

Acc. Nr: AP0046228

Ref. Code: UR0646

PRIMARY SOURCE: Teoreticheskaya i Matematicheskaya Fizika, 1970,
Vol 2, Nr 2, pp 244-253

THE SELF-CONSISTENT FIELD NEAR THE CRITICAL POINT
IN THE ANTIFERROMAGNETIC ISING MODEL

V. Ya. Krivnov, O. A. Olkhov, B. N. Provotorov,
M. Ye. Sarychev

From the physical considerations the class of diagrams is found which determine the thermodynamic behaviour of the antiferromagnetic and ferromagnetic Ising models for $T < T_k$ (T_k being the critical temperature) in the case of interaction of the nearest neighbours. By means of summation of these diagrams the type of a singularity is found for the antiferromagnetic susceptibility and in the ferromagnetic case — for the polarisation, susceptibility and specific heat. In the ferromagnetic case the region of the critical behaviour is determined ($z^{-2} < \frac{T_k - T}{T_k} < z^{-1}$, z being the number of the nearest neighbours). The reconstruction of the series of diagrams is carried out, which makes it

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19781344

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possible correct evaluation of the critical temperature. The summation of diagrams leads to a transcendent equation and concrete results are obtained by means of its numerical solution. The calculations of the critical behaviour in the present method are less voluminous than if the high- and low-temperature expansions are exploited. The results obtained are in a good accordance with the experimental data and with the results of the numerical methods.

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19781345

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UDC 599.32:591.111.05+619.981.452

SHERSHNEV, P. A. (Deceased) and OL'KOVA, N. V., Irkutsk Scientific Research Antiplague Institute of Siberia and the Far East

"Some Biochemical Characteristics of Blood Serum in Animals Differing in Sensitivity to Plague"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 132-135

Abstract: Ten rodent species (guinea pig, white mouse, field mouse, white rat, gray rat, Altay marmot, long-tailed suslik, rabbit, Mongolian pika, and Daurian pika) were examined to determine whether their degree of susceptibility to plague is a function of the total protein, beta and gamma globulins, and calcium content of serum. The content of total proteins and especially the globulin fractions were higher in the more resistant species (rabbit, white rat, gray rat) than in the highly sensitive ones (guinea pig, white mouse, long-tailed suslik), but the pattern was not absolute because the differences in sensitivity were not always significant and some species were exceptions. For example, the indices for the Mongolian and Daurian pikas, which belong to the same order and family, were lower than those of the Rodentia and even those of the rabbits which are of the same order but different family. However, the content of globulins

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USSR

SHERSHNEV, P. A. (Deceased) and OL'KOVA, N. V., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 132-135

was higher in the relatively resistant Daurian pika than in the highly susceptible Mongolian pika. No correlation was noted between the amount of calcium in the serum of the different species and their sensitivity to plague.

2/2

- 15 -

FILE--PRODUCTION OF A NEW ANTIBIOTIC, CHALCIDIN BY MICROMONOSPORA CHALCEA

AUTHOR--(051)-GAUZE, G.F., BRAZHNIKOVA, M.G., SHORIN, V.A., MAKSIMOVA, T.S.,
CHUKHEVATOVA, D.L.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 483-486

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANTIBIOTIC, SOIL BACTERIOLOGY,
MICE/101CHALCIDIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

COPIES REEL/FRAME--2000/1830

STEP NO--UR/0297/70/015/006/0483/0486

ARC ACCESSION NO--APO125441

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

72 014
RC ACCESSION NO--A0125441
STRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SCREENING PROGRAM FOR NEW
ANTIBIOTICS A STRAIN DESIGNATED AS MICROMONOSPORA CHALCEA 845 WAS
ISOLATED FROM A SOIL SAMPLE TAKEN IN A DISTRICT NEAR MOSCOW. A NEW
ANTIBIOTIC OF POLYPEPTIDE NATURE NAMED CHALCIDIN WAS ISOLATED FROM THE
CULTURE FLUID OF THE STRAIN. CHALCIDIN HAD A SLIGHT CHEMOTHERAPEUTIC
EFFECT WITH RESPECT TO STAPHYLOCOCCAL INFECTIONS IN EXPERIMENTS ON MICE.
FACILITY: INSTITUTE FOR NEW ANTIBIOTICS, ACADEMY OF MEDICAL
SCIENCES OF THE USSR, MOSCOW,

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POTENTIOMETRIC DETERMINATION OF GOLD, III, -U-
AUTHOR-(02)-OLKHOVICH, P.F., PILIPENKO, A.T.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(4), 388-90
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GOLD, POTENTIOMETRIC TITRATION, PLATINUM ELECTRODE,
FERRICYANIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0876 STEP NO--UR/0073/70/036/004/0388/0390
CIRC ACCESSION NO--AP0137904
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AU(III) CAN BE DETD. BY POTENTIOMETRIC TITRN. BY USING A PT ELECTRODE AND SCE AND A WORKING REAGENT OBTAINED BY 1:5 DILN. OF A SOLN. OCNTG. 14.08 G K SUB4 FE(CN) SUB6 AND 0.2 G NA SUB2 CO SUB3-L. THE EMPIRICALLY DETD. FACTOR CONNECTING AU TO FE(CN) SUB6 PRIME14 IS 2.14:1, THE REACTION IS BELEIVED TO APPROX. 6 NAAUCL SUB4 PLUS 13 K SUB4(FE(CN) SUB6) YIELDS 6 NAAU(CN) SUB2 KFE)FE(CN) SUB6) PLUS 9 K SUB3 (FE(CN) SUB6) PLUS FE(FE(CN) SUB6) PLUS 24 KCL. PT, RH, RU, MN, CU, SN, SE, AND TE DO NOT INTERFERE; IR, PD, FE, OS, PB, ZN, AND CD DO. FACILITY: INST. OBSHCH. NEORG. KHIM., USSR.

UNCLASSIFIED

Acc. Nr:

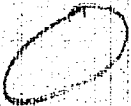
AP0052421

Abstracting Service:

CHEMICAL ABST. 570

Ref. Code:

4R 0460



101322y Tensometric study of the final stages of polymerization. ~~Ol'khovik, O. E.; Sergeev, L. V. (Leningrad, Tekhnol. Inst. Kholod. Prom., Leningrad, USSR). Vysokomol. Soedin., Ser. B 1970, 12(1), 60-1 (Russ).~~ The polymn. kinetics of a compn. contg. epoxy resin ED-5, polyethylene polyamine, tricresyl phosphate, and marshalit was studied by wire tensometry. The tensometers measured relative deformation within $\pm 0.5 \times 10^{-3}$ and thus offered a means to control the polymn. from the gel formation point to the final stages of hardening. The shrinkage of the polymer was incomplete even after 5000 hr at 20°. The linear expansion coeff. of the hardened resin was detd. from dilatometric curves of temp. vs. shrinkage. CKJR

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UDC 621.791:62-784.5:621.78.062.3:669.295

GORSHKOV, A. I., and MATYUSHKIN, B. A., Candidates of Engineering Sciences;
OL'KHOVIK, R. G., AFANAS'YEV, P. S. (deceased), and BEKRENEVA, YE. V.,
Engineers

"Some Problems of Welding Alloy VT20 in a Controlled Atmosphere"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 73, pp 20-22

Abstract: The mechanical properties of weld joints and the effect of the protective atmosphere on the gas content in the seam metal during manual welding in a chamber with a controlled atmosphere were investigated in this work. Alloy VT20 sheet, 1-5 mm thick, was used in which the alloying element content and impurity content were found in the following limits (in %): 5.7-6.4 Al, 0.8-1.2 Mo, 0.55-1.22 V, 1.9-2.4 Zr, 0.005-0.01 H₂, 0.07-0.1 O₂, and 0.02-0.03 N₂. Welding rods VT20-2sv of the Ti-Al-Zr-Mo-V system and SPT-2 of the Ti-Al-Zr-V system with a diameter of 2.5 mm were used which had the following chemical composition: VT20-2sv -- 3.98 Al, 2 Zr, 0.83 Mo, 0.91 V, 0.0015 H₂, 0.11 O₂ and 0.02 N₂; SPT-2 -- 4.74 Al, 1.35 Zr, 1.92 V, 0.004 H₂, 0.07 O₂ and 0.04 N₂. It was determined that weld joints of alloy VT20 made by automatic and manual welding are close to the base metal in strength and
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GORSHEKOV, A. I., et al, Svarochnoye Proizvodstvo, No 3, Mar 73, pp 20-22

surpass the base metal in impact strength and bend angle. Weld joints 3-5 mm thick made by manual and automatic welding with welding rods VT20-2sv and SPT-2 have a tensile strength equal to 90% of the base metal strength and an impact strength 1.6-2 kgm/cm^2 higher than the base metal impact strength. When welding in chambers without an auxiliary system of argon purification the values of partial oxygen and nitrogen pressures exceed equilibrium values so that there is an additional increase in the oxygen and nitrogen content in the seam metal and a decrease of hydrogen content. 2 figures, 4 tables.

