2 to 4 cm. The increase of all
radial dimensions of the sectors and the constancy of the field
index k (the field index of the model is equal to 4) bring about a
dynamic similarity of the orbits, and the frequency of the free oscilla-
tions will also be constant. The number of betatron oscillations per
circulation may be varied from 1 to 3 in the vertical direction, and from
2.5 to 3.5 in the radial direction. The model is especially suited for

Card 2/3

5/089/60/009/006/007/011
8102/2312

The model of the ring...

electron acceleration) the injection (of 20-40 kev electrons) may be done
continuously or in a pulsed manner. Acceleration is done with an
electric rotational field having voltages of 10 to 20 v per circulation
and a frequency of 450-500 cps. The first test results obtained from this
unit showed that it is very suitable, with regard to the accuracy of
collection and the stability of the principal magnetic characteristics.
There are 2 figures and 7 references. 5 Soviet-bloc and 2 non-Soviet-bloc.
The two references to English-language publications read as follows:
K. Sazon. Phys.Rev. 29, 1152 (1955); T. Ohkasa. Rev.Scient.Instrum., 29,
100 (1958).

SUBMITTED: May 26, 1960

Card 3/3

ZHURAVLEV, A.A.; IVANOV, I.N.; KARMASIN, M.; KOTOV, V.I.; MYAE, E.A;
OBOZNYI, V.A.; OBUKHOV, Yu.L.; PETUKHOV, V.A.

[Motion of particles in an annular synchro-cyclotron] Issledovanie
dvizheniia chastits v kol'tsevom fazotrone. Dubna, Ob"edinennyi in-t
iadernykh issl., 1961. 24 p. (MIRA 14:12)
(Synchrotron)

KOTOV, V. I.

9

26850
Z/038/61/000/004/005/005
D238/D305

213100

also 2406, 2606

AUTHORS:

Petukhov, V.A., Habanec, J., Zhuravlev, A.A., Karmasin, M.,
Kotov, V.J., Myae, E.A., Obukhov, J.L., Sochor, V., Cirák,
J., Benda, F., Dobiáš, J., Marek, M., Fukátko, T., Svetov, L.
V.

TITLE:

A model of an annular cyclotron

PERIODICAL:

Jaderná energie, no. 4, 1961, 136 - 137

TEXT:

This is a translation of an Russian article entitled "Model' kol'tsevogo fazotrona" (Model of an Annular Cyclotron) originally published in the Soviet periodical "Atomnaya energiya", 9, (1960), no. 12, pp 491-493. It deals with the model of an annular cyclotron which is a fixed-field, alternating-gradient accelerator, built by Soviet and Czechoslovak physicists at the United Institute of Nuclear Research in Dubna. The proposal for an annular cyclotron was made for the first time in 1953 by A.A. Kolomenskiy, V.A. Petukhov and M.S. Rabinovich (Ref 1: Nekotoryye voprosy teorii tsikli-cheskikh uskoriteley (Some Problems of the Theory of Cyclic Accelerators), AN SSSR, 1955; Pribory i tehnika experimenta (1956), no. 2, p. 26). The elec-

Card 1/2

28730
S/057/61/031/010/013/015
B111/B112

245730

AUTHORS:

Benda, F., Gabanets, I., Dobiash, I., Zhuravlov, A. A.,
Karmasin, M., Kotov, V. I., Marek, M., Myae, E. A., Obukhov,
Yu. L., Petukhov, V. A., Svetov, L. V., Sekhor, V., Fukatko,
T., and Tsirak, Yu.

TITLE: Annular proton synchrotron with radial sectors

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 10, 1961, 1253-1261

TEXT: This article describes the model of an annular proton synchrotron with radial sectors, built and put into operation at the Ob'yyedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research).

Technical data:

Number of periodicity elements	8
Azimuthal dimensions of a direct sector	22°30'
Azimuthal dimensions of an inverse sector	7°30'
Azimuthal dimensions of the gap	7°30'
amplification factor	~3
Initial radius	35 cm

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B111/B112

Annular proton synchrotron with ...

Final radius	59 cm
Vertical dimension of the chamber for the initial radius	2 cm
Coefficient k for which $R = H_0 (r/r_0)^k f(\theta)$	4
Field strength in the initial radius	~ 42 oe
Field strength in the final radius	~ 340 oe
Injection energy	20 - 40 keV
Critical energy (total)	1.12 MeV
Final energy (total)	~ 2 MeV

The frequencies of free particle oscillations were found to be $\nu_x \approx 3.1$ and $\nu_z \approx 1.8$, which are lower than the theoretical value. The machine

can also be used for studying the behavior of the particle beam and its accumulation. A cross-sectional view of the electromagnet is shown in Fig. 1. A pressure of $1 - 2 \cdot 10^{-6}$ mm Hg prevailed in the vacuum chamber. The injection system is designed both for pulsed and continuous operation. Acceleration is effected by an electric rotating field of 500 cps and 10 - 25 v per revolution. A special "speed up" system (rotating field of 600 v per revolution) serves for improving the electron-capture efficiency.

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B111/B112

Annular proton synchrotron with ...

The pulse, which is excessively increased by the "speed up" process, is reduced by a thyatron circuit. A constant value of k could be attained with a theoretically calculated arrangement of the field coils along the ideal orbit. In addition to the principal coils, a coil was placed at the yoke of each sector, by which the influence of the iron resistance was eliminated. k and the azimuthal field distribution were measured with induction coils and a ballistic galvanometer. With a few exceptions, the values of k agreed with theoretical values to within $\pm 1\%$. The azimuthal inhomogeneity of the field was never greater than $\pm 1\%$. The position of the magnetic surfaces was determined with Permally feolers with an error of 0.2 mm. The deviation from the theoretical values was never greater than 0.5 mm. The indication of the beam during the first revolutions (without acceleration) was carried out with screens and coordinate nets in the chamber, and later (with acceleration) with photomultipliers equipped with radially adjustable sets of targets. The measurements showed that the field is strongly affected by the induction and "speed-up" core (e.g., azimuthal inhomogeneity). It was found that under optimum conditions, the upward deviation of the beam from the center of the chamber did not exceed ± 4 mm, and that the deviation of the equilibrium

Card 3/84

10

Annular proton synchrotron with

2873
S/057/61/031/0*0/013/015
B:11/B:12

orbits at one and the same point of the magnetic field was 15 mm per revolution. It is noted that this model can be used to study resonances with free oscillations, electron capture into a betatron system, and accumulation of accelerated particles. Yu. A. Chernyshov, A. Grachev and R. N. Fedorov are thanked for assistance. There are 6 figures, 1 table, 9 references: 4 Soviet and 5 non-Soviet. The three most recent references to English-language publications read as follows: Ref. 7: T. Ohkawa, Rev. Sci. Instr., 29, 108, 1958. Ref. 8: F. T. Cole et al., Rev. Sci. Instr., 28, 403, 1957. Ref. 9: K. M. Torwilliger et al., Rev. Sci. Instr., 28, 987, 1957.

SUBMITTED: December 6, 1960

Fig. 1: Cross-sectional view of electromagnet and vacuum chamber.
Legend: (1) magnet; (2) chamber; (3) principal coils of magnet; (4) yoke coils.

Card 4/5₄KOTOV, V.I.; PETUKHOV, V.A.

Physics of accelerators. Priroda 50 no.6:7-13 Js '61.

(MIRA 14:5)

(Particle accelerators)

ZHURAVLEV, A.A.; KOTOV, V.I.; MYAE, E.A.; OBOZNYI, V.A.; SARANTSEVA,
V.R., tekh. red.

[Method for electron acceleration in a circular synchro-
cyclotron] Ob odnom metode uskoreniia elektronov v kol'tse-
vom fazotrone. Dubna, Ob"edinennyi in-t iadernykh issl.,
1962. 11 p. (MIRA 15:4)

(Synchrotron)

44436

S/120/62/000/006/002/029
E032/E114AUTHORS: Zhuravlev, A.A., Kotov, V.I., Myae, E.A., and
Oboznyy, V.A.TITLE: On a method of accelerating electrons in an annular
synchrocyclotron

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 18-21

TEXT: In the annular synchrocyclotron of the Ob'yedinenny
institut yadernykh issledovaniy (Joint Institute for Nuclear
Research) (F. Benda, I. Gabanets, I. Dobiash, A.A. Zhuravlev et al.,
Zh. tekhn. fiz., v.31, 1961, 1253) the electrons are accelerated
by a combination of an induced electric field and a high-frequency
field of constant frequency. The induced electric field
communicates about 9 eV per revolution to the electrons and is
produced by changing the magnetic flux through the vacuum chamber
at the rate of 500 c.p.s. The h.f. field is applied over a
section of the vacuum chamber having an angular width of 30° and
insulated from the remainder of the chamber. The h.f. field is
produced by an oscillator described in detail by V.A. Petukhov,
I. Gabanets, A.A. Zhuravlev, M. Karmasin et al. (Preprint 572,
Card 1/2

On a method of accelerating electrons... S/120/62/000/006/002/029
E032/E114

1960, OIYaI, Dubna). The function of the h.f. field is to
maintain the electrons in the stable orbit and compensate the
retarding effect of the electric field which is produced when the
magnetic flux changes sign, so that the accelerated bunch remains
at a constant radius. The h.f. field is switched on at the end
of each cycle of the induced field and then switched
off as soon as the next cycle begins. The h.f. pulse is switched
off just before the beginning of injection, so as to exclude the
effect of the h.f. field on the capture of electrons into the
inductive acceleration regime. Experimental tests carried out on
the machine have yielded results which are in agreement with
theoretical calculations based on the work of K.R. Symon and
A.M. Sessler (CERN, Symposium, v.1, 1956, 44).
There are 6 figures.

ASSOCIATION: Ob'yedinenny institut yadernykh issledovaniy
(Joint Institute for Nuclear Research)

SUBMITTED: February 20, 1962

Card 2/2

The capture of electrons into the ...

S/120/62/000/006/003/029
E032/E114

concerned with the effect of the radial distance Δ from the centre of the cathode to the edge of the injector, on the capture process. In all cases the measurements were carried out with and without "forcing", i.e. the presence of an additional induced electric field (c.f. the reference quoted above). The results were as follows: the electron capture coefficient in the single electron capture region was 0.5%, and in the collective capture region 2.5-3.5%. It was also found that the magnitude of Δ in the presence of "forcing" may be increased to 3.5, while in the absence of "forcing" the effect of Δ on the number of captured particles becomes significant at lower values of Δ . Finally, a plot was obtained of the number of captured particles as a function of the position of the "forcing" pulse relative to the centre of the injection pulse. It was concluded from the form of this curve that the optimum capture conditions correspond to the tail of the injection pulse. There are 5 figures.

ASSOCIATION: Ob"yeĭnennyy institut yadernykh issledovaniy
(Joint Institute for Nuclear Research)

Card 2/2

SUBMITTED: February 20, 1962

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410019-1

KOTOV, V. I.; PETUKHOV, V. A. [Pletukhov, V. A.]

Accelerator physics. Des. such. fiz. no.6:174-183 '62.
(MIRA 16:1)

(Particle accelerators)

ZHURAVLEV, A.A.; IVANOV, I.N.; KARMASIN, M.; KOTOV, V.I.; MYAE, E.A.;
OBOZNYI, V.A.; OBUKHOX, Yu.L.; PETUKHOV, V.A

Study of particle motion in a circular synchrocyclotron. Zhur.
tekh.fiz. 32 no.8:905-913 Ag '62. (MIRA 15:8)
(Synchrotron)

L 15704-61

EMT(m)/BDS/ES(φ)-2

AFETD/ASD/ESD-3/AFMI/SSD : Pub-4

IJP(G)

ACCESSION NR: AP3004881

S/O120/63/000/004/0022/0023

66
65

AUTHOR: Zinov'yev, L. P.; Kotov, V. I.; Myznikov, K. P.

19

TITLE: Measuring magnetic-field index in a weak-focusing proton synchrotron by the accelerated-particle beam

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1963, 22-23

TOPIC TAGS: weak-focusing proton synchrotron, proton synchrotron

ABSTRACT: The method of measuring magnetic-field index described by C. A. Ramm, et al. (J. Scient. Instrum., 1956, 33, 102) was modernized in such a way that the index could be measured by the beam with higher accuracy at any flux density. During the acceleration process, the beam was shifted by varying the accelerating-voltage frequency to the region where the index was to be measured. The arrangement of measuring devices in determining the index on the proton synchrotron of the United Nuclear Research Institute at $10 \cdot 10^9$ ev is shown.

ASSOCIATION: United Nuclear Research Institute

Card 1/1

KOTOV, V.I.; YABLOKOV, B.N.

International Conference on High-energy Accelerators. Atom.
energ. 15 no.6:528-530 D '63. (MIRA 17:1)

KOTOV, V.I., kand.fiz.-matem.nauk (Dubna); VEKSLER, V.I., akademik; VLADIMIRSKIY, V.V.; SETVAK, M., doktor (Chekhoslovakiya); MINTS, A.L., akademik; DZHELEPOV, V.P., prof.; VAL'TER, A.K., prof.; KOLOMENSKIY, A.A., prof.

Accelerators of the future; articles and speeches of the participants in the international conference in Dubno. Priroda 53 no.1:44-56 '64.
(MIRA 17:2)

1. Chlen-korrespondent AN SSSR (for Vladimirskiy).

WRITE BELOW THIS LINE

ACCESSION NR: AP4042923

S/0057/64/034/008/1387/1391

AUTHOR: Kolpakov, O. A.; Kotov, V. I.

TITLE: Radiation of a charge passing through a cylindrical resonator

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 8, 1964, 1387-1391

TOPIC TAGS: charged particle radiation, field radiation, electromagnetic resonator

ABSTRACT: The radiation of separate waves and the total radiation generated by a charged particle passing through a cylindrical resonator with inlet and exit openings have been evaluated. The evaluation was based on determination of the energy of the electromagnetic field appearing during the passage of a charged beam through a cylindrical resonator. From a geometrical point of view, the beam was assumed to be a charged filament, its axis and direction of motion coinciding with the axis of the resonator. The velocity of the beam was assumed to be constant and the resonator to be electrically insulated from the outside space. When a beam of Card^{1/2}

L 47084-65 EWT(S)/EPA(W)-2/EWA(S)-2 Pt-7/Pab-10 TR(S)

ACCESSION NR: AP5007020

8/0120/65/000/001/0033/0038

AUTHOR: Zinov'ev, L. P.; Iasinakiy, I. B.; Kotov, V. I.; Kulskova, Ye. M.; Myznikov, K. P.; Pavlov, N. I.

TITLE: Fast extraction of the proton-synchrotron beam to the target

SOURCE: Pribury i tekhnika eksperimenta, no. 1, 1965, 33-38

TOPIC TAGS: particle beam; proton synchrotron; beam extraction

ABSTRACT: Fast extraction of the beam and sending it to a target located near the maximum-deflection azimuth was achieved by creating parametric-resonance conditions in the weak-focusing 10-Gev proton-synchrotron. The resonance conditions were ensured by windings placed inside the vacuum chamber. A bank of capacitors was discharged at 10 kv into the windings; by the end of the acceleration cycle, the (thyatron-switched) winding current rose sine-wise to a maximum and then (also thyatron-switched) fell-off exponentially. The system ensured a

Card 1/2

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B

L 47084-65

ACCESSION NR: AP5007020

beam-extraction time as low as 30 nsec. The authors wish to thank V. I. Veksler for a useful discussion; E. A. Smirnova and N. N. Govorun for their great help in calculations; and V. N. Buldakovskiy, A. I. Kryukov, Yu. F. Kusagin, V. S. Mironov, M. I. Nishayev, and others who took part in the development and alignment of the equipment. Orig. art. has: 6 figures and 1 formula.

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

SUBMITTED: 29 Jan 64

ENCL: 00

SUB CODE: NP

NO REF SOV: 00

OTHER: 00

by
Card 2/2

ZINOV'YEV, L.P.; ISSINSKIY, I.B.; KOTOV, V.I.; KULAKOVA, Ye.M.; MYZNIKOV, K.P.;
PAVLOV, N.I.

Fast extraction of a proton-synchrotron beam onto the target. Prib.
i tekhn. eksp. 10 no.1:33-38 Ja-F '65. (MIRA 18:7)

1. Ob'yedinennyy institut yadernykh issledovaniy.

BRUSLINSKIY, B.A., inzh.; KOGI TR, Ye.Ye., inzh.; KOTOV, V.I., inzh.;
KROTMAN, I.S., inzh.; LIPATOV, V.T., inzh.; ROSHCHETAYEV, A.P., inzh.

Registering ultrasonic flaw detector for turbogenerator rotor
shafts. Elektrotehnika 36 no.2:24-26 F '65.

(MIRA 18:4)

L 60337-65
ACCESSION NR: AP5018308

EWI(L)/EPK(s)-2 Pt-7 TOP(c) '66

UR/0057/65/035/007/1273/1279
538.566

34
B

AUTHOR: Bagin, V. A.; Kotov, V. I.

TITLE: Investigation of hybrid waves in a circular waveguide partly filled with a dielectric

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1273-1279

TOPIC TAGS: dielectric layer waveguide, waveguide propagation, electromagnetic wave, relativistic particle, electron lens

ABSTRACT: The authors discuss theoretically the propagation in a waveguide of circular section partly filled with dielectric of "hybrid" waves of the type discussed for a septate waveguide by H. Hahn (Rev. Sci. Instr., 34, 1049, 1963). Such waves are of technical interest in connection with the separation of high energy charged particles and applications to ultrahighfrequency equipment. The circular waveguide of radius b is assumed to be filled from the radius a (less than b) to the wall with a linear dielectric, and those waves are discussed for which the fields are proportional to $\exp i(\omega t - k_z z - n\theta)$, where t is the time, r, θ, z are cylindrical coordinates, n is an integer, and f a k are constants.

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ACCESSION NR: AP5018308

These waves are found to be a mixture of the hybrid HE and HM modes (H.Hahn, loc. cit.), and the ratio of the two modes is calculated as a function of the waveguide parameters. The dispersion equation is derived and its solution is discussed in some detail for those waves whose phase velocity is the velocity of light. The dependence of the frequency and group velocity of these waves on the waveguide parameters is calculated and presented graphically, and an expression is derived for the energy flux. The focusing action of these waves on ultra-relativistic charged particles is discussed briefly; this action is similar to that of a 2^{nd} -pole lens. Orig. art. has: 32 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 08Oct64

ENCL: 00

SUB CODE: EM

NR REF SOV: 005

OTHER: 001

L 21594765 EWT(1)/EEC-4/EWA(h) Feb

ACCESSION NO: AF3003232

S/0087/86/035/001/0026/0034

AUTHOR: Kolpakov, O.A. / Kotov, V.I. / Om-San-Kha

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1985, 26-34

TOPIC TAGS: mathematical physics; dispersion relation; electromagnetic wave emission; waveguide; iris waveguide; slotted waveguide

ABSTRACT: The dispersion equation is derived for the propagation of long wavelength TM waves in a periodic waveguide of circular cross section. The longitudinal section of the waveguide discussed is shown in the figure (Enclosure 01). The power radiated by a charged particle moving on the axis of the waveguide is also calculated. The dispersion equation is obtained in the form of an infinite series for the case when the wavelength is long compared with the quantity d (see the figure) and is simplified for the cases of an iris waveguide ($D = d, a > d$) and a series of coupled resonators ($D = d, a \ll d$). The expressions obtained for the width of the pass band in these cases agree with those given by V.V. Vladimirov (ZhTF 17, 1269, 1277, 1947), but the derivation is said to be much simpler. An expression is derived for the power radiated by a charged particle moving on the axis of a slotted waveguide ($D \gg d$). "In conclusion, the authors express their

Card 1/3

L 27594-65

ACCESSION NR: AP5003232

deep gratitude to Academician V.I.Veksler for his constant interest in the work, and to B.M.Bolotovskiy for a number of valuable remarks in discussions of the work." ² Orig.art.has: 47 formulas, 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 28Feb64

ENCL: 01

SUB CODE: 50

NR REF SOV: 008

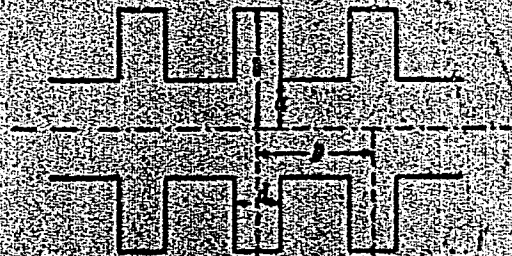
OTHER: 001

Card 2/3

L 27594-65

ACCESSION NR: AP8005232

ENCLOSURE: 01



Longitudinal section of the waveguide

Card 3/3

L 22874-65 REC-4/EWA(H)/EWI(I) Feb
ACCESSION NR: AF5002321

8/0141/64/007/005/0898/0902

AUTHOR: Ivanov, I. N., Kotov, V. J.

25
28
6

TITLE: Radiation from a current ring in a waveguide

SOURCE: IVUZ. Radiofizika, v. 7, no. 5, 1964, 898-902

TOPIC TAGS: Cerenkov radiation, dielectric waveguide, plasmoid radiation

ABSTRACT: The authors consider the Cerenkov radiation produced by an annular current moving along the axis of a coaxial waveguide whose dielectric properties change abruptly at a certain radius. In the considered coaxial waveguide, the dielectric consists of two coaxial hollow cylinders having different dielectric constants. Formulas are derived for the radiation power by taking advantage of the fact that only the azimuthal component of the vector potential differs from zero. The results show that the power decreases exponentially when the thickness of the inner dielectric cylinder tends to zero. Normally the current-carrying ring emits only H waves, but if the charge of the ring differs from zero, the system will also radiate E waves. The effect of this charge on the calculations

Card 1/2

L 22874-65

ACCESSION NR: AP5002321

is indicated. "The authors thank V. I. Yekeler for interest in the work and for useful discussions." Orig. art. has: 16 formulas and 1 figure.

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

SUBMITTED: 16Nov63

ENCL: 00

SUB CODE: EM, ME

NR REF SOV: 001

OTHER: 001

Card 2/2

KOTOV, V.L.

State and problems of the regulation of marine mammal fisheries.
Trudy sov. Ikht. kom. no.12:14-17 '61. (MIRA 14:6)

1. Glavgcsrybvod.
(Marine mammals) (Fishery law and legislation)

GINDIS, Ya.P., inzh.; KOTOV, V.M., inzh.

Automatic operation of a granulating basin. Mekh. i avtom.proizv.
19 no.1:7-8 Ja '65. (MIRA 18:3)

L 38981-66 EWT(m)/EWP(1)/T IJP(c) RM

ACC NR: AP6011433 (A)

SOURCE CODE: UR/0020/66/167/004/0811/0814

AUTHOR: Andrianov, K. A. (Academician); Kotov, V. M.

28
B

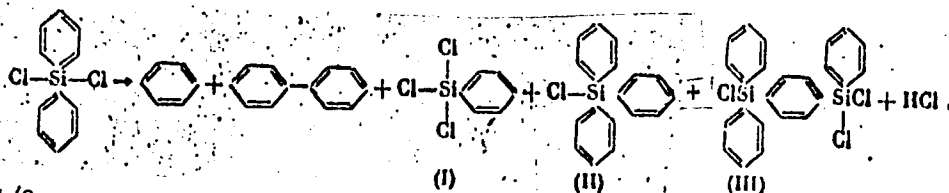
ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: The disproportionation of diphenyldichlorosilane

SOURCE: AN SSSR. Doklady, v. 167, no. 4, 1966, 811-814

TOPIC TAGS: silane, organosilicon compound, chlorinated organic compound

ABSTRACT: When diphenyldichlorosilane was heated in a tubular electric furnace to 480-540C, thermal rearrangement of the diphenyldichlorosilane took place. HCl was evolved and disilylphenylene was formed. The reaction progressed as follows:



Card 1/2

Card 2/2

hv

KOTOV, Yailiy Mikhaylovich

[Growing oaks in shelterbelts] Vyrashchivanie duba v lesnykh polosakh.
[Kuibyshev] Kuibyshevskoe kn-vo, 1954. 84 p. (MLRA 9:12)
(Oak) (Windbreaks, shelterbelts, etc.)

KOTOV, V. M.

"The Cultivation of the Oak Tree in Shelter Belts of the Central Trans-Volga."
Cand Agr Sci, Inst of Forestry, Acad Sci USSR, Kuybyshev, 1954. (KL, No 3, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational
Institutions (13)
SO: Sum. No. 598, 29 Jul 55

ANDRIANOV, K.A.; KOTRELEV, G.V.; KOTOV, V.M.

Ammonolysis of higher alkyltrichlorosilanes. *Zhur. ob. khim.*, 35
no.12:2176-2180 D '65. (MIRA 19:1)

1. Submitted December 3, 1964.

KOTOV, Vladimir Nikolayevich; RUDCHENKO, A.M., red.; ROMANOVA, N.I., tekhn.
red.

[West German neoliberalism; critical evaluation of its theory and
economic policy] Zapadnogermanskii neoliberalizm; kritika teorii i
ekonomicheskoi politiki. Moskva, Izd-vo In-ta mezhdunarodnykh ot-
noshenii, 1961. 183 p. (MIRA 14:11)
(Germany, West—Economics) (Germany, West—Economic policy)

POPOV, S.I., dotsent; KOTOV, V.N.

"Strip mine dumps" by P.E.Zhurkov and G.V.Trofimov. Reviewed
by S.I.Popov and others. Gor. zhur. no.7:80 JI '61.

(MIRA 15:2)

1. Magnitogorskiy gorno-metallurgicheskiy institut (for
Popov). 2. Nachal'nik Gornogo upravleniya Magnitogorskogo
metallurgicheskogo kombinata (for Kotov)

(Strip mining)

(Zurkov, P.E.)

Trofimov, G.V.)

ZURKOV, P.E., doktor tekhn. nauk, prof.; YELENSKIY, S.I., kand. tekhn. nauk;
KOTOV, V.N.; KONDRATENKO, V.P.; SOLOV'YEV, P.M.

Book reviews and bibliography. Bezop. truda v prom. 8 no.11:
56-59 N '64. (MIRA 18:2)

1. Magnitogorskiy gornometallurgicheskiy institut im G.N. Nosova (for Zurkov).
2. Nachal'nik otдела tekhniki bezopasnosti Yuzhno-Ural'skogo soveta narodnogo khozyaystva (for Yelenskiy).
3. Nachal'nik Gornogo upravleniya Magnitogorskogo metallurgicheskogo kombinata (for Kotov).
4. Nachal'nik kombinata Chelyabinskugol' (for Kondratenko).

VASIL'YEV, M.V., gornyy inzh.; KOTOV, V.N., gornyy inzh.; RUSKIY, I.I.,
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9,2583 (1040, 1159, 1147)

AUTHORS: Fedorov, A.M., and Kotov, V.S., Members of the Society
(see Association)

TITLE: A wide range single quartz-crystal generator

PERIODICAL: Radiotekhnika, v. 16, no. 12, 1961, 49-57

TEXT: The authors describe a vidoc-pulse generator having a very stable and wide range of pulse repetition frequencies. The generator consists of a crystal-stabilized master generator, and of a system of binary frequency dividers, driven by pulses obtained by shaping the sine-wave of the master oscillator. By varying the overall dividing factor of the system (in general not necessarily a whole number), a discrete grid is obtained of frequencies, with interval overlapped by the quartz crystal frequency shifts. The disadvantage of the generator is that pulses at its output are shifted in time with respect to their average position. The magnitude of this shift, as related to the period, may be made small and in the L.F. range reduced to zero. The principle of operation

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consists in the number of pulses per unit time being formed by addition or subtraction of pulse sequences, e.g. according to the formula $D = A - (B \pm C)$. The bloc diagram of the generator is given on Fig. 2. The arrangement consists of a quartz master-oscillator QMO, the frequency of which f_q may be slightly varied by shifting the quartz frequency by

Δf_q . The pulse forming network PF shapes the sinusoidal output voltage of the QMO, having a frequency $f'_q = f_q + \Delta f_q$ into rectangular pulses transmitted through the "NOT" circuit when there are no corresponding pulses at its second input. The "NOT" circuit is thus an arrangement, whereby a certain sequence of pulses $f'' = f''_2 + f''_3 + \dots + f''_s$ is read from a

sequence with frequency f_0 . The frequency of pulse sequence (after the "NOT" circuit ($f'_0 = f_0 - f''$)) is divided by the divider D_1 which has a variable dividing factor K_1 and forms thus a discrete number of frequencies f_1 . f_1 has its intervals further reduced by a combination

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number of periods of f_1 from the beginning of T_N ; p - total number of triggers; N - number of periods t_c of frequency f_0 during T_N . In general

$\Delta t \ll t_c$, so that if e.g. $f_0 = 200$ kc/s, $f_1 = 1$ kc/s, then $\frac{\Delta t}{t_1}$

$\ll 0.005$ and is rather small. The method was experimentally tried with an arrangement having 3 frequency dividers and frequency range 21-11,375 c/s. The frequency of the transistorized master oscillator could be continuously varied over 54 c/s from the nominal frequency of 91 kc/s. Each divider had 4 triggered circuits. Divider D_1 had K_1 varied in steps from 8 to 16; coefficients K_2 and K_3 (dividers D_2 and D_3) were varied as follows: $\infty, \frac{16}{1}, \frac{16}{2}, \frac{16}{3}, \dots, \frac{16}{15}$. No shift of pulses was observed between 21-11 c/s; at other frequencies it did not exceed 11 microseconds. There are 7 figures and 6 Soviet table references.

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ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications im. A.S. Popov) [Abstracter's note: Name of Association taken from first page of journal]

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