

SKOBELKIN, O.K., kand.med. nauk (Kalinin)

Surgical complications in ascariasis. Med. sestra 22 no.10:  
30-32 0'63 (MIRA 16:12)

SKOBELKIN, O.K. (Kalinin, 2-ya ul. Shevchenko, d.40, kv.25)

Extensive traumatic diaphragmatic hernia in a child. Vestn.  
khir. Grekov. 90 no.4:91 Ap'63 (MIRA 17:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. A.G. Karavanov) Kalininskogo meditsinskogo instituta na baze Kalininskoy oblastnoy bol'nitsy No.1 (glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).

SKOBELEKIN, V.K., kand. med. nauk (Kalinin, 5, 2-ya ulitsa Shevchenko, d.40,  
kv.25)

Choledochoduodenal fistulas. Vest. Khir. 91 no.10:113-114  
O '63. (MIRA 17:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (ispolnyayushchiy  
obyazannosti zaveduyushchego - dotsent N.V. Zavadovskaya)  
Kalininskogo meditsinskogo instituta (rektor - dotsent A.N.  
Kashnev) na baze oblastnoy klinicheskoy bol'nitsy (glavnyy  
vrach - zasluzhennyy vrach RSFSR A.A. Sokolov).

SKOBELKIN, O.K., kand.med.nauk

Revascularization of a mobilized stomach with the aid of the  
splenic artery. Trudy KGMI no.10:372-374 '63.

(MIRA 18:1)

1. Iz kafedry faku'l'te skoy khirurgii (zav. kafedroy zasluzhen-  
nyy deyatel' nauki RSFSR - prof. V.S.Semenov) i kafedry torakal'-  
noy khirurgii i anesteziologii Ukrainskogo tsentral'nogo instituta  
usovershenstvovaniya vrachey (zav. kafedroy - prof. A.A.Shalimov).

L 20270-65 AMD

ACCESSION NR: AR4045869

S/0299/64/000/0111/1024/1024

SOURCE: Ref. zn. Biologiya. Svodnyy tom, Abs. 111050

5  
8

AUTHOR: Skobelkin, O. K.

TITLE: Circular defect esophagoplasty with a stomach section on a vascular pedicle

CITED SOURCE: Sb. 3 Vses. konferentsiya po peresadke tkaney i  
or mov, 1963. Yerevan, 1963, 375-378

cadaver, stomach

TRANSLATION: In experiments on 10 dog cadavers and 5 live dogs it was demonstrated that it is more effective to make a stomach tube resection from the large curvature of the stomach because of its greater length and size and highly adequate number of vessels. After mobilization and spleen removal, the vascular arcade made it possible to bring the transplant into the thoracic cavity to the level of the arch of the aorta and higher. The distal end of the transplant

L 20270-65

ACCESSION NR: AR4045869

started 2 to 3 cm higher than the pylorus and the proximal end  
of the fundal part of the stomach. An incision 5 to 7 cm long  
was brought into the

vascular peritoneum  
diaphragm opening. Preliminary experimental results.

SUB CODE: LS

ENCL: 00

Card 2/2



SKOBELKIN, V.

Examination of labor disputes in the factory and plant local  
committee. Okhr. truda i sots. strakh. 3 no. 10:65-67 O '60.  
(MIRA 13:11)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Ul'yanovskogo  
oblastnogo soveta profsoyuzov.  
(Ul'yanovsk Province--Grievance procedures)

SKOBELKIN, V.

Seasonal and temporary work. Okhr. truda i sots. strakh. 3  
no. 12:62 .D '60. (MIRA 13:12)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Ul'yanovskogo  
sovprofa. (Labor laws and legislation)

GERSHANOV, Ye.; SKOBELKIN, V.

Commission for Labor Disputes at enterprised and institutions. Sots.  
trud 5 no.1:140-145 Ja '60. (MIRA 13:6)  
(Grievance procedures)

SKOBELKIN, V.

Printing establishments are needed by Armenian industries. From.  
Arm. 4 no.5:21-24 My '61. (MIRA 14:8)  
(Armenia--Printing industry)

SKOBELKIN, V.

Consulation by the Ul'yanov Province Trade-Union Council. Okhr.  
truda i sots. strakh. 4 no.5:53-54 My '61. (MIRA 14:5)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Ul'yanovskogo  
oblssovprofa.  
(Labor laws and legislation)

SKOBELKIN, V.

Is the court right? Okhr.truda i sots.strakh. 5 no.4:42-43  
Ap '62. (MIRA 15:4)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Ul'yanovskogo  
oblsoprofa.  
(Maternal and infant welfare) (Employees, Dismissal of)

SKOBELKIN, V.

Visiting our friends in Azerbaijan. From Arm. 5<sup>th</sup> no. 6:75-76 Je '62.  
(MIRA 15:7)

(Azerbaijan--Economic conditions)

SKOBELKIN, V.

Liability responsibility of the person responsible for an industrial accident and illegal dismissal. Okhr.truda i sots strakh. 5 no.10:42 0 '62. (MIRA 15:11)

1. Zaveduyushchiy yuridicheskoy konsul'tatsiyey Ul'yanovskogo oblastnogo soveta professional'nykh soyuzov.  
(Employers' liability) (Employees, Dismissal of)



SKOBELKIN, V., kand.yuridicheskikh nauk

Procedure for bringing a damage suit against a defendant who caused  
an industrial accident. Okhr. truda i sots. strakh. 6 no.9:43-45  
S '63. (MIRA 16:10)

SKOBELKIN, V. I.

and A.G. Shafigullin- authors of a-  
Review & Summary of "Theory of Chain Processes" by N.S. Akulov ; State Pub. House of  
Tech & Theoret. Lit., Moscow, 1951.

Zhur Fiz Khim, Vol XXVII, #1, pp 151-2

W-30868, 18 Aug 54

*Handwritten notes:*  
12. 1951-52  
1951-52

SECRET, U.S.S.R.

General and Special Information of Political Parties, 1951-52  
June 11, 1951, Moscow State University, N. V. Lomonosov.

Dissertations presented for science and engineering degrees included during 1951.

See: Doc. No. 10, 1951-52.

SKOBEIKIN, V. I. Sr. Sci. Colleague

"Some Questions of Non-Linear Electrodynamics," a paper given at the  
All-University Scientific Conference "Lomonosov Lectures", Vest. Mosk. Un.,  
No.8, 1953.

Trabslation U07895, 1 Mar 56

1. SKOBELKIN, V. I., SHAFIGULLIN, A. G.
2. USSR (600)
4. Akulov, Nikolai Sergeevich
7. N. S. Akulov's book "Theory of chain reactions." Reviewed by V. I. Skobelkin, A. G. Shafigullin. Zhur. fiz. khim. 27, no. 1, 1953.

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

USSR/Physics - Vacuum pump

FD-1083

Card 1/1      Pub. 153 - 19/24

Author        : Skobelkin, V. I., and Yushchenkova, N. I.

Title         : Theory of the vapor-jet vacuum pump

Periodical    : Zhur. tekhn. fiz., 24, No 10, 1879-1891, Oct 1954

Abstract     : The authors investigate the interaction between the gas to be pumped out and the supersonic vapor jet. They clarify the mechanism governing the process and thus are enabled to calculate the speed of pumping out of the gas and to determine the influence of the various parameters upon this speed. They note that their results differ from those obtained by the USSR authors Lifshits and Rozentsveyg (ibid., No 8, 1952).

Institution   : -

Submitted    : April 3, 1953

SKOBELKIN, V. I. U.S.S.R.

541.127

5686. On N. S. Akulov's theory of "autogenesis."  
V. I. SKOBELKIN. *Zh. eksper. teór. Fiz.*, 27, No. 4(10)  
~~561-561947~~ Russian.

Discussion paper. A criticism of the theory of the kinetics of chemical reactions, published in Akulov's *The fundamentals of chemical dynamics* [MGU, Moscow, 1940] and *The theory of chain processes* [Gitol, M.-L., 1951], which, in place of the law of mass action, proposes an expression for the rate of a reaction depending explicitly on time and implying a finite discontinuity at some "induction time." According to Skobelkin these phenomena of "autogenesis" are entirely the results of mathematical errors.

W. J. SWIATECKI

SKOBELEKIN, V. I.

530.145

62

6733. Birefringency in non-linear electrodynamics.  
V. I. SKOBELEKIN. *Zh. eksper. teor. Fiz.*, 27, No. 6(12)  
677-89 (1954). In Russian.

It is shown that among all the non-linear systems of electrodynamics that of Born-Infeld is the only one in which birefringency is absent in directions normal to the collinear electromagnetic fields. It is also shown that the light may, in a non-linear electrodynamics, in general be resolved into four components linearly polarized in four different planes.

B. F. KRAUS



SKOBELKIN, V.I.

✓ Variational Principles in Hydrodynamics, V. I. Skobelkin, (Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki, Jan., 1968.) Soviet Physics - JETP, Feb., 1967, pp. 68-73. Translation. Formulation of new variational principles, characterized by a special variation subject to auxiliary constants, for solving hydrodynamic boundary problems by direct methods.

I

Stance

RHS  
mji

Category : USSR/Atomic and Molecular Physics - Gases

D-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 932

Author : Skobelkin, V.I., Yushchenkova, N.I.

Title : Corrections to Article "Theory of Vapor-Jet Vacuum Pump."

Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 2, 66

Abstract : Refers to Ref. Zhur. Fiz. 1955, 8952

Card : 1/1

USSR

~~SECRET~~

538,245

✓ 8085. Magnetostatics with ferromagnetics. V. I. SKOBELKIN AND R. N. SOLOMKO. *Zh. Eksper. teor. Fiz.*, 28, No. 4, 385-93 (1955) In Russian.  
The variational principle of magnetostatics with ferromagnetics in the field of electric currents is formulated, leading to a solution of the general problem which could not be obtained by integration of Maxwell's equations owing to the non-linear relation between  $B$  and  $H$ . A system of axial symmetry is first considered, and then a planar system. The authors then derive the "complete  $\delta$ -system" of functions and introduce direct methods of determining the magnetic flux. ELECTRICAL RESEARCH ASSOCIATION

SUBJECT  
AUTHOR  
TITLE  
PERIODICAL

USSR / PHYSICS  
SKOBELKIN, V.I.