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OL'KHVIRKOVA, T.I.

SPKS 59208

C-73

XI-10. EFFECT OF THE GROWTH CONDITIONS ON THE PERFECTION OF CAP CRYSTALS

Article by T. I. Ol'khovikova, A. P. Izraelin, V. V. Hristov, P. K. Nushkinov; Novosibirsk, III Sibirskii nauchno-issledovatel'skii tsentr polimerov i sinteza kristallov i vlakna, Ruz'skii, 12-17 June 1972, p. 15.

The methods of x-ray diffraction (Borner and Lang) were used to perform a systematic study of the degree of perfection of single gallium phosphide crystals obtained by drawing from a melt by the Verchval'ski method. It was demonstrated that the well-oriented CAP crystals obtained from the flux layer have, as a rule, high dislocation density. In addition, there are impurity growth and stream bands in them frequently leading to cracking of the bar.

In this paper the problems of improving the technological process of obtaining single crystals are discussed, and results are presented from a study of the structure of the defects in them.

USSR

UDC: 620.193.2

ROZENFEL'D, I. L., LOMAKINA, S. V., OL'KHOVNIKOV, Yu. P., Institute of Physical Chemistry, Academy of Sciences of the USSR

"Influence of Alloying Elements on the Protective Properties of Films Formed on Aluminum Alloys During Corrosion in High-Temperature Water"

Moscow, Zashchita Metallov, Vol 9, No 3, May/June '73, pp 338-342

Abstract: The paper gives the results of an investigation of the protective properties of films which develop during corrosion of some binary aluminum alloys in water. The properties of the films and the mechanism of the process were determined from the electrode impedance, the thickness of the barrier layer and the loss tangent. The study specimens were pure aluminum (99.99%) and binary alloys with Cu, Fe, Cr, Ni, Ti and Zr in water at 200°C. It was found that all alloying elements without exception improve the protective properties of films formed on aluminum under these conditions. The effect is especially strong in the case of nickel. The results of experiments show that the main reason for increased corrosion resistance of alloyed aluminum is the change in properties of the hydroxide films formed during corrosion in high-temperature water.

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- 17 -

USSR

UDC 51:155.001.57:681.3.06

ZIL'BERSHTEYN, M. B., OL'KHOVSKAYA, G. N.

"Application of Pattern Recognition Algorithms for Classification of Geological and Geophysical Objects"

Vopr. Vychisl. i Prikl. Mat., [Problems of Computer and Applied Mathematics--Collection of Works], No 39, Tashkent, 1970, pp 59-65, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V681 by V. Mikheyev).

Translation: In solving geological and geographic problems, the necessity arises of differentiating a certain set of objects into subsets (groups, classes, etc) and relating the individual objects to a given class. Based on the application of quantitative characteristics as a set of characteristics of the various groups of objects, an attempt is made to solve two problems: 1) Regionalization of geophysical and structural maps, and 2) separation of anticlinal folds of various amplitudes, submerged to various depths. Twelve parameters of a rectangular matrix are suggested as coordinates for points in the field being analyzed. A method is described of representing this information at the input of any recognition algorithm considering the frequency-statistical and gradient properties of the field being studied. The characteristic features of the program are noted, allowing up to 36 classes (patterns) to be separated in the twelve-characteristic space.

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USSR

UDC: 543.51

ALPAT'YEV, Yu. S., DUBINSKIY, I. N., OL'KHOVSKIY, V. L., FILIPENKO, A. P.,
CHEREPIIN, V. T.

"A Mass Spectrometer for Analyzing Solids"

Moscow, Pribory i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 159-160

Abstract: A mass spectrometer based on the effect of secondary ion emission is developed for elementary and isotopic analysis of solids, specifically layer analysis of thin films of metals, semiconductors and dielectrics. The instrument consists of an ion source with ion-optical system of focusing and beam deflection, a turret chamber which holds the specimen, an immersion type objective lens, and a single-field rf mass spectrometer. The primary beam is accelerated to 4-14 keV and focused on the specimen to a spot with an area of 0.5-6 sq. mm. The secondary ions are collected, accelerated and refocused by the immersion objective lens whose cathode is the specimen. The energies of the ions entering the mass spectrometer are controlled by changing the voltage across the specimen. Another lens focuses the beam of secondary ions into the input aperture of the mass spectrometer. The current of the secondary ions impinging on the collector is amplified by an electrometric amplifier and registered by an electronic

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USSR

ALPAT'YEV, Yu. S. et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 159-160

potentiometer. The masses being analyzed can be recorded either in the panoramic mode or in a mode where the peak intensity is tracked (there is a relative change in the concentration of one component) as layers of the study specimen are successively removed by the primary ion beam. Masses from 1 to 250 can be analyzed with a mass-spectral resolution of 250 atomic mass units. Reproducibility of results is 10% in a working vacuum of 10^{-6} mm Hg.

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172 016
UNCLASSIFIED
PROCESSING DATE--09OCT70
TITLE--DIRECT PROCESSES IN THE (N,2N) REACTION ON HEAVY NUCLEI -U-
AUTHOR--(04)--YEZHOV, S.N., OLKHOVSKIY, V.S., PRUKOPETS, G.A., STRIZHAK,
V.I.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(1), 122-30
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--NEUTRON SCATTERING, HEAVY NUCLEUS, DIFFERENTIAL CROSS
SECTION, BISMUTH, LEAD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1976/0429
CIRC ACCESSION NO--AP0042465
STEP NO--UR/0367/70/011/001/0122/0130
UNCLASSIFIED

272 016

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0042465

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION (N,2N), AT E SUBN
 EQUALS 14 MEV, ON HEAVY NUCLEI IS REGARDED AS A DIRECT SCATTERING
 PROCESS, WITH KNOCK OUT, BY USING THE DISTORTED WAVE METHOD, IN THE BORN
 APPROXN., AND BY TAKING INTO ACCOUNT THE IDENTITY OF THE N. GENERAL
 FORMULAS ARE DERIVED, THEREFROM, FOR THE REACTION AMPLITUDE T SUBFI.
 THE FORMULA IS PHYS. IN ACCORDANCE WITH THE DIRECT KNOCK OUT OF THE N
 FROM THE NUCLEUS TARGET BY THE IMPINGING N, IN THE DISTORTED EFFECTIVE
 FIELD OF ALL THE OTHER N, BY TAKING INTO ACCOUNT PAULI'S PRINCIPLE. THE
 DOUBLE DIFFERENTIAL CROSS SECTION FPR TJE MIC;EO RO,E209 BI AND
 PRIME208 PB IS CALCD. AND COMPARED TO EXPTL. VALUES. THERE IS A GOOD
 CORRELATION BETWEEN THEORETICAL AND EXPTL. RESULTS. FACILITY:
 KIEV. GOS. UNIVL, KIEV, USSR.

UNCLASSIFIED

USSR

UDC 621.398

OL'KHOVSKIY, YU. B., NOVOSELOV, G. N., and MANOVITSEV, A. P.

"Telemetry Data Compression"

Szhatiye dannyykh pri teleizmereniyakh (cf. English above), Moscow, "Sov. radio" (Soviet Radio), 1971, 303 pp, ill, 1 r. 24 k. (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A267K from the annotation)

Translation: The book is the first monograph on the problem of telemetry data compression and summarizes a number of investigations by Soviet and foreign researchers. The authors set forth from an engineering standpoint questions relating to quasireversible data-compression methods which will make possible subsequent retrieval of telemetered parameters. Some results are original and have to do mainly with two aspects -- mathematical and technical -- of the compression problem. A comparative analysis is given of interpolation and extrapolation algorithms making possible real-time data compression. Special attention is given to engineering feasibility of the algorithms. For the first time methods are set forth for the construction of efficient data-compression algorithms with two-parameter adaptation, based on the use of non-orthogonal, orthogonal, and eigenfunctions. Programs (in ALGOL-60 language)

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USSR

OL'KHOVSKIY, YU. B., et al., Szhatiya dannyykh pri teleizmereniyakh, 1971,
303 pp.

are presented and some estimates made of the efficiency of data-compression algorithms from the results of modeling them on general-purpose digital computers. The book is intended for engineers dealing with questions of automatic data processing, compact representation, storage, documentation and display, as well as for scientists, teachers in the schools of higher learning, and students. Ten illustrations: 10 tables; bibliography with 202 titles.

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Information Theory

USSR

UDC 621.398:621.391

OL'KHOVSKIY, YURIY BORISOVICH; NOVOSELOV, OLEG NIKOLAYEVICH; MANOVITSEV, ANATOLIY FSTROVICH

"Data Compression During Telemetry"

Szhatiye dennykh pri teleizmereniyakh (of English above), Moscow, "Sov.radio," 1971. 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

Abstract: The book is the first monograph on the problem of telemetry data compression and it generalizes a number of studies by native and foreign authors. From an engineering position problems are stated pertaining to quasi-inverse methods of data compression and to guaranteeing subsequent restoration of parameters which are telemetered. Some results are original and pertain primarily to two aspects of the problem of compression -- the mathematical and technical. A comparative analysis is given of the interpolation and extrapolation of algorithms, guaranteeing data compression in a real scale of time. Particular attention is paid to algorithms realizable by engineering. For the first time methods are stated for the construction of effective algorithms of data compression with two-parametric adaptations based on the use of nonorthogonal, orthogonal and eigen-functions. A program is presented (in Algol-60 language) and some evaluations are given of the effectiveness of algorithms of data compression

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

with respect to the results of their modelling on a general-purpose digital computer. The book is intended for engineers occupied with problems of automatic processing, compact presentation, storage, documentation and representation of information, and also for scientific workers, teachers of higher schools, and students.

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannykh pri telezmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teledizmeraniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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USSR

OL'KHOVSKIY, YURIY BORISOVICH, *Szhatiye dannyykh pri teleizmereniyakh*, Moscow, "Sov. radio," 1970, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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USSR

UDC: 8.74

MAYSTROVSKAYA, L. M., OL'KHOVSKIY, Yu. G., SHABANOV-KUSHNARENKO, Yu. P.

"Conditions of Existence of Threshold Scales"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 9, pp 3-9 (from RZh-Kibernetika, No 5, May 73, abstract No 5V850 by A. Model')

Translation: The paper deals with the problem of establishing zones of indistinguishability or thresholds in studying the function of human receptors. The problem is given in the following formulation. To determine the function f , called the threshold scale, as dependent on

$$z=L(|f(x)-f(y)|),$$

where x, y are one-dimensional stimuli of different physical nature, f is a continuous function definable from the results of psychological testing, and L is a function given by the

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USSR

MAYSTROVSKAYA, L. M. et al., Probl. bioniki. Resp. mezhved.
temat. nauch.-tekhn. sb., 1972, vyp. 9, pp 3-9

condition

$$L(\xi) = \begin{cases} 1 & 0 < \xi < 1 \\ 0 & 1 < \xi < \infty. \end{cases}$$

Functioning of the receptor is given by the expression
 $z = F(x, y)$, where $x, y \in [0, 1]$, z is equal to 0 or 1. The article
proves a number of theorems relative to necessary and suf-
ficient conditions to which the function F conforms.

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USSR

MAYSTROVSKAYA, L. M., OL'KHOVSKIY, Yu. G., SHABANOV-KUSHINARENKO, Yu. P.

"Certain Binary Relationships"

Probl. Bioniki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 9, pp 37-40 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V730, by the authors).

Translation: The possibility is studied of describing the human receptors using dependences such as $z = L(\phi_1(x), \phi_2(y))$, where z is the binary response of a test subject; x, y are input signals; ϕ_1, ϕ_2 are functions taking on values in a certain set G ; L is a characteristic function of the diagonals of square $G \times G$.

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USSR

UDC 620.178.38

OL'KIN, B. I., SHCHERBAN', K. S., and BARTEN'YEVA, G. F.

"Method of Studying the Fatigue of Plane Samples Under the Combined Action of Cyclic Mechanical and Temperature Stresses"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 10, Oct 73, pp 1247-1250

Abstract: The authors investigated the fatigue of AK4-1T alloy samples in which the tests were carried out by four different variants: three batches of samples were fatigue tested at constant variable stresses (first and second batches) with the third variant the same as the first two plus a large cyclic stress after three small cyclic stress. The four batches of samples were tested with a mixed mechanical fatigue stress plus a thermal stress cycle acting on the sample axis. Compilation of test data showed that the average service life of samples which were mechanically stressed was shorter than that of samples tested under conditions of both temperature and mechanical stresses. Three figures.

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USSR

UDC: 539.385

VOROB'YEV, A. Z., OL'KIN, S. I., STEBENEV, V. N.

"Effect of Preliminary Creep on the Endurance of AK4-1-T1 Alloy"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of Central Aero-hydrodynamics Institute), 1972, 3, No 2, pp 120-126 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9V870)

Translation: The authors studied the mechanism of the influence of preliminary creep on the fatigue characteristics of notched specimens of AK4-1-T1 alloy. Selected from among the set of creep components was the effect caused by temperature action. The tests were done on solid cylindrical specimens with circular boring, and on flat specimens with a central hole. The specimens were preheated for a long period with and without loading. The fatigue test results on specimens with stress concentrators at temperatures of 150 and 175°C showed different qualitative effects of preliminary creep action. It is shown that for structural elements working on tension, preliminary creep has a favorable effect, producing cold hardening of the surface layers of the metal in the zone of stress concentration. Under a compressive load, the effect of creep is harmful, accelerating destruction under fatigue conditions. G. P. Mel'nikov.

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UDC: 519.21

USSR

OLL', Ya. N.

"On Optimum Arrangement of Observations for a Linear Dynamic System"

Tr. Tallin. politekhn. in-ta (Works of Tallinn Polytechnical Institute),
1971, A, No 304, pp 53-62 (from RZh-Kibernetika, No 12, Dec 71, Abstract
No 12V181)

Translation: Let the controlled process $x_k, k=1, \dots$ with discrete time be
given by means of the recurrent equation

$$x_{k+1} = Ax_k + Bu_k + Cw_k,$$

and the observed process $y_k, k=1, \dots$ be given by the formula $y_k = z_k Hx_k + \psi_k$,
where $\{\psi_k\}, \{w_k\}, k=1, 2, \dots$ are mutually independent normal random sequences
with independent components ϕ_k, ω_k and u_k , and $z_k = \begin{cases} 0, & k=0, 1, \\ 1, & k=2, \dots \end{cases}$ are controls

selected in such a way that the functional $J = M \sum_{k=1}^N (\|x_k\|_V^2 + \|u_k\|_T^2 + ax_k)$ is
minimized, where V, T are positive definite symmetric matrices, $a > 0$. It

USSR

OLL', Ya. N., Tr. Tallin. politekhn. in-ta, 1971, A, 304, pp 53-62

is shown that sufficient statistics in this problem are

$$\mu_k = M[x_k | y_0, \dots, y_k], P_k = M[(x_k - \mu_k)(x_k - \mu_k) | y_0, \dots, y_k].$$

The optimum values of $u_k, k=0, 1$ are linear functions of μ_k , and Bellman's equation is derived for determining κ_k . R. Liptser.

Probability and Statistics

USSR

UDC 519.2:62-50

OLL', YA. N.

"Analysis of the Accuracy of Evaluating the Weighting Function of the Simplest Linear Dynamic Objects"

Tr. Tallinsk. politekhn. in-ta (Works of Tallin Polytechnical Institute), 1970, A, No 288, pp 79-90 (from RZh-Matematika, No 10, Oct 70, Abstract No 10V172)

Translation: An analytical expression is derived for characterizing the accuracy of evaluating the weighting function of an object of the first order, and graphs are calculated from this for determining the optimal memory time of a discrete model of the object and the corresponding limiting accuracy. The region of applicability of the asymptotic formulas was established by statistical modeling. Also discussed are certain features of evaluating an object of the second order. Authors abstract.

1/1

USSR

UDC 612.58

ISAAKYAN, L. A., MASLENNIKOVA, L. S., OL'NYANSKAYA, R. P., and TRUBITSYNA, G. A.
Group for the Study of the Physiology of Bioadaptation, Institute of Physiology
imeni I. P. Pavlov, USSR Academy of Sciences, Leningrad

"On Certain Changes in Oxygen Metabolism in the Animal Organism and Tissues
During Cold Adaptation"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 59,
No 11, Nov 73. pp 1.742-1.749

Abstract: White rats and golden hamsters were subjected to intermittent adaptation to 4°C. Control animals were maintained at 22°C. In vivo and in vitro studies demonstrated that oxygen consumption was greater in cold-adapted animals, as well as in their organs and tissues. However, increased oxygen consumption was not accompanied in the adapted animals by increased contractile function of the muscles. Muscle bioelectric activity in cold-adapted animals was lower than in control animals. The calorogenic effect of norepinephrine was greater and longer in adapted animals than in controls; a possible explanation of this effect was dissociation of oxidative phosphorylation in the adapted animals.

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1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SURGICAL ASPECT OF THE SIGNIFICANCE OF INTERRELATIONS BETWEEN THE
CALYX PELVIS SYSTEM AND ARTERIAL ARCHITECTONICS OF THE KIDNEY -U-
AUTHOR-(02)-MAZIN, V.V., OLOFINSKIY, L.A.

COUNTRY OF INFO--USSR

SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 3-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY, BLOOD CIRCULATION, ANATOMY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/2045

STEP NO--UR/0606/70/000/003/0003/0007

CIRC ACCESSION NO--AP0120688

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120688

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS APPLIED CORROSION METHOD TO THE STUDY OF ARTERIAL AND THE CALYX PELVIS SYSTEM ON 120 CADAVERIC KIDNEYS. POORLY VASCULARIZED ZONES IN RELATION TO THE STRUCTURE OF THE CALYX PELVIS SYSTEM WERE SEARCHED; ALSO A POSSIBILITY OF PRELIMINARY LIGATION OF THE SEGMENTARY ARTERIAL BRANCHES FOR ANATOMICAL RESECTION OF THE KIDNEYS WAS ASCERTAINED. BRANCHING WAS FOUND TO BE OF TWO TYPES, ANTERIOR OR POSTERIOR TO THE PELVIC ARTERY, AND THIS COULD BE ESTABLISHED BY POSITION OF THE PELVIS. POORLY VASCULARIZED ZONES WERE LOCALIZED RADially IN BOTH SIDES OF THE KIDNEY IN CONFORMITY TO THE LOCALIZATION OF THE SMALL AND LARGE (LOWER AND MIDDLE) CALYCES. WHEN BRANCHING WAS OF SCATTERED TYPE, BRANCHES OF THE SECOND ORDER COULD BE LIGATED IN THE HILUS. IN MAGISTRAL TYPE OF BRANCHING THE SUPERIOR POLAR BRANCH OF THE SECOND ORDER COULD BE PRELIMINARILY LIGATED. FACILITY: KLINIKA FAKUL'TETSKOY KHIRURGII VLADIVOSTOKSKOGO MED. INST.

UNCLASSIFIED

AA0052692

DLONTSEV V.F.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

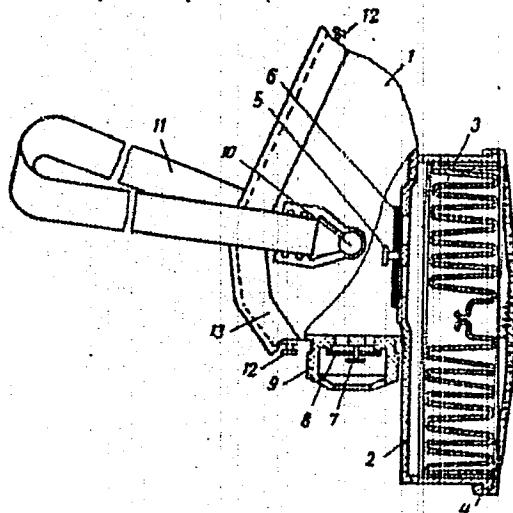
241228 RESPIRATOR, consists of a half-(face)-mask,
a container 2 which holds the filtering
device, replaceable filtering element 3 and cover 4,
pin 5 for holding the valve 6 on the inlet, and the
pin 7 for holding the valve 8 on the outlet, which
is also fitted with a sanitary compartment 9. Studs
10 fasten the headband 11 to the face-mask, whilst
studs 12 fasten the replaceable face-band to the
edges of the mask. The pins 5, the sanitary compartment
and the studs are all made in one piece with the
face mask and the body of the filter-chamber. This
reduces the number of separate components which go
into the make up of the respirator. 27,5.68. as
1242796/31-16. I.S KOSTYUCHENKO et al.
(22.8.69.) Bul.13/1.4.69. Class 61a. Int.Cl. A62b.

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19821479

2

Acc. Nr.: AA0052692



Kostyuchenko, I. S.; Olontsev, V. F.; Akulov, V. A.; Gorokhova, V. A.

2/2

REEL/FRAME
19821480

BD

USSR

OLOVYANISHNIKOV, L. D.

"Some Hemodynamic Indexes in Determining Static and Statokinetic Stability in Flying Personnel"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniye, 1970, 93 pp, pp 87-88

Abstract: Static and statokinetic stability and hemodynamic indexes were studied in 140 members of flight crews, some healthy and some with various cardiovascular diseases. Static stability was determined by transferring subjects from a horizontally rotating table to a vertic l position at a 70-75° angle. Statokinetic stability was determined with the use of the Barany chair and the simultaneous effect of Coriolis accelerations. The data obtained revealed that 54.5% of the healthy tolerated the transition well; 30.3% -- satisfactorily; 15.2% -- poorly; the degree of tolerance varied also among subjects with
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USSR

OLOVYANTSHNIKOV, L. D., Voprosy Mediko-Biologicheskikh Issledovaniy: Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta, 1970, 93 pp, pp 67-88

cardiovascular diseases. The transition from a horizontal to a vertical position induced a number of hemodynamic shifts such as increase in the pulse rate, increase in total peripheral resistance, decrease of the systolic blood volume, prolongation of the isometric phase of contraction, and others. A correlation between static and statokinetic stability in healthy and sick members of flight crews was established.

2/2

OLOVYANISHNIKOVA, G.D.

UNCLASSIFIED

SECTION V Sci. Selected Research Institute

PC5-89
JUNE 71

Name: Institute of Photosynthesis, Pushchino
Description:

(U) During this quarterly reporting period, one new article was located from the Institute of Photosynthesis in Pushchino. On the basis of this 1970 article on plant growth, it was possible to associate three new persons with the institute: S. G. Khruslova, V. L. Shamueva, and Ye. F. Yegerova (34). In the present time it has not been possible to identify very many persons with the institute; however, the complete listing of staff members identified to date is given below:

All-Inst of Photosynthesis

- Akulova, Ye. A.
- Gavrilova, V. A.
- Khruslova, S. G.
- Lebedev, A. I.
- Makarov, A. D.
- Kal'yan, A. N.
- Mukhin, Ye. N.
- Olovyanishnikova, G. D.
- Popova, N. B.
- Prokhorova, L. I.
- Sadovnikova, N. D.
- Shamueva, V. L.
- Sidorov, A. N.
- Seslavov, I. E.
- Stolovitskiy, Ye. M.
- Surovsev, V. I.
- Yegerova, Ye. F.
- Yavitskiyev, V. B.

ИИИИ АССИИИИИ

Therapy

USSR

UDC 616.13-002.18-085.835.3-032:611.13

OL'SHANETSKY, A. A., Professor, and ZUSMANOVICH, F. N., Candidate of Medical Sciences, Faculty Surgical Clinic of the Clinical Faculty of the Dnepropetrovsk Medical Institute of the First Municipal Clinical Hospital

"Treatment of Obliterative Diseases of the Extremities by Intraarterial Infusion of Oxygen in Conjunction With Barotherapy"

Leningrad, Vestnik Khirurgii, Vol 107, No 12, Dec 71, pp 33-36

Abstract: Since intraarterial administration of oxygen, followed by local barotherapy in some cases, dilates arterioles and increases blood flow, this treatment was applied to 85 patients with endarteritis obliterans or atherosclerosis. No improvements were observed in 13 patients, and their necrotic limbs were amputated. Good results (disappearance of pain at rest, increased skin temperature, and restoration of ability to work) were attained in 39 out of 44 patients in the second stage of the disease, and satisfactory results (disappearance of pain at rest and arrest of the progress of the disease) were achieved in 22 out of 46 patients in the third and fourth stages. The remission lasted from 6 months to over one year, and equally good results were gained after the second treatment. It is believed that in some patients relapses were precipitated by wearing tight shoes and socks and abusing nicotine and alcohol. The method is recommended as an effective adjunct to conservative treatment.

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OL' SHANETSKIY, A. G.

Econ

INVENTORY CONTROL

Article by A. G. Ol'shanetskiy, sector head Scientific Research Institute for the Planning of Communist Centers and Economic Data Systems of the USSR Central Statistical Administration, Moscow, Sovetskoye Vozrozhdeniye 1, 1972, Russian, No. 11, 1972, pp. 31-35.

The Directives of the 24th Congress of the CPSU on the five-year plan for the development of the USSR National Economy in 1971-1975 call for a substantial rise in the material and cultural living standard of the people as a major task of the party and the people for the current five-year period through high growth rates in socialist production, through increased production effectiveness, through progress in science and technology, and through the accelerated growth of labor productivity. Success in meeting this target will require further improvements in the nationwide system of material-technical supply and in its key element: inventory control.

While on the one hand the formation of inventories is an objective necessity occasioned by the needs of maintaining continuity in the production process, on the other hand in Marx's expression they create a blind part of productive capital. In a measure of raw materials awaiting processing, excessively high production inventories are a heavy burden on an enterprise's economy while unduly low inventories threaten to halt the production process with all the consequences that issue therefrom. For this reason the search for an optimum level of inventories for production enterprises and even the key preconditions for raising the economic indices of production, butting it to only, for example, that the optimization of the distribution of output on a nationwide scale is the equivalent of the additional production of 4.5-5 million tons of rolled metal while a one day speeding in inventory turnover is equal to putting a billion rubles worth of raw materials and material funds into expanded and/or additional reproduction.

Ol'shanetskiy, A. G. (1972). Inventory Control. Moscow: USSR Economic Office, 1972.

USSR

UDC 669-419;669.24'26'27'28

SAVCHUK, A. N., and OL'SHANETSKIY, V. YE., Zaporozh'ye Machine Building Institute, Chair of the Science of Metals

"The Effect of Alloying Additions on Structural Changes in Nickel-Molybdenum materials"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 138-142

Abstract: A study was made of the effect of various alloying additions (introduced as powder into an Ni-Mo composite material) on the recrystallization process of Mo wire and the formation of transition zones. Besides EI435 and EP646 heat-resistant alloys, electrolytic nickel rolled to 0.5 mm thickness, was used as initial matrix. It was determined that the intensive recrystallization in the peripheral layer of Mo wire results from diffusion penetration of Ni. In this case, a zone of increased hardness develops on the matrix-filler boundary due to formation mainly of NiMo intermetallide. The diffusion of Cr and Mo develops most intensively from the wire periphery; the transition diffusion zones possesses low microhardness. The powder ligature (30%Cr+5%W+3%Mo), introduced between matrix sheets from electrolytic Ni, contributes to an active suppression

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USSR

SAVCHUK, A. A. and OL'SHANETSKIY, V. YR., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 138-142

of recrystallization processes in the whole extent of Mo wire and sharply lowers the microhardness of the transition zone. One figure, two tables, eight bibliographic references.

2/2

USSR

UDC 620.18

KOVAL, A. D., NATAPOV, B. S., and OL'SHANETSKIY, V. E., Zaporozh'e

"The Interaction of Rare Earth Metals With the Edges of Grains of Nickel and Its Alloys"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul/Aug 72, pp 102-107

Abstract: The effect of the rare earth metals (REM) --- neodymium (Nd), praseodymium (Pr), cerium (Ce), and lanthanum (La) -- on the structural and energy properties of grain boundaries of purified nickel, nichrome (11% Cr), and an alloy of the ZhS6K type containing 15% chromium was examined. The REM impurities increased the rate of migration of grain boundaries in the following order: Nd > Pr > Ce > La. In general, the grain boundary energy of pure nickel, the length of time to fracturing under a load ($T = 975^{\circ}\text{C}$, $\dot{\epsilon} = 200 \text{ min/m}^2$), and the impact strength are greatest for 0.06, intermediate for 0.12, and lowest for 0.02 wt % impurity.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF RESIDUAL AMOUNTS OF DDT IN MILK -U-

AUTHOR-(04)-YERMAKOVA, P.N., OLSHANOVA, K.M., FEKLISOVA, L.S., POTAPOVA,
M.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (2), 221-2

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DDT INSECTICIDE, FOOD CONTAMINATION, PROCESSED ANIMAL PRODUCT,
CHROMATOGRAPHIC ANALYSIS, THIN LAYER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0160

STEP NO--UR/0322/70/000/002/0221/0222

CIRC ACCESSION NO--AT0137304

2/2 014

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137304

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD OF THIN LAYER
CHROMATOG. IS PRESENTED. THE BEST ADSORBENT WAS FOUND TO BE A MIXT. OF
AL SUB2 O SUB3 AND SILICA GEL (1:1) WITH PARTICLE DIAM. 0.1-0.25 MM.
THE BEST SOLVENT WAS N HEXANE, WITH MOTION ON THE PLATE AT THE SLOPE
ANGLE 4-9DEGREES. FACILITY: MOSK. TEKHNOL. INST. MYAS. MOLOCH.
PROM., MOSCOW, USSR.

UNCLASSIFIED

Welding

USSR

UDC 621.791.754:621.762(669.71)

OL'SHANSKIY, A. N., D'YACHENKO, V. V., Candidates of Technical Sciences, and
NIKIFOROV, G. D., Doctor of Technical Sciences

"Arc Welding SAP Materials Under High-Pressure Inert Gas"

Moscow, Svarochnoye Proizvodstvo, No 7, Jul 73, pp 16-18

Abstract: SAP materials have poor weldability due to formation of pores during the welding process. Experiments were conducted to reduce the number of pores by varying the inert gas content and gas pressure. Gas contents used were (in $\text{cm}^3/100 \text{ g}$): 16-18 for SAP-1, 6-8 for SAP-1a, and 1 for SAP-1s with pressures ranging from 0.2 to 11 atm. It was found that the tensile strength of the weld joint increases proportionately with increased atmospheric pressure. Although the SAP-1 base metal has a larger tensile strength than SAP-1a and SAP-1s, the weld joint strength of the latter two SAP materials is higher than that of SAP-1. At a pressure of 11 atm the tensile strength of SAP-1s is 85% of the base metal strength, SAP-1a is 89%, and SAP-1 is 66%. Thus, it is pointed out that SAP materials should not be vacuum welded. 4 figures, 1 table.

1/1

OL'SHANSKIY, B.T.'s.

JPRS 57351
Q7007 702

- 24 -

This is a response to the article by Professor L.Ye. Polyakov and D.N. Malinsky entitled "A Method of Overall Probability Evaluation of National Health Status" *Sovetskoye Zdravookhraneniye*, No 3, 1971. The editorial board is aware of the deplorable nature of evaluating scores indices shown in Table 1.

Professor L.Ye. Polyakov and D.N. Malinsky, candidate of medical sciences, tried to find such an overall criterion as national health status. The authors used the method of overall probability evaluation (OPV).

Overall evaluation involves solving two problems: is the initial information necessary and sufficient to characterize the overall criterion? Is the shift from initial information to overall evaluation adequate?

In the public health system it is often necessary to compare the efficiency of institutions or agencies thereof to demonstrate those that are ahead or lagging for the purpose of stimulating advancement of the entire system. An analogous need also arises when assessing the dynamics of development of specific institutions, when data pertaining to operations of one of them over a period of several years is used as compared objects. The use of concrete indices is inadvisable for such purposes: an institution may be ahead with respect to some indices and behind with respect to others; furthermore, a person is not able to cope with concurrent comparison of many hundreds of parameters. Yet the choice of a few indices would introduce considerable subjectivity and would not reflect the overall activity. It is therefore logical to use the terms overall evaluation, first to make an overall evaluation. He uses the terms overall evaluation, first the standpoint of logic, as a single figure obtained on the basis of many parameters of concrete signs which could then be evaluated by means of a scale of qualitative characteristics.

Article* by Professor V.V. Kameya, G.S. Popov, ~~and B.T. Ol'shanskiy~~, Candidate of Medical Sciences, P.B. Tsukerman, Moscow, *Sovetskoye Zdravookhraneniye*, number, No 9, 1972, submitted 14 February 1972, pp 20-24]

UDC: 614.2:31

(A)

Power, Engine, Turbine, Pump

USSR

UDC: 621.433.3-44

OGARKOV, A. G., BERSHACHEVSKIY, V. V., ANTONYUK, I. A., OL'SHEVSKIY, G. P.

"A Fuel Feed Control System"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, Mar 73, Author's Certificate No 367279, Division F, filed 5 May 69, published 23 Jan 73, p 98

Translation: This Author's Certificate introduces a fuel feed control system for a free-piston engine operating on a gas-liquid cycle. The system contains a pump for metering liquid fuel and feeding it to the atomizer, a control mechanism, and a gas-feed valve with a regulator for metering the gas entering from the main line. As a distinguishing feature of the patent, the liquid fuel consumption is reduced, and the pickup of the engine is improved by making the regulator in the form of a cylindrical slide valve and sleeve having openings for delivery of gas to the feed valve. The sleeve is movable with respect to the housing and is fitted with tension members with locking devices, one of which is kinematically coupled to the fuel pump rack, while the other is kinematically coupled to the control mechanism. The patent also covers a modi-

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USSR

OGARKOV, A. G. et al., USSR Author's Certificate No 367279

fication of this control system distinguished by the fact that the regulator is equipped with a startup gas pressure governor and a power corrector made in the form of a cylinder connected to the gas main with a piston whose rod is kinematically coupled to the regulator slide valve.

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- 120 -

USSR

UDC 538.4

GEL'FGAT, Yu. M., OL'SHANSKIY, S. V., SHTERN, A. G.

"Experimental Study of the Interaction of a Flow with a Heterogeneous Magnetic Field"

7-ye Soveshch. po Magnit. Gidrodinamike. T. 1 [Seventh Conference on Magnetic Hydrodynamics, Vol 1], Riga, Zinatnye Press, 1972, pp 187-189, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B34 by A. L. Genkin).

Translation: Results are presented from experiments on determination of the hydraulic resistance of the flow of mercury in a circular tube in a heterogeneous magnetic field. The Reynolds number and magnetic interaction parameter change within limits $64,600 \leq R \leq 182,000$, $0 \leq N^* \leq 1.2$. It is demonstrated that the effectiveness of deceleration depends significantly on the magnetic field spacing T and is maximal with a T/S ratio of about 3.2, where S is the gap between projections in the poles of the magnet. The results of experiments agree qualitatively with calculations performed by a method described earlier by the authors (see abstract 11 B33).

1/1

USSR

OL'SHANSKIY, V. K., Moscow

"Simplest Pursuit Game with a Limited Number of Target Observations"

Moscow, *Avtomatika i Telemekhanika*, Nov 73, pp 11-15

Abstract: A pursuit game on a plane is described. The players P and T move at speeds which are constant within an order of magnitude. The pursuer P can observe the coordinates of the target T a limited number of times. The payoff is the square of the distance between the players after all observations have been made by player P. Optimal strategies of P and T, corresponding to the saddle point of the game in terms of the mathematical expectation, are determined.

The article includes eight equations and one figure. There are six references.

1/1

USSR

UDC 539.3:534.1

OL'SHANSKIY, V.P., FILIPPOV, A.P. (Kharkov), Kharkov Branch, Institute of Mechanics, Academy of Sciences, Ukrainian SSSR

"Deformations of a Nonsymmetric Three-Layer Plate With a Filler Upon Impact"

Kiev, Prikladnaya Mekhanika, No 3, 1972, pp 54-57

Abstract: The article deals with a elastic impact of a body upon a nonsymmetric three-layer plate. The problem is reduced to a functional equation which differs from the equation of S.T. Timoshenko by a supplementary term which takes into account the transverse compression of the filler. The compression is taken into account by representing the flexure of the top facing, which receives the impact, in the form of the sum of the local flexure and the averaged flexure. The averaged flexure is determined from a solution of a system of three equations of motion that are constructed on the hypothesis of a broken line. The local flexure is found by means of solving the static problem, where the filler is regarded as the three-dimensional solid, and the facings are subject to the Kirchhoff hypothesis. An investigation is made of the influence of materials and the thickness of the layer which comes into contact with the striking body, upon the process of the impact. 1 table, 3 bibliographic entries.

1/1

USSR

UDC 77

AVRAMENKO, L. F., VILENSKIY, YU. B., IVANOV, B. M., OLISHENSKAYA, I. A.,
POCHINOK, V. YA., SKRIPNIK, L. I., FEDOROVA, L. N., FEDOROVA, I. P.

"Synthesis of Tetrazoles, Triazoles, Triazenes, and Azo Compounds and a Study of Them as Additives to Silver Halide Photographic Emulsions. II. Photographic Study of Material"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 12-23 (From RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1334)

Translation: Three indices are introduced to evaluate quantitatively various types of photographic activity of materials synthesized previously: (see RZh-Fizika, No12(I), Dec 70, Abstract No 12D1333): stabilizing, depressing, and defogging effects and certain combinations of these parameters in the kinetic curves for sensitivity and fogging in the second aging before and after introduction of the substances tested. If the substance was at the same time an optical sensitizer, the value of the depressing index was negative. Besides the testing of substances in AgCl- and AgBr(I)-emulsions, the kinetics of their adsorption by AgHal, the absorption spectrum in solution and after adsorption by AgHal, and the sensitization spectrum was studied. A correlation

USSR

AVRAMENKO, L.F., et al, Uspekhi nauchn. fotogr., 1970, Vol 14, pp 12-23
was found for condensed

tetrazoles between the stabilizer and the irreversible adsorption of material and between the depressing and defogging agents and reversible adsorption; irreversible adsorption on a small portion of the AgHal surface was sufficient for total stabilization. The same was true for the stabilization of triazenes. Depression of fogging was apparently always associated with the slowing down of the appearance of reversibly adsorbed substances, although in many cases there simultaneously occurred desensitization or slowing down of aging. Certain connections were established between photographic activity and the structure and substitutes in molecules of triazoles and optical sensitizers on the basis of their quaternary salts and also in molecules of heterocyclic azo compounds. The formation of iono-dipole or coordinated compounds of the material with AgHal was necessary for stabilization, which requires the coincidence of their dipole distances; the latter partially explains the differences in the behavior of materials in AgCl- and AgBr(I)-emulsions. One must take into account, however, that in view of the large homeopolarity of the bond in AgBr, even in AgCl, the latter requires more polar stabilizers. 12 references.

2/2

USSR

UDC 77

AVRAMENKO, L. F., VILENSKIY, YU. B., IVANOV, B. M., OL'SHEVSKAYA, I. A.,
POCHINOK, V. YA., SKRIPNIK, L. I., FEDOROVA, L. N., FEDOROVA, I. P.

"Synthesis of Tetrazoles, Triazoles, Triazines, and Azo Compounds and a Study of Them as Additives to Silver Halide Photographic Emulsions. I. Synthesis, Structure, Chemical Properties, and Photographic Activity"


Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 5-11 (from RZh-Fizika, No 12(1), Dec 70; Abstract No 12D1333)

Translation: Data on the synthesis, structure, and properties of over 300 organic compounds intended for stabilizing and defogging or depressing additives in AgHal emulsions are presented; in certain cases these substances were also optical sensitizers. Among the 40 tetrazoles not all were stabilizers of the photoemulsions; there was also established a difference in the chemical behavior in similar reactions. This duality is explained by the existence of azido-tetrazole tautomerism in many condensed tetrazoles; stabilization is caused by adsorption by ions

1/2

USSR

of the AgHal lattice of these azido forms in which there is an increased electron density on the heterocyclic N atom. Many stabilizers were observed among the triazoles, and not only condensed triazoles; among these many could be converted into cyanin dyes by combining stabilizers and optical sensitizers. It is shown that it is necessary for a stabilizer that three N atoms enter into the ring, as in triazoles: a considerable number of stabilizers of AgCl-emulsion was also found among the triazenes. These compounds are simultaneously optical sensitizers, defoggers, and depressers; in AgBr-emulsions only the last two properties are retained, in view of differences in the formation of ion-dipole compounds of AgCl and AgBr lattices with a polar triazene molecule. Of the azo compounds only nonsymmetric substances with heterocyclic radicals were photographically active. 31 references.

1/2 009 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--METALWORKING TOOLS STANDARDIZED WITHIN ONE INDUSTRY -U-
AUTHOR--(04)-EYGER, I.S., VYSOKOVSKIY, YE.S., OLSHEVSKIY, E.R.,
YATSKOVSKIY, YU.N. 
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 48-52
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--TECHNICAL STANDARD, MACHINE TOOL INDUSTRY, CUTTING TOOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0192 STEP NO--UR/0422/70/000/002/0048/0052
CIRC ACCESSION NO--AP0100716
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--APO100716

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WORK IN STANDARDIZATION, WITHIN ONE BRANCH OF INDUSTRY, OF METAL CUTTING TOOLS, SUCH AS TURNING AND MILLING CUTTERS, MILLING TIPS, AND SHAVES, IS DESCRIBED. MOST FACTORIES AND OFFICES IN MECHANICAL ENGINEERING WILL FIND THE ARTICLE INTERESTING.

UNCLASSIFIED

USSR

UDC: 534.322.3+534.83

OL'SHEVSKIY, V. V.

"Problems in Planning Experimental Investigations and Statistical Measurements"

Moscow, V. sb. Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (Theses of Reports, Third All-Union School--Seminar on Statistical Hydroacoustics, 1971--collection of works) 1972, pp 238-255 (from FZh--Fizika, No 4, 1973, Abstract No 4Zh574)

Translation: In statistical investigations of objects and phenomena a convenient form for taking into account the a priori information and accepted hypotheses is a mathematical model of the random process. The experiment is planned on the basis of a choice of probability characteristics corresponding to various models. The selected realizations in the experiment permit obtaining a statistical evaluation of the probability characteristic of the process. A comparison of the computed probability characteristic and its measured value may be made with a quality functional. The least value of the functional corresponds to the basic model; the degree of adequacy of the model for the real object is determined in the experiments. Besides the errors connected with the choice of the model, the systematic errors affect the results of the statistical measurements. To evaluate them, the corresponding quality functional is examined; its minimization is attained with optimization of the parameters of the statistical measuring system. M.D.U.

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USSR

UDC: 551.596+534-143

BLOK, A. V. and OL'SHEVSKIY, V. V.

"Effect of Radiated Signal Parameters on the Frequency-Time Characteristic of Sea Return"

Moscow, V sb. Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (Theses of Reports, Third All-Union School--Seminar on Statistical Hydroacoustics--collection of works) 1972, pp 31-45 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh645)

Translation: The authors consider the effect of parameters of a radiated signal on the dispersion of the time-correlation function of the signal and of the sea return for a discrete model of acoustical wave dispersion. On the basis of the results of the authors' work (RZh'fiz, 1969, 10Zh51.7) the dispersions for various types of signal are computed: bell-shaped (rectangular) pulses with linear frequency modulation; rectangular sections of stationary Gaussian noise; rectangular sections of harmonic processes; amplitude (phase) modulated, stationary Gaussian noise. It is shown that the dispersion is a function of the signal complexity coefficient (the product of the effective signal duration and the effective width of its frequency spectrum), the parameter characterizing the frequency modulation or the width of the noise-filled band, and the $1/2$

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BLOK, A. V. and OL'SHEVSKIY, V. V., V sb. Tezisy dokl. 3-y Vses shkoly--seminara po stat. gidroakustike, 1971 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh645)

effective duration of the signal. Examples are given from which it follows that the signal complexity coefficient does not always uniquely determine the dispersion behavior. V.D.K.

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USSR

UDC: 551.596+534-143

OL'SHEVSKIY, V. V.

"Statistical Characteristics of Sea Return in Mutual Correlation Processing"

Moscow, V sb. Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike (Theses of Reports, Third All-Union School--Seminar on Statistical Hydroacoustics--collection of works, 1971) 1972, pp 46-60 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh646)

Translation: The effect of the form of a radiated signal on the statistical nature of sea return is investigated. The combined frequency-time correlation characteristics of the radiated signal and return in a proposed discrete model of acoustical wave dispersion are considered with respect to the nonuniformities of the water medium and the surfaces of its boundaries. The results obtained permit analysis of the effect of the radiated signal parameters on the characteristics of the evaluation of the frequency-time correlation function of reverberation. The effect of the parameters of the radiated signals on the characteristics of the process observed at the output of the mutual correlation processing system is also examined under the action of the return, noise, and echo signals on its input. Yu. Zh.

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USSR

UDC 534.87:681.88

OL'SHEVSKIY, V. V., Acoustics Institute of the Academy of Sciences USSR, Moscow

"Characteristics of Echo-Signals Detection Using Correlation and Square Detections in Hydroacoustic Systems of Searching Biological Targets"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 1, Jan-Feb 73, pp 60-67

Abstract: The problem of comparative estimate of probability characteristics of the detection of echo-signals on the background of disturbances is analyzed using correlation and square detections in receiving channels of hydraulic detectors. Considered are pulsed hydrolocating systems with emission of so-called noise-like signals representing fragments of certain duration of stationary normal noise. It is demonstrated that with diminution of the coefficient of intercorrelation of the emitted signal with the echo-signal the probability of detection decreases in case of correlation detection and that it is $1/2$

USSR

OL'SHEVSKIY, V. V., Akusticheskiy Zhurnal, Vol 19, No 1, Jan-Feb 73, pp 60-67

not approaching unit at unlimited increase of the signal-disturbance ratio. The conditions are found under which the use of square detection proves to be more effective than the correlation detection when detecting echo-signals from biological objects. Two figures, thirty two formulas, five bibliographic references.

2/2

Turbine and Engine Design

USSR

UDC 533.6.011.34

OL'SHTEYN, L. YE., and TRAKHTENBROYT, M. A., (Moscow)

"Nonuniform, Vortex, Compressible Gas Flow Past a Cascade of Plates"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika, Zhidkosti i Gaza, No 1, Jan-Feb 72, pp 92-100

Abstract: A solution is presented of the problem on flow past a cascade of plates, which moves in place-parallel subsonic flow of an ideal gas with a small steady velocity irregularity having a nonpotential characteristic. It is shown that in this case, monochromatic pressure waves are generated at frequencies, which are multiple of plates succession frequency. A hypothesis is suggested, according to which the pressure waves generation and acoustic energy radiation occur as a result of interaction between cascade and a small circumferential irregularity of free flow velocity, which is always present in real flows. Two cases are considered: Interaction of the vorticity with cascade of semi-infinite plates, and with cascade of plates having a finite chord. The results of calculations show that a velocity irregularity of the order of one tenth of one percent, with respect to main flow velocity can lead to acoustic energy radiation of up to 110-115 db. It is stated in the conclusion that using expressions obtained here formulas can be derived

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USSR

UDC 616.981.455-084.4(47)

OLSUF'YEV, N. G., Institute of Epidemiology and Microbiology imeni Gamaleya,
Academy of Medical Sciences USSR, Moscow

"Results Attained in and Plans for Future Investigation and Control of Tularemia
in the USSR"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972,
pp 29-35

Abstract: In the USSR, tularemia has been a major problem in research and medical care since 1926 when it was first identified and its epidemic outbreaks were recorded. In the 1930's, the average annual number of recorded tularemia cases was 6,000, with a mean disability of 30 days per patient and a mortality of 0.1-0.5%. This number increased to 40,000 cases per year during the war and to 65,000 cases per year during the initial postwar period, causing a mean annual labor loss of about 2 million man-days. As a result of 45 years of research and implementation of practical measures, the average frequency of the disease was reduced to 100 cases per year in 1967-1972, with a maximum of 271 cases in 1967 and a minimum of 22 cases in 1970. Reference is made to 56 of the most outstanding researchers who have contributed data on the geographic distribution and ecological aspect of tularemia, analyzed the biological and pathogenic properties of *Pasteurella tularensis* and its endotoxin in vitro and in

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USSR

OLSUF'YEV, N. G., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 29-35

vivo, investigated carrier rodents and insects, classified the various biocenotic foci and types of outbreaks, described the clinical picture of tularemia, developed diagnostic methods, investigated tularemia immunology, worked out preventive methods (pesticides and agrarian measures), and developed an effective vaccine which is applied to the skin, is totally harmless, and causes little reaction. Vaccination with a positive result produces complete immunity for at least 5 years. In order to eliminate tularemia outbreaks, 90% of all people living in the foci and all travelers to those areas must be vaccinated. Plans for the future include: large-scale vaccination; preparation of topographic outlines of natural foci and their elimination; study of the epidemic process during periods of low morbidity among people; investigation of the antigenic structure and mutability of tularemia pathogen; preservation of vaccinal strains with immunogenic properties; and improvements in diagnostic methods.

2/2

Epidemiology

USSR

UDC 59.616.981.455(470.311)

OLSUF'YEV, N. G., DOBROKHOTOV, B. P., DUNAYEVA, T. N., KOVALEVSKIY, YU. V.,
and MESHCHERYAKOVA, I. S., Tularemia Laboratory and Laboratory of Medical
Zoology, Division of Natural Focus Infections, Institute of Epidemiology and
Microbiology, Academy of Medical Sciences USSR, Moscow

"Experience of Long-Term Study of a Natural Meadow-Field Tularemia Focus in
Southern Moscow Oblast"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

Abstract: Records were kept of rodent and tick densities, human tularemia out-
breaks, and epizootics in Stupinskiy and part of Podol'skiy Rayon since 1938
(when the 1st human tularemia outbreak was recorded) until 1971. Human outbreaks
followed periodic rodent density increases until 1952, after which time no
cases were reported due to a vaccination program. The principal rodent
(*Microtus arvalis*, *Micromys minutus*, *Apodemus agrarius*, *Arvicola terrestris*) and
tick (*Dermacentor pictus*, *Ixodes ricinus*, rarely *I. trianguliceps*) densities
fluctuated more or less synchronously over about 4-year periods, but maximum
densities decreased with time, particularly after 1963, probably due to improve-
ments in agricultural procedures and consequent reduction of rodent and tick

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USSR

OLSUF'YEV, N. G., et al., Zoologicheskii Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

habitat. Epizootics continued to be detected however during moderate rodent density increases after 1967. Thus the tularemia focus continued to maintain itself despite agricultural innovations, though outbreaks were highly localized. It is suggested that tularemia agent can survive long periods not only in ticks but also by means of direct transfer from diseased to healthy rodents. Straw stacks left in fields during winter provide concentration areas for rodents and thus help to maintain the focus.

2/2

Immunology

USSR

UDC 616.981.455-084.47:615.473.3

OLSHE'YEV, N. G. and UGLOVOY, G. P., Institute of Epidemiology and Microbiology
Imeni Gamaleya, Academy of Medical Sciences USSR

"Use of a Needleless Syringe for Vaccination Against Tularemia"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1970, pp
93-95

Abstract: Tests of the French needleless hypodermic syringe Dermojet in immunization of laboratory animals and man with live tularemia vaccine showed that it is superior to the routine scarification procedure in several respects - greater economy in use of the vaccine, more precise dosage, speed and painlessness. Two days after the vaccine was administered to 58 subjects (1:20 and 1:40 dilutions of the usual concentrations), a pronounced local inflammatory reaction occurred, but the zone of hyperemia, edema, and intensity of inflammation decreased within three days. Only a small minority of subjects experienced mild and transient systemic effects - headache, malaise, and slight enlargement of the regional lymph nodes. Serological examination 1-1/2 months after vaccination revealed an adequate specific antibody accumulation in all the subjects.

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1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE USE OF NEEDLELESS SYRINGE FOR TULAREMIA VACCINATION -U-
AUTHOR--(02)-OLSUFYEV, N.G., UGLOVOY, G.P.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 4,
PP 93-95
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TULAREMIA, VACCINATION, MEDICAL LABORATORY INSTRUMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1470 STEP NO--UR/0016/T0/000/004/0093/0095
CIRC ACCESSION NO--AP0109530
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109530

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIAL ON LABORATORY ANIMALS AND MAN OF NEEDLESS SYRINGE DERMO JET DEMONSTRATED THAT IS COULD BE SUCCESSFULLY USED FOR VACINATION WITH THE LIVE TULAREMIA VACCINE. IN COMPARISON WITH THE SCARIFICATION METHOD APPLIED AT PRESENT THE NEEDLELESS METHOD HAS CONSIDERABLE ADVANTAGES MORE PRECISE DOSAGE, AND LESSER EXPENDITURE OF THE VACCINE PER PERSON. THE MANIPULATION IS ALSO MUCH QUICKER AND PAINLESS. VACCINE DILUTIONS 20 AND 40 TIMES LESS THAN THE COMMONLY EMPLOYED CAUSED A DISTINCT LOCAL SKIN VACINATION REACTION WITH AN IMMUNOLOGICAL RECONSTRUCTION OF THE ORGANISM. FURTHER WIDER TRIALS WITH THE USE OF SOVIET INSTRUMENTS ARE RECOMMENDED FOR INTRODUCTION OF NEEDLELESS SYRINGE INTO ROUTINE PRACTICE OF TULAREMIA VAC VACINATION.

UNCLASSIFIED

USSR

UDC: 591.615+616.9-036.21

OLSUF'YEV, N. G., DOBROKHOTOV, B. P., DUNAYEVA, T. N., PCHELKINA, A. A., RODIONOVA, I. V., ARSEN'YEV, V. P., and PETROV, V. G., Tularemia Laboratory and Vectors Laboratory, Division of Infections with Natural-Foci, Institute of Epidemiology and Microbiology, Academy of Medical Sciences USSR, Moscow

"The Effect of Sanctuaries on Natural Foci of Infections"

Moscow, Zoologicheskii Zhurnal, Vol 49, No 11, Nov 70, pp 1697-1704

Abstract: The Priokako-Terrasnyy Game Preserve in the southern part of Moskovskaya oblast has a varied fauna whose species composition and numbers are similar to those in natural forest biocenoses of the past. Wild ungulates and small mammals, particularly rodents, are very abundant. Studies conducted in 1968 and 1969 disclosed the presence of a great number of adult *Dermacentor pictus* and *Ixodes ricinus* ticks feeding on the ungulates. *I. trianguliceps* and *I. apronophorus* were less numerous. Microscopic examination revealed a number of microorganisms in the ticks: tularensis in *D. pictus*, tickborne encephalitis virus in *I. ricinus* and *D. pictus*, and *Erysipelothrix rhusiopathiae*, *Listeria monocytogenes*, and *Pasteurella pseudotuberculosis* in the rodents. Sanctuaries such as game preserves tend to maintain natural foci of infections because of the

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USSR

OLSUF'YEV, N. G., et al, Zoologicheskiy Zhurnal, Vol 49, No 11, Nov 70, pp 1697-1704

relative constancy of the many populations of wild mammals and the large numbers of Ixodes ticks.

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USSR

UDC 616.31.455-036.21

OLSUF'YEV, N. G., and DUNAYEVA, T. N.

Prirodnaya Ochagovost', Epidemiologiya, i Profilaktika Tulyaremi (Natural Foci, Epidemiology, and Prophylaxis of Tularemia), Moscow, "Meditsina," 1970, 272 pp

Translation:

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60

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USSR

OLSUF'YEV, N. G., and DUNAYEVA, T. N., Prirodnaya Ochagovost', Epidemiologiya, i Profilaktika Tulyaremi (Natural Foci, Epidemiology, and Prophylaxis of Tularemia), Moscow, "Meditsina," 1970, 272 pp

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USSR

UDC 595.772(47)

OLSUF'YEV, N. G., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"New and Little-Known Tabanidae (Diptera) From the Fauna of USSR and Adjacent Countries, Report 2"

Leningrad, Entomologicheskoye Obozreniye, Vol 51, No 2, 1971, pp 446-453

Abstract: New taxonomic groups of Tabanidae are described. 1) new subgenus. In genus *Hybomitra* End., a new subgenus *Mouchaemyia* differs from subgenus *Hybomitra* s.str. by presence of hairs on the sides of the frontal triangular plate. 2) 3 new species: Among new *Tabanus* species, *T. talyshi* Ols. resembles *T. lunatus* F. and *T. bacterianus* Ols. but differs in having brown rather than grey-black haunches and light rather than blackish medial and rear legs. *T. parelegans* Ols. is similar to *T. subparadoxus* Ols. and *T. swiridowi* Ports. but differs from the former by narrower upper edges on antennary sockets and white ventral facial pilli, whereas the male differs from the latter by absence of brown abdominal spots and the female has eye facets of different size. *T. nartshukae* Ols. is closet to *T. ziniini* Ols. but differs by presence of black transverse parietal stripes and absence of a dark stripe at the antenna base. 3) 7 new subspecies: Of 2 new *Chrysops* subspecies, *Ch. ricardoae volgensis* Olsufjev and *Ch. ricardoae jakutensis* Ols differ from *Ch. ricardoae* Pleske by several morphological features and
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USSR

OLSUF'YEV, N. G., Entomologicheskoye Obozreniye, Vol 51, No 2, 1971,
pp 446-453

isolated distribution. New *Tabanus* subspecies *quaternotatus araxis* Ols. and *sabuletorum oculipilosus* differ in morphology and coloration from the nominative form, except that female *T.s. oculipilosus* are indistinguishable from the nominative form. New *Hybomitra* subspecies *distendua contigua* Ols. is identical to *H. ciureai* Seg. except for habit, wider abdomen, and differences in tergum and sternite morphology. Females of both new *Haematopota* subspecies, *turkestanica orientalis* Ols. and *pluvialis ioffi* Ols., differ from the nominative form, while differences in the males are unknown. 4) Discovered for the 1st time in the USSR were the North American species *Hybomitra sexfasciata* Hine and the Northeast Chinese species *H. adachii* Takagi (both of subgenus *Hybomitra*). 5) On the basis of the International Code of Zoological Nomenclature, a new name is suggested for subspecies *Hybomitra lundbecki sibiriensis*, which was described by the author earlier as *H. sibirica*.

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1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RECOVERY PHENOMENA IN SACCHAROMYCES CEREVISIAE. I. LETHALITY AND
MITOTIC RECOMBINATION INDUCED BY GAMMA RAYS AND CHEMICALS IN UV
AUTHOR--(03)-OLTEANU, V., KUZNETSOVA, O.B., ARMAN, I.P.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(2), 123-9

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SACCHAROMYCES, UV RADIATION BIOLOGIC EFFECT, RADIATION
SENSITIVITY, MICROORGANISM MUTATION, RADIATION INDUCED MUTATION,
MITOSIS, INORGANIC ACID, NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/2051

STEP NO--UR/0473/70/006/002/0123/0129

CIRC ACCESSION NO--AP0122280

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0122280

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LETHALITY AND MITOTIC RECOMBINATION INDUCED BY UV, GAMMA RAYS, NITROUS ACID, AND NITROSOGUANIDINE (I) HAVE BEEN STUDIED IN UV SENSITIVE DIPLOID S. CEREVISIAE. THE SUPERSENSITIVE STRAIN PG-61 AND WILD TYPE PG-60 DEMONSTRATED APPROX. EQUAL RESISTANCE TO THE LETHAL EFFECT OF IONIZING RADIATION AND NITROSOGUANIDINE. AFTER 20 AND 40 MIN. EXPOSURES TO NITROUS ACID, THE SURVIVAL RATE OF THE SENSITIVE STRAIN WAS APPROX. 1.5 TIMES LOWER THAN THAT OF WILD TYPE. IN EXPTS. WITH UV, THESE STRAINS SHOWED A 25-28 FOLD DIFFERENCE IN SURVIVAL RATE. IT IS CONCLUDED THAT THE UN MUTATION AFFECTS REPAIR ONLY OF UV DAMAGE, I.E., PHOTOPRODUCTS OF THE DNA PYRIMIDINE DIMER TYPE. DARK REPAIR OF LETHAL DAMAGE CAUSED BY OTHER AGENTS (GAMMA RAYS, I) OCCUR NORMALLY, WITH THE EXCEPTION OