

SUKHANOV, A.

Greater participation in industrial management. Metallurg 8 no.4:6-7  
Ap '63. (MIRA 16:3)

1. Sekretar' prezidiuma postoyanno deystvuyushchego proizvodstvennogo  
soveshchaniya Chelyabinskogo metallurgicheskogo zavoda.  
(Chelyabinsk—Iron and steel plants—Management)

SUKHANOV, A. A.

Vykorotka tutovogo shelkopriada [Mulberry silkworm breeding]. Moskva, Sel'khozgiz, 1953  
150 p

SO: Monthly List of Russian Accessions, Vol 6 No 8 November 1953

SUKHANOV, A.A.; ORANSKIY, I.Ye.; SMIRNOV, N.F.; BOGOMOLOVA, Ye.K.

Capillary mercury-alkaline transducer with air-damping for the registration of acceleration ballistocardiograms. Biul. eksp. i biol. med. 50 no. 8:116-118 Ag '60. (MIRA 13:10)

1. Iz terapevticheskogo otdeleniya (zav. V.I. Korolev) i otdleeniya eksperimental'noy kurortologii (zav. S.I. Serov Sverdlovskogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii (dir. N.V. Orlov). Predstavlena deystv. chlenom AMN SSSR V.V. Parinym.

(BALLISTOCARDIOGRAPHY—EQUIPMENT AND SUPPLIES)

SUKHIANOV, A.A.

"Static exertions depressed secretory-motor-excretory functions of the stomach and the small intestine", paper read at the First Ural Conference of Physiologists, Biochemists, and Pharmacologists, Sverdlovsk, 5-8 June 1956.

Sum. I305

SUKHANOV, A. A.

SUKHANOV, A. A.: " The effect of static stresses on certain aspects of the functions of the digestive organs." Sverdlovsk State Medical Inst. Sverdlovsk, 1956. (Dissertation for the Degree of Candidate in Medical Sciences.)

Source: Knizhnaya letopis' No 40 1956 Moscow

SUKHANOV, A. A., Cand Med Sci -- (diss) "Effect of static tensions <sup>upon</sup>  
certain <sup>affects</sup> ~~aspects~~ of activity of the <sup>digestive</sup> ~~organs~~ ~~of digestion~~." Sverdlovsk,  
1957. 17 pp (Sverdlovsk State Med Inst), 200 copies (KL, 16-58, 124)

-112-

SUKHANOVA, A.A.

Use of static muscle tension in an analysis of the act of vomiting  
[with summary in English]. Biul.eksp.biol. i med. 45 no.1:14-18  
Ja '58. (MIRA 11:4)

1. Iz kafedry normal'noy fiziologii (zav. - prof. N.K.Vereshchagin)  
Sverdlovskogo meditsinskogo instituta. Predstavlena deystvital'nym  
chlenom AMN SSSR V.N.Chernigovskim.

(VOMITING, physiology,  
eff. of musc. tension (Rus))

(MUSCLES, physiology,  
eff. of tension on vomiting (Rus))

SUKHANOV, A.A., kand.med.nauk; BOGOMOLOVA, Ye.K.

Some pathogenetic mechanisms of hemorrhagic complications during the use of anticoagulants under experimental conditions. Kardiologiya 2 no.3:58-64 My-Je '62. (MIRA 16:4)

1. Iz kardiologicheskoy gruppy usileniya (rukovoditel' - zaslužhennyy deyatel' nauk prof. B.P.Kushelevskiy) Sverdlovskogo instituta kurortologii i fizioterapii (dir. - kand.med.nauk N.V.Orlov, Nauchnyy rukovoditel' - kand.med.nauk S.I.Serov). (ANTICOAGULANTS (MEDICINE)) (HEMORRHAGE)



SUKHANOV, A.A.; SEROV, S.I.

Some indices of lipid metabolism and changes in the blood circulation system in dogs in experimental reconstruction of atherosclerosis without using cholesterol. Biul. eksp. Mol. i med. 60 no.7:34-37 J1 '65. (MIRA 18:8)

I. Sverdlovskiy institut kurortologii i fizioterapii (direktor: N.V. Orlov).

21(1),21(7)

AUTHORS: Slavnov,D.A., and Sukhanov,A.D. SOV/155-58-3-36/37

TITLE: Application of the Indefinite Metric for the Calculation of the  $\mu$ -decay (Primeneniye indefinitnoy metriki k raschetu  $\mu$ -raspada)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskkiye nauki, 1958, Nr 3, pp 215-220 (USSR)

ABSTRACT: The electron spectrum in the  $\mu$ -decay is described sufficiently well by the Michel-number, the experimental value of which is 0.68. The theory [Ref 1] yields 0.75. Lee and Yang [Ref 2] put aside this discrepancy by the introduction of a certain not local Lagrangian and they interpreted the not local effects as certain processes caused by an intermediate boson. The authors try to explain the experimental value 0.68 by the introduction of Bose-fields with an indefinite metric. Furthermore it is stated that in general the introduction of quantized Bose-fields with an indefinite metric leads to the same results as the method of Lee and Yang.

Card 1/2

24(5)

AUTHORS:

Slavnov, D. A., Sukhanov, A. D.

SOV/56-36-5-26/76

TITLE:

On Causality in the Theory With an Indefinite Metric  
(O prichinnosti v teorii s indefinitnoy metrikoy)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 36, Nr 5, pp 1472-1479 (USSR)

ABSTRACT:

Heisenberg's suggestion (Ref 1) to operate with an indefinite metric in order to eliminate the divergences in the field theory meets with a number of difficulties which are connected with the necessity of introducing "nonphysical" fields. Methods have already been worked out for the purpose of eliminating non-physical states from the asymptotic expressions of the observable quantities and to re-establish unitarity of the scattering matrix. However, the problem of causality, which would be of great interest especially in this case, was not investigated. In the present paper the authors investigate the possibility of constructing a macroscopic theory with the indefinite metric in the case of sufficiently generalized assumptions. The unitary macroscopic scattering matrix is constructed within the framework of the perturbation theory with the aid of the Lagrange interaction of the complete fields (the physical plus the sum

Card 1/2

On Causality in the Theory With an Indefinite Metric SOV/56-36-5-26/76

of the nonphysical fields). Special selection of the non-physical field spectrum makes it possible to satisfy unitarity and macro-causality requirements in the 2. and 3. order. It is, however, no longer possible to satisfy both postulates in the 4. order, which means that, with the assumptions made by the authors, it is not possible to construct a unitary and macro-causal scattering matrix in a theory with indefinite metric. There are 8 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: November 17, 1958

Card 2/2

SOV/20-124-6-13/55

24(5)  
AUTHORS:

Slavnov, D. A., Sukhanov, A. D.

TITLE:

On the Problem of the Causality in the Theory With Indefinite Metric (K voprosu o prichinnosti v teorii s indefinitnoy metrikoy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1229 - 1232 (USSR)

ABSTRACT:

The present paper investigates the possibility of the construction of a macrocausal theory with indefinite metric, in which case the authors base upon assumptions of a rather general nature, such as the concrete variants suggested in three earlier papers (Refs 1-3). In accordance with Heisenberg, the authors assume that the space  $H$  of the state amplitudes is subdivided into the subspace  $H_1$  of the physical state amplitudes and the subspace  $H_2$  of the "nonphysical" state amplitudes. The total field  $\chi(x)$  is represented as the sum of a physical and a "nonphysical" field. It is the purpose of the present paper to construct a unitary scattering matrix  $\hat{S}$ , which acts in subspace  $H_1$ . A scattering matrix  $S$  is assumed to exist, which connects the

Card 1/3

On the Problem of the Causality in the Theory With  
Indefinite Metric

SOV/20-124-6-13/55

asymptotic state amplitudes of the total space  $H$  with one another. This matrix  $S$  satisfies the usual demands of relativistic covariance, and microscopic causality. This leads factually to the following additional condition for the admissible state amplitudes:

$F_{+\infty} + UF_{-\infty} = 0; U^+ = U^{-1}$ . Here  $F$  denotes the state amplitude of subspace  $H_2$ . Further considerations of this paper are based

essentially on the perturbation theory. The matrices  $S$  and  $\tilde{S}$  are therefore expanded in series with respect to the interaction constant. The following conditions are imposed upon the matrix  $\tilde{S}$ . 1) Relativistic covariance. 2) Unitarity  $\tilde{S}\tilde{S}^+ = 1$ . 3) Attenuated causality. These conditions are discussed in detail. By special selection of the "nonphysical" fields it is possible to satisfy the causality condition in the second order. The matrix  $\tilde{S}$  (which satisfies the causality condition and the unitary condition with an accuracy up to the third order) can also actually be constructed. However, there is also the following contradiction: The unitarity condition and the causality condition are incompatible in the fourth order with the unitarity condition

Card 2/3

On the Problem of the Causality in the Theory With  
Indefinite Metric

SOV/20-124--6-13/55

of second order. It is therefore not possible, within the framework of the perturbation theory, to construct an S-matrix that connects the asymptotic state amplitudes of the state-space  $H_1$  with one another, so that the conditions of unitarity and of attenuated causality would be satisfied. The author thanks B. V. Medvedev for his constant interest in the present paper and for some valuable advice, and he further expresses his gratitude to N. N. Bogolyubov, D. V. Shirokov, and M. K. Polivanov for useful discussions. There are 6 references, 3 of which are Soviet.

PRESENTED: November 10, 1958, by N. N. Bogolyubov, Academician

SUBMITTED: November 10, 1958

Card 3/3

31769  
S/056/61/041/006/038/054  
B125/B102

244400

AUTHOR: Sukhanov, A. D.

TITLE: Interaction Hamiltonian in quantum field theory

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 6(12), 1961, 1915-1928

TEXT: The interaction Hamiltonian found by Bogolyubov's method (N. N. Bogolyubov, D. V. Shirkov. Vvedeniye v teoriyu kvantovannykh poley (Introduction into quantum field theory) Gostekhizdat, 1957) serves to ensure the integrability of the Tomonaga - Schwinger equation for any renormalizable theory, and is related with the Lagrangian of effective interaction by

$$H_{int}(x; \phi) = \frac{1}{2} \sum_k \left( n_k \frac{\partial L_{int}}{\partial (\partial \phi_k / \partial x^\alpha)} \right) \left( n_k \frac{\partial L_{int}}{\partial (\partial \phi_k / \partial x^\beta)} \right) - L_{int}(x). \quad (9).$$

The generalized Hamiltonian  $H(x;g)$  in the variational analog

$$i\delta\Phi(g) / \delta g(x) = H(x; g) \Phi(g), \quad (12),$$

$$H(x; g) = i \frac{\delta S(g)}{\delta g(x)} S^+(g) \quad (13)$$

Card 1/5



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B125/B102

Interaction Hamiltonian in ...

does not raise any new problems. The problem of "surface divergences" prevents a consequent construction of the Hamiltonian  $H(x;\sigma)$  by Bogolyubov's method. A private report by D. A. Slavonov is mentioned.

$$L'(x) = ae^2 :(\partial\psi/\partial x^\alpha)^2: \text{ and } H'(x;\sigma) = -L'(x) + (1/2)a^2 e^4 : (n_\alpha (\partial\psi/\partial x^\alpha))^2 :$$

hold in second order for the diagram of the boson self-energy. This shows the importance of the Tomonaga - Schwinger integrability condition in Bogolyubov's method. By this method the T-products and S-matrix are directly obtained from the Lagrangian. By the simplest and physically sensible definition

$$\tilde{D}_{\alpha\beta}^{\pm}(x-y) = \theta(x^0 - y^0) \tilde{D}_{\alpha\beta}^{\pm}(x-y) - \theta(-x^0 + y^0) \tilde{D}_{\alpha\beta}^{\pm}(x-y) - n_\alpha n_\beta \delta(x-y) = \frac{1}{(2\pi)^4} \int \frac{(-k_\alpha k_\beta) e^{ik(x-y)} dk}{m^2 - k^2 - i\epsilon} \quad (20)$$

one obtains :  $S(\infty) = T \exp \left\{ i \int_{-\infty}^{\infty} L(x) dx \right\}$ . This relation is independent of

any nonphysical dependence on the form of intermediary surfaces. In Bogolyubov's method, the condition  $[L(x), L(y)] = 0$  for  $x \sim y$  ( $x \neq y$ ) suffices to construct the S-matrix. The integrability condition for Schroedinger's variational equation

Card 2/5

31759

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B125/B102

Interaction Hamiltonian in ...

$$i \delta H(x;g) / \delta g(y) - i \delta H(y;g) / \delta g(x) + [H(x;g), H(y;g)] = 0 \quad (28)$$

for  $x \sim y$  or  $x = y$  when taking into account the definition (13) and the unitarity of  $S(g)$ , is

$$-\frac{\delta^2 S(g)}{\delta g(y) \delta g(x)} S^\dagger(g) + \frac{\delta^2 S(g)}{\delta g(x) \delta g(y)} S^\dagger(g) - [H(x;g), H(y;g)] + [H(x;g), H(y;g)] = 0 \text{ при } x \sim y \text{ или } x = y. \quad (29)$$

Thus, this integration condition is automatically satisfied in every theory, and does not depend on the value of the commutator  $[H(x;g), H(y;g)]$  at the point  $x = y$ . In the limiting process  $g \rightarrow 0$ ,

$$\Delta H(x; \sigma) = - \lim_{g \rightarrow 0} \int_{-\infty}^{\infty} dx^0 dy^0 (T_0 - x^0) \times \times g(T_0 - y^0) : \frac{\partial L(x)}{\partial(\partial\varphi/\partial x^\alpha)} \frac{\partial L(y)}{\partial(\partial\varphi/\partial y^\beta)} : \{ \tilde{D}_{\alpha\beta}^{ad\sigma}(x-y) - n_\alpha n_\beta \delta(x-y) \}. \quad (31)$$

In Bogolyubov's method,

Card 3/5

Interaction Hamiltonian in ...

<sup>31789</sup>  
S/056/61/041/006/038/054  
B125/B102

publications read as follows: E. C. G. Stueckelberg. Phys. Rev., 81, 130, 1951; K. Nishijima. Progr. Theor. Phys., 2, 187, 1950; F. Rohrlich. Phys. Rev., 80, 666, 1950; Z. Koba, Progr. Theor. Phys. 2, 139, 1950.

ASSOCIATION: Matematicheskii institut Akademii nauk SSSR (Mathematical Institute of the Academy of Sciences USSR)

SUBMITTED: July 7, 1961

Card 5/5

24,2000 (1057, 1137, 1538)

31792  
S/056/61/041/006/042/054  
B109/B102

AUTHORS: Slavnov, D. A., Sukhanov, A. D.

TITLE: Ambiguity in the determination of the interpolating field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 6(12), 1961, 1940-1946

TEXT: The ambiguity of the interpolating field is discussed in connection with the T product and the S matrix. In order to show that the determination of a T product  $T(\varphi^{k_1}(x_1): \dots : \varphi^{k_n}(x_n):)$  which consists of non-linear operators is arbitrary, the T' product is introduced. This chronological product may have any fixed form with equal arguments, and is an integrated generalized function of all its arguments. The most general form of the T product then reads

4

$$T(\varphi^{k_1}(x_1): \dots : \varphi^{k_n}(x_n):) = \sum_{m=1}^n \frac{1}{m!} P((x_1 k_1) \dots (x_m k_m) | \dots | \dots (x_n k_n)) \times (11),$$
$$\times T'(\Lambda^{k_1 \dots k_m}(x_1 \dots x_m) \dots \Lambda^{k_n}(\dots x_n)),$$

Card 1/6

Ambiguity in the determination of the ... <sup>31792</sup> S/056/61/041/006/042/054  
 B109/B102

where  $m$  is the number of cofactors in the  $T'$  product,

$$\Lambda^{k_1 \dots k_{v_1}}(x_1 \dots x_{v_1}) = \sum_{i=0}^{k_1 + \dots + k_{v_1}} M_i^{k_1 \dots k_{v_1}}(x_1, \dots, x_{v_1}) : \varphi^i(x_1) :, \quad (12),$$

$$\Lambda^{k_i}(x_i) = : \varphi^{k_i}(x_i) :,$$

$M_1^{k_1 \dots k_{v_1}}$  is a c function. A transition from the  $T'$  to the  $T$  product in 4

$$S = T' \exp \left\{ ig \int L^0(x) dx \right\}, \quad (13),$$

$$L^0(x) = \mathcal{L}(x) + \sum_{n=2} \frac{1}{n!} g^{n-1} \int L_n^0(x, x_1 \dots x_{n-1}) dx_1 \dots dx_{n-1}. \quad (14)$$

(notation of N. N. Bogolyubov, D. V. Shirkov, Vvedeniye v teoriyu kvantovannykh poley, Gostekhizdat, 1957) is possible without changing the S matrix:  $S = T \exp \left\{ ig \int L(x) dx \right\}$ , where  $L(x)$  is analogous to (14).  
 From (11) it follows that

Card 2/6

Ambiguity in the determination of the ... <sup>31792</sup>  
 S/056/61/041/006/042/054  
 B109/B102

$$T(L_{\mu_1}(x_1^1 \dots x_{\mu_1}^1) \dots L_{\mu_k}(\dots x_n^k)) = T'(L_{\mu_1}(x_1^1 \dots x_{\mu_1}^1) \dots L_{\mu_k}(\dots x_n^k)) + \quad (16),$$

$$+ \sum_{m=1}^{k-1} \frac{1}{m!} P((x^1 \mu_1) \dots (x^m \mu_m)) | \dots | \dots (x^k \mu_k) T'(R^{\mu_1 \dots \mu_m}(x^1 \dots x^m) \dots \times$$

$$\times R^{\dots \mu_k}(\dots x^k)) + R^{\mu_1 \dots \mu_k}(x^1 \dots x^k),$$

where  $x^k$  is an abbreviation of the set  $(x_1^k, \dots, x_{\mu_1}^k)$  and  $\Lambda$  is replaced by the more general quasi-local operator  $R(x_1^k \dots x_{\mu_1}^k)$ . Therefrom it further follows that  $iL_n(x_1 \dots x_n) = iL_n^0(x_1 \dots x_n) - \sum_{k=2}^n \frac{i^k}{k!} P(x^1 \dots x^k) \dots R^{\mu_1 \dots \mu_k}(x^1 \dots x^k)$ , where  $\sum_{i=1}^n \mu_i = n$ . By replacing (16) by the transformation of the T' product into the T product one obtains again a relation which expresses  $L_n$  directly by  $L_k^0$  and  $\Lambda$ . This arbitrariness can be interpreted in two

4

Card 3/6

Ambiguity in the determination of the ... <sup>31792</sup> S/056/61/041/006/042/054  
 B109/B102

ways: 1) ambiguity in the Lagrange function with a fixed T product;  
 2) ambiguity of the T product with a given Lagrange function. The  
 relationship between the determination of the interpolating field and the  
 ambiguity involved in the determination of the T product with a given S  
 matrix is demonstrated by the field  $\Lambda(x) = S^+ T(A_{in}(x) S)$ . The integrated  
 form of the expression

$$T(A_{in}(x) S) = \sum_{i=0} \int dy_1 \dots dy_i P(y_1 | y_2 \dots y_i) \varphi_i(y_1 \dots y_i) \times$$

$$\times \frac{1}{i!} (\Gamma^c(x - y_1) - Q(\square_{y_1}) K_{y_1} D^c(x - y_1)) : A_{in}(y_2) \dots A_{in}(y_i) : \quad (46)$$

derived in this connection can be written as

$$T(A_{in}(x) S) = \sum_{i=0} \int dy_1 \dots dy_i P(y_1 | y_2 \dots y_i) \frac{1}{i!} D^c(x - y_1) \times$$

$$\times [\varphi_i^+(y_1 \dots y_i) - Q(\square_{y_1}) K_{y_1} \varphi_i(y_1 \dots y_i)] : A_{in}(y_2) \dots A_{in}(y_i) : =$$

$$= T'(A_{in}(x) \tilde{S}), \quad (47)$$

Card 4/6

31792

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B109/B102

Ambiguity in the determination of the ...

$$\tilde{S} = \sum_{i=0} \int dy_1 \dots dy_i [\varphi_i(y_1 \dots y_i) - \dots] \dots \dots \dots (48),$$

$$-Q(\square_{\nu_i}) K_{\nu_i} \varphi_i(y_1 \dots y_i) : A_{i_n}(y_1) \dots A_{i_n}(y_i) :$$

+

which indicates that  $\tilde{S}$  differs from the S matrix only outside the energy surface. The ambiguity in the interpolating field, found by H. J. Borchers (Nuovo Cim., 15, 784, 1960), can be interpreted as an ambiguity in the determination of the T product with a given S matrix. On the other hand, every ambiguity in the interpolating field can be regarded as an ambiguity in the determination of the S matrix outside the energy surface. A series of interpolating fields corresponds to a given S matrix outside the energy surface and, conversely, some forms of the S matrix outside the energy surface correspond to an interpolating field. It is pointed out that a study of the Dyson matrix  $S(\varphi_1, \varphi_2)$  under this aspect would be very

informative. B. V. Medvedev is thanked for interest, and M. K. Polivanov for discussions. There are 6 references: 3 Soviet and 3 non-Soviet. The reference to the English-language publication reads as follows: S. N. Ivanov, D. Feldman, Phys. Rev., 72, 272, 1950.  
Card 5/6



S/056/62/043/003/030/063  
B102/B104

AUTHOR: Sukhanov, A. D.

TITLE: The Tomonaga-Schwinger equation in the Bogolyubov method

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 3(9), 1962, 932-941

TEXT: It is shown that within the framework of the Bogolyubov method  
(Bogolyubov, Shirkov: Vvedeniye v teoriyu kvantovannykh poley - Introduction  
into quantum Field Theory -, Gostekhizdat, 1957) the classical  
Tomonaga-Schwinger equation with the local interaction Hamiltonian

$$H(x; \sigma) = \lim_{g \rightarrow 0} \int H(x; g) g'(T_0 - x^0) dx^0. \quad (11)$$

can be deduced (Schwinger, Phys. Rev. 74, 1439, 1948). The properties of  
this Hamiltonian differ greatly from those of

Card 1/3

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B102/B104

The Tomonaga-Schwinger equation in ...

$$\tilde{H}(x; c) = \lim_{g \rightarrow 0} \left\{ -L(x) - \sum_{n=1} \frac{1}{n!} \int \Lambda_{n+1}(x, x_1 \dots x_n) g(x_1) \dots \times \right. \\ \left. \times \dots g(x_n) dx_1 \dots dx_n \right\}. \quad (4).$$

(11) is valid in any renormalized theory and takes account of the symmetry properties of the quasilocal operators  $\Lambda_n$  in the interaction Lagrangian

$$L(x; g) = L(x)g(x) + \sum_{n=2} \frac{1}{n!} \int \Lambda_n(x, x_1 \dots x_{n-1}) g(x)g(x_1) \dots \times \\ \times \dots g(x_{n-1}) dx_1 \dots dx_{n-1} \quad (2)$$

which enters the generalized scattering matrix as

$$S(g) = T \exp(i \int L(x; g) dx).$$

For most of the graphs  $H(x; c) = -L(x; 1)$  if terms as  $\frac{1}{2} \left[ n_\alpha \frac{\partial L(x)}{\partial (\partial g / \partial x^\alpha)} \right]^2$  are neglected. In graphs of the boson self energy additional terms will arise, part of which possess surface divergences. The problem of

Card 2/3

S/056/62/043/004/038/061  
B108/B102AUTHOR: Sukhanov, A. D.

TITLE: The problem of "surface" divergences in the Bogolyubov method

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 4(10), 1962, 1400-1410

TEXT: It is shown that a "surface" regularization of the expression for the Hamiltonian (rendering the latter finite when  $M_1^2 = \text{const}$ ) can be performed for the theory with  $L(x) = e:\varphi^4(x)$ . This is done by finding the finite Dyson matrix from the general S matrix and determining the interaction Hamiltonian from the Dyson matrix. The "surface" divergence in the Dyson matrix  $S(\tau, -\infty)$  can be eliminated into a unitary operator which becomes unity with  $\tau \rightarrow \infty$ , leaving the S matrix unchanged:

$$\begin{aligned} \tilde{S}(\tau, -\infty) &= \exp\left\{i \int dx : \varphi^2(x) : \Big|_{x=\tau} \cdot \frac{1}{2} \sum_{m=1}^{\infty} \frac{e^{\epsilon_m}}{\sqrt{m!}} B_m \alpha_{0m}\right\} S(\tau, -\infty) = \\ &= \exp\{iF(\tau)\} S(\tau, -\infty), \end{aligned} \quad (21)$$

Card 1/2

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S/O20/62/145/003/006/013  
B125/B102

AUTHOR: Sukhanov, A. D.

TITLE: Problem of the relationship between operators in the Heisenberg representation and interaction representation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 3, 1962, 545-548.

TEXT: The relationship

$$F(x) = S^*(\sigma, -\infty) F_{in}(x) S(\sigma, -\infty) = S(\infty, \sigma) F_{out}(x) S^*(\infty, \sigma), \quad (1)$$
 between the operators in the Heisenberg representation and the interaction for the smallest separations treated by perturbation theory were analyzed in order to clarify possible ambiguities in the Dyson matrices  $S(\infty, \sigma)$ .  $F_{out}(x)$  and  $F_{in}(x)$  are operators in the interaction representation. The unique transition from the S-matrix to the Dyson matrix in a neutral scalar field.

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$$\begin{aligned}
 A(x) &= T(\varphi_{out}(x) S) S^* = \\
 &= \varphi_{out}(x) + \int D^{adv}(x-y) J(y) dy + P(\square_x) J(x), \quad (5)
 \end{aligned}$$

(5) is governed by

Card 1/3

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B125/B102

Problem of the relationship ...

$$A(x) = T(S(\infty, \sigma) \varphi_{out}(x) S(\sigma, -\infty)) S^+ = S(\infty, \sigma) \varphi_{out}(x) S^+(\infty, \sigma) \quad (4).$$

The expression  $A(x) = \varphi_{out}(x) + e \int D^{adv}(x-y) j(y) dy + eF(\square_x) j(x)$ , resulting on inclusion of the arbitrariness of the coefficient functions of the first order, agree with (3) to the first order. The arbitrariness in defining the field can be explained only by an arbitrariness of the kind

$$\theta(y^0 - x^0) \varphi_{out}(y) \varphi_{out}(x) = \frac{1}{i} \theta(y^0 - x^0) D^-(y-x) + \frac{1}{2i} P(\square_x) \delta(x- \quad) \quad (7) \quad \text{in defining}$$

the normal convolution of  $S(\infty, \sigma)$  and  $\varphi_{out}$ . A single Hamiltonian  $\tilde{H}(x;1)$  in the Heisenberg representation can correspond to several Hamiltonians in the interaction representation. In the equation  $\tilde{H}(x;1) = S(\infty, \sigma) H_{out}(x;1) S^+(\infty, \sigma)$ , the totally nonequivalent Hamiltonians  $H_{out}(x;1)$  and  $H_{out}(x;\sigma)$  can be used. The counterterms which may exist in  $H_{out}(x;\sigma)$

cannot therefore lead to divergences in the observables, at least in the second order. Assuming the S-matrix in the whole momentum space to be unique,  $S(\infty, \sigma)$  exhibits a significant randomness - independent of any

Card 2/3

Problem of the relationship ...

S/O20/62/145/003/006/013  
B125/B102

possible randomness in the higher order coefficient functions. This randomness is governed by that of the rules for the multiplication of  $S(\alpha, \beta)$  by the operators in the interaction representation.

ASSOCIATION: Matematicheskii institut im. V. A. Steklova Akademii nauk  
SSSR (Institute of Mathematics imeni V. A. Steklov of the  
Academy of Sciences USSR) ✓

PRESENTED: March 7, 1962, by N. N. Bogolyubov, Academician

SUBMITTED: March 6, 1962

Card 3/3

SUKHANOV, A.D.

On the problem of "surface" divergences. Dokl. AN SSSR 145  
no.5:1042-1045 '62. (MIRA 15:8)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno  
akademikom N.N.Bogolyubovym.  
(Quantum field theory)

L 13562-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR APR 23 1962

S/0056/63/044/006/2087/2089 52

50

AUTHOR: Sukhanov, A. D.

TITLE: On the charged vector meson theory<sup>19</sup> of Lee and Yang

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 2087-2089

TOPIC TAGS: charged vector meson theory, Xi-limiting process, Lagrangian formalism, nonrenormalized theory

ABSTRACT: The charged vector meson theory of Lee and Yang (Xi-limiting process) is derived within the framework of the Lagrangian formalism and is thus treated as a more consistent variant of the Pauli-Villars regularization method. Lee and Yang originally formulated the Xi-limiting process within the Hamiltonian formalism, which complicates the procedure unnecessarily, and the author has therefore reformulated this theory within the Lagrangian formalism, which makes the whole method perfectly lucid. An interpretation of the two Lee and Yang postulates employed in going to the limit as Xi goes to zero is presented. It is found that while the second postulate can be formulated in accordance with the usual concepts of quantum field theory, the validity of the first postulate is most doubtful, since it allows, without justification, the exclusion of the most important terms in nonrenormalized theories. "In conclusion I express my  
Card 1/2



L 13562-63

ACCESSION NR: AP3003142

2

gratitude to the staff members of the Departments of Theoretical Physics of the Matematicheskii i fizicheskii instituty\* Akademi nauk SSSR (Mathematical and Physical Institutes of the Academy of Sciences SSSR) for fruitful discussions." orig. art. has 6 formulas.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 9Jan63

DATE ACQ: 23Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 002

Card 2/2

AUTHOR: Sukhanov, A. D.

TITLE: Connection between the operators in the Heisenberg and the theory of fields

SYNOPSIS: Zhurnal eksperimentov i teoreticheskoy fiziki, v. 47

connection between  
and the tree  
theory. For  
types of T  
relations differ  
This af

1964-01-17

... the operators in question, and assures independence of the renormalized Heisenberg operator of the spacelike surface. A correct method

the interaction Hamiltonian in the interaction representation. I thank B. V. Medvedev on whose initiative this work was undertaken,

... 30 formulas.

... (Physi-

SUBMITTED: 17Jan64

ENCL: 00

SUB CODE: GP

NR REF SOV: 011

OTHER: 013

Card 2/2

ACCESSION NR: AP4043834

S/0020/64/157/C05/1092/1095

AUTHORS: Ovchinnikov, A. A.; Sukhanov, A. D.

TITLE: Concerning the wave functions and electronic terms of the molecular hydrogen ion

SOURCE: AN SSSR. Doklady\*, v. 157, no. 5, 1964, 1092-1095

TOPIC TAGS: Schrodinger equation, wave function, Stark effect, hydrogen ionization, molecular ion, Coulomb repulsive force

ABSTRACT: After pointing out that the previously given wave function of an electron in the field of two stationary Coulomb centers is incorrect, the authors solve the Schrodinger equation for the  $H_2^+$  ion with the variables separated, in elliptical coordinates, in the form of an expansion in large  $R$  ( $R$  -- distance between the nuclei). The solution takes into account the Stark effect for the hydrogen atom in the field of another nucleus, which leads to the usual multipole

Card 1/2

ACCESSION NR: AP4043834

expansion and does not give rise to a chemical bond, and with account of the sub-barrier penetration of the electron from one nucleus to the other, which leads to exponentially small terms of the type  $\exp(-)$ . This problem was hitherto solved only by numerical means. The accuracy and the normalization of the results are discussed. It is shown that the results can be applied to different Coulomb centers with arbitrary charge, and to other quantum numbers. This report was presented by Academician N. N. Bogolyubov. Orig. art. has: 24 formulas.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physicochemical Institute)

SUBMITTED: 08Apr64

ENCL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 004

Card 2/2

OVCHINNIKOV, A.A.; SUKHANOV, A.D.

Wave functions and electron terms of a molecular hydrogen  
ion. Dokl. AN SSSR 157 no.5:1092-1095 Ag '64.

(MIRA 17:9)

1. Fiziko-khimicheskiy institut im. Karpova. Predstavleno  
akademikom N.N. Bogolyubovym.

SECRET, D.S.; MOHAFU, A.D.

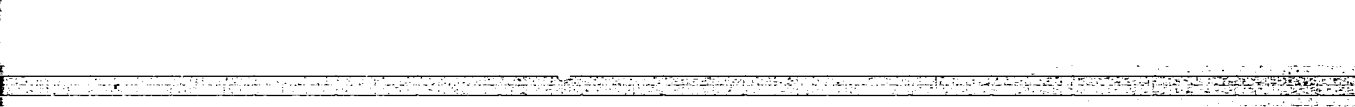
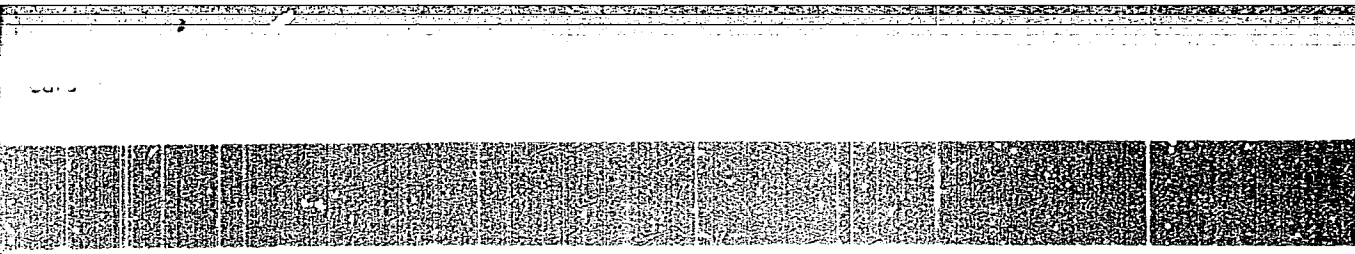
Be izvest' class for autogating fields. Zhil. /N BSR 165 no.1:69-72  
N 165. (MIRA 18:10)

L. Moskovskiy gosudarstvennyy universitet i Moskovskiy Institut  
radioelektroniki i gornoy elektromekhaniki. Submitted March 19, 1965.

ACCESSION NR: AP5006503

S/0056/05/048/002/0530/0597





Faint, illegible text, possibly a list of names or a document header.

Faynberg, D. A., Kirzhnits, A. V., Astekhov, and A. A. Slevny for a fruitful

MEDVEDEV, B.V.; SUKHANOV, A.D.

S-matrices and the Heisenberg representation, Dokl. AN SSSR  
165 no.2:305-308 N '65. (MIRA 18:11)

1. Matematicheskiy institut im. V.A. Steklova AN SSSR i  
Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.  
Submitted March 18, 1965.

L 17653-66 EWT(d) IJP(c)

ACC NR: AP6002722

SOURCE CODE: UR/0056/65/049/006/1812/1823

AUTHOR: Sukhanov, A. D.

30  
26  
B

ORG: Moscow Institute of Radio Electronics and Mining Electromechanics  
(Moskovskiy institut radioelektroniki i rornoy elektromekhaniki)

TITLE: The equation of motion for the 'halved' S-matrix and its consequences

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1965, 1812-1823

TOPIC TAGS: S matrix, quantum theory, integral operator

ABSTRACT: The halved matrix was defined in an earlier paper by the author (ZhETF v. 47, 1303, 1964 and v. 48, 38, 1965) to circumvent the nonunitary character of the relation between the operators in the Heisenberg picture and those in the asymptotic (in) picture in quantum theory. In this paper a formal equation is derived for the halved S matrix, satisfying the integrability condition, for the example of a self-interacting renormalizable scalar field. Expressions

Card 1/2

2



SUKHANOV, A. F.

"The Influence of Partial Removal or Chronic Irritation of the Cerebral Cortex of White Rats on the Processes of Proliferation in the Focus of Inflammation." Cand Med Sci, First Moscow Order of Lenin Medical Inst, 27 Dec 54. (VM, 16 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

USSR / General Problems of Pathology. Inflammatory  
Processes.

U

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 46668

Author : Sukhanov, A. F.

Inst : Moscow First Institute of Medicine.

Title : The Effect of Partial Removal and Chronic Irritation of  
The Cerebral Cortex in White Rats Upon the Processes of  
Proliferation in Foci of Aseptic Inflammations.

Orig Pub : Tr. 1-go Mosk. med. in-ta, 1957, 2, 105-113.

Abstract : When partial decortication of the large hemispheres in  
rats was executed, the period of heightened capillary  
permeation within the focus of aseptic inflammation (AI)  
was prolonged. The emigration of leukocytes (L) occurred  
sooner and proceeded more rapidly. The formation of a  
leukocyte strip and the clearing of the inflammatory field  
from decayed leukocytes proceeded slower. The phagocytal

Card 1/2

Country : USSR  
Category: Human and Animal Morphology (Normal and Pathological).  
Pathological Anatomy.

S

Abs Jour: RZhBiol., No 2, 1959, No 7637

Author : Sukhanov, A. F.  
Inst : Blagoveshchensk Medical Institute  
Title : Morphologic Changes in the Focus of Aseptic Inflammation in Partial Removal of Cerebral Cortex of White Rats

Orig Pub: Tr. Blagoveshch. med. in-ta, 1956, 2, 56-66

Abstract: In partial removal of cerebral cortex in white rats, the sequence of phases of aseptic inflammation induced by means of introduction into the subcutaneous connective tissue of the stomach (immediately after surgery) of sterile celloidin tubules is preserved,

Card : 1/2

S-41

Country : USSR  
Category: Human and Animal Morphology (Normal and Pathological).  
Pathological Anatomy

S

Abs Jour: RZhBiol., No 2, 1959, No 7638

Author : Sukhanov, A. F.  
Inst : Blagoveshchensk Medical Institute  
Title : Morphologic Changes in the Focus of Aseptic Inflammation in Chronic Irritation of Cerebral Cortex of White Rats.

Orig Pub: Tr. Blagoveshch. med. in-ta, 1956, 2, 67-71

Abstract: In chronic irritation of cerebral cortex in white rats, the sequence of phases of aseptic inflammation, induced by means of introduction into the subcutaneous connective tissue of the stomach (immediately after

Card : 1/2

S-42



SUKHANOV, A. F.

"Effect of Partial Removal and Chronic Stimulation of the Cerebral Cortex of White Rats on the Processes of Proliferation in a focus of Aseptic inflammation,"  
p. 105

from the book "Effect of Higher Divisions of the Nervous System on Processes of Inflammation and Regeneration," Trudy 1-go Moskovskogo Ordena Lenina Meditsinskogo Institute im. I. M. Sechenov, 1957, 249 pp.  
(edited by V. G. Yeliseyev)

SUKHANOV, A.P. (Kemerovo, Initsiativnaya ul., 10-a, kv.4);  
VINOGRADOVA, E.V. (Kemerovo, ul. Ushakova, 5, kv.13)

Histochemical characteristics of postembryonal histogenesis  
in the heart of the white rat. Arkh. anat. gist. i embr. 45  
no.11:62-65 N '63. (MIRA 17:8)

1. Kafedra gistologii i embriologii (zav. - dotsent A.P.  
Sukhanov) Kemerovskogo meditsinskogo instituta.

SPIVAK, M.Ya.; SUKHANOV, A.F.

Effect of phytonadina on regeneration; experimental and  
clinical studies. Eksper. khir. i anest. no. 169-70 '65.  
(MIRA 18:11)

1. Kafedra gospi'tal'noy terapii (zav. - dotsent A.A. Karolankov)  
i kafedra gistologii i embriologii (zav. - dotsent A.F. Sukhanov)  
Kemerovskogo meditsinskogo instituta.

The problem of uniform classification of rock strata. Moskva, Ugletekhizdat, 1947. 93 p.  
(49-14293)

TN275.S82

1. BOKIY, O. E., GERONT'YEV, V. I., PROF., DUBRAVA, T. S., DOCENT, IAKOZA, N. P. PROF., KOMAROV, V. B. PROF., SUKHANOV, A. F., SHKLAYRSKIY, F. N., PROF.

2. USSR (600)

4. Zvorykin, A. A.

7. Essays on the history of Soviet mining engineering. A. A. Zvorykin. Reviewed by O. E. Bokiya, Prof. V. I. Geront'yev, Docent T. S. Dubrava, Prof. N. P. Iakozha, Prof. V. B. Komarov, Prof., A. F. Sukhanov, Prof. F. N. Shklayrskiy. Gorzhur. no. 10, 1952.

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

1. GORODETSKIY, P. I. : DUBRAVA, T. S. : KOMAROV, V. B. : SUKHANOV, A. F.

2. USSR (600)

4. Bokii, Boris Ivanovich, 1873-1927

7. Outstanding worker in mining and technology. Gor. zhur. no. 10, 1952

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

L~~ESH~~CHINSKIY, Vladimir Grigor'yevich; POLONSKIY, Mikhail Isakovich;  
SUKHANOV, A.F., professor, doktor tekhnicheskikh nauk, retsenzent;  
NEVSKIY, V.L., gornyy inzhener, retsenzent; NADION, M.F., redaktor;  
EVENSON, I.M., tekhnicheskiy redaktor

[Detachable boring bits] S'emnye burovye koronki. Moskva, Gos.  
nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1955. 78 p. (MLRA 9:1)  
(Drilling and boring machinery)

SUKHANOV, A.F., professor, doktor tekhnicheskikh nauk

Unified rock classification according to its resistance to blasting  
and a new explosive charge calculation method. Gor.shur. no.6:31-35  
Je '55. (Blasting) (MLRA 8:8)



SHEPHERD, R. [Shepherd, R.],; GAK, A.M. [translator],; SUKHANOV, A.F., prof.,  
doktor tekhn. nauk, red.; DMITRIYEVA, L.N., red. izd-va,; ALADOVA, Ye. I.,  
tekhn. red.; NADKINSKAYA, A.A., tekhn. red.

[Physical properties and drillability of mine rocks] Fizicheskie  
svoistva i burimost' gornykh porod. Pod. red. A.F. Sukhanova. Moskva,  
Ugletekhizdat, 1956. 45 p. (MIRA 11:10)

(Rocks)

(Boring)

SUKHANOV, A.F., professor, doktor tekhnicheskikh nauk.

Shattering effect of explosives. Ugol' 31 no.8:34-38 Ag '56.  
(Blasting) (MLRA 9:10)

3-11-11/17

*Sukhanov, A.F.*

**AUTHOR:** Sukhanov, A.F., Doctor of Technical Sciences, Director of the Moscow Institute of Mining imeni I.V. Stalin

**TITLE:** Higher Educational Institutions - Contemporaries of the October (Revolution) (Vysshiye uchebnyye zavedeniya - rovesniki oktyabrya) The Moscow Institute of Mining (Moskovskiy gornyy institut)

**PERIODICAL:** Vestnik Vyshey Shkoly, 1957, # 11, pp 64 - 74 (USSR)

**ABSTRACT:** The author gives a historical description relating to the Moscow Institute of Mining, which was created in 1930 on the basis of the Academy of Mining. This institute became the center for the training of specialists of coal and ore mining industry. In this connection the creation of educational literature is most important. During the period of 1944 - 1957 62 manuals and text-books were composed by the teachers, as Professor I.M. Voronkov, Professors Doctors N.V. Kashin, S.V. Troyanskiy, P.N. Panyukov, Dotsent V.V. Zubkov, and others. There are at present 20 well equipped laboratories for general educational, technical and special disciplines. The author mentions the laboratory of mining machines which is equipped with coal-cutters of various types, mining combines, boring machines, rock loaders, excavators, machine tools and machine parts. The laboratory of mining electrical-engineering at

Card 1/3

3-11-11/17

Higher Educational Institutions - Contemporaries of the October (Revolution)  
The Moscow Institute of Mining

present is equipped with all types of magnetic explosion proof starters applied in coal industry, electric measuring and other apparatus, models, and modern instruments of automation and telemechanics. Extensive measures have been taken in order to improve educational work: courses and disciplines were unified, lecture hours reduced, part of the material is given the students for independent work, etc. The Moscow Academy of Mining and the Institute of Mining have trained 7,342 mining engineers of various specialties. At the institute scientific research work is conducted by academician A.M. Terpigorev; academician A.A. Skochinskiy; member-correspondent of the USSR Academy of Sciences A.S. Il'yichev, and A.O. Spivakovskiy, Professor P.M. Tsimbarevich, Dotsent A.I. Ksenofontova and Dotsent R.A. Seletskiy. Planning of coal pits is made in accordance with a theory developed by Professor Ye. F. Sheshko and V.V. Rzhhevskiy, doctor of technical sciences. Designing of mechanical equipment for coal industry is made on the basis of computing methods elaborated by Professor G.M. Yelanchik and Dotsent I.M. Zhumakhov. The department of mining constructions conducted by Professor N.M. Pokrovskiy is dealing with faster methods of preparatory work. At present the Institute is dealing with

Card 2/ 3

SUKHANOV, A.F.

ANDROS, I.P., inzh.; ASSONOV, V.A., kand. tekhn. nauk.; BERNSHTEYN, S.A., inzh.; BOKIY, B.V., prof.; BROVMAN, Ya.V., inzh. BONDARENKO, A.P., inzh.; BUCHNEV, V.K., kand. tekhn. nauk; VERESKUNOV, G.P., kand. tekhn. nauk; VOLKOV, A.F., inzh.; GELESKUL, M.N., kand. tekhn. nauk; GORODNICHEV, V.M., inzh.; DEMENT'YEV, A.Ya., inzh.; DOKUCHAYEV, M.M., inzh.; DUBNOV, L.V., kand. tekhn. nauk; YEFIFANTSEV, Yu.K., kand. tekhn. nauk.; YERASHKO, I.S., inzh.; ZHEDANOV, S.A., kand. tekhn. nauk; ZIL'BERBROD, A.F., inzh.; ZINGHENKO, E.M., inzh.; ZORI, A.S., inzh.; KAPLAN, L.B., inzh.; KATSAUROV, I.N., dots.; KITAYSKIY, E.V., inzh.; KRAVTSOV, Ye.P., inzh.; KRIVOROG, S.A., inzh.; KRINITSKIY, L.M., kand. tekhn. nauk; LITVIN, A.Z., inzh.; MALEVICH, N.A., kand. tekhn. nauk; MAN'KOVSKIY, G.I., doktor tekhn. nauk; MATKOVSKIY, A.L., inzh.; MINDELI, E.O., kand. tekhn. nauk; NAZAROV, P.P., kand. tekhn. nauk; NASONOV, I.D., kand. tekhn. nauk; NEYYENBURG, V.Ye., kand. tekhn. nauk; POKROVSKIY, G.I., prof., doktor tekhn. nauk; PROYAVKIN, E.T., kand. tekhn. nauk; ROZENBAUM, inzh.; ROSSI, B.D., kand. tekhn. nauk; SEMEVSKIY, V.N., doktor tekhn. nauk; SKIRGELLO, O.B., inzh.; SUKRUT, A.A., inzh.; SUKHANOV, A.F., prof., doktor tekhn. nauk; TARANOV, P.Ya., kand. tekhn. nauk; TOKAROVSKIY, D.I., inzh.; TRUPAK, N.G., prof., doktor tekhn. nauk; FEDOROV, S.A., prof., doktor tekhn. nauk; FEDYUKIN, V.A., inzh.; KHOKHLOVKIN, D.M., inzh.; KHRABROV, N.I., kand. tekhn. nauk; CHEKAREV, V.A., inzh.; CHERNAVKIN, N.N., inzh.; SHREYBER, B.P., kand. tekhn. nauk; EPOV, B.A., kand. tekhn. nauk; YAKUSHIN, N.P., kand. tekhn. nauk; YANCHUR, A.M., inzh.; YAKHONTOV, A.D., inzh.; POKROVSKIY, N.M., otvetstvennyy red.; KAPLUN, Ya.G. [deceased], rsi.; MONIN, G.I., red.; SAVITSKIY, V.T.,

(Continued on next card)

ANDROS, I.P.----- (continued) Card 2.  
red.; SANOVICH, P.O., red.; VOLOVICH, M.Z., inzh., red.; GORITSKIY,  
A.V., inzh., red.; POLJANOV, V.A., inzh., red.; FADEYEV, E.I.,  
inzh., red.; CHECHKOV, L.V., red. izd-va; PROZOROVSKAYA, V.L.,  
tekhn. red.; MADEINSKAYA, A.A., tekhn. red.

[Mining; an encyclopaedic handbook] Gornoe delo; entsiklopedicheskiy  
spravochnik. Glav. red. A.M. Terpigorev. Moskva, Gos. nauchno-  
tekhnicheskoe izd-vo lit-ry po ugol'noi promysl. Vol. 4 [Mining  
and timbering] Provedeniye i krepiceniye gornykh vyrabotok. Red-  
kolegiiy tomy: N.M. Pechkovskiy... 1958. 454 p. (MIRA 11:7)

(Mines timbering) (Mining engineering)

MENKOVSKIY, M.A., prof., doktor khim.nauk; SPANOVSKIY, V.S., dots.,  
kand.ekon.nauk.; SUKHANOV, A.F., prof., doktor tekhn.nauk

Basic problems in the complete utilization of coal in the  
economy of the U.S.S.R. Nauch.dokl.vys.shkoly; gor.delo.  
no.4:251-253 ' 58. (MIRA 12:1)

1. Predstavleno Moskovskim Gornym institutom imeni I.V.  
Stalina.

(Coal--By-products) (Coal gasification, Underground)

3-58-5-9/35

AUTHOR: Sukhanov, A.F., Professor, Doctor of Technical Sciences,  
Director of the Moscow Mining Institute imeni I.V. Stalin

TITLE: ~~Let us transfer~~ the Correspondence Training of Mining Engineers to  
Regular Daytime Vuzes (Peredat' zaachnyy podgotovku gornykh  
inzhenerov statsionarnym vuzam)

PERIODICAL: Vestnik Vysshey Shkoly, 1958. Nr 5, pp 37 - 39 (USSR)

ABSTRACT: The correspondence training of specialists for the mining in-  
dustry is principally concentrated in the Vsesoyuznyy zaachnyy  
politekhnicheskii institut (VZPI) (All-Union Polytechnical  
Correspondence Institute) and its branches. It does not satis-  
fy the increased demands of industry both in regard to person-  
nel and to the means of instruction. A further deficiency  
is the lack of conditions for developing scientific schools  
and traditions which were always a strong support to the ad-  
vanced Soviet vuzes. Some time ago the leading mining vuzes,  
including the Moskovskiy gornyy institut (MGI) (The Moscow  
Mining Institute) had correspondence faculties and depart-  
ments which were temporarily transferred to the VZPI. At  
present it is expedient to entrust the correspondence training

Card 1/2



3-58-5-9/35

Let Us Transfer the Correspondence Training of Mining Engineers to Regular Daytime Vuzes

of mining engineers again to the regular daytime vuzes. Combining the regular daytime instruction with tuition by correspondence will radically reduce the plurality of offices and decrease expenses. Out of 27 regular mining vuzes, correspondence tuition is already being conducted in 13.

ASSOCIATION: Moskovskiy gornyy institut imeni I.V. Stalina (Moscow Mining Institut imeni I.V. Stalin)

AVAILABLE: Library of Congress

Card 2/2

SUKHANOV, A.F., prof. , doktor tekhn.nauk; NAZAROV, P.P., kand. tekhn. nauk  
KUTUZOV, B.N., kand. tekhn. nauk; DYUKOV, N.G., inzh.

Using cone bits in boring blast holes in asbestos quarries.  
Stroi. mat. 5 no.10:26-28 0 '59. (MIRA 13:2)  
(Asbestos) (Boring machinery)

SUKHANOV, A.F., prof.; NAZAROV, P.P., dotsent; KUTUZOV, B.N., kand.tekhn.nauk

Research on boring blastholes with roller bits in strip mines of the State All-Union Association for the Mining and Preparation of Asbestos and for the Manufacture of Asbestos Products. Gor.zhur. no.5:34-37 My '61. (MIRA 14:6)

1. Moskovskiy gornyy institut.  
(Rock drills)

SUKHANOV, Afanasiy Filimonovich, prof., doktor tekhn.nauk, red.;  
NAZAROV, Petr Petrovich; KUTUZOV, Boris Nikolayevich;  
NEVSKIY, Vladimir Leonidovich; DMITRIYEV, Aleksey  
Pavlovich; GOLOVIN, Grigoriy Mikhaylovich; MISNIK,  
Yuriy Mikhaylovich; KHANUKAYEV, Aleksandr Nisanovich;  
KOROLEVA, T.I., red.izd-va; SHKLYAR, S.Ya., tekhn. red.

[Boring and blasting operations] Burovzryvnye raboty. [By]  
A.F.Sukhanov i dr. Moskva, Gosgortekhzdat, 1962. 242 p.  
(Boring) (Blasting) (MIRA 16:9)

SUKHANOV, A.F., prof.; NAZAROV, P.P., dotsent; KUTUZOV, B.N., kand.  
tekhn. nauk; MAKAREVICH, D.N., gorn. inzh.;  
TOKAR', M.G., gorn. inzh.

Investigation of combination drilling of boreholes in strip  
mines. Nauch. trudy Mosk. inst. radioelek. i gor. elektro-  
mekh. no.47:20-35 '63. (MIRA 17:6)

SUKHANOV, A.F., doktor tekhn.nauk; NAZAROV, P.P., kand.tekhn.nauk; KUTUZOV,  
B.N., kand.tekhn.nauk; BOBRYSEV, A.A., inzh.; MAKAREVICH, D.N.,  
inzh.; TOKAR', M.G., inzh.

New ways of drilling holes in mines of the asbestos industry.  
Shakht. stroi. 7 no.4:13-15 Ap '63. (MIRA 16:3)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.

SUKHANOV, A.F., prof.; KUTUZOV, B.N., kand. tekhn. nauk; TOKAR', M.G.,  
Inzh.; KANTOVICH, L.I., inzh.; KRASNOPOL'SKIY, A.A.;  
KACHURA, N.I.

Study of new methods of drilling holes in open-pit mines  
of the Dokuchayevsk flux-dolomite combine. Gor. zhur. no.7:  
24-29 J1 '63. (MIRA 16:8)

1. Moskovskiy institut radioelektroniki i gornoy elektro-  
mekhaniki (for Sukhanov, Kutuzov, Tokar', Kantovich).
2. Glavnyy inzh. Dokuchayevskogo flyuso-dolomitnogo kom-  
binata (for Krasnopol'skiy).
3. Glavnyy mekhanik Doku-  
chayevskogo flyuso-dolomitnogo kombinata (for Kachura).

TITARENKO, Petr Yakovlevich; TEREKHIN, Vyacheslav Nikolayevich;  
REMENNIK, Lev Moiseyevich; SUKHANOV, Afanasiy Filimonovich;  
NAZAROV, Petr Petrovich; KUTUZOV, Boris Nikolayevich;  
TOKAR', Moisey Grigor'yevich; SONIN, Boris Aleksandrovich;  
SOFRONOV, Fedor Petrovich; GEYMAN, L.M., red.izd-va;  
LAVRENT'YEVA, L.G., tekhn. red.

[New developments in boring and blasting operations in  
asbestos open pit mines] Novoe v burovzryvnykh rabotakh na  
asbestovykh kar'erakh. Moskva, Gosgortekhzdat, 1963. 68 p.  
(MIRA 16:10)

(Asbestos mines and mining) (Blasting)



SUKHANOV, Afanasiy Filimonovich; KUTUZOV, Boris Nikolayevich

[Breaking of rocks] Razrushenie gornykh porod. Moskva,  
Mosk. in-t radioelektroniki i gornoj elektromekhaniki.  
1964. 141 p. (MIRA 18:7)

SUKHANOV, Afanasiy Filimonovich; KUTUZOV, Boris Nikolayevich

[Breaking of rocks] Razrushenie gornykh porod. Moskva,  
Mosk. in-t radioelektroniki i gornoj elektromekhaniki.  
Pt.1. 1964. 21 p. (MIRA 19:1)

SUKHANOV, A.F., prof.; KUTUZOV, B.N., tsent

Standard dimensions of roller bit boring machines for open  
pit mining. Izv. vys. ucheb. zav.; gor. zhur. no.8:82-85 '64  
(MIRA 18:1)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.  
Rekomendovana kafedroy tekhnologii i kompleksnoy mekhanizatsii  
podzemnoy dobychi rud i nerudnykh iskopayemykh.

SUKHANOV, A.F., doktor tekhn.nauk; KUTUZOV, B.N., kand.tekhn.nauk; KANTOVICH,  
L.I., gornyy inzh.; DOMAKHOVSKIY, A.V., gornyy inzh.

Determining the optimal conditions for roller boring in hard,  
mildly abrasive rock in strip mines. Gor.zhur. no.3:35-39 Mr  
'65. (MLRA 18:5)

1. Moskovskiy institut radioelektroniki i gornov elektromekhaniki.

YERMOLOV, M.I.; SUKHANOV, A.P.; RUTCHOV, B.M.; REMENNIK, L.V.

The most important problems facing the roller bit drilling of  
boreholes in strip mining. Ger. zhur. no.9:50 S '69. (GIRA 18:9)

SUKHANOV, A.G.

Simple method for predicting visibility periods of satellites  
at observation stations. Biul.sta.opt.nabl.isk.sput.Zem.  
no.8:10 '59. (MIRA 13:6)

1. Vladivostokskaya stantsiya nablyudeniya sputnikov.  
(Artificial satellites--Tracking)

SUKHANOV, A.G.

Scale of photostatic copies of the Bečvář's Star Atlas.  
Biul.sta.opt.nabl.isk.sput.Zem. no.1:5-6 '60.  
(MIRA 13:5)

1. Vladivostokskaya stantsiya nablyudeniya iskusstvennykh  
sputnikov Zemli.  
(Stars--Atlases)

62

L 30012-65 FBD/ZWT(1)/ZAG(v)/EEC-4/EEC(t) Pe-5/Pq-4/Pac-2/Pi-4 GW/WS  
ACCESSION NR: AP5005782 5/0043/65/000/001/0102/0109

AUTHOR: Abbasov, A. R.; Grebinskiy, A. S.; Durasova, M. S.; Ivanov, V. A.;  
Ignat'yeva, L. M.; Molchanov, A. P.; Myannikov, V. L.; Pankratov, Ye. I.;  
Sukhanov, A. G.; Yudin, O. I.; Yasnov, L. V.

45  
B

TITLE: Radionatronic observations on the centimeter wave of the solar eclipse  
on 21 July 1963

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i  
astronomii, no. 1, 1965, 102-109

TOPIC TAGS: solar eclipse, solar atmosphere, residual radiation, terrestrial at-  
mosphere, radio emission, sunspot

ABSTRACT: An expedition went to Simushir Island to observe the time of the second  
and third radio contacts of the solar eclipse of 21 July 1963 for detecting the  
height of rapid changes in the solar atmosphere during the period of weak solar ac-  
tivity and for measuring the residual radiation flux during the period of total  
cover of the Sun. The detection of local sources of radio emission from the Sun during  
the total eclipse and measurements of the Earth's own atmospheric radiation were also  
included in the expedition's task. The solar disk was covered with two groups of

Card 1/2



L 30012-65  
ACCESSION NR: AP5005782

sunspots, of which one persisted only two days including the day of the eclipse. The refraction, absorption, and proper radiation of the Earth's atmosphere influenced observation data. The absorption and atmospheric radiation were specially measured before and after the eclipse. Strong fluctuations of the solar radio emission between the first and second contacts were recorded on 3.2- and 10-cm wavelengths. The amplitude of fluctuations diminished with the increase of solar height and did not depend on wavelength. A difference was observed between the optical and radio contact times. The residual radio emission corrected for absorption in the terrestrial atmosphere is given in a table in the original article. An emission of local sources has been recorded on 4-, 5-, and 10-cm waves. The local source was identified with the spot group which lasted only two days. The height of the local source was determined to be in a space span from 7000 to 20,000 km above the solar surface. Orig. art. has: 3 figures, 7 tables, and 4 formulas. [EG]

ASSOCIATION: none

SUBMITTED: 24Jan64

NO REF SOV: 004

ENCL: 00

OTHER: 002

SUB CODE: AA, ES

ATD PRESS: 3196

Card 2/2



SUKHANOV, A.I., inzh. (Volgograd); MARKIN, S., inzh. (Volgograd)

Urgent tasks in developing the lime industry. Stroi. mat. 9  
no.6:6 Je '63. (MIRA 17:8)

**ABSTRACT:** The article reports the results of a comparison of the deformation properties of the AG-18 fiber-glass plastic reinforced in two mutually perpendicular directions.

ACCESSION NR: AP5014697

... which is a model

10

L 61411-65 EWT(d)/EWP(h)/EWP(1)

UR/0286/65/000/012/0134/0134

ACCESSION NR: AP5019107

AUTHORS: Afonin, A. N.; Yerashova, G. I.; Ivanovskiy, K. Ye.; Ioffe, Y. S.;  
 Komashenko, A. Kh.; Kon'kova, T. F.; Lipovetskiy, V. A.; Mel'nikov, V. V.;  
 Mishedchenko, Yu. D.; Neverovich, A. M.; Paris-Revuel'ta, A. A.; Semenov, V. M.;  
 Preobrazhenskiy, O. A.; Rikman, M. A.; Semenov, B. D.; Sukhanov, A. I.;  
 Sheleg, R. G.; Yaguhinskiy, S. M.

TITLE: Carriage for a drive chain of an overhead thrust conveyer. Class 81, B  
 No. 172230

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 134

TOPIC TAGS: overhead conveyer, drive chain, carriage, crane, 4

ABSTRACT: This Author Certificate presents a carriage for a drive chain of an overhead thrust conveyer. The carriage consists of running rollers mounted on an axle fixed to the casing which supports a thrust cam and which is connected to the chain through fastening elements, including a fastening bolt (see Fig. 1 on the Enclosure). To simplify the construction of the carriage, the thrust cam is made in one piece with the fastening bolt, while the casing is made in one piece with the axle. Orig. art. has: 1 diagram.

Card 1/3

L 61411-65

ACCESSION NR: AP5019107

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut pod'yemno-transportnogo mashinostroyeniya (All-Union Scientific Research Institute of Hoisting and Conveying Machine Construction) 44 56 3

SUBMITTED: 12Aug63

ENCL: 01

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/3

13

L 61412-65 EWT(d)/EWP(h)/EWP(1)

ACCESSION NR: AP5019108

UR/0286/65/000/012/0134/0135

AUTHORS: Afonin, A. N.; <sup>44 55</sup>Yershova, G. I.; <sup>44 55</sup>Ivanovskiy, K. Ye.; <sup>44 55</sup>Ioffe, F. S.; <sup>44 55</sup>Komashenko, A. Kh.; <sup>44 55</sup>Kon'kova, T. F.; <sup>44 55</sup>Lipovetskiy, V. A.; <sup>44 55</sup>Mel'nikov, V. V.; <sup>44 55</sup>Mishodchenko, Yu. D.; <sup>44 55</sup>Neverovich, A. S.; <sup>44 55</sup>Paris-Rouvet, A. A.; <sup>44 55</sup>Preobrazhenskiy, O. A.; <sup>44 55</sup>Rikman, M. A.; <sup>44 55</sup>Semenov, B. D.; <sup>44 55</sup>Semenov, V. M.; <sup>44 55</sup>Sukhanov, A. I.; <sup>44 55</sup>Sheleg, R. G.; <sup>44 55</sup>Yaguzhinskiy, S. M.

TITLE: Transmission device of an overhead thrust conveyor. Class 81, No. 172231

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 134-135

TOPIC TAGS: overhead conveyor, transmission, crane

ABSTRACT: This Author Certificate presents a transmission device of a suspended thrust conveyor. The device contains spring-supported vanes set in a rotary motion by a star wheel meshing with the drive chain of the conveyor (see Fig. 1 on the Enclosure). To prevent the possibility of wedging the carriage during its transport, the device is provided with a two-armed spring-supported lever. One of the arms serves as a stopper for the carriage, and the other one (provided with a roller) interacts with a circular template fixed on the star wheel. The template has openings for receiving the roller which frees the carriage from the stopper. Card 1/3



L 61412-65

ACCESSION NR: AP5019108

3

Orig. art. has: 1 diagram.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut pod'yemno-transportnogo mashinostroyeniya (All-Union Scientific Research Institute of Hoisting and Conveying Machine Construction) 14 55

SUBMITTED: 12Aug63

ENCL: 01

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/3

CHUKHANOV, A.I.

ways of automatic regulation of the process of cellulose  
degradation. Khim. volok. no.5:60-62 '65.

(MIRA 18:10)

1. Barnaul'skiy filial Cpytno-konstruktorskogo byuro avtomatiki.

SUKHANOV, A. M.

42244. SUKHANOV, A. M., GAYNUTDINOV, G. G., Gorennye ugol'noy plastiny. Trudy Tomskogo elektromekhan. In-ta inzh. zh-d transporta, T. XIII, 1943, s. 58-69.

So: Letopis' Zhurnal'nykh Statey, Vol.47, 1948.

SUKHANOV, A.M. . dotsent, kandidat tekhnicheskikh nauk

Determining the speed of carbon combustion. Trudy TASHIIT  
no.4:47-63 '54. (MIRA 8:6)  
(Combustion)

SUKHANOV, A.M., dotsent.

Effect of wetting coal on efficient ignition. Trudy TASHIIT no.5:  
38-48 '56. (MLRA 9:12)  
(Lokomotives---Fuel consumption)

LEBEDEVA, T.P., kand.tekhn.nauk; BELENOV, V.K., inzh.; SUKHANOV, A.N., inzh.

Mechanize the car checking operations in stations. Vest. TSNII  
MPS 20 no.5:45-47 '62 (MIRA 15'8)  
(Railroads--Making up trains) (Railroads--Electronic equipment)

PSAKHIS, Z.Ya.; KLIYENTOVSKIY, G.B.; SUKHANOV, A.P.; YEFREMOVA, Ye.V.,  
red.; BLAZHENKOVA, G.I., tekhn.red.

[Models of racing automobiles] Modeli gonochnykh avtomobilei.  
Moskva, Izd-vo DOSAAF, 1959. 173 p. (MIRA 13:3)  
(Automobiles, Racing--Models)

DISKIN, Ye.I.; D'YAKOV, A.V.; KLIYENTOVSKIY, G.B.; PSAKHIS, Z.Ya.;  
SUKHANOV, A.P.; YEFRENOVA, Ye.V., red.; FANSIMIDT, F.Ya.,  
tekhn. red.

[Modeling of automobiles]Avtomobil'nyi modelizm. Pod ob-  
shchei red.Z.IA.Ps khisa. [By]E.Diskin i dr. Moskva, Izd-vo  
DOSAAF, 1962. 391 p. (MIRA 15:10)  
(Automobiles--Modeling)



SUKHANOV, A.V.

Reloading mechanism. Trudy KAI 52:27-31 '60. (MIRA 16:7)

(Feed mechanisms)

SUKHANCV, A.V.

Formula for the flexure of a cantilever beam with variable section.  
Trudy KAI no.62:175 '61. (MIRA 17:2)

НАБОКОВ М.В., инженер-геолог, СУХАНОВ А.Я., инженер-геолог; НАУМОВ,  
А.И., инженер-геолог

The Alexeyevka deposit is a new raw materials base for high-  
grade kaolin. Stek. i ker. 22 no.9.8-11 S 165. (MIRA 18:9)

1. Gosudarstvennyy prirodostvennyy geologicheskii komitet  
Kazakhskiy SSR (for Nabokov, Suktunov). 2. Severo-Kazakhstanskoye  
geologicheskoye upravleniye (for Naumov).

DOBRETSOV, V.B.; SUKHANIN, A.Ye.

Methods of rock breaking during the simultaneous action of positive and negative temperatures. Fiz.-tekh. probl. razrab. pol. iskcp. (MIRA 19:1)  
no.5:171-173 165.

1. Institut radioelektroniki i gornoy elektromekhaniki, Moskva.