ACC NR: AT6036612 SOURCE CODE: UR/0000/66/000/000/0254/0255

AUTHOR: Legon'kov, B. V.; Surinov, Yu. A.; Kuznetsov, O. N.; Lebedev, V. I.

ORG: none

TITLE: Question of the psychological bases of individual physical training /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966/

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 254-255

TOPIC TAGS: cosmonaut training, space psychology, physical exercise, space physiology, psychophysiology

ABSTRACT:

Individualization of the physical preparation program is one of the best methods for developing the individual psychological qualities necessary for good performance in spaceflight. Of course such individual tailoring of physical training is impossible without analysis of the personality of each cosmonaut. On one hand, data obtained from psychological studies is used by physical-education instructors to select the most effective teaching methods. On the other hand, observation of cosmonaut behavior in the process of physical training is a valuable

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addition to the complete psychological picture. During physical training emotional and volitional characteristics, demonstrated in the ability to overcome difficulties, thoroughness of movements, psychomotor activity, formation of motor coordination habits, and initiative, are identified. With the use of exercises selected according to the degree of individual physical preparedness,(jump turns from unusual positions, complicated jumps on the trampoline, and a variety of other exercises) it was possible to identify other psychic characteristics: stamina, the capacity for analytical thought, attention, and memory.

The method of studying individual personality characteristics and the method of developing psychologically valuable qualities by means of physical preparation was developed by the authors on the basis of experimental work by the leading athletic psychologists P. I. Rudik, O. A. Chernikova, and T. I. Gagayeva. Personality manifestations in work were considered on the basis of theories of B. M. Teplov and V. S. Merlin.

Complex study of personality (using the methods of teaching psychology) during physical training permits substantiation of data obtained during observation by means of laboratory experiments. Data

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Scientific and psychological grounding of individualized programs for the physical training of spacecraft operators will enable researchers to uncover and reinforce valuable psychological qualities in cosmonauts without fear of overtraining or breakdown.

[N. A. No. 22; ATD Report 66-116]

SUB CODE: 06,05 / SUBM DATE: 00May66

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S/081/61/000/020/043/089
B105/B101

Separation of hydrocarbon ...

selectivity and the dependence of these coefficients on the composition of the mixture, temperature, and pressure, thus enabling the calculation of the composition of the adsorbed phase for mixtures of arbitrary composition. [Abstracter's note: Complete translation.]

TRIFONOVA, K.B.; SUKHINOVA, S.I.

Separation of complex gas mixtures by a hypersorption process. Trudy IGI 16:363-366 '61. (MIRA 16:7)
(Gases--Separation) (Adsorption)

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Preliminary computation of adsorption equilibrium parameters for the system adsorbent - binary mixture of vapors. Dokl. AN SSSR 153 no.1:129-132 N '63. (MIRA 17:1)

1. Institut fizicheskoy khimii AN SSSR. Predstavleno akademikom M.M. Dubininym.

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Adsorption of vapor mixtures and the structure of adsorbents. Dokl. AN SSSR 154 no.6:1417-1420 F 64. (MIRA 17:2)

1. Institut fizicheskoy khimii AN SSSR. Predstavleno akademikom M.M. Dubininym.

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Adsorption of vapor mixtures on zeolites. Izv. AN SSSR Ser. khim no.7:1309-1311 Jl '64. (MIRA 17:8)

1. Institut fizicheskoy khimii AN SSSR.

L 20352-66 EWT(m)/EWP(j)/T RM

ACC NR: AT6012079 SOURCE CODE: UR/0062/65/000/005/0769/0776

29
B

AUTHOR: Bering, B. P.; Serpinskiy, V. V.; Surinova, S. I.

ORG: Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR)

TITLE: Adsorption of a mixture of gases. Communication 7. Joint adsorption of a binary mixture of vapors on activated charcoal

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 769-776

TOPIC TAGS: adsorption, diethyl ether, chloroform, gas adsorption

ABSTRACT: A method was developed for calculating the parameters of adsorption equilibrium of a binary mixture of vapors on an adsorbent within the framework of the theory of volume filling of micropores (potential theory of adsorption). The adsorption isotherms on activated charcoal were measured for diethyl ether at 50, 60, and 71°, ethyl chloride at 50 and 71°, chloroform at 60°, and for mixtures of ethyl chloride with diethyl ether at 50 and 60° and diethyl ether with chloroform at 60°. A generalization of the Dubinin-Radushkevich equation for the adsorption of an individual substance on adsorbents of the first structural type was proposed for the cumulative adsorption of the components of a binary system of vapors. This equation was found to be a good approximation of the experimental data. The generalization of the Dubinin-Radushkevich equation, in conjunction with the Lewis empirical equation, can be used for an approximate calculation of the adsorption of each component of the mixture according to the set partial equilibrium pressures of the components, if the phase diagram of

Card 1/2 UDC: 541.183+661.183.2

L 20352-66
ACC NR: AP6012079

volume solutions of these substances is known. The differential heats of adsorption of the components from the mixture were calculated for the ethyl chloride-diethyl ether system. Orig. art. has: 7 figures, 1 table, and 11 formulas. [JPRS]

SUB CODE: 07 / SUBM DATE: 10May63 / ORIG REF: 008 / OTH REF: 003

Card 2/2 vmb

SURIONOV, M.Ye.

Code translator for automatic communication systems equipped with Morse apparatus. Vest.sviazi 16 no.11:11-14 N'56.
(MLRA 10:1)

1. Ispolnyayushchiy obyazannosti inzhenera Rostovskogo-na-Donu tsentral'nogo telegrafa.
(Rostov-on-Don--Telegraph)

SURIS, A.D., arkhitektor

Increase the output of soundproofing materials for hospital construction. Gor.khoz.Mosk.29 no.9:8 S '55. (MLRA 8:12)

1. Spetsial'noye arkhitekturno-konstruktorskoye byuro
(Soundproofing)

[illegible], S. S., [illegible], A. S.

Puerperal septicemia

Early manifestation of septic endocarditis complicating puerperal fever. Klin. med. 30 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952, UNCL.

SURIS, A. S.

Pathological anatomy of bronchial asthma. Klin. med., Moskva 30 no.3:45-53 Mar 1952. (CLML 22:2)

1. Of the Pathologico-Anatomic Division imeni A. I. Baranov (Scientific Supervisor -- Prof. Ya. L. Rapoport), First Moscow Municipal Clinical Hospital imeni Pirogov.

SURIS, A.S. (Moskva, A-55, Tikhvinskiy per., d. 10/12, kv. 6)

Some unusual tumors of the ovaries; Brenner's tumor and struma ovarii. Vop.onk. 1 no.3:15-19 '55. (MLRA 10:1)

1. Iz patologoanatomicheskogo otdeleniya (zaveduyushchiy - prof. Ye.Ya. Gertsenberg) Gorodskoy klinicheskoy bol'nitsy No.6 (glavnyy vrach N.S.Shevyakov)

(BRENNER TUMOR,
ovaries)
(TERATOMA,
ovaries,)
(OVARIES, enoplasms,
Brenner tumor & teratoma)

SURIS, A.S. (Moskva, A-55, Tikhvinskiy per., d. 10/12, kv. 6)

Data on the study of human pulmonary adenomatosis. Vop.onk. 5 no.4:439-448 '59. (MIRA 12:12)

1. Iz patologoanatomicheskogo otdeleniya (zav. - prof. Ye.Ya. Gertsenberg) Gorodskoy klinicheskoy bol'nitsy No.6 (glavnyy vrach - N.S. Shevyakov).

(LUNG NEOPLASMS, case reports, adenoma (Rus))

EDEL'BERG, G.V., prof.; SURIS, A.S.; FRIDMAN, E.Ye.

Clinical anatomical characteristics of Brenner tumor. Akush. i gin. 35 no.1:89-90 Ja-F '59. (MIRA 12:2)

1. Iz ginekologicheskogo (zav. - prof. G.V. Edel'berg) i patologo-anatomicheskogo (zav. - prof. Ye.Ya. Gertsenberg) otdeleniya Gorodskoy klinicheskoy bol'nitsy No.6 (glavnyy vrach N.S. Shervyakov) i onkologicheskogo otdeleniya (zav. - kand.med.nauk S.L. Mints) Gorodskoy bol'nitsy No.36 (glavnyy vrach M.V. Kazangapova).
(BRENNER TUMOR, case reports.
(Rus))

PYTEL', A.Ya.; GOLIGORSKIY, S.D.; VASIL'YEV,V.V.; KUCHINSKIY,I.N.; NISENBAUM, L.I.; CHEBANYUK, G.M.; BOGDANOVICH, I.A.; PLISAN, S.O.; SURIS.A.S.

Achievements of contemporary nephrology. Kidneys and ureters. Urinary bladder. Urologiia 28 no.3:82-92 '63 (MIRA 17:2)

SURIS, A.S. (Moskva)

Malignant hemangioendothelioma of the breast. Arkh. pat. 27 no.6:75-79 '65. (MIRA 19:1)

1. Patologoanatomicheskoye otdeleniye (konsul'tant - prof. Ya.L. Papoport, zav. A.S. Suris) Gorodskoy klinicheskoy bol'nitsy No.6 (glavnyy vrach N.S. Shevyakov). Submitted May 23, 1964.

GORELIK, Mariam Borisovna, inzh.; IOFFE, Ernest Isaakovich, inzh.; SURIS, Mordko Ar'yevich; STRIZHEVSKIY, I.V., kand.tekhn.nauk, red.; AVRUSHCHENKO, R.A., red.izd-va; SALAZKOV, N.P., tekhn.red.

[Protection of the gas network from eddy currents; experience of operating and planning organizations in Moscow] Zashchita gazovykh setei ot bluzhdaiushchikh tokov; opyt ekspluatatsionnykh i proektnykh organizatsii Moskvy. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1959. 140 p. (MIRA 13:2)
(Electric currents, Eddy) (Gas pipes--Corrosion)

IOFFE, E.I.; SURIS, M.A.

Improved electric drainage protection against eddy currents. (MIRA 15:5)
Sbor. nauch. rab. AKKH no.2: 74 80 '60.
(Electric railroads—Current supply)

LEVIN, V.M.; SURIS, M.A.; TARNIZHEVSKIY, M.V.

Effective use of reinforced electric drains. Gaz.delo no.1:17-22 '64. (MIRA 17:4)

1. Akademiya kommunal'nogo khozyaystva im. K.D.Pamfilova, g. Moskva.

SURIS, M.A.

Engineering method for calculating the corrosion danger for underground metal pipelines when they are intersected by the rail networks of electric railroads. Gaz. delo no.5:16-22'64 (MIRA 17:7)

1. Mosgazproyekt.

SURIS, P.L., inzh.; KOLODOCHKO, S.A., inzh.

Testing of an atmospheric turbine safety valve. Energetik 8 no. 12:17 D '60. (MIRA 13:12)
(Steam turbines--Safety appliances)

SURIS, P.L., inzh.; SNLIK, L.R., inzh.

Heat transfer coefficient of an oil cooler with transverse flow about a cluster of pipes. Energomashinostroenie 7 no.6:44-46 Je '61. (MIRA 14:7)

(Oil coolers)

SURIS, P.L., inzh.

Permissible parallel operation of T-25-3 turbines according to industrial choice. Elek.sta. 32 no.8:94 Ag '61. (MIRA 14:10)
(Steam turbines)

S/262/62/000/012/003/013
I007/I207

AUTHOR: Suris, P. L.

TITLE: How to reduce mechanical losses in turbine bearings

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, 42. Silovyye ustanovki, no. 12, 1962, 29, abstract 42.12.170. "Electr. stantsii", no. 2, 1962, 86–87

TEXT: By maintaining the average oil temperature in turbine bearings close to the limiting value (approximately 50°C), mechanical losses in turbine sets of 25 to 100 MW may be reduced by at least 50–130 KW. For this end the author suggests to maintain the oil temperature during autumn, winter and spring within the same temperature limits as provided for lubrication during the summer season.

[Abstracter's note: Complete translation.]

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SURIS, P.L., inzh.

Characteristics of stationary turbine oil coolers.
Energomashinostroenie 8 no.5:39-40 My '62. (MIRA 15:5)
(Turbines--Cooling)

SURIS, P.L., inzh.

Concerning a certain reserve for decreasing the mechanical losses in turbogenerator bearings. Elek.sta. 33 no.2:86-87 F '62. (MIRA 15:3)

(Turbogenerators)

BUZIN, D.P., inzh.; LINETSKIY, V.N., inzh.; SURIS, [illegible].L., inzh.

Hydraulic resistance of KOS type lift check valves.
Energomashinostroenie 10 no.2:33-35 F '64. (MIRA 17:6)

SURIS, P.L., inzh.

Effect of idle oil circulation on the performance of an oil cooler. Energomashinostroenie 11 no.1:47-48 Ja '65. (MIRA 18:4)

PHASE I BOOK EXPLOITATION SOV/5305

Moscow. Institut stali

Relaksatsionnye yavleniya v metallakh i splavakh; trudy Mezhvuzovskogo soveshchaniya (Relaxation Phenomena in Metals and Alloys; Transactions of the Inter-Institute Conference) Moscow, Metallurgizdat, 1960. 326 p.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR and Moskovskiy institut stali imeni I.V. Stalina.

Ed. (Title Page): B.N. Finkel'shteyn; Ed. of Publishing House: Ye.I. Levit; Tech. Ed.: A.I. Karasev.

PURPOSE: This collection of articles is intended for personnel in scientific institutions and schools of higher education and for physical metallurgists and physicists specializing in metals. It may also be useful to students of these fields.

COVERAGE: The collection contains results of experimental and theoretical investigations carried out by schools of higher education and scientific research institutions in the field of the relaxation processes in metals and alloys. Several articles are devoted to the investigation—by the internal-friction method—of the decomposition of supersaturated solid solutions. Also analyzed are the defects of the crystalline lattice, plastic deformations, high-temperature behavior of alloys, and creep. Problems of the relation between internal friction and temper brittleness, the use of the method of internal friction in the investigation of powder-metallurgy products, and the mechanics of impact fatigue are discussed. The collection also contains articles on the damping characteristics of materials, elastic aftereffect, and the new slow-detection method. No personalities are mentioned. References follow most articles. There are 366 references: 192 Soviet and 174 non-Soviet.

24922 S/181/61/003/006/019/031
B102/B201

24.7900

AUTHOR: Suris, R. A.

TITLE: Theory of systems of interacting Fermi particles

PERIODICAL: Fizika tverdogo tela, v. 3, no. 6, 1961, 1795 - 1807

TEXT: A study has been made of a system of interacting Fermi particles (spin 1/2) using the Green temperature functions and taking the spin properties at the various temperatures into account. The usual assumption of the average spin vanishing with the existence of an outer magnetic field is not justified in all temperature and density intervals. On the one hand the exchange interaction in the system of mutually repelling Fermi particles favors a parallel orientation of the spins, while on the other hand, there is always the Fermi tendency toward an antiparallel orientation. The exchange interaction may prevail under certain conditions, and the averaged spins may differ from zero (this is the case, e.g., in ferromagnetic substances). It is assumed here that $s \neq 0$. The phase transformation accompanying the transition from one state with $s = 0$ into one with $s \neq 0$ is considered. The Hamiltonian of such a system with binary interaction is

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Theory of systems of interacting...

given by

$$\mathcal{H} = \int d\lambda d\lambda' \dot{\psi}(\lambda)(\lambda|H_0|\lambda')\psi(\lambda') + \\ + \frac{1}{2}\int d\lambda_1 d\lambda_2 d\lambda_1' d\lambda_2' \dot{\psi}(\lambda_1)\dot{\psi}(\lambda_2)(\lambda_1, \lambda_2|V|\lambda_2', \lambda_1')\psi(\lambda_2')\psi(\lambda_1'). \qquad (I,1)$$

where $\dot{\psi}(\lambda)\psi(\lambda)$ denote the Fermi operators of production and annihilation in Heisenberg representation, $\{\lambda\}$ is the total set of dynamic variables, V is the potential of binary interaction, and $H_0 = (p^2/2m)-\mu$, μ being the chemical potential. The Green function then reads:

$$G_c(\lambda_1, t_1; \lambda_2, t_2) = i\langle T\{\psi(\lambda_1 t_1), \bar{\psi}(\lambda_2 t_2)\}\rangle .$$

The index c indicates here and in what follows that Green functions of other kinds do not appear. Thus one obtains for the first particle density matrix

$$i\lim_{t_1 \to t_1+0} g(\mathbf{x}_1 t_1; \mathbf{x}_2 t_2) = i\lim_{t_1 \to t_1+0} Sp_\sigma G(\mathbf{x}_1 t_1; \mathbf{x}_2 t_2) = \rho(\mathbf{x}_1 \mathbf{x}_2) \qquad (I,6)$$

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and for the first spin density matrix

$$i\lim_{t_1 \to t_1+0} \sum(\mathfrak{x}_1 t_1;\ \mathfrak{x}_2 t_2) = i\lim_{t_1 \to t_1+0} Sp_2 G(\mathfrak{x}_1 t_1;\ \mathfrak{x}_2 t_2) = \bar{S}(\mathfrak{x}_1,\ \mathfrak{x}_2) \qquad (I,7)$$

By

$$G_2(\lambda_1, \lambda_2, \lambda_3, t_1; \lambda_4, t_2) = iG(\lambda_2, t_1; \lambda_1, t_1+0)\, G(\lambda_3, t_1; \lambda_4, t_2) - \\ - iG(\lambda_3, t_1; \lambda_1, t_1+0)\, G(\lambda_2, t_1; \lambda_4, t_2). \qquad (II,2)$$

one finally obtains

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$$\left(\begin{matrix}\mathfrak{x}_1, & \mathfrak{x}_2 \\ s_1, & s_2\end{matrix}\middle| V \middle|\begin{matrix}\mathfrak{x}_2', & \mathfrak{x}_1' \\ s_2', & s_1'\end{matrix}\right) = V(|\mathfrak{x}_1 - \mathfrak{x}_2|)\delta(\mathfrak{x}_1 - \mathfrak{x}_1')\delta(\mathfrak{x}_2 - \mathfrak{x}_2')\delta_{s_1 s_1'}\delta_{s_2 s_2'} \cdot$$

$$\left\{ i\frac{\partial}{\partial t_1} - H_0(\mathfrak{x}_1)\right\} G(\mathfrak{x}_1, t_1; \mathfrak{x}_2, t_2) -$$

$$- i\int d\mathfrak{x}_2' V(\mathfrak{x}_1 - \mathfrak{x}_2')\{[Sp_2 G(\mathfrak{x}_2', t_1; \mathfrak{x}_2' t_1 + 0)] G(\mathfrak{x}_1, t_1; \mathfrak{x}_2, t_2) -$$

$$- G(\mathfrak{x}_1, t_1; \mathfrak{x}_2', t_1 + 0) G(\mathfrak{x}_2', t_1; \mathfrak{x}_2 t_2)\} = -\delta(\mathfrak{x}_1 - \mathfrak{x}_2)\delta(t_1 - t_2). \quad (II, 3)$$

The real part of the Green function $G(\overline{\mathfrak{p}}, E)$, which fulfills relation

$$\left\{ E - \frac{p^2}{2m} + \mu - v(0)\, n + \int v(\overline{\mathfrak{p}} - \overline{\mathfrak{p}}') e^{+ik'0} G(\overline{\mathfrak{p}}', E') \times \right.$$

$$\left. \times \frac{d\overline{\mathfrak{p}}' dE'}{(2\pi)^4} \right\} G(\overline{\mathfrak{p}}, E) = -1, \quad (II, 5)$$

where $n = N/\Omega$, is found to be

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$$\left.\begin{aligned}
\operatorname{Re} G(\bar{p}, E) &= -\frac{\sigma}{2}\left\{\frac{1}{E-\delta_+(\bar{p})}+\frac{1}{E-\delta_-(\bar{p})}\right\}- \\
&-\sigma e_{\bar{p}}\frac{\sigma}{2}\left\{\frac{1}{E-\delta_+(\bar{p})}-\frac{1}{E-\delta_-(\bar{p})}\right\}; \\
\delta_\pm(\bar{p}) &= \frac{\bar{p}^2}{2m}+nv(0)-\mu-\frac{1}{2}\int\frac{d\bar{p}'}{(2\pi)^3}\times \\
&\times v(\bar{p}-\bar{p}')\,[n(\bar{p}')\pm\bar{s}(\bar{p}')\,e_{\bar{p}}], \\
e_{\bar{p}} &= \frac{\int\frac{d\bar{p}'}{(2\pi)^3}v(\bar{p}-\bar{p}')\,\bar{s}(\bar{p}')}{\left|\int\frac{d\bar{p}'}{(2\pi)^3}v(\bar{p}-\bar{p}')\,\bar{s}(\bar{p}')\right|}.
\end{aligned}\right\} \qquad \text{(II, 6)}$$

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Theory of systems of interacting...

can thus be transformed to

$$\frac{\langle \mathcal{H} \rangle}{\Omega} = -\mu n + \frac{n^2 v(0)}{2} + \int \frac{d\vec{p}}{(2\pi)^3} \frac{\vec{p}^2}{2m} n(\vec{p}) -$$

$$- \frac{1}{4} \int \frac{d\vec{p} d\vec{p}'}{(2\pi)^3} v(\vec{p} - \vec{p}') (n(\vec{p}) n(\vec{p}') + s(\vec{p}) s(\vec{p}')). \qquad \text{(II, 10)}$$

The representation

$$\frac{1}{2} \left\{ n(\vec{p}) \pm s(\vec{p}) \right\} = n_F \left\{ \frac{p^2}{2m} - \mu + nv(0) - \right.$$

$$\left. - \int \frac{d\vec{p}'}{(2\pi)^3} v(\vec{p} - \vec{p}') \frac{n(\vec{p}') \pm s(\vec{p}')}{2} \right\}, \qquad \text{(II, 9)}$$

of (II. 8) is then further examined and is first rendered in the form

$$Z_\pm(\vec{p}) = -\frac{\lambda}{\beta^3} \left(\frac{p^2}{2m} - \tilde{\mu} \right) + \lambda \int \frac{d\vec{p}'}{(2\pi)^3} f(\vec{p} - \vec{p}') \frac{1}{e^{-Z_\pm(\vec{p}')} + 1}. \qquad \text{(III, 2)}$$

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is obtained, inter alia, as equation for the transition temperature, and an estimation yields

$$\lambda_1 \simeq \left\{ f(0) \int A_1(\bar{p}) \frac{d\bar{p}}{(2\pi)^3} \right\}^{-1}$$

$$\frac{v(0)}{2} \frac{\partial n}{\partial \mu} - 1 \simeq 0 \qquad \text{(III, 9)}$$

These relations describe by approximation the curve of the phase equilibrium on the (n,T) plane and determine the transition from a state with s = 0 into one with s ≠ 0. The average spin near the phase transition point λ_0 is given by

$$s \simeq 2|c_1| \sqrt{\frac{1}{T} - \frac{1}{T_c}} \int \frac{d\bar{p}}{(2\pi)^3} A_1(\bar{p}) \psi_0(\bar{p}).$$

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S/181/62/004/002/001/051
B102/B138

AUTHORS: Bonch-Bruyevich, V. L., and Suris, R. A.

TITLE: Some peculiarities of current carriers in ferromagnetics

PERIODICAL: Fizika tverdogo tela, v. 4, no. 2, 1962, 309-316

TEXT: The energy spectrum of the carriers in ferromagnetics is studied theoretically without any model assumptions. In particular, the interacting electrons are not divided into magnetic and conduction ones, no individual s- and d-type wave functions are introduced and spontaneous magnetization is considered semiphenomenological. The carriers are taken to be quasiparticles of equal charge, characterized by their quasimomentum and unit charge. The physical content of a multi-electron system depends on the case considered. The energy spectrum of the carriers is determined by the singularities of the single-fermion Green function, G, electron interaction is described by a quantized Bose field, characterized by the electromagnetic Green function D

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Some peculiarities of current...

$$M = -ie^2 \sum_{k,l} \gamma^k G \Gamma^l D_{kl},$$

$$P_k^m = ie^2 g^{kk} \operatorname{Spur} \gamma^k G \Gamma^m G,$$

where $\Gamma^1 = -\frac{\delta G^{-1}}{\delta e A^1}$ is the total vertex part. Under these assumptions,

$$\mathcal{H} = e\varphi + e\varphi_1 + \sigma\varphi_2 - \mu +$$
$$+ \frac{1}{2m}\left\{\left(\sigma, \mathbf{p} - \frac{e}{c}\mathbf{A} - \frac{e}{c}\mathbf{A}_1 - \frac{l}{c}\mathbf{A}_2\right) - \frac{1}{c}\varphi_3\right\} \times$$
$$\times \left\{\left(\sigma, \mathbf{p} - \frac{e}{c}\mathbf{A}^* - \frac{e}{c}\mathbf{A}_1^* - \frac{e}{c}\mathbf{A}_2^*\right) - \frac{1}{c}\varphi_3^*\right\}. \qquad (12)$$

is derived for the effective Hamiltonian of the system, with

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Some peculiarities of current...

where ψ is the single-particle wave function

$$\left\{\sum_k c\gamma^k\left(-p_k+\frac{e}{c}A_k\right)-mc^2-M\right\}\psi=0. \qquad (4)$$

and $M(x,y)=\delta(x^0-y^0)M(\vec{x},\vec{y})$, $M_k=\frac{1}{4}\varepsilon^{kk}\mathrm{Spur}\,\gamma^k M$; $\tilde{M}=M-\sum_k \gamma^k M_k$, $\psi=\begin{pmatrix}\psi_1\\ \psi_2\end{pmatrix}$, $\tilde{M}=\gamma^0\tilde{M}=\begin{pmatrix}M_{11} & M_{12}\\ M_{21} & M_{22}\end{pmatrix}$. ψ_1 and ψ_2 are two-component spinors;

$\psi_2=\frac{1}{2mc}(\vec{\sigma}\vec{\pi}+M_{21}/c)\psi_1$, $\pi_\alpha=p_\alpha-\frac{e}{c}A_\alpha$; $\mathcal{H}=A+\frac{1}{2m}BB^*$, $A=e\varphi+M_{11}-\mu$, $B=\vec{\sigma}\vec{\pi}+M_{12}/c$; φ - scalar potential. Spur denotes the spatial trace of a fourth-rank matrix, Sp the trace with respect to spin indices. In the following, the effective magnetic field is determined for a cubic lattice ($D_{kl}(x_1,x_2)=\varepsilon_{kl}D(x_1,x_2)$), with the effective Hamiltonian

$$\mathcal{H}=e(\varphi+\varphi_1)-\mu+\frac{1}{2m}\left(\mathbf{p}-\frac{e}{c}\mathbf{A}-\frac{e}{c}\mathbf{A}_1\right)^2+\beta_0(\sigma,\ \mathbf{H}+\mathbf{H}_1+\varphi_2), \qquad (17)$$

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where $G_{\alpha\beta}$ is the proper Green function, satisfying

$$\nabla_x^2 G_{\alpha\beta}(x, x') = -4\pi \frac{\partial^2}{\partial x_\alpha \partial x_\beta} \delta(\mathbf{x} - \mathbf{x}') \qquad (23)$$

L. E. Gurevich is thanked for discussions. There are 6 Soviet references.

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

SUBMITTED: July 3, 1961

Card 7/7

Application of functional methods...

and from the operator formulas for the energy of the alloy and for the external field η_f. $|C_1^f|^2$ and $|C_2^f|^2$ are the probabilities that atoms of type I and type II, respectively, are found at the site f. $Z(\eta) = \mathrm{Sp}\, e^{-\beta\mathcal{H}}$ holds for the statistical sum where $E = (\Phi|\mathcal{H}|\Phi)$, and $\langle\sigma_f\rangle = \langle 1-2C_f\rangle$, $\langle\sigma_{f_1} \ldots \sigma_{f_n}\rangle = \langle\langle(1-2C_{f_1}) \ldots (1-2C_{f_n})\rangle\rangle$. β is the reciprocal temperature, and C_f is the occupation number of f by atoms of type II. From (2.7) one obtains

$$S_n(f_1, \ldots, f_n|\eta) = S^0(f_1|\Lambda)\ldots S^0(f_n|\Lambda)\cdot 1, \quad (2.13)$$

$$\Lambda_f = \eta_f - \beta g \sum_{f'} v(f-f')\left\{\frac{\partial}{\partial\eta_{f'}} + S_1(f'|\eta)\right\}. \quad (2.14)$$

As a result of interaction, the argument η is replaced by the operator Λ in the distribution function of the system without interaction. With $Z = e^{-\beta F}$ the equation

$$e^{-\beta F} = e^{-\frac{\beta g}{2}\left(\frac{\partial}{\partial\eta}\cdot\frac{\partial}{\partial\eta}\right)} e^{-\beta F_0(\eta)} = e^{-\beta F_0} e^{-\frac{\beta g}{2}\left(\frac{\partial}{\partial\eta} + S^0(\eta)\right)\cdot\left(\frac{\partial}{\partial\eta} + S^0(\eta)\right)}\cdot 1, \quad (2.15)$$

Card 2/4

Application of functional methods...

for free energy follows from (2.7) and its special case where g = 0. Here, $F_0 = -(1/\beta)\sum_f \ln 2\mathrm{ch}(\beta u + \eta_f)$ is the free energy without interaction. The expression following from (2.7) for entropy fully agrees with that obtained by combination alone. The distribution function

$$S_n(f_1, \ldots, f_n|\eta) = \frac{\sum_\lambda e^{-\beta F_\lambda} S_n^0(f_1, \ldots, f_n| - \beta g v \varphi^\lambda)}{\sum_\lambda e^{-\beta F_\lambda}}, \qquad (4,17)$$

with

$$F_\lambda = -\frac{g}{2}\sum_{f_1 f_2} v(f_1 - f_2)\varphi^\lambda_{f_1}\varphi^\lambda_{f_2} - \frac{1}{\beta}\sum_{f_1} \ln \mathrm{ch}(\beta\mu + \eta_{f_1} - \beta g \times \times \sum_{f_2} v(f_1 - f_2)\varphi^\lambda_{f_2}), \qquad (4,18)$$

for the free energy of the n-th state is obtained for the asymptotic behavior of binary alloys at $\beta g \to \infty$ (approximation of strong coupling). The present results are applicable to any system that can be described by Ising's model and also to multicomponent alloys. V. L. Bonch-Bruyevich is thanked for his interest and advice. The English-language reference is: P. C. Martin, J. Schwinger, Phys. Rev., 115, 1342, 1959.

Card 3/4

S/181/62/004/005/014/055
B125/B104

Application of functional methods...

SUBMITTED: December 15, 1961

JA

Card 4/4

BONCH-BRUYEVICH, V.L.; SURIS, R.A.

Some characteristics of current carriers in ferromagnetics. Fiz. tver.tela 4 no.2:309-316 F '62. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Ferromagnetism)

44170

S/181/62/004/012/017/052
B104/B102

AUTHORS: Maleyev, S. V., Bar'yakhtar, V. G., and Suris, R. A.

TITLE: The scattering of slow neutrons from complex magnetic structures

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3461-3470

TEXT: The elastic scattering of slow polarized neutrons is investigated for magnetic substances in which the orientation of the atomic spins changes periodically from one atom to the other (e.g. Dy, Er and others). The period of these changes depends on the lattice constant and on temperature. Starting from the representation of the neutron scattering amplitude as given by O. Halpern and M. Jonson (Phys. Rev., 55, 898, 1939), the equations

$$\sigma_{mi}^{(\pm)}(\mathbf{q}) = r_0^2 |f|^2 F^2(\mathbf{q}) \langle S^z \rangle e^{-2W} N d(\mathbf{q} \pm \mathbf{k}) (L_i^2 + M_i^2 \pm 2\mathbf{P}_0 [\mathbf{L}_i \mathbf{M}_i]), \quad (15)$$

$$\mathbf{P}_{mi}^{(\pm)}(\mathbf{q}) = \frac{2(\mathbf{L}_i \mathbf{P}_0)\mathbf{L}_i + 2(\mathbf{M}_i \mathbf{P}_0)\mathbf{M}_i - \mathbf{P}_0(L_i^2 + M_i^2) \mp 2[\mathbf{L}_i, \mathbf{M}_i]}{L_i^2 + M_i^2 \pm 2\mathbf{P}_0 [\mathbf{L}_i \mathbf{M}_i]}. \quad (16)$$

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The scattering of slow neutrons ...

are obtained for the scattering cross section and for the polarization of the scattered neutrons. Here $\vec{q}$ is the momentum transferred to the crystal by the neutron, $\vec{k}$ is the wave vector of the neutron, $\vec{L}_i = \mathrm{Re}\,\vec{N}_i$ and $\vec{M}_i = \mathrm{Im}\,\vec{N}_i$, S_l is the spin of a magnetic atom,

$$N_{0,\alpha} = a_{0,\alpha} - (a_{0,\alpha}e)\,e.$$

$$\sigma_{\alpha\beta} = a_0 + \sum_i (a_i e^{-(\vec{k}_i\vec{R}_l)} + a_i^* e^{(\vec{k}_i\vec{R}_l)}), \qquad (7),$$

$$S_i = \sigma_{\xi\xi} S_{\xi i} + \sigma_{\eta\eta} S_{\eta i} + \sigma_{\zeta\zeta} S_{\zeta i}, \qquad (6),$$

$\varepsilon_{\int 1}$ is the unit vector in the direction $\langle \vec{S}_1 \rangle$. From (16) it follows that the scattered neutrons are polarized along the vector $[\vec{L}_i \vec{M}_i]$ if the incident neutrons are unpolarized. For determining the vectors $\vec{a}_i$ and $\vec{a}_i^*$, the vectors $\vec{L}_i$ and $\vec{M}_i$ must be known for two different

Card 2/3

reflections, whereby the angle between the two vectors $\vec{g} = \vec{q}\cdot\vec{q}^{-1}$ must not be small. The determination of the vectors $\vec{L}_i$ and $\vec{M}_i$ for a fixed reflection is discussed. Finally, the scattering from the following structures are discussed: (1) Simple umbrella structure; (2) modulated umbrella structure; (3) umbrella structure with revolution; (4) slanted fence; (5) linear spin wave.

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

SUBMITTED: July 6, 1962

S/181/63/005/002/011/051
B104/B186

AUTHOR: Suris, R. A.

TITLE: Functional methods in the problem of electron motion in a solid containing point defects

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 458 - 468

TEXT: The study of electrons interacting among themselves in the lattice field of a crystal has led to the equation $\partial\tilde{Z}/\partial g = (\frac{\delta}{\delta U} V \frac{\delta}{\delta \tau})\tilde{Z}$ for the functional $\tilde{Z}$. This is the generator of the functionals for the Matsubara electron Green function and for the functions of electron distribution over the lattice sites. Solutions to the equation are derived in the form

$$Z = F\left\{\tau + V\frac{\delta}{\delta U}\right\} Z^0\left\{U + V\frac{\delta}{\delta \tau}, \tau\right\} \cdot 1 = \quad (2.13),$$

$$= F\left\{\tau + V\frac{\delta}{\delta U}\right\} Z^0(U, \tau)$$

Card 1/2

L 15511-65 ASD(a)-5/AFMD(p)/AFTC(p)
ACCESSION NR: AP4047910 S/0056/64/047/004/1427/1436

B

AUTHOR: Suris, R. A.

TITLE: Concerning phase transitions in one model system

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1964, 1427-1436

TOPIC TAGS: phase transition, statistical thermodynamics, model theory

ABSTRACT: In view of the lack of a rigorous microscopic theory of phase transitions, the author investigated one model system which can be accurately calculated, and in which a phase transition takes place; this phase transition has all the assumed characteristic features of phase transitions of real systems. This investigation is the analog of Onsager's exact solution of the problem of the phase transition in a two-dimensional Ising model. The system specifically

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considered is a multi-component classical nonlinear field that depends on one spatial coordinate. In the particular case of a two-component field, this model describes the properties of a string acted upon by an external potential. The thermodynamic characteristics of this system are evaluated and it is shown that at a certain temperature (determined by the character of the nonlinear term) the system undergoes a phase transition. The determination of the temperature behavior of this system turns out to be equivalent to the problem of the dependence of the eigenvalues of the Schrodinger operator on the coupling constant, the role of which is assumed by the inverse square of the temperature. The correlation function of the system is determined and it is shown that at the phase transition point the characteristic correlation length of the fluctuation is infinite. "In conclusion, the author thanks V. L. Bonch-Bruyevich for a valuable discussion of the work." Orig. art. has: 2 figures and 34 formulas.

L 15311-65
ACCESSION NR: AP4047910

ASSOCIATION: None

SUBMITTED: 06Apr64

SUB CODE: TD

NR REF SOV: 002

ENCL: 00

OTHER: 001

Card 3/3

SURIS, R.A.

Phase transitions in a certain model system. Zhur. eksp. i teor. fiz. 47 no.4:1427-1436 O '64. (MIRA 18:1)

L 20[illegible]-66 EWT(1)/T IJP(c) GG

ACC NR: AP6018806 SOURCE CODE: UR/0056/66/050/005/1279/1284 51 B

AUTHOR: Kogan, Sh. M.; Suris, R. A.

ORG: Institute of Radio Technology and Electronics, AN SSSR (Institut radiotekhniki i elektroniki AN SSSR)

TITLE: Resonance interaction between impurity-center electrons and lattice oscillations

SOURCE: Zh eksper i teor fiz, v. 50, no. 5, 1966, 1279-1284

TOPIC TAGS: impurity center, resonance interaction, phonon, absorption spectrum, ELECTRON

ABSTRACT: It has been shown that the interaction between the electron of an impurity center and optical oscillations in semiconductors may lead to the appearance of local optical oscillations. To separate the optical frequency, the transition energy of the electron from the ground state to an excited one must be close to the phonon energy. Optical absorption [2] by an impurity center [2] has been investigated for such

Card 1/2

ACC NR: AP6018806

a resonance interaction. It has been shown that the appearance of local optical oscillation corresponds to the appearance of an additional line in the optical absorption spectrum. Orig. art. has: 2 figures and 33 formulas. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 220ct65/ ORIG REF: 002/ OTH REF: 001/

Card 2/2 nlc

SURIS, V. G.; MILLER, S. V.; BESSONOVA, A. P. ; GLUSHKOV, L. A. ; GORLANOVA, N. M.; GOTLIB, YE. V.; SARYL', A. V. ; STONE-KARKUREV, I. M.; PILATOVA, A. S.; GRUKUS, G. D.

"Sanitary labor conditions in the electrolytic shops of aluminum plants and the essential health-protection measures."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

SURIYA, N.Ch.

Clinical method in psychiatry. Zhur.nevr. i psikh. 58 no.1:72-85 '58. (MIRA 11:2)

1. Kafedra psikhiatrii (zav. - prof. G.R.Gergriyeva) Lidskogo universiteta (Angliya)
(PSYCHIATRY, clin.methods (Rus))

HUNGARY / Microbiology. Microbes, Pathogenic to Man and Animals. General Problems. F

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19538

Author : Hegyeli, Z.; Surjan, J.
Inst : Not given
Title : Experiments in Improving the Quality of the Anti-Erysipelas Serum from Swine and the Efficiency of Its Products

Orig Pub : Magyar allatorv. lapja, 1956, 11, No 7, 232-236

Abstract : It was shown that there is no strict parallelism between the virulence and immunogenesis of the bacterial strain of erysipelas in swine. Immunogenic strains are found among the virulent as well as in the non-virulent strains. But it is necessary to determine the degree of virulence, because

Card 1/2

HUNGARY / Microbiology. Microbes, Pathogenic to Man and Animals. General Problems. F

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19538

virulent strains adapt themselves to hyper-immunization, but preliminary immunization is better to conduct with non-virulent strains. The strains A and B are equally suitable for immunization. It is necessary to avoid allergizing strains belonging more often to type A. Non-virulent, well-immunizable strains belong to type B. An economical method for obtaining the serum from swine has been developed. -- F. Gati

Card 2/2

HUNGARY

Budapest, Acta Veterinaria Academiae Scientiarum Hungaricae, Vol 12, No 3, 1962, pp 235-248.

ments conducted in 1958 that L. canicola is capable of damaging or killing advanced fetuses and susceptible new-born of the sow since her placenta is of epitheliochorial structure. Electrophoretic patterns demonstrate the immunity against L. canicola imparted to the new-born piglet in the colostrum. [Most of about two dozen references are Hungarian.]

KOJNOK, J.; SURJAN, J.

Studies on the colostral immunity of pigs in the cases of the Aujeszky's disease. Acta veter Hung 13 no.2:111-118 '63.

1. Laboratories of the "Phylaxia" State Serum Institute (Director: J. Molnar), Budapest.

day following hyperimmunization and reached a [illegible] rently, the synthesis of the antibody was not associated with an increase in any particular serum protein fraction. 6 references, including 1 German, 1 Western, and 4 Hungarian. (Manuscript received 25 Apr 1965).

1/1

SURJAN, L.

The specific treatment of ozaena. Magy. sebeszet 5 no. 1:61-65 Mar 1952. (CIML 22:4)

1. Doctor. 2. Nose, Ear, and Throat Clinic (Director -- Prof. Dr. Tibor German), Budapest Medical University.

SURJAN, Laszlone; RICHTER, Peter; RETHY, Lajos

Purification of tetanus anatoxin with trichloracetic acid method.
Kiserletes orvostud. 6 no.4:331-335 July 54.

1. Phylaxia Allami Oltoanyagtermelo Intezet.
(TETANUS
anatoxin, purification with trichloracetic acid)
(TRICHLORACETIC ACID
purification of tetanus anatoxin)

SURJAN, Laszlo, dr.

Treatment of rhinoscleroma with purified vaccine adsorbate. Orv. hetil. 95 no.51:1402-1403 19 Dec 54.

1. A Budapesti Orvostudomanyi Egyetem Ful-orr-gegeklinikajanak (igazgato: Varga Gyula dr. egyet. tanar) kozlemenye.
(RHINOSCLEROMA, ther.
vacc.)

JURJAN, Laszlo.

Sugar determination by paper iontophoresis. Kiserletes orvostud. 7 no.6:654-657 Nov 55.

1. Budapesti Orvosegyetem Orr- Gege- es Fulklinikaja.
(CARBOHYDRATES, determ.
sugars in polysaccharides by paper iontophoresis, technic (Hun))
(POLYSACCHARIDES
determ. of sugars by paper iontophoresis (Hun))

KORI, Kalman, dr.; SURJAN, Laszlo, dr.

Myoclonus of the soft palate with objective tinnitus.
Orv. hetil. 96 no.17:473-474 24 Apr 55.

1. A Budapesti Orvostudomanyi Ideg- es Elmeklinikajanak (igazgato: Nyiro, Gyula dr. egyet. tanar) es Orr-ful-gegeklinikajanak (igazgato: Varga, Gyula dr. Egyet. tanar) kozlemenye.

(MYOCLONUS,
palate, with objective tinnitus.)
(PALATE, diseases,
myoclonus with objective tinnitus.)
(TINNITUS,
objective, with myoclonus of soft palate.)

EXCERPTA MEDICA Sec.11 Vol.10/5 Oto-Rhino-Laryngo May57

SURJAN L.

1082. SURJÁN L. Otorhinolaryngol. Clin., Budapest Univ. *Paper electrophoresis in oto-laryngological investigations ACTA OTO-LARYNG. (Stockh.) 1956, 46/6 (542-546) Graphs 1 Tables 4

The protein composition of the blood serum in 80 patients with ear, nose and throat diseases was examined with paper electrophoresis in an apparatus constructed at the clinic. The results were compared with those of 20 normal persons. Veronal buffer solution was used (ionic strength = 0.05 and pH 8.6). The time of the separation of protein fractions was 6 hr. In cases of peritonsillar abscess, furuncle of the nose and abscess of the larynx, the most conspicuous fact is the considerable increase of γ-globulin. In cases of maxillary sinusitis and nasal polyps there was a slight growth of the α_1- and β-globulins, and a moderate increase of the γ-globulin. Acute otitis media and mastoiditis are accompanied by a strong α_2-globulin increase. At the beginning of meningitis the growth of α_2-globulin is strong and that of β- and γ-globulins is moderate. Parallel with the healing the normal protein composition will gradually reappear. In cancer of the larynx a medium increase of α_2- and β-globulins was observed, in recrudescent tumours γ-globulin will increase. Electrophoresis shows the qualitative structure of the blood serum. In the field of oto-laryngology it constitutes a valuable help for practical and experimental work alike.

SURJAN, Laszlo, Dr.

Alleviation of deteriorated hearing caused by chronic otitis media; tympanoplasty. Ful orr gegegyogy 4 no.2:64-69 June 58.

1. Az Orvostovabbkepzo Intezet Ful-orr-gegeosztalyanak (Osztalyvezeto: Surjan Laszlo dr.) kozlemenye.

(OTITIS MEDIA, surg.
tympanoplasty, technics & results (Hun))

SURJAN, Laszlo, dr.

Organization and tasks of audiologic stations. Nepegeszsegugy 42 no.5: 150-152 My '61.

1. Kozlemeny az Orvostovabbkepzo Intezet ful-, orr,-gegeszeti osztalyarol.

(HEARING)

SURJAN, Laszlone, dr.; NYIRES, Gaborne, dr.

Micromethod for the detection of protein-like substances (toxcids, hormones, antibiotics) and their antigens. Orv. Hetil.105 no.23:1081-1083 Je 7 '64.

1. Orszagos Kozegeszaegugyi Intezet.

NYERGES, Gabor, dr.; NYERGES, Gaborne, dr.; SURJAN, Laszlone, dr.; BUDAI, Jozsef, dr.; CSAPO, Jozsef, dr.

A quick test for the indications for diphtheria antitoxin in clinical practice. Orv. hetil. 104 no.51:2418-2423 22 D '63.

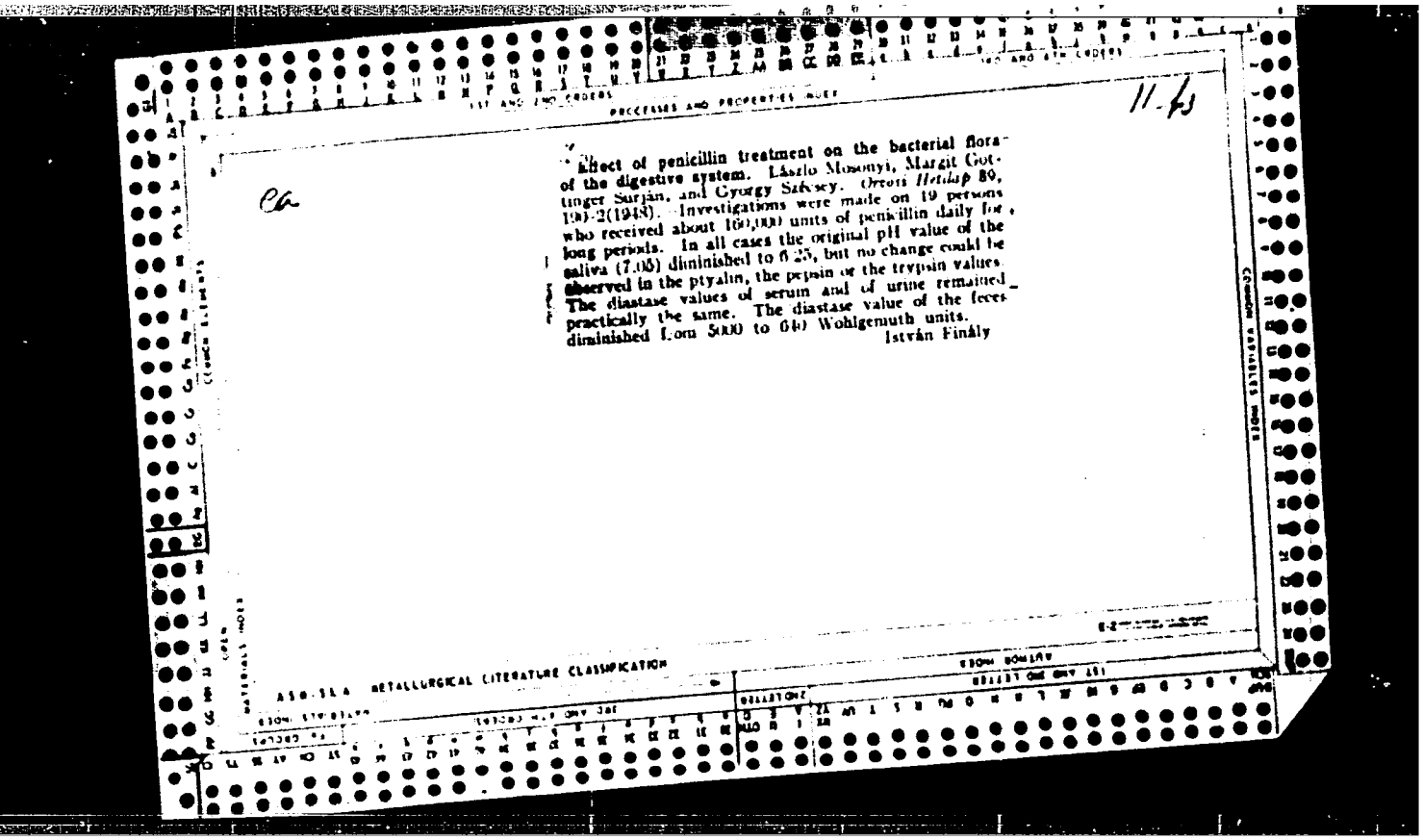
1. Fovarosi Laszlo Korhaz, I Gyermekosztaly es Orszagos Kozegeszsegugyi Intezet, Oltovanyagellenorzo Osztaly.

(DIPHTHERIA ANTITOXIN) (DIPHTHERIA)
(TONSILLITIS) (DIAGNOSIS, DIFFERENTIAL)
(BACTERIOLOGICAL TECHNICS)
(HEMAGGLUTINATION INHIBITION TESTS)

ROSONYI L., GELLATT K., SURJANNS M. and GOTTINGER M. Second Med. Clin. University, Budapest. A penicillinkivalasztas csokkentese hippursavsynthesist fokozo diaetaval Diminution of the excretion of penicillin by a diet increasing the synthesis of hippuric acid Orvosok Lapja 1947, 3/23 (772-775) Tables 5

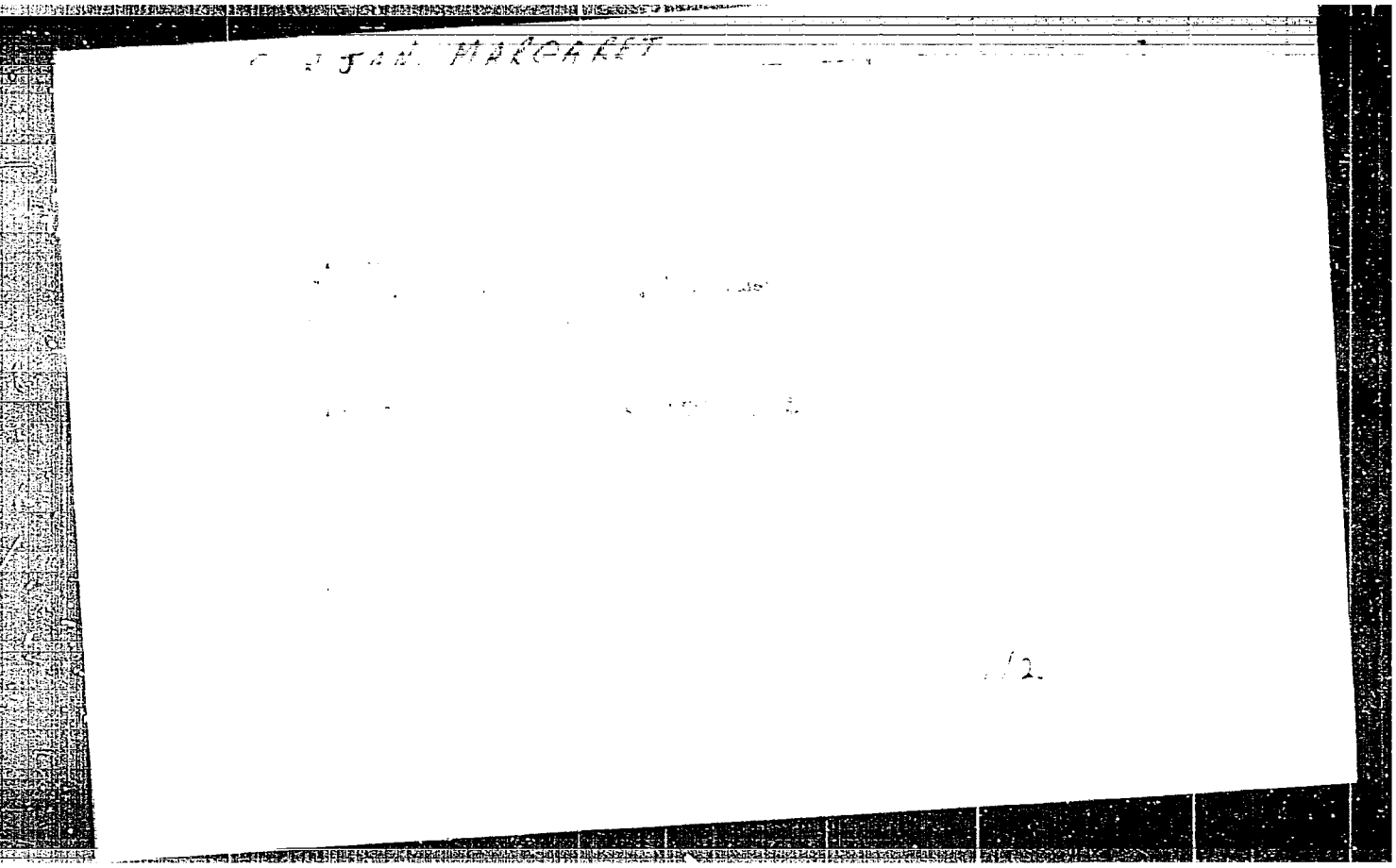
By a diet rich in vegetable proteins, mainly oatflake, a lasting increase in the hippuric acid synthesis of the organism and in the hippuric acid content of the urine was obtained. Penicillin excretion was so delayed by the increased hippuric acid level that as late as six hours after intramuscular injection of 60,000 O.U., an effective concentration was still found in the serum. Although the serum level of penicillin does not increase substantially where there is an increased hippuric acid content of blood and urine, the slower excretion allows the number of injections to be reduced. In kidney diseases the delayed excretion of penicillin seems to be parallel with the endogenous hippuric acid synthesis. Braun-Budapest (Sec. VI)

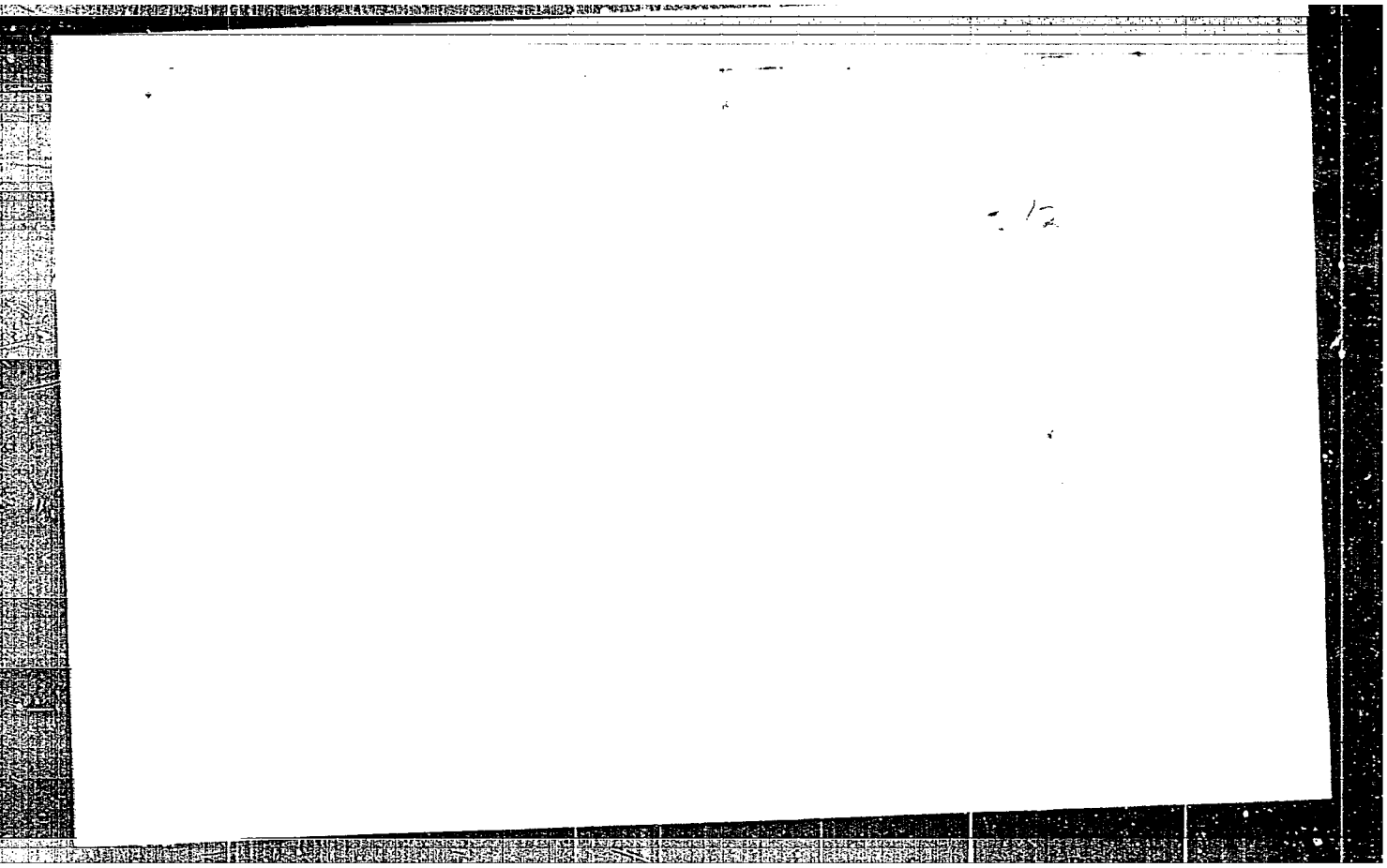
So: Physiology, Biochemistry and Pharmacology, Section II, Vol. I, #1-6



Effect of penicillin treatment on the bacterial flora of the digestive system. László Mosonyi, Margit Gottinger Surján, and György Szécsey. *Orvosi Hetilap* 89, 191-2(1948). Investigations were made on 19 persons who received about 100,000 units of penicillin daily for long periods. In all cases the original pH value of the saliva (7.05) diminished to 6.25, but no change could be observed in the ptyalin, the pepsin or the trypsin values. The diastase values of serum and of urine remained practically the same. The diastase value of the feces diminished from 5000 to 640 Wohlgemuth units.
István Finály

Purification of diphtheria and tetanus toxoids by trichloroacetic acid. I. Purification of diphtheria toxoid. M. Surján and P. Richter (Hung. Inst. Prod. Research Serobact., Budapest). *Acta Microbiol. Acad. Sci. Hung.* 1, 337–44(1951) (in English).—The CCl_3COOH method of Boivin and Izard for purification of the diphtheria toxoid (rather than the toxin) is developed for large-scale production (100 l. per day in one lab. size Sharples centrifuge) with a 80% yield and a purity of 300 and 550 Lf per mg. of N, resp. The toxoid was pptd. at pH 4 and immediately centrifuged. The mean flocculation time tallied with that of the crude toxoid, provided the coned. material was dil. with 0.85% NaCl. II. Purification of tetanus toxoid. M. Surján, P. Richter, and L. Rethy. *Ibid.*; 344–8; cf. Jacobs and Behan, *C.A.* 44, 10129d; Amoureux and Yeu, *Ann. Inst. Pasteur* 79, 913(1950).—Tetanus toxoid production on Taylor broth was purified with single pptn. by trichloroacetic acid at pH 3, resulting in a purity of 230–940 Lf per mg. of N, with a 67 to 100% yield. The purified tetanus toxoid ppts. prepd. do not sensitize against native serums; they give rise to an antitoxic titer of 2 to 8 units/ml. and are said to be suitable for the pptn. of combined antigens. G. Cornish





NYERGES,G.; NYERGES, Georgette; SURJAN, Margaret; RUDAI,J.; CSAPO,J.

A method for the rapid determination of diphtheria antitoxin in clinical practice. Acta paediat. acad. sci. Hung. 4 no.3: 399-409 '63

1. First Section of Paediatrics (head: prof. J. Csapo) Municipal Laszlo Hospital, and Vaccine Control Department (head: dr.L.Erdos) State Institute of Hygiene, Budapest.

83400

Z/037/60/000/005/056/056
E192/E382

Control of the Magnetic-field Strength of an Electromagnet by the Signal of Nuclear Magnetic Resonance

ASSOCIATION: Prírodovedecká fakulta Univerzity Komenského, Bratislava (Natural Science Faculty of Komenský University, Bratislava)

Card 2/2

Z/045/63/000/001/003/003
E024/E309

AUTHORS: Lampert, Miloš, Šranko, Silvester, Šurka, Štefan and Tirpák, Andrej

TITLE: Measurement of relaxation times by the spin-echo method

PERIODICAL: Matematicko-fyzikálny časopis, no. 1, 1963, 80 - 95

TEXT: A short theoretical analysis of the spin-echo effect is given and a nuclear spin-echo spectrometer developed by the authors is described. This spectrometer, adapted for the Hahn (A) and Carr-Purcell (B) methods in the frequency range of 13 to 17 Mc/s, enables the measurement of longitudinal (T_1) and transverse (T_2) relaxation times in the range 5×10^{-4} to 10^{-1} sec with an accuracy of less than 10%. A detailed description of the apparatus is given (Fig. 4.). The square pulse generator supplies pairs of pulses for method A (E.L. Hahn - Phys. Rev. 80, 1950, 580) or a series of pulses for method B (Carr, Purcell, Phys. Rev. 94, 1954, 630). The width of the pulses varies between 10 μs and 0.01 sec. The time between pulses can be adjusted between 7 μs and 0.4 sec, and the time between series of pulses is

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Z/045/63/000/001/003/003
E024/E309

Measurement of ....

adjustable from 0.1 μs to approximately 20 sec. The amplitude of the pulses is 10 V. The triggered HF generator can be tuned between 13 and 17 Mc/s. The maximum volume of samples which can be inserted into the instrument is 0.6 c.c. The HF receiver has a bandwidth of 0.3 Mc/s and a sensitivity of about 1 μV for a signal-to-noise ratio of unity. The magnetic field is obtained from an electromagnet with pole pieces 10 cm in diameter and about 3 cm apart. The required fields vary between 3050 and 3990 gauss. The current is obtained from NiFe batteries. To verify the performance of the instrument, the longitudinal (T_1) and transverse (T_2) relaxation times of aquecus solutions of $CuSO_4$ and of $K_3Cr(SCN)_6$ were measured as functions of the concentration. The measurements on $CuSO_4$ are in good agreement with those obtained by Pfeifer (Ann. Phys., 20, 1957, 322). The variation in the relaxation time in the $K_3Cr(SCN)_6$ aqueous solution is due to hydration. The measurements were carried out at 18 °C. Relaxation times between 5×10^{-4} and 10^{-1} sec could be measured with an error less than 10%. There are 10 figures.

Card 2/3

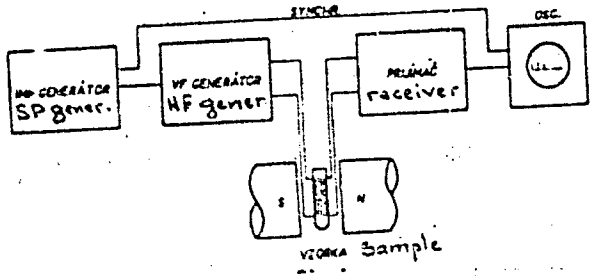
Z/045/65/000/001/003/003
E024/E309

Measurement of ....

ASSOCIATION: Katedra experimentálnej fyziky Prirodovedeckej fakulty Univerzity Komenskeho v Bratislave (Department of Experimental Physics, Komensky University, Bratislava)

SUBMITTED: August 10, 1962

Fig. 4:



Card 3/3

GERASIMOV, A.L.; SURKIN, A.S.

Gas supply for standard apartments. Gaz.prom.no.10:24-25 O '56.
(Gas distribution) (MLRA 9:10)

SURKIN, D.P.; POPOVA, T.K.

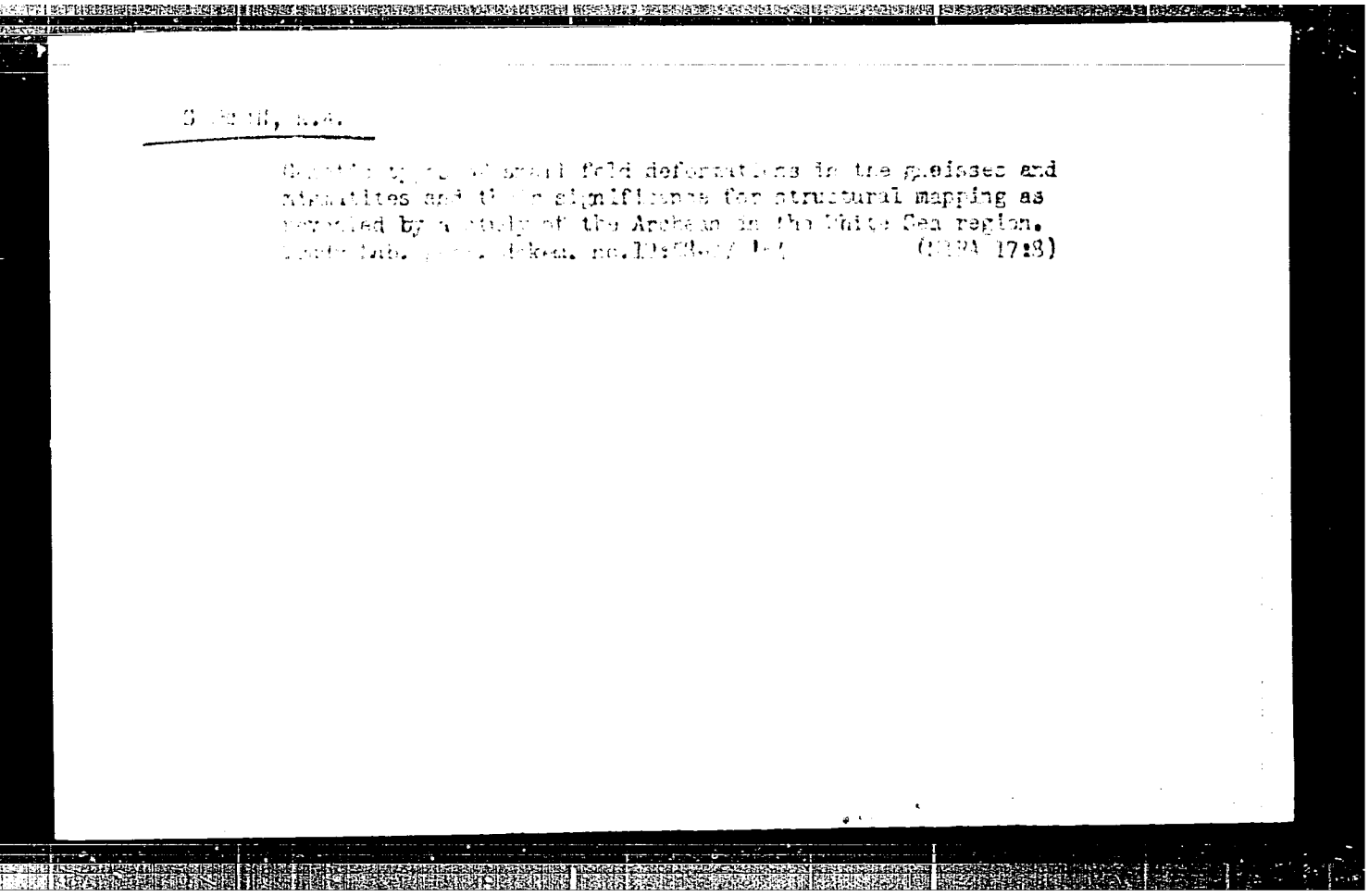
Effectiveness of treating chronic tonsillitis with menthol-penicillin oil inhalation. Pediatriia no.5:63-65 S-O '53. (MLRA 6:12)

1. Iz Tsentral'nogo detskogo klinicheskogo sanatoriya "Boyarka".
(Tonsils--Diseases) (Inhalation (Therapeutics))
(Penicillin)

SUHKIN, D.P. (St.Boyarka Kiyevskoy oblasti)

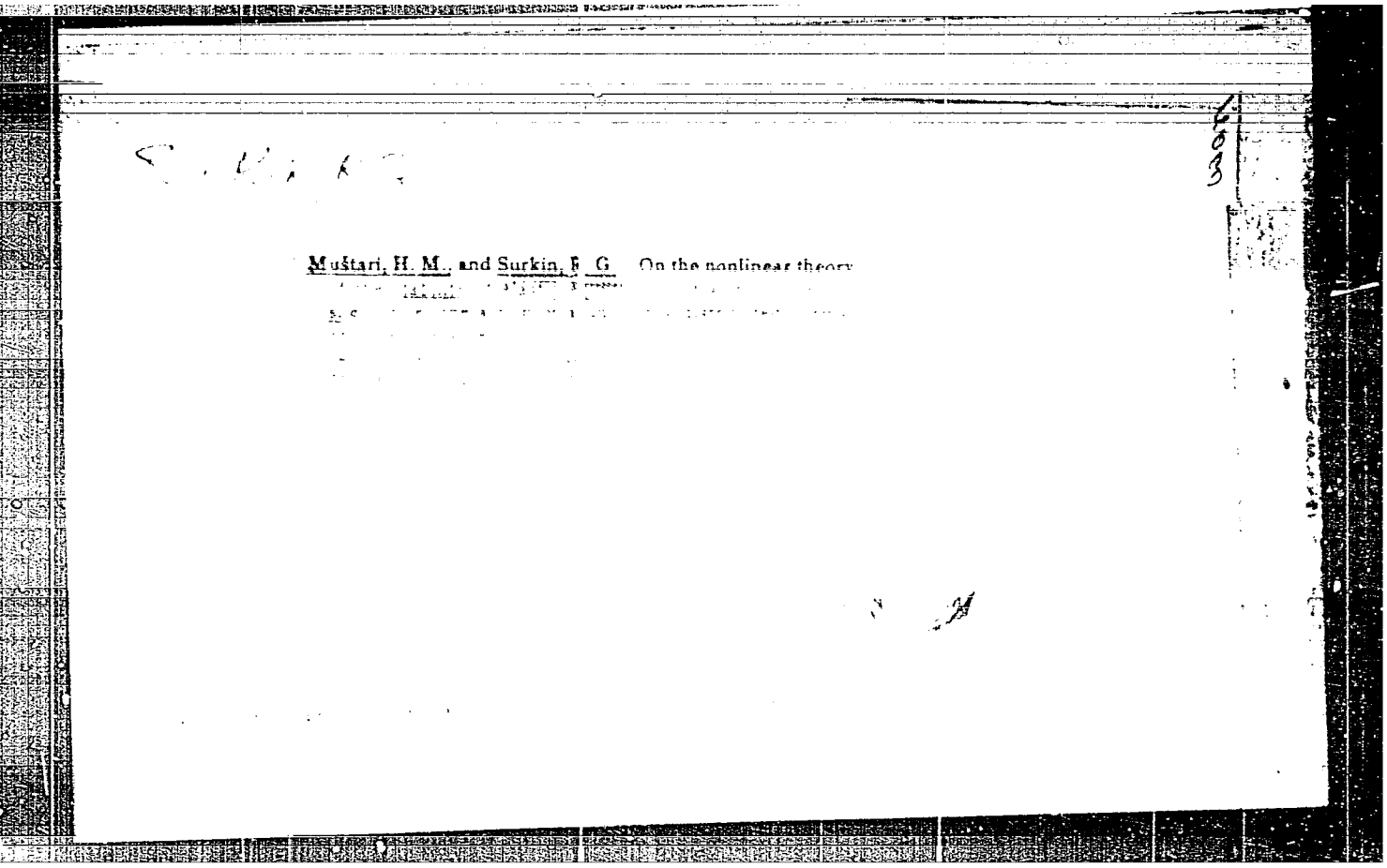
Chronic maxillary sinusitis in children. Vest.oto-rin. 16 no.5:25-27 S-O '54. (MLRA 7:12)

(SINUSITIS, in infant and child, maxillary)



S[illegible], A.A.

[illegible] types of small fold deformations in the gneisses and migmatites and their significance for structural mapping as revealed by a study of the Archean in the White Sea region. [illegible] (RZhA 1958)



Muštari, H. M., and Surkin, F. G. On the nonlinear theory

124-57-1-860

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 114 (USSR)

AUTHOR: Surkin, R.G.

TITLE: To the Theory of the Stability of an Elongated Ellipsoidal Shell of Revolution Under the Effect of a Uniform External Pressure (K teorii ustoychivosti vytyanutoy ellipsoidal'noy obolochki vrashcheniya pri vneshnem ravnomernom davlenii)

PERIODICAL: Izv. Kazansk. fil. AN SSSR, ser. fiz.-matem. i tekhn. n., 1955, Nr 7, pp 3-15

ABSTRACT: A study of the overall effect of a local instability on a thin closed shell shaped like an ellipsoid of revolution and subjected to the action of a uniformly distributed external pressure. The displacements u, v, and w of the points of the mean surface of the shell are given with the help of expressions containing hyperbolic functions; the stresses, as well as the displacements, disappear at the boundary of the failure area. The principal radii of curvature of the mean surface are considered constant in that area which, it is assumed, is of elliptical shape. The total energy of the system is evaluated. Also obtained are: 1) the pressure p_M at which the energy levels of the initial and the

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124-57-1-860

To the Theory of the Stability of an Elongated Ellipsoidal Shell (cont.)

deflected state of the shell are equal; 2) the lower critical pressure p_k, which corresponds to the parabolic point on the energy-flexure diagram. These quantities are compared with the upper critical pressure, determined by the linear theory.

A.S. Vol'mir

1. Bodies of revolution--Stability--Theory 2. Hyperbolic functions--Applications 3. Ellipsoidal shells--Theory

Card 2/2

SOV/124-58-3-3161

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 89 (USSR)

AUTHOR: Surkin, R. G.

TITLE: On the Question of the Collapse of a Spherical Shell Under Uniformly distributed Outside Pressure (K voprosu o potere ustoychivosti sfericheskoy obolochki pri vneshnem ravnomerno raspredelennom davlenii)

PERIODICAL: Izv. Kazansk. fil. AN SSSR, ser. fiz.-matem. i tekhn. n., 1956 Nr 10, pp 51-56

ABSTRACT: The author has found, by Bubnov-Galerkin's method, the approximate quantity of the minimum value of outside pressure with which it is possible to achieve a form of equilibrium of a shell that is different from the initial spherical form. A comparison is given of the value obtained for the critical pressure with the value of the critical pressure obtained by R. G. Surkin using the Ritz-Timoshenko method (1952). A reference is made to the results of the preliminary experiments made by R. G. Surkin on the stability of spherical segments under the action of outside pressure.

L. I. Balabukh

Card 1/1

MUSHTARI, KH.M., doktor fiziko-matematicheskikh nauk, professor; GALIMOV, K.Z.; SURKIN, R.G., kandidat tekhnicheskikh nauk, otvetstvennyy redaktor; VOZDVIZHENSKAYA, M.Kh., redaktor; NEDEL'KO, G.N., tekhnicheskiy redaktor; SALIKHOVA, A.S., tekhnicheskiy redaktor

[Nonlinear theory of elastic shells] Nelineinaia teoriia uprugikh obolochek. Kazan', Tatknigoizdat, 1957. 430 p. (MLRA 10:4)
(Plastic plates and shells)

ZUYEV, B.M.; SURKIN, R.G., kand. tekhn. nauk, otv. red.;
SHARAFUTDINOVA, M.Z., tekhn. red.

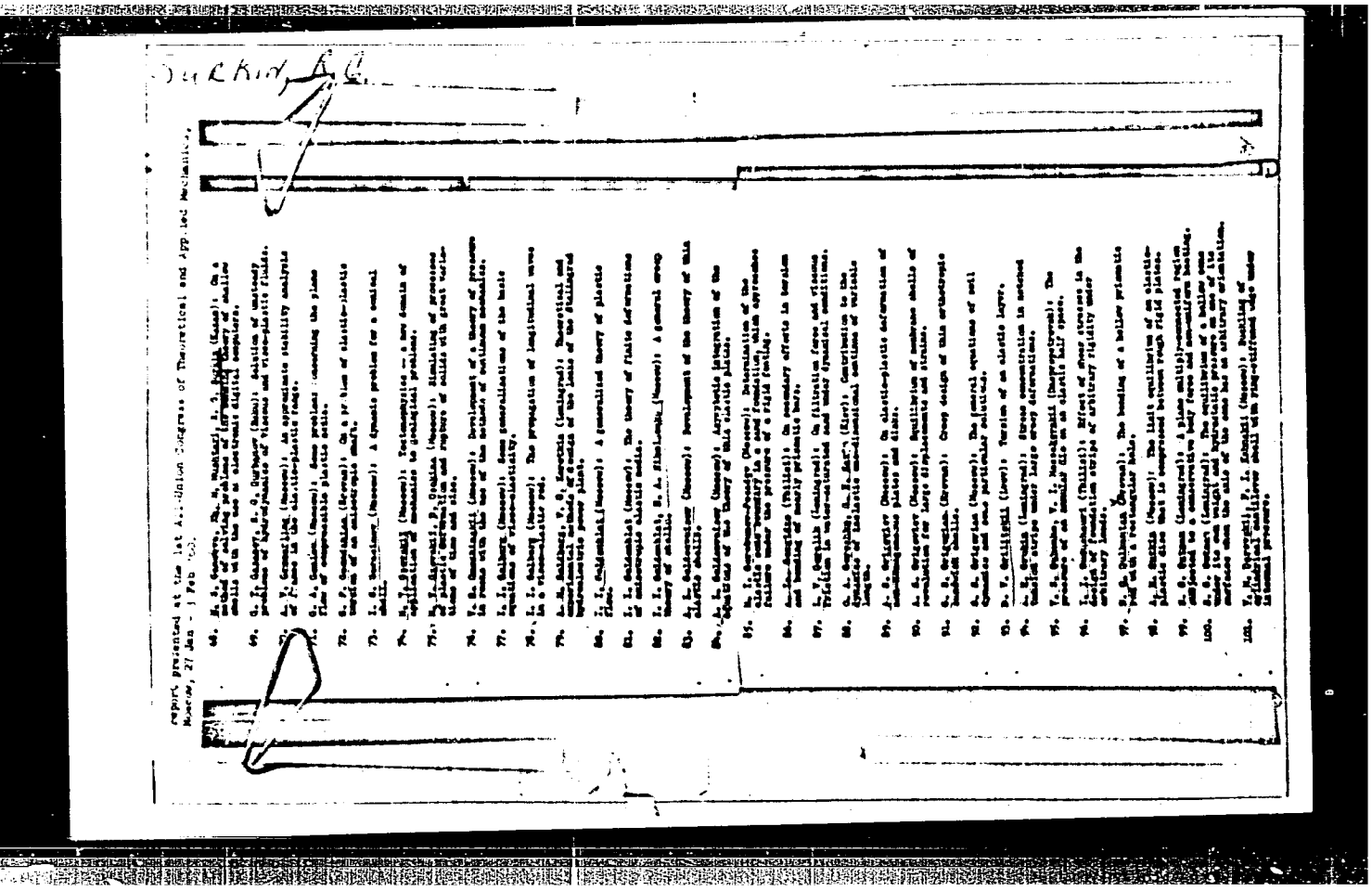
[Some problems arising in the study of stresses by the optical method using three-dimensional models]. Nekotorye voprosy issledovaniia napriazhenii na ob"emnykh modeliakh opticheskim metodom. Kazan, 1959. 22 p. (Akademiia nauk SSSR. Kazanskii filial. Seriia fiziko-matematicheskikh i tekhnicheskikh nauk. Trudy, no.2). (MIRA 16:4)

(Strains and stresses) (Photoelasticity)

MUSHTARI, Kh.M., red.; ALUMAE, N.A., red.; BOLOTIN, V.V., red.; VOL'MIR, A.S., red.; GANIYEV, N.S., red.; GOL'DENVEYZER, A.L., red.; ISANBAYEVA, F.S., red.; KIL'CHEVSKIY, N.A., red.; KORNISHIN, M.S., red.; LUR'YE, A.I., red.; SAVIN, G.N., red.; SACHENKOV, A.V., red.; SVIRSKIY, I.V., red.; SURKIN, R.G., red.; FILIPPOV, A.P., red.; ALEKSAGIN, V.I., red.; SEMENOV, Yu.P., tekhn. red.

[Proceedings of the Conference on the Theory of Plates and Shells] Trudy Konferentsii po teorii plastin i obolochek, Kazan', 1960. Kazan', Akad. nauk SSSR, Kazanskii filial, 1960. 426 p. (MIRA 15:7)

1. Konferentsiya po teorii plastin i obolochek, Kazan', 1960. 2. Moskovskiy energeticheskiy institut (for Bolotin). 3. Kazanskiy khimiko-tekhnologicheskiy institut (for Ganiyev). 4. Institut mekhaniki Akademii nauk USSR (for Kil'chevskiy). 5. Kazanskiy gosudarstvennyy universitet (for Sachenkov). 6. Kazanskiy filial Akademii nauk SSSR (for Svirskiy). (Elastic plates and shells)



24 4186

20384 S/124/61/000/008/035/042
A001/A101

AUTHORS: Mushtari, Kh. M., Surkin, R. G.

TITLE: The average bending of a sloping spherical panel, square in plane, at nonlinear stress-strain relation

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 8, 1961, 7, abstract 8V49 ("Zh. prikl. mekhan. i tekhn. fiz.", 1960, no. 2, 162-165)

TEXT: The problem whose content is described in the title is solved. The stress-strain relation is assumed in the form:

$$\sigma_i = E_0 e_i (1 - \gamma e_i^2),$$

where γ is a certain constant. The equations derived become a somewhat more complicated in comparison with conventional equations for large deflections of panels. The subsequent solution is carried out according to Bubnov-Galerkin's method. Cumbersome arithmetical operations are transferred to a "Strela" computer. The degree of effect of physical non-linearity on the magnitude of arising stresses is numerically estimated.

[Abstracter's note: Complete translation]

F. Feodos'yev

Card 1/1

MUSHTARI, Kh.M.; SUKKIN, R.G.

Transverse flecture of a supported square plate assuming a [illegible] bar [illegible]

Sof. fiz.-mat. i tekh. nauk no.14:23-33 (MIRA 14:11)
(Stress and strains
(Elastic plates and shells)

BOROVSKIY, P. V.

PHASE I BOOK EXPLOITATION SOV/6206

Konferentsiya po teorii plastin i obolochek. Kazan', 1960.

Trudy Konferentsii po teorii plastin i obolochek, 24-29 oktyabrya 1960. (Transactions of the Conference on the Theory of Plates and Shells Held in Kazan', 24 to 29 October 1960). Kazan', [Izd-vo Kazanskogo gosudarstvennogo universiteta] 1961. 426 p. 1000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Kazanskiy filial. Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina.

Editorial Board: Kh. M. Mushtari, Editor; F. S. Isanbayeva, Secretary; N. A. Alumyae, V. V. Bolotin, A. S. Vol'mir, N. S. Ganiyev, A. L. Gol'denveyzer, N. A. Kil'chevskiy, M. S. Kornishin, A. I. Lur'ye, O. N. Savin, A. V. Sachenkov, I. V. Svirskiy, R. G. Surkin, and A. P. Filippov. Ed.: V. I. Aleksagin; Tech. Ed.: Yu. P. Semenov.

PURPOSE: The collection of articles is intended for scientists and engineers who are interested in the analysis of strength and stability of shells.

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COVERAGE: The book is a collection of articles delivered at the Conference on Plates and Shells held in Kazan' from 24 to 29 October 1960. The articles deal with the mathematical theory of plates and shells and its application to the solution, in both linear and nonlinear formulations, of problems of bending, static and dynamic stability, and vibration of regular and sandwich plates and shells of various shapes under various loadings in the elastic and plastic regions. Analysis is made of the behavior of plates and shells in fluids, and the effect of creep of the material is considered. A number of papers discuss problems associated with the development of effective mathematical methods for solving problems in the theory of shells. Some of the reports propose algorithms for the solution of problems with the aid of electronic computers. A total of one hundred reports and notes were presented and discussed during the conference. The reports are arranged alphabetically (Russian) by the author's name.

S/198/61/007/001/008/008
D205/D305

AUTHOR: Surkin, R.H.

TITLE: A conference on plates and shells in Kazan

PERIODICAL: Prykladna mekhanika, v. 7, no. 1, 1961, 113 - 114

TEXT: The article is a report on the conference held in Kazan from October 24-29, 1960 which was organized by the Kazan branch of the AS USSR, and the State University of Kazan imeni V.I. Ul'yanov (Lenin) in accordance with the resolution of the Scientific Council of the AS USSR on the problem "Scientific Basis of Strength and Plasticity". More than 250 persons took part in the Conference, 172 being from Kazan, and the rest from various parts of the Soviet Union. The participants included: H.M. Savin (Academician, AS UkrSSR), A.D. Kovalenko (Corresponding Member, AS Ukr SSR) and A.P. Filippov (Corresponding-Member, AS Estonian SSR), O. A. Umanskyy (Honored Worker in Science and Technology RSFSR), Professors Kh.M. Mushtari, Yu.H. Odynokov (Kazan), S.O. Alekseyevev, V.

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