CARD 1 / 2

PA - 1537

On Various Principles in Hydrodynamics  
Zhurn. eksp. i teor. fis, 31, fasc. 2, 317-323 (1956)  
Issued: 5.10.1956

In the works by several authors the variation functional contained some field parameters which were then varied independently (density, velocity, pressure, and others, eg. density and stream functions). However, the number of parameters used on this occasion is not minimal. It is shown that for the construction of the functional in the general case of a threedimensional motion two defining quantities of the field (stream-functions) suffice.

The principle of the lowest flow potential:  $\Psi, \mathcal{N}$  are assumed to be the parameters for the determination of a certain streamline of a steady hydrodynamic field. An orthogonal trihedron  $\bar{x}_i$  is constructed at each point of the streamline, and to each trihedron an energy-momentum-tensor  $T_{ik}$  is assigned. The quantities  $\bar{\Psi}(x_i), \bar{\mathcal{N}}(x_i)$  of the field satisfy the relations

$$qV_1 = D(\Psi, \mathcal{N})/D(x_2, x_3); \quad qV_2 = D(\Psi, \mathcal{N})/D(x_3, x_1); \quad qV_3 = D(\Psi, \mathcal{N})/D(x_1, x_2).$$

For the modification of the mechanic energy in a real steady field along the streamline it is then true that:  $\int \partial T_{sk} / \partial \bar{x}_k dS = (v^2/2) + (dP/q) + R(q, \Psi, \mathcal{N}) = E(\Psi, \mathcal{N})$ . Here R

is the work of friction forces per unit of measure of the liquid. The LAGRANGIAN is  $L = T_{ss}$  and the integral  $I = \int_{\Omega} T_{ss} d\omega$  must be extremal for a real stabilized

Žurn. eksp. i teor. fis, 31, fasc. 2, 317-323 (1956) CARD 2 / 2

PA - 1537

field. Herefrom follows:

$$\partial T_{ss} / \partial \Psi - (\partial / \partial x_i \partial) (\partial T_{ss} / (\partial \Psi / \partial x_i)) = 0; \quad \partial T_{ss} / \partial \mathcal{N}^0 - (\partial / \partial x_i \partial) (\partial T_{ss} / (\partial \mathcal{N}^0 / \partial x_i)) = 0.$$

Next follows the relativistic generalization of the principle of the smallest flow potential for a stationary field. In relativistic hydrodynamics it is

true that  $T_{ik} = (P + \rho c^2) u_i u_k + P \delta_{ik}$ . Here  $u_i$  is the four-velocity of the gas motion. It then applies that:  $L = T_{ss} = \beta^2 (P + \rho c^2) v^2 + P$ .

The unsteady field: The principle of the smallest action. Here three "stream functions"  $\Psi$ ,  $\mathcal{N}$ ,  $\sigma$  are introduced in the fourdimensional space-time-manifold.

For an ideal gas it is true that  $L = P + ((P/c^2) + \rho u^2)$ . The variation principle consists in the fact that the integral  $S = \int T_{ss} (\Psi, \mathcal{N}, \sigma, \partial \Psi / \partial x_i, \partial \mathcal{N} / \partial x_i, \partial \sigma / \partial x_i) d\Omega$  for a real field assumed a stationary value.

In conclusion the existence of a strong minimum for steady adiabatic subsonic motions of a gas is proved.

INSTITUTION: Moscow State University.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1218  
 AUTHOR SKOBELKIN, V.I.  
 TITLE The Principle of the Smallest Flow Potential.  
 PERIODICAL Dokl. Akad. Nauk, 108, 787-790 (1956)  
 Publ. 6 / 1956 reviewed 8 / 1956

The present work establishes and formulates a variation principle for the solution of various boundary value problems of gas dynamics by means of new and partly direct methods. The parameters  $\Psi$  and  $\mathcal{F}$  are assumed to define a certain streamline in a steady flow of a perfect gas. The surfaces  $\Psi = \text{const}$  and  $\mathcal{F} = \text{const}$  form the flow surfaces.  $\Psi$  and  $\mathcal{F}$  are chosen in such a manner that  $qV_x = D(\Psi, \mathcal{F})/D(y, z)$ ,  $qV_y = D(\Psi, \mathcal{F})/D(z, x)$ ,  $qV_z = D(\Psi, \mathcal{F})/D(x, y)$ .

The couple of functions  $(\Psi, \mathcal{F})$  may be considered to be the flow functions in a three-dimensional motion. The continuity equation  $\text{div } q \vec{V} = 0$  is satisfied identically for any  $\Psi, \mathcal{F}$ . If on a boundary surface  $\sigma$  the distribution of the flow (the distribution of  $\Psi$  and  $\mathcal{F}$ ) and the distribution of the total mechanical energy  $\mathcal{E}(\Psi, \mathcal{F})$  referred to units of measure of the gas are known, the

BERNOULLI equation has the form  $(V^2/2) + \int dP/q = \mathcal{E}(\Psi, \mathcal{F})$ . Here  $P$  is the gas pressure, and integration is carried out along the streamline. Furthermore, it applies for the energy theorem (1.principal theorem) that  $dQ = dU + P d(1/q)$ . Here  $Q$  denotes the quantity of heat and  $U$  the inner energy.

If  $\Psi$  and  $\mathcal{F}$  are varied within the domain  $\Omega$  (in which the motion of the gas

Dokl. Akad. Nauk, 108, 787-790 (1956)

CARD 2 / 2

PA - 1218

has no strong or slight discontinuities) while their values are maintained on the surface  $\sigma$  the following principle of variation applies for the motion of the gas in  $\Omega$ : The integral  $I = \int_{\Omega} (P + qV^2) d\omega$ , which is equal to the work performed by the entire impulse flow of the directioned motion of gas (flow potential), assumes a steady value in the case of an actual motion of a perfect gas which has become steady.

We now introduce the geometrical characteristic of flow:

$\Theta = (D(\Psi, \tilde{\nu})/D(y, z))^2 + (D(\Psi, \tilde{\nu})/D(z, x))^2 + (D(\Psi, \tilde{\nu})/D(x, y))^2$  and restrict our attention to the motion which is barotropic for a given gas particle. The OSTROGRADSKIJ equations corresponding to the equation  $\delta I = 0$  are given, several times transformed, and specialized for an adiabatic motion. It is shown that, in the case of adiabatic subsonic motions of the gas (which are usually vortex-like), the solution of the equations represents a sharp minimum of the functional  $I$ . Proof bases upon WEIERSTRASS function of the calculus of variations, and is followed step by step. In the case of a subsonic motion the phase surface  $Z=L(\Theta, \Psi, \tilde{\nu})$  is convex, but in the case of supersonic motions without strong or slight discontinuities the phase surface has a saddle at all of its points. If boundary conditions for  $\Psi$  and  $\tilde{\nu}$  on the surface  $\sigma$  are given, there is only one solution.

INSTITUTION: Moscow State University "M.V.LOMONOSOV"

SKOBELKIN, V. I.

124-11-12524D

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 31 (USSR)

AUTHOR: Skobelkin, V. I.

TITLE: The Principle of the Minimal Stream Potential and its Application to Problems in Gasdynamics, Electrodynamics, and Combustion.  
(Printsip naimen'shego potentsiala toka i yego prilozheniya k zadacham gazovoy dinamiki, elektrodinamiki i goreniya)

ABSTRACT: Bibliographic entry of the Author's dissertation for the degree of Doctor of Physical-Mathematical Sciences, Institute of Mechanics, Academy of Sciences, USSR, Moscow, 1957.

ASSOCIATION: Institute of Mechanics, Academy of Sciences, USSR, Moscow

Card 1/1



SKOBEL'IN, V.L., Doc Phys-Math Sci--(Russ) "Variation principle in hydrodynamics." Mos, 1958. 23 pp (Acad Sci USSR. Inst of Mechanics), 20 copies. Bibliography: pp 21-22 (29 titles) (KL, 26-50,104)

AUTHORS: Kogarko, S. M., Skobelkin, V. I. SOV/20-120.6-32/59

TITLE: Relaxation Interaction Between Shock Waves and the Combustion Zone (Relaksatsionnoye vzaimodeystviye udarnykh voln s zonoj goreniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 6, pp 1280 - 1283 (USSR)

ABSTRACT: The paper under review presents an investigation of the influence of the kinetics of the combustion upon the structure and the intensity of a shock wave when it passes through the combustion zone. The relaxation time  $t_r$  (the period during which no noticeable influence is exerted upon the diffusion currents and the heat currents in the reaction zone by the reaction conditions suddenly modified by the shock wave) is of the same order as the reaction period  $\tau$  ( $10^{-3}$  -  $10^{-5}$  sec).  $\tau$  is defined as the ratio of the width of the combustion zone  $l$  and the normal expansion velocity of the flame. During  $t_r$  the temperature and the pressure within the reaction zone increase. During the relaxation time the excess momentum in the

Card 1/3

Relaxation Interaction Between Shock Waves and the  
Combustion Zone

SOV/20-120-6-32/59

reaction zone is transformed into a shock wave propagating forward and backward from the reaction zone. Equations giving the state in the shock wave are written down. The whole amount of heat liberated in the passage of the shock wave is expended for the increase of the internal energy of the gas in the reaction zone.  $\tau_b$  denotes the duration of the passage of the shock wave through the combustion zone. If  $\tau > \tau_b$  the reaction is not completed during the passage of the wave through the front of the flame and only a certain proportion of the chemical energy which is expended for the increase of the momentum of the wave is imported to the wave. If  $\tau < \tau_b$  the reaction is completed within the period  $\tau$ . The total momentum of the shock wave after passing the combustion zone is combined from the interest momentum  $I$  and the relaxation momentum  $I_r$ .

The maximum amplification of the momentum of the shock wave at  $\tau = \tau_b$  may be termed momentum resonance. Finally a method for the determination of the index of refraction is presented.

Card 2/3

Relaxation Interaction Between Shock Waves and the  
Combustion Zone

SOV/20-120-6-32/59

There is 1 figure.

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

PRESENTED: March 6, 1958, by N. N. Semenov, Member, Academy of Sciences,  
USSR

SUBMITTED: February 25, 1958

1. Shock waves--Analysis    2. Combustion--Analysis    3. Mathematics  
--Applications

Card 3/3

5(4), 24(B)

SOV/20-122-3-30/57

AUTHOR: Skobelkin, V. I.

TITLE: ~~On the Thermodynamic Equilibrium of the Surfaces of a Strong~~  
Explosion (O termodinamicheskoy ravnovesii poverkhnostey  
sil'nogo razryva)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 431-433  
(USSR)

ABSTRACT: In hydrodynamics, the problem of the thermodynamic equilibrium appears as often as a variation principle is formulated for the description of the gas motion. The infinitely small deflections from the actual motion for given boundary and initial conditions must satisfy not only the variation equation which is equivalent to the equation of motion but also to the variation equation  $\Delta Q - T\delta S = 0$ . This equation is equivalent to the second law of thermodynamics for a real state of a gas in thermodynamic equilibrium. The above-given equation, therefore, limits the class of the permissible variations. This paper deals with the general case in which the gas moves in the presence of a shock wave or of a sharply defined front of reaction (which divides the initial gas from the burnt

Card 1/3

SOV/20-122-3-30/57

On the Thermodynamic Equilibrium of the Surfaces of a Strong Explosion

gas). The laws for the conservation of mass, momentum, and energy are given explicitly and then the Hugoniot (Gyugonio) equation is derived from them and a variation equation is given for the real subsonic flow of an ideal gas. To this variation equation, the initially given variation equation  $\Delta Q - T\delta S$  has to be added. As an example, the author investigates the subsonic flow of a perfect gas in a tube in the presence of a flame front which propagates with a given velocity in an isentropic gas with a given Poisson (Poisson) constant. A figure shows the Hugoniot adiabates for the shock wave, for the detonation wave, and for a weak deflagration. According to the deliberations of this paper, the model of the notion of 2 incompressible liquids does not satisfy the equation of the thermodynamic equilibrium of the flame front. If, however, the gas moves in the presence of a shock wave, the non-equilibrium conditions in a transition layer of the order of the free length of path of the gas molecules has to be investigated for the determination of  $\Delta Q$  of an elementary particle behind the shock wave. There are 1 figure and 12 references, 7 of which are Soviet.

Card 2/3

SOV/20-122-3-30/57

On the Thermodynamic Equilibrium of the Surfaces of a Strong Explosion

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: June 30, 1958, by S. A. Yekshinskiy, Academician

SUBMITTED: May 26, 1958

Card 3/3

5(4), 10(7)

SOV/20-122-6-25/49

AUTHORS: Kogarko, S. M., Skobelkin, V. I., Kazakov, A. N.

TITLE: The Interaction Between Shock Waves and the Front of a Flame  
(Vzaimodeystviye udarnykh voln s frontom plameni)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6, pp 1046-1048  
(USSR)

ABSTRACT: The present paper investigates the intensification of shock waves in their interaction with the front of a flame by variation of the normal combustion process in the shock wave. The length of the shock wave is assumed to be sufficient in the direction of the reaction zone. For the interaction between such a shock wave and the flame front the following applies: 1) The shock wave is transformed at the flame front (like on the boundary dividing two media). In this way a refracted and a reflected wave are formed. The flame front can by approximation be considered to be a contact-discontinuity. The expressions for the refraction coefficient are written down. 2) When passing through the flame front the shock wave compresses the gas in the reaction zone, whereby temperature rises. This temperature rise increases reaction velocity, so

Card 1/3



SOV/20-122-65/49

The Interaction Between Shock Waves and the Front of a Flame

that the propagation velocity of the flame is also increased. This propagation velocity increases very rapidly, and therefore this process may be looked upon as a sort of explosion in the gas current behind the shock wave; it causes the formation of 2 additional (intensifying) shock waves. The shock wave front moves with subsonic velocity in relation to the disturbed gas, and therefore any kind of disturbance is able to catch up with this front in the current behind the shock front, thus changing its structure. The propagation velocity of the flame is not increased immediately upon arrival of the shock wave, but only after a certain relaxation time. The latter is of the same order of magnitude as the duration of reaction. A diagram schematically shows the intensification of the shock wave when passing through the flame front. Expressions for shock front calculation are given. The new propagation velocity of the flame is calculated according to the theory developed by Zel'dovich. The amplitude of the intensifying shock wave depends upon the amplitude of the initial shock wave as well as on the kinetic properties (reaction velocity, calorific value, activation energy, etc.) of the fuel. The second diagram shows the amplitude of the inten-

Card 2/3

SOV/20-122-6-25/49

The Interaction Between Shock Waves and the Front of a Flame

sifying shock wave of compression in the reaction zone for 2 different propagation velocities. There are 2 figures and 5 Soviet references.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR  
(Institute for Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: June 21, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: June 11, 1958

Card 3/3

807/5762

PLASMA BOOK EXPOSITION

Emberentitsya po magnetnoy gidrodinamike. Mga, 1988.  
 Voprosy magnetnoy gidrodinamiki i ditsionki plazmy: trudy Konferentsii. Problemy i magnetnoy gidrodinamiki i ditsionki plazmy. Transactions of a Conference on Magnetohydrodynamics and Plasma Dynamics. Mga, 1988. 344 p. Krasnaya zvezda. 1,000 copies printed.  
 Sponsoring Agency: Akademiya nauk Latvriyevy SSR, Institut fiziki.  
 Editorial Board: D.A. Frank-Kamenetskiy, Doctor of Physics and Mathematics, Professor; A.I. Vol'pert, Doctor of Technical Sciences, Professor; I.M. Kirko, Doctor of Physics and Mathematics; V.Ya. Veliky, Candidate of Physics and Mathematics; V.G. Vitok, Candidate of Physics and Mathematics; Yu.M. Krut'niy and V.I.A. Kravchenko.

M.A. A. Ryval'bunov; Tech. Ed.: A. Klyuzina  
 FOREWORD: This book is intended for physicists working in the field of magnetohydrodynamics and plasma physics.  
 contains the transactions of a conference held in Mga, 1988. The volume contains applied and theoretical magnetohydrodynamics. The subject of the conference was the investigation of the basic trends in theoretical and applied magnetohydrodynamics, establishing contact between the people doing research in different branches of magnetohydrodynamics, and promoting the participation of theoretical physicists in problems in applied magnetohydrodynamics. More than 150 persons from different parts of the Soviet Union took part in the conference, and 55 papers were read. Similar conferences are to be held regularly in the future; the next such conference is scheduled to be held in Mga in June 1990. In this present collection of the transactions of the conference, most of the papers and comments on papers are presented by the authors themselves in an abridged form. The book is divided into two parts: the first part deals with problems in theoretical magnetohydrodynamics at plasma dynamics, and consists of 27 articles on such subjects as the stability of hydromagnetic shear flows, the stability of plasma jets, the stability of hydromagnetic jets, the stability of hydromagnetic jets, and the investigation of cosmic-ray variations (L.I. Dvornov); the second part, consisting of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (I.M. Kirko) and the development of electromagnetic pumps (P.G. Kirillov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic crucibles, electromagnetic stirrers for molten metals, and their application in the metallurgical industry including schematic diagrams of their power-supply systems. References are given at the end of most of the articles.

Syrovatki, S.I. On the Stability of Shock Waves in Magnetohydrodynamics 127  
 Polovin, M.V., and G.Ye. Krivichitskiy. The Impossibility of Rare-  
 Shock Waves in Magnetohydrodynamics 132  
 Lordanaki, S.V. Zeeman's Theorem in Magnetohydrodynamics 135  
 Kiselev, M.E., and V.I. Tsaplayev. Oblique Shock Wave in Plasma With  
 Finite Conductivity and Certain Other Problems in Shock-Wave Theory 135  
 Gumbelkin, Y.A. Thermodynamic Equilibrium of Strong Discontinuity  
 Surfaces 136  
 Abkhayev, A.I., and A.G. Sitenko. On the Theory of Hydromagnetic  
 Wave Excitation 137  
 Morozov, A.I. Generation of Magnetic Sound Waves 141  
 Sitenko, A.G., and Yu.A. Kirichukin. Dissipation of Hydromagnetic  
 Waves in Turbulent Fluctuations 143  
 Card 6/12

24(3)

SOV/20-128-2-16/59

AUTHOR:

Skobelkin, V. I.

TITLE:

On the Function of Magnetic Flux in a Three-dimensional Field

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 2, pp 280-283  
(USSR)

ABSTRACT:

In an article by V. I. Skobelkin and R. N. Solomko (Ref 1) a principle of variation was formulated according to which a method was devised which permits an approximate solution of boundary problems of two-dimensional and axially symmetrical ferromagnetic systems within the current field. In both cases, the field was determined by one single function of the magnetic flux  $\Phi$  (which is similar to the method employed in hydrodynamics). In the case of two-dimensional ranges, in which magnetic permeability is constant and no currents are present, the function of magnetic flux may be regarded as the imaginary part of the complex potential (which satisfies the conditions of Riemann-Cauchy). In the general case, two everywhere steady functions  $\psi$  and  $\Phi$  of the magnetic flux are to be introduced for a description of the three-dimensional field. The latter are connected with the magnetic induction  $\vec{B}$  by the relation

Card 1/4

SOV/20-128-2-16/59

## On the Function of Magnetic Flux in a Three-dimensional Field

$\vec{B} = \nabla\psi \times \nabla\vartheta$ . The planes  $\psi = \text{const}$  and  $\vartheta = \text{const}$  are the planes of magnetic flux. The intersections of any two planes  $\psi$  and  $\vartheta$  form force lines in the field. With the help of the functions  $\psi$  and  $\vartheta$  it is possible to plot a Lagrangian for the three-dimensional field, and the variation principle formulated in the afore-mentioned previous article can be explained for the general case. For the plotting of the Lagrangian the "vector of magnetic flux"  $\vec{R} = (1/2c)(\psi\nabla\vartheta - \vartheta\nabla\psi)$  and the "density of the potential function of the currents"  $u = -j\vec{R}$  are introduced, where  $\vec{j}$  denotes the vector of current density. If the density of magnetic energy of the field is expressed by

$w = \int_0^B \vec{H} d\vec{B}$ ,  $L = w + u$  holds for the Lagrangian. The varia-

tion principle may be formulated in the following manner: Among all solenoidal fields of magnetic induction possible (when the given boundary conditions for the real field of the closed magnetostatic system are satisfied), the space integral  $E = \int_{\Omega} L d\Omega$  assumes the least value. The mathematical formulation of this equation is reduced to the equation  $\delta E = 0$  under

Card 2/4

SOV/20-128-2-16/59

## On the Function of Magnetic Flux in a Three-dimensional Field

the condition  $\text{div } \vec{B} = 0$ , which is satisfied in a similar way if  $\psi$  and  $\vartheta$  are chosen as the field-determinant quantities.  $L$  may be expressed by

$$L = -\frac{1}{2c} \vec{j}(\psi \nabla \vartheta - \vartheta \nabla \psi) + \frac{1}{4\pi} \int_0^{B^2} \frac{dB^2}{2\mu(B^2)} = L(\vec{j}, \vartheta, \nabla, \psi, \nabla, \vartheta),$$

and it is possible to choose such a plane  $\sigma$  that  $\vec{n} \times \vec{H} = 0$  holds.  $\vec{n}$  denotes the normal on those planes on which the magnetic permeability  $\mu$  or the current density  $j$  are unsteady. As a result, elliptical equations are obtained for the determination of  $\psi$  and  $\vartheta$  as well as the pertinent natural boundary conditions. The above equations for  $\psi$  and  $\vartheta$  determine the projections of the curl of magnetic field strength to the lines which are perpendicular to the surface of magnetic flux. To prove the existence of a distinct minimum of  $E$  and of the exclusion principle for the field strength  $\vec{H}$ , the Weierstrass function  $\epsilon$  of the variation problem must be constructed. The article is concluded with a discussion of the required conditions. There are 6 references, 5 of which are Soviet.

Card 3/4

30V/20-128-2-16/59

On the Function of Magnetic Flux in a Three-dimensional Field

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: May 18, 1959, by S. A. Vekshinskiy, Academician

SUBMITTED: May 18, 1959

Card 4/4

SOV/20-128-3-22/58

24(5)

AUTHOR: Skobelkin, V. I.

TITLE: Propagation of Vector Waves in Nonlinear Mesodynamics

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 514-516 (USSR)

ABSTRACT: The nonlinear mesodynamics of the scalar and pseudoscalar field was investigated in an article by D. I. Blokhintsev (R...). The generalization of linear vectorial mesodynamics consists in an investigation of the arbitrary function

$$\mathcal{Q} = L(\xi, \eta, \zeta) + 1 \text{ of the three invariants } \eta = (\vec{E} \vec{B})^2, \\ \xi = \frac{1}{8\pi} (E^2 - B^2), \zeta = \frac{k_0^2}{8\pi} (\varphi^2 - A^2), \text{ (where it holds:}$$

$k_0 = 2\pi mc/\hbar$ ) instead of the Lagrangian  $L = \xi + \zeta + 1$  (where 1 denotes the invariant part of the Lagrangian, which determines the interaction of the meson field with the nucleons). The equations of the nonlinear meson field may be ascertained from the variational method  $\delta \int \mathcal{Q} \text{ div} = 0$ . They have the form

$$\text{curl } \vec{H} - \frac{1}{c} \frac{\partial \vec{D}}{\partial t} + k_0^2 A^* = 4\pi \vec{J}, \text{ curl } \vec{E} + \frac{1}{c} \frac{\partial \vec{B}}{\partial t} = 0, \vec{E} = -\frac{1}{c} \frac{\partial \vec{A}}{\partial t} - \nabla \varphi, \\ \text{div } \vec{D} + k_0^2 \varphi^* = 4\pi \rho, \text{ div } \vec{B} = 0, \vec{B} = \text{curl } \vec{A}, \vec{D} = 4\pi \frac{\partial \varphi}{\partial E} = \frac{\partial L}{\partial \xi} \vec{E} +$$

Card 1/4



Propagation of Vector Waves in Nonlinear Mesodynamics SOV/20-128-3-22/58

$$+ 8\pi(\vec{E} \vec{B}) \frac{\partial L}{\partial \eta} \vec{B} + 4\pi \frac{\partial l}{\partial \vec{E}}, \vec{H} = - 4\pi \frac{\partial \varphi}{\partial \vec{B}} = \frac{\partial L}{\partial \vec{E}} \vec{B} + 8\pi(\vec{E} \vec{B}) \frac{\partial L}{\partial \eta} \vec{E} -$$

$$- 4\pi \frac{\partial l}{\partial \vec{B}}, \vec{A}^* = \frac{\partial L}{\partial \xi} \vec{A}, \varphi^* = \frac{\partial L}{\partial \xi} \varphi, \vec{j} = \frac{\partial l}{\partial \vec{A}}.$$

The totality  $\vec{j}, i q$  (where  $q$  denotes the density of distribution of the electrons) forms a four-dimensional current which satisfies the equation of continuity

$$\frac{\partial q}{\partial t} + \text{div } \vec{j} = 0.$$

The velocity of propagation of the small disturbances of the meson field may be calculated by the method of characteristics (e.g. by the method of weak unsteadinesses by Levi-Civita (Ref 3), or by the method of wave equations (Ref 4)). All these methods are adequate and deliver the same formulas for the velocity of propagation of the disturbances. The following expression is obtained from the above set of equations:

$$c\lambda_{\vec{H}} \vec{n} + \lambda_{\vec{D}} \vec{v} = 0, c\lambda_{\vec{E}} \times \vec{n} - \lambda_{\vec{B}} \vec{v} = 0, \text{ where it holds:}$$

$$\lambda_{\vec{B}} \vec{v} = - \left[ \frac{\partial \vec{B}}{\partial t} \right], \lambda_{\vec{D}} \vec{v} = - \left[ \frac{\partial \vec{D}}{\partial t} \right], \lambda_{\vec{H}} \vec{n} = \left[ \nabla \vec{H} \right], \lambda_{\vec{E}} \vec{n} = \left[ \Delta \vec{E} \right].$$

The vectors  $\lambda_{\vec{H}}, \lambda_{\vec{E}}, \lambda_{\vec{B}}, \lambda_{\vec{D}}$  are the vectors with the components  $\lambda_{H_x}, \lambda_{H_y}, \lambda_{H_z}$ , etc, and  $\vec{n}$  denotes the unit vector perpendicu-

Card 2/4

Propagation of Vector Waves in Nonlinear Mesodynamics SOV/20-128-3-22, 58

lar to the surface of weak unsteadiness. Further, the following relations are obtained:  $\lambda_{\vec{D}} \vec{n} = \lambda_{\vec{B}} \vec{n} = 0$ ,  $\lambda_{\vec{A}} \times \vec{n} = 0$ , and

$$-\lambda_{\vec{D}} \vec{v} = \left[ \frac{\partial}{\partial t} \left\{ \frac{\partial L}{\partial \xi} \vec{E} + 8\pi(\vec{E} \vec{B}) \frac{\partial L}{\partial \eta} \vec{B} \right\} \right]$$

$$-\lambda_{\vec{H}} \vec{v} = \left[ \frac{\partial}{\partial t} \left\{ \frac{\partial L}{\partial \xi} \vec{B} + 8\pi(\vec{E} \vec{B}) \frac{\partial L}{\partial \eta} \vec{E} \right\} \right]$$

The determinant of this set is equal to zero, which leads to an algebraic equation of fourth order with respect to  $v$ . The only nonlinear mesodynamics which does not exhibit double refraction or polarization of vector waves in the directions perpendicular to the collinear fields  $\vec{E}$  and  $\vec{H}$  has the form

$$L = \frac{C}{4\pi} \left( 1 - \sqrt{1 - \frac{8\pi\xi}{D} - \frac{\eta}{C^2}} \right) + C_1, \text{ where } C \text{ and } C_1 \text{ in general}$$

are functions of  $\xi$ . Hence, experimental investigation of the polarization of vectorial meson waves may indicate the physical reality of the electrodynamics and mesodynamics of Bonn-Infeld. If the mass and charge of the meson are known, the actual field radius and the maximum field strength may be determined in this nonlinear mesodynamics. There are 5 Soviet references.

Card 3/4

Propagation of Vector Waves in Nonlinear Mesodynamics. SOV/20-128-3-22/58

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: May 18, 1959, by S. A. Vekshinskiy, Academician

SUBMITTED: May 18, 1959

Card 4/4

24.2200  
~~24(3)~~

88607

S/020/60/130/05/016/061  
BC13/BO14

AUTHOR: Skobelkin, V. I.

TITLE: Variational Principles of the Determination of the Principal Characteristics of a Ferromagnetic Body on the Basis of the Calculation of Its Hysteresis Loop 21

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 5, pp 1012-1014 (USSR)

ABSTRACT: The theory discussed in the present paper permits a quantitative calculation of the configuration of the whole hysteresis loop. Furthermore, it connects the properties (constants) of the ferromagnetic body with the shape of this hysteresis loop. In the case of irreversible magnetization the entropy  $S$  of a ferromagnetic body varies, so that the process of magnetization is to be described by the use of the second law of thermodynamics. The existence of magnetostrictive phenomena in a ferromagnetic body changes its surface  $\sigma$  so that in this case an improper problem of variation (with variable limits) is obtained. Here, the field is assumed to be determined by the Cartesian coordinates  $Y, Z, x, \psi, \theta$  are chosen as independent coordinates. In this case, the variational equation of the

Card 1/5

68607

Variational Principles of the Determination of the Principal Characteristics of a Ferromagnetic Body on the Basis of the Calculation of Its Hysteresis Loop

S/020/60/130/05/016/061  
B013/B014

field reads  $\Delta(Y,Z) = \delta E^* + \int_{\sigma} \Pi \delta S d\omega - \int_1 L^* \frac{D(Y,Z)}{D(\psi, \theta)} \delta(\psi, \theta) dx = 0.$

$\frac{1}{\vec{B}(\sigma)}$  denotes the boundary of the surface  $\sigma$ ,  $L^* = w + u - \int_0 \vec{B} d\vec{H}$  the generalized Lagrangian of the field, and it holds that  $\Pi = -\partial L^* / \partial S$ .  $\int_0 \vec{B} d\vec{H}$  is equal to the magnetic pressure

acting upon the surface  $\sigma$  of the ferromagnetic body.  $\delta E^*$  denotes the complete variation in consideration of the variation in entropy and in the magnetic induction flux on the surface  $\sigma$ . The above equation is satisfied with any surface  $\sigma$  irrespective of its variation during magnetization. The variation in  $\sigma$  is to be considered by introducing an additional condition inferred from the second law of thermodynamics. The entropy variation ✓

Card 2/5

58607

S/020/60/130/05/016/061  
3013/3014

Variational Principles of the Determination  
of the Principal Characteristics of a Ferro-  
magnetic Body on the Basis of the Calculation  
of Its Hysteresis Loop

entering into the above equation must vanish for a true state. The infinitely small deviations from the true state may be regarded as possible non-equilibrium states of the ferromagnetic body. With  $\delta S = 0$ , the positive magnetic flux  $\Phi^+$  through the surface  $\sigma$  has a maximum. It further holds that  $\Phi^+ = \int_{\sigma} \vec{B} \vec{n} \epsilon d\sigma$ ,

with  $\epsilon = 1$  for  $\vec{B} \vec{n} \geq 0$  and with  $\epsilon = 0$  for  $\vec{B} \vec{n} < 0$ . In the general case, the thermodynamic potential of the unit of volume of a ferromagnetic body reads  $\bar{\varphi} = \varphi_0(M) + \epsilon_{an} - \vec{H} \vec{M} - \frac{H^2}{8\pi} + \epsilon_{mel} - \epsilon_{el}$ .  $\vec{H}$  denotes magnetic field strength within the ferromagnetic body,  $\vec{M}$  the magnetization of the unit of volume,  $\epsilon_{an}$  anisotropy energy,  $\epsilon_{el}$  elastic energy, and  $\epsilon_{mel}$  magneto-elastic energy.  $\epsilon_{an}$  is explicitly written down for uniaxial and cubic crystals. If  $\Phi^+$  is assumed to be a maximum, it holds

Card 3/5

68007

S/020/60/130/05/016/061  
B013/B014

Variational Principles of the Determination  
of the Principal Characteristics of a Ferro-  
magnetic Body on the Basis of the Calculation  
of Its Hysteresis Loop

that  $\delta \int_{\sigma^+} (\vec{H} + 4\pi\vec{M}) \vec{n} d\sigma^+ = 0$  with the auxiliary conditions

$u_{ik} = \dots \left( \frac{\partial \bar{\varphi}}{\partial \sigma_{ik}} \right)_{T, H}$ ,  $u_{ik}$  denotes the deformation tensor of  
the ferromagnetic body. With  $\vec{M} = \vec{M}_0 + \vec{m}$  (where  $\vec{M}_0$  is the magneti-  
zation determined by the initial magnetization curve, and  $\vec{m}$  the  
deviation of magnetization in the inverse process as a result  
of hysteresis), it follows from the equation  $\delta S = 0$  that either  
 $dS/d\vec{\Phi}^+ = 0$  (initial magnetization curve) or  $\delta\vec{\Phi}^+ = 0$  (metastable  
states corresponding to hysteresis). The hysteresis curve ob-  
tained corresponds to the metastable states possible within  
the range of irreversible magnetization. The conditions for  
adiabatic insulation of the system are satisfied. There are  
5 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
Card 4/5 (Moscow State University imeni M. V. Lomonosov) 4

SECRET  
E/107, 60,035/007/017/019  
B111/B182

1.7300

REF ID:  
TITLE:

Shvabits, V. I.

Theory of relaxation oscillations during combustion in a chamber

ABSTRACT: Zhurnal teoreticheskoy fiziki, v. 38, no. 3, 1962, pp. 555 - 559

TEXT: The problem of one-dimensional unsteady combustion of fuels in the subsonic and the formation of pressure oscillations is solved theoretically. Attention is focused on the interaction of weak disturbances (standing compression waves that are displaced) with the combustion zone. Owing to the effect of these waves part of the heat generated is retained in the combustion zone and not carried along by the flow. This causes a local increase in pressure and temperature that can be described by a factor  $r$  which depends mainly on the length of the chamber, on the place of combustion in the chamber, and on  $\omega$ , the resonant frequency of the two columns, 1 and 2, near the place of combustion (1- "cold gas", 2-heated gas).  $r$  has a minimum at the place of combustion. If the place of combustion is at a wave loop new waves are emitted, which is

X



S/057/01/032/003/012/013  
B111/B102

Theory of relaxation ...

not the case at a node. The initial equation is a differential equation for the deviation of pressure  $P_i$  from the equilibrium value which had been derived by V. I. Skobelkin (Ref. Zh. Zh. Fiz., no. 9, 1961) (The equation only holds on the assumption that the wavelength of the disturbance is much longer than the width of the combustion zone). For  $P_i$  the following formulation is given:

$$P_i = f_i\left(t + \frac{x_i}{a_i}\right) + F_i\left(t - \frac{x_i}{a_i}\right),$$

where  $i = 1$  refers to the "cold gas",  $i = 2$  to the heated gas. The boundary conditions are:  $f_i(t) = (-1)^{v_i} F_i(t)$ , where  $v_i = 0$  corresponds to a closed chamber, and  $v_i = 1$  to an open one. The differential equation is solved

with  $P_i = C_i^* e^{kt} \left\{ e^{kx/a_i} \cos \omega \left( \frac{x_i}{a_i} + t + \alpha_i \right) + (-1)^{v_i} \cos \omega \left( -\frac{x_i}{a_i} + t + \alpha_i \right) \right\}$ ,

where  $C_i^*$ ,  $\alpha_i$  are arbitrary real quantities, and  $a$  is the velocity of sound. The attenuation factor  $k$  and the frequency  $\omega$  satisfy complex transcendental equations. The general solution is obtained by superposition of various

Carl 2/4

S/057/02/032/003/012/019  
B111, B102

Theory of oscillation ...

Frequencies  $\omega_n$ . With consideration of absorption in the chamber the somewhat modified expression

$$P_i = e^{-\gamma_n t} C_{1n} e^{(k_n - \gamma_n a_i) t} \left\{ e^{\frac{k_n x_i}{a_i}} \cos \omega_n \left( \frac{x_i}{a_i} + t + a_{in} \right) + \right. \\ \left. + (-1)^i e^{-\frac{k_n x_i}{a_i}} \cos \omega_n \left( -\frac{x_i}{a_i} + t + a_{in} \right) \right\}. \quad (16)$$

follows for  $P_i$ , where  $\gamma_i$  is the absorption coefficient ( $i = 1, 2$ ). It follows from (16) that the oscillation becomes unsteady when  $k_n - \gamma_n > 0$ , and that it is attenuated when  $k_n - \gamma_n < 0$ . The general absorption coefficient is  $b = \gamma_n = A_1 \omega_n^2 + A_2 \omega_n^{1/2}$ , where  $A_1$  and  $A_2$  are coefficients depending on the physical and chemical parameters of the fuel mixture.  $k_1 - \gamma_1 = 0$  has two roots, the so-called critical frequencies  $\omega_1$  and  $\omega_2$ . With the chamber length  $L'$  corresponding to  $\omega_1$ , the combustion is absolutely steady for all chambers with  $L \neq L'$ ; for  $L = L'$ , however, it is only relatively steady, i. e. only for certain harmonics. For  $L \gg L'$  the intensi-

Card 3/4

Theory of relaxation ...

8/287/82, 032/003/012/019  
5111/8102

ty of the pressure oscillations is reduced considerably. A complete elimination of the oscillations is, however, not attained. There are 9 references: 7 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: M. Zucrow, J. Osborn. Jet Propulsion, 22, no. 10, 624 - 652, 1952.

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

SUBMITTED: February 20, 1961 (initially) May 13, 1961 (after revision)

Card 4/4

X

Relaxative interaction ...

5/076/62/036/009/004/011  
3101/3102

of the mixture;  $w$  = volume rate of the reaction;  $z$  = effective width of the combustion zone;  $p$  = pressure;  $E$  = activation energy;  $t_r$  = relaxation time; index 1 refers to unburnt, and index 2 to burnt gas. The result also holds qualitatively for liquid or solid fuels with combustion in the gaseous phase. The relaxation may cause combustion instability in rocket propulsion. The present theory refers to ideal gas, taking no account of the absorption of waves through heat conduction, viscosity, and relaxation processes in the combustion zone. Wave absorption may be important in high frequency oscillations and will be specially examined.

ASSOCIATION: Akademiya Nauk SSSR, Institut Khimicheskoy fiziki (Academy of Sciences USSR, Institute of Chemical Physics)

SUBMITTED: February 20, 1961

Card 1/1

SKOBELKIN, V.I.; BOLDIN, A.A.

Functions of the distribution of concentrations within the cell.  
Dokl.AN SSSR 145 no.6:1396-1399 Ag '62. (MIRA 15:8)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom  
V.N.Kondrat'yevym.

(CELLS)

SKOBELKIN, V.N., red.; BADEYAN, A., tekhn. red.

[Dairy industry of the Armenian S.S.R. during the last forty years] Molochnaia promyshlennost' Armianskoi SSR za 40 let. Erevan, Armianskaia SSR. Sovet narodnogo khoziaistva, 1961. 17 p. (MIRA 16:11)

1. Erivan. Vystavka dostizheniy narodnogo khozyaystva Armyanskoy SSR.

(Armenia--Dairy industry)

GINDINA, M.M.; KOGANOVA, G.V.; LARICHEVA, G.M.; MELKOVA, A.Ye.; POLYAKOVA,  
M.G.; SKOBEIKINA, I.F.; IKONNIKOV, V.V., prof. otvetstvenny red.  
ROSHCHINA, L., red, izd-va; LBHEDEV, A., tekhn. red.

[State Bank of the U.S.S.R.; a brief account on the fortieth  
anniversary of the October Revolution] Gosudarstvennyi bank SSSR;  
kratkii ocherk k sorokaletiiu Oktiabria. Moskva, Gosfinizdat,  
1957. 254 p. (MIRA 11:2)

1. Gosudarstvennyi bank, Moscow.  
(Banks and banking)

USSR/Optics - Photometry, Colorimetry, and Illumination Engineering, K-10

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35944

Author: Ryabov, I. I., Skobelev, V. M.

Institution: None

Title: New Starting-Regulating Apparatus for Luminescent Lamps

Original

Periodical: Svetotekhnika, 1956, No 1, 22-23

Abstract: None

Card 1/1



BOKUCHAVA, M.A.; SKOBELEVA, N.I.

Study of volatile aldehydes of the tea plant. Dokl. AN SSSR 112  
no.5:896-898 F '57. (MLRA 10:4)

1. Institut biokhimii im. A.N. Bakha Akademii nauk SSSR. Pred-  
stavleno akademikom A.I. Oparinym.  
(Tea) (Aldehydes)

СКОБЕЛСКАЯ И Б.

EXCERPTA MEDICA Sec.6 Vol.10/12 Internal Medicine D'56

7422. SKOBELSKAJA I. B. Inst. of Exp. Endocrinol., USSR. \*The cortical regulation of the thyrotropic function of the hypophysis and the thyroid gland (Russian text) PROBLEMS ENDOCR. HORMONOTHERAPY 1955, 1/2 (9-15) Tables 2 Illus. 2

The author succeeded in developing conditioned reflexes in male rats in response

to the decrease and increase of the thyrotropic function of the hypophysis and the ensuing changes in the functional state of the thyroid gland. He achieved this by combining the administration of tyroxin or methyl-thiouracil with a complexity of irritants (the setting of the experiment, the mode of the administration of tyroxin or methyl-thiouracil, light). That the reflexes were conditioned has been confirmed by their extinction after the reinforcement by absolute irritants has been withdrawn. The results obtained are regarded as a proof that the function of the hypophysis is regulated by the cerebral cortex.  
Tendler - Leningrad (III 6)

PAVLOV, Ye.; SKOBEL'SKAYA, Yu.; SAKHATSKAYA, T.

Symposium on the formation of endocrine functions in ontogeny.  
Usp. sovr. biol. 60 no.2:316-319 S-O '65. (MIRA 18:10)

SHOBEL'SHIY, N. D.

"Comparative Study of Cytological Differentiation in the Blood Elements of Certain Vertebrates." Thesis for Degree of Cand. Biological Sci. Sub 5 Jun 50, Moscow City Pedagogical Inst imeni V. P. Potenkin

Summary 71, 1, Sep 62, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

SHIBATA, N. T.

"Some Structures in the Plasma," in symposium on Extracellular forms of life,  
(Acad. Nat. Sci. R.S.F.S.R., Moscow, 1952), pp. 185-186.

SKOBEL'SKIY, M.D.

Development of vaccinia virus outside of the organism. Biul. eksp.  
biol. i med. 38 no.11:66-70 N '54. (MLRA 8:1)

1. Iz Instituta virusologii imeni D.I.Ivanovskogo (dir. deystvitel'-  
nyy chlen AMN SSSR prof. M.P.Chumakov) AMN SSSR, Moskva.  
(VACCINIA, virus,  
develop. outside of organism)  
(VIRUSES,  
vaccinia virus, develop. outside of organism)

SKOBEL'SKIY, M.D.

Possibilities of light optics applicable to the study of virus particles. Biofizika 1 no.4:379-382 '56. (MIRA 9:9)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.  
(MICROSCOPY) (VIRUS RESEARCH)

E-3

USSR/Virology - Human and Animal Viruses

Abs Jour : Referat Zhurn - Biol. No 16, 25 Aug 1957, 68242

Author : Skobelskiy, M.D., Avakyan, A.A., Burak, A.I.  
Title : Use of the Luminescent Method of Microscopy for  
Perfecting of Laboratory Diagnosis of Poliomyelitis.

Orig Pub : Vopr. Virusologiy, 1956, No 6, 58.

Abstract : Hela(?) cells were cultured on cover glasses, filtrated, treated with acridine yellow (1:1000) and studied through a luminescent microscope. Regardless of the age of the culture, the protoplasm luminesced by a dull-green light, surrounding the far more luminous nucleus and small nuclei. Six hours after infection of the poliomyelite by the virus, thin sprouts of cells began to manifest orange-yellow illumination, which further enveloped adjacent portions of the protoplasm spreading from the periphery of the cell toward the nucleus. On the second day after the infection of the protoplasm, the nucleus

Card 1/2

- 10 -



USSR/Virology - Human and Animal Viruses

E-3

Abs Jour : Referat Zhurn - Biol. No 16, 25 Aug 1957, 68242

also began to luminesce with a flaming-yellow light.  
This luminescence did not arise when the specific  
immunizing serum was introduced into the culture  
together with the virus.

Card 2/2

- 11 -

SKOBEL'SKIY, M.D.; BURAK, A.I.

Method of arranging tissue culture for morphological analysis.  
Vop. virus 5 no.4:494-496 Je-Ag '60. (MIRA 14:1)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.  
(TISSUE CULTURE)

KHONDKARIAN, O.A.; SKOBEL'SKIY, M.D.; KHVAN, L.M.; BURAK, A.I.

Clinical aspects and etiology of acute serous meningitis. Vest.  
AMN SSSR 17 no.7:13-17 '62. (MIRA 15:10)

1. Institut nevrologii AMN SSSR.  
(MENINGITIS) (VIRUS DISEASES)

KHONDKARIAN, O.A.; SKOBEL'SKIY, M.D.; KHVYAN, L.M.; BURAK, A.I.

Clinical and etiological aspects of polyseasonal meningencephalitis.  
Vest. AMN SSSR 19 no.6:35-42 1962. (MIRA 1844)

1. Institut neurologii AMN SSSR, Moskva.

MITKALINNYI, V.I., kand.tekhn.nauk; MOLCHANOV, N.G., kand.tekhn.nauk;  
Prinimali uchastiye: NEVEDOMSKAYA, I.N.; SHKOL'NIKOV, Yu.M.;  
VOLVENKIN, V.K.; RAYSKIY, R.N.; BELEN'KIY, A.M.; SKOBEL'TSIN,  
S.S.; FEY GZHU-MIN; CHAHAO TIN'-YUAN'

Improvement of bell-type furnaces for bright annealing. Stal'  
22 no.4:365-367 Ap '62. (MIRA 15:5)

1. Moskovskiy institut stali.  
(Furnaces, Heat-treating) (Annealing of metals)

PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

2ND AND 3RD ORDERS

OP

P

Positive electron tracks. D. Skobel'tzyn. *Nature* 133, 23-4(1934).—Two pairs of photographs (stereoscopic) are reproduced showing pairs of oppositely curved electron tracks. In 3 of 4 cases in which the energies were cited, the energy ratio  $e^+/e^-$  lies between 2 and 4; in the 4th case it is about 0.66. Calculs. indicate that the ratio no. pairs/no. of Compton electrons, is proportional to the at. no. In the 2nd pair of photographs is shown a pair of electrons of rather low energy ( $10^6$  e. v.) produced by a  $\beta$ -particle, also showing evidence of the nuclear recoil. An "annihilation radiation" is to be expected from an x-ray-tube anticathode when electron energies of  $10^6$  e. v. are attained.

Gregg M. Evans

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

12001 5710121111

12001 5710121111

ea

3

New source of positive electrons. D. Skobel'tzin and E. Stepanova. *Nature* 133, 505(1934); cf. *C. A.* 28, 1921<sup>5</sup>.—A weak Ra source inside a Wilson chamber in a magnetic field shows in addn. to the  $\beta$ -particles of the natural spectrum a considerable no. of pos. electrons. A discussion of possible mechanisms is given, the most probable being connected with  $\beta$ -disintegration. A great part of the positrons are attributed to the action of  $\beta$ -particles on the walls. Calvin Bross

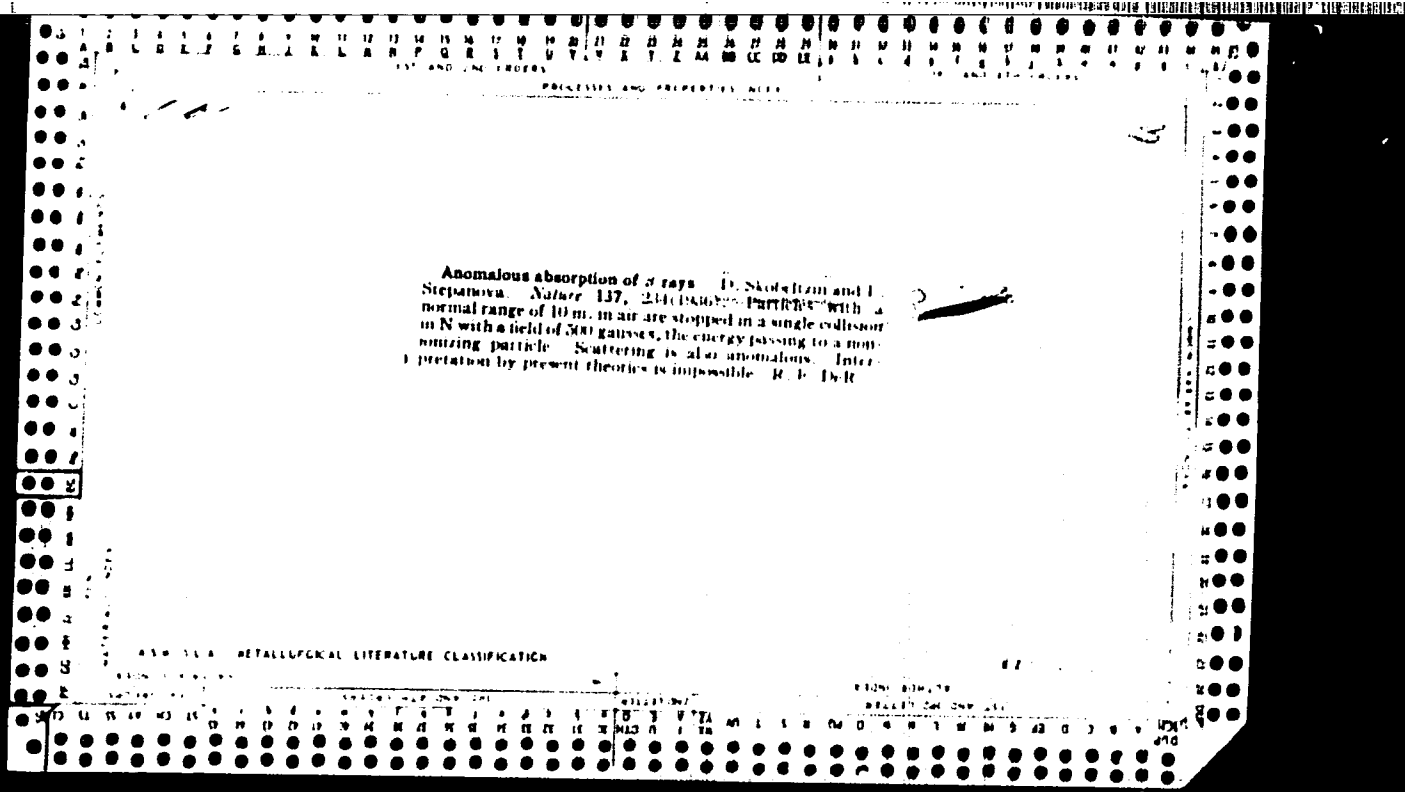
CA

Anomalous phenomena in the scattering of fast  $\alpha$ -particles. D. V. Skobel'tsyn, *Bull. Acad. Sci. U.S.S.R. Div. Phys. Math. Sci. Ser. Phys.* 1930, 651. Transl. English. G. M. Evans. *Class. of C.A. 30.3417*

L. AK Mark SSKR.  
Sci. Fiz.

AND USE OF FULL-PHASE LITERATURE CLASSIFICATION





Anomalous absorption of  $\beta$  rays D. Skobel'tsin and I. Stepanova. *Nature* 137, 244 (1936).  $\beta$  PARTICLES with a normal range of 10 m. in air are stopped in a single collision in N with a field of 500 gauss, the energy passing to a non-ionizing particle. Scattering is also anomalous. Interpretation by present theories is impossible. R. D. Delt

ASAC 55.4 - METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Production of positrons by  $\beta$ -rays. D. Skobel'tsin and E. Stepanova. *Natura* 137, 272(1959).-- The production

of positrons by  $\beta$ -rays previously reported (C. A. 29, 3229) is verified. Five positrons were detected in a total  $\beta$ -track length of 275 m. The effective cross section in  $N_2$  is  $5 \times 10^{-28}$  sq. cm. G. M. P.

ASACSLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES

**The normal and the anomalous  $\beta$  rays** — D. V. Skobel'tsyn. *Bull. acad. sci. U. R. S. S., Class. sci. math. nat., Ser. phys.* 1938, No. 5 0, 750 (in French, 760).

In the path of rapid  $\beta$ -rays with energies ranging from 1 to 3 m. e. v. in N there was observed the formation of branches —  $\beta$ -rays of 2 different types. The normal  $\beta$ -rays obey the elastic-impact formula  $Q/F = (1 - \cos \alpha)^{-1/2}$ , where  $Q$  is the energy of the  $\beta$ -ray,  $F$  the energy of the primary particle, and  $\alpha$  the scattering angle in the normal system. The expts. showed that there were formed normal  $\beta$ -rays which obey Moeller's equation, and that the electron scattering was also normal. The formation of the anomalous branches still remains unexplained. This phenomenon cannot be attributed to the inner conversion of the photons of the blocking radiation. A more detailed description of the investigations will be published later.

W. R. Henn

E2

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED SERIALIZED FILED

APR 19 1964

PHYSICS

LIBRARY

BC

A-1

Abnormal phenomena accompanying the absorption of rapid  $\beta$ -rays. D. V. SHONALYUKH (Bull. Acad. Sci. U.S.S.R., Ser. Phys., 1966, 75-90).— Examination of the tracks of rapid  $\beta$ -rays in  $N_2$  by the Wilson method indicates anomalies in the region of speeds of 1000—3000 c.h.v. The abnormal diffusion formerly detected (A., 1936, 608) has been confirmed. The sudden loss of almost all the energy of a rapid

$\beta$ -particle on collision has been observed, the end of the range being marked by small branches due to abnormal  $\beta$ -rays, of which the directions are distributed uniformly. A. J. M.

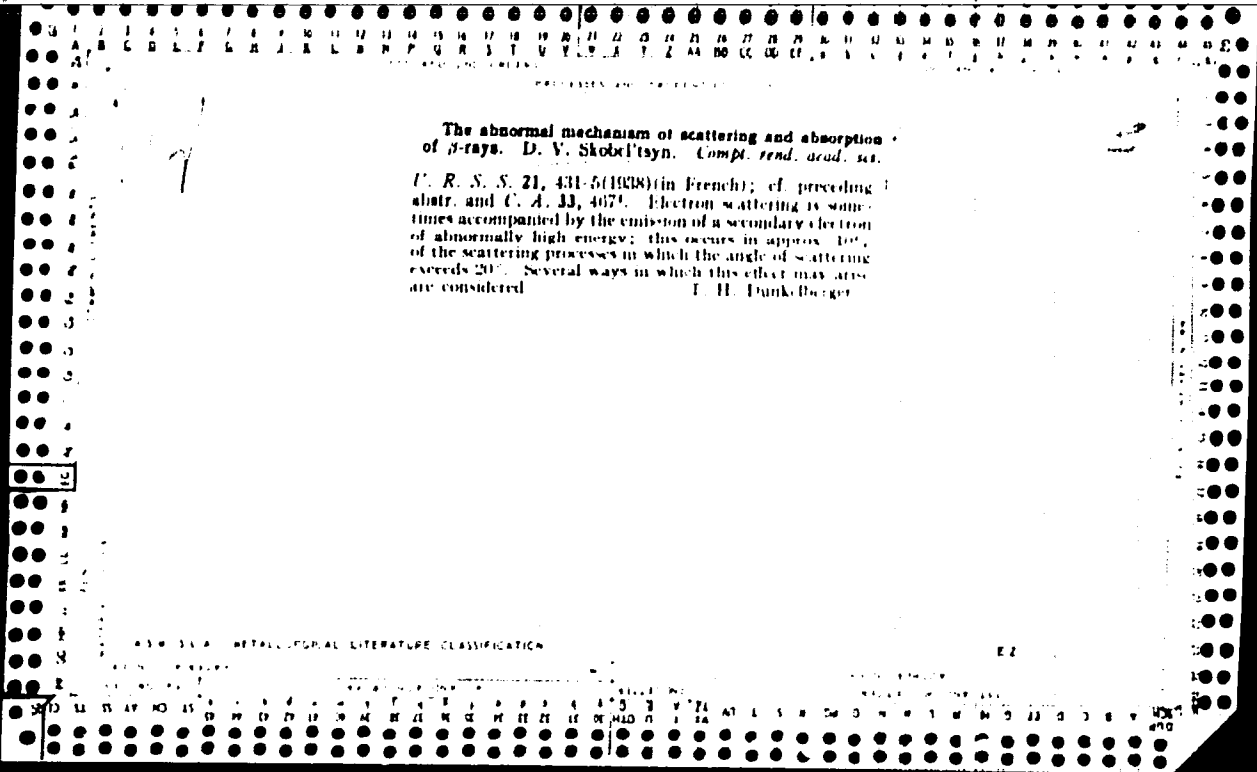
U.S.S.R. ...  
... Fig.

ASB SLA METALOGICAL LITERATURE CLASSIFICATION

The scattering of fast  $\beta$ -rays by electrons. D. V. Skobel'tsyn. *Compt. rend. acad. sci. U. R. S. S.* 21, 427-30(1938)(in French); *J. C. A.* 33, 467. The angular distribution of the scattered electrons agrees satisfactorily with the equation of Moller (*J. A.* 27, 4135).  
E. H. Dunkelberger

Dokl. m. ...

ASW S.L.A. METALLOGICAL LITERATURE CLASSIFICATION





CP

PROCESSES AND PROPERTIES INDEX

The soft component of cosmic radiation in connection with the problem of mesotron disintegration. P. V. Skobeltzyn and S. N. Vernov. *Compt. rend. Acad. Sci. R. S. S. 26*, 316 (1949) (in English); cf. preceding abstr. The no. of secondaries in equl. with a mesotron is shown theoretically to be independent of the energy of the mesotron and inversely proportional to the d. of the medium. From this relation, the increase of these secondaries with altitude is calcd., and found to be much less than the observed increase of the soft cosmic-ray component; if the difference were due to the cascade effect, the energy of the primary cascade-producing electrons would be at least  $10^{11}$  e. v., an inadmissibly high value. The observation of Young and Street (*C. A.* 32, 10<sup>5</sup>), that the hard and soft components vary in the same way with latitude, shows the components to be closely assocd. "Some essentially new fundamental assumptions as to the mechanism of absorption should be made." A. O. A.

DMA-AN 3336

3

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

33000 331 33200

33000 331 33200

33000	331	33200	33300	33400	33500	33600	33700	33800	33900	34000	34100	34200	34300	34400	34500	34600	34700	34800	34900	35000



Space distribution of particles in "Auger showers." D. V. Shubnik.  
(1) (*Compt. rend. Acad. Sci. U.R.S.S.*, 1942, 27, 14-19) Auger's  
coincidence data (A., 1939, I, 400) are shown to be in agreement  
with calculations based on Euler's space distribution equation,  
 $\rho = \rho_0 e^{-r/R}$ , relating the no. of particles ( $\rho$ ) passing through unit  
cross-section with the distance ( $r$ ) from centre of shower and the  
"half-radius" ( $R$ ) of the shower. L. J. J.

Altitude-dependence of Auger showers and the primary spectrum of  
cosmic radiation. D. V. Skobel'tsin (*Compt. rend. Acad. Sci. U. R. S. S. S.*,  
1942, **27**, 52-57; *cf. A.* 1943, 1, 294).—Mathematical.

S. M. B.

P.N. Lebedev Phys. Inst., AS USSR.

CHASLTON, G. J.

"Frank's Game of the Hour Showers as Derived by the Method of Coincidences,"  
Sol. An. 11, No 2, 1943  
D. R. AN SSSR,  
Cor. Ser., AS USSR.  
P. I. Lebedev Obs. Inst., AS USSR

24

PROCESSES AND PROPERTIES INDEX

Auger showers and the Hoffmann ionizing impulses

D. V. Skobel'tsyn. *Bull. acad. sci. U.R.S.S., Sr. phys.* 8, 211-12(1944).—The "impulses" registered by thin-wall chambers at sea level indicate the presence of large-value Auger showers. The no. of "impulses" per unit of time coincides approx. with that obtained by calens. in conformity with the no. of showers registered by the method of agreements. The energy of the primary particles producing effective showers is of the order  $10^{11}$  e.v. At high altitudes (3000-4500 m.), however, the expl. values are greater than the calcd. values by up to 2000 times, depending on the dimensions of the chamber. A comparison of the "impulses" at sea level and at high altitudes indicates entirely different phenomena. At high altitudes the "impulses" are produced by "heavy" kernels or by groups of such particles ("star-like" showers consisting of kernel particles observed in photographic plates, etc.). The sharp dependence on the altitude and the frequency of the appearance of the "impulses" (at high altitudes) in the chambers protected by a thick

12.16.14.1944 3337, 12.16.14.1944

3

layer of Pb are incompatible with the supposition that there is present the action of "ionization showers." It is more natural to suppose that the "impulses" are produced by the same agent both in the presence and without a protective layer of Pb. In such a case the following anomaly should be noted: absence of a noticeable absorption in the Pb and a very high absorption in the atmosphere. This is also characteristic for kernel effects registered by the photographic method and for heavy, strongly ionizing particles.

W. R. Henn

ASTM A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

NON-METALS

OTHER

INDEX

ALPHABETIC

NUMERIC

ALPHABETIC-NUMERIC

NUMERIC-ALPHABETIC

ALPHABETIC-NUMERIC-ALPHABETIC

NUMERIC-ALPHABETIC-NUMERIC

ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC

NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC

ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC

NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC

ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC

NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC

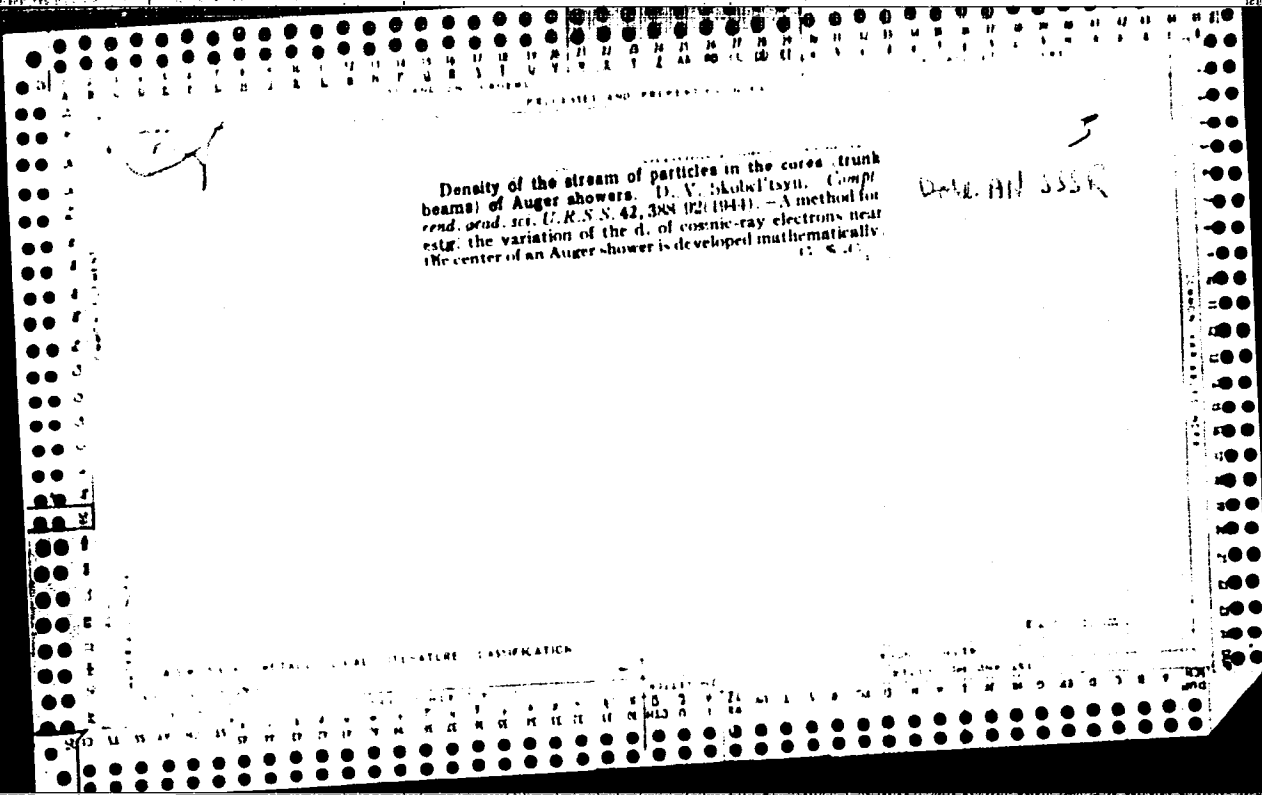
ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC

NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC

ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC

NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC

ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC-NUMERIC-ALPHABETIC



Handwritten initials or mark.

Processes and Properties of  
 Ionization bursts (Hoffmann Stöess) and Auger showers  
 as related to altitude. D. V. Skobel'tsyn. *Compt. rend.  
 acad. sci. U.R.S.S.* 44, 112-6(1944). Computations are  
 carried out permitting the detn. of the probability of re-  
 cording bursts and its dependence on the height of the ob-  
 servation point. The increase of the number of bursts is  
 very much greater at high altitudes than predicted by  
 calcs. Origin of ionization bursts observed at high  
 elevations. *Ibid.* 195-80. There is some component of  
 ionizing radiation characterized by a sharp growth with  
 altitude and a very low absorption by lead. Also in  
*Doklady Akad. Nauk S.S.S.R.* 44, 154-8, 203-7(1944).  
 H. G. McCann

Handwritten number 3.

ASTH 51 A METALLOGICAL LITERATURE CLASSIFICATION

Be

AI-1

Origin of ionization bursts (Koffmann *Sitzung*) observed at high elevations. D. V. Skobel'tzin (*Compt. rend. Acad. Sci. U.R.S.S.*, 1944, **64**, 186-190).—Differences between the no. of bursts per unit time at sea level and at considerable altitudes indicate that the bursts observed at high altitudes are not due to Auger showers passing through the cross-section of the ionization chamber. The hypothesis that the ionizing impulses arising in the chamber are due to separate strongly ionizing heavy particles, or some kind of burst showers arising in the walls of the chamber, is supported by observations with chambers of different dimensions. The case of bursts observed in chambers with Pb screening is also considered. The probability of appearance of bursts in the presence of Pb increases with altitude much more rapidly than does the intensity of the corresponding penetrating component. Also the abs. no. of bursts per unit time is  $\frac{1}{2}$  that corresponding to the usual mechanism of formation of secondary soft radiation in Pb. It is probable that the occurrence of these bursts is connected with some component of ionizing radiation which increases rapidly with altitude and is not strongly absorbed by Pb. A. J. M.





PRECISIT AND PROPERTIES INDEX  
1ST AND 2ND ORDERS

3

Uspekhi Fiz. Nauk

The lateral extension of Auger showers. L. J. E. Holer (Leningrad, U.S.S.R.), and V. A. Miller (Leningrad, U.S.S.R. Phys. Inst. Acad. Sci. U.S.S.R., Moscow). *Phys. Rev.* **71**, 315-17 (1957). In 1950 Auger and coworkers (C.R. **33**, 2769) observed large atm. showers of cosmic rays capable of causing coincidences in 2 Geiger-Muller counters 40 m. apart and there was some evidence of coincidences at 300 m. In the present paper evidence is presented to show that coincidences above random occur at 600 m. and possibly even at 1000 m. The data were gathered in the Pamir Mountains, 3000 m. above sea level. L. J. E. Holer

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
-------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

SHOBEL'TSIK, V. I. and I.P. Selinov

"The Atomic Bomb," *Sovetskaya Sovetskaya Entsiklopediya*, Vol. 3, 2nd edition,  
p. 487, 1949

SKOBELOTSYN, D.V.  
GURO, G., NIKOLAEV, V., RAZORENOV, L., CHIVILO, I. and SKOBELOTSYN\* D.V.

Altitude travel and curves of absorption in the angle of particles which generate impacts in the ionization chamber at heights of 3860 and 4700 meters.  
(Presented by Academician D.V. Skobeltsyn\* 20 May 1949.)

Reports of the academy of Sciences USSR Vol. 57, No.3, Sept. 23, 1949.

SKOBEL'TSEYN, S. V.

PA 54/49T95

USSR/Nuclear Physics  
Cosmic Rays  
Geiger Counters

Jul 49

"Critically Extensive Atmospheric Showers of Cosmic  
Radiation," Acad D. V. Skobel'tseyn, Phys Inst Imeni  
P. N. Lebedev, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXVII, No 1

Observations at 3,860 meters showed that more coinci-  
dences caused by atmospheric showers in Geiger count-  
ers could be observed in separating the counters by a  
distance of about 1,000 meters than within previous  
limits. When such coincidences were calculated by

54/49T95

USSR/Nuclear Physics (Contd)

Jul 49

successive application of the avalanche theory, effect  
exceeded experimental results only by a small percent.  
Submitted 12 May 49.

54/49T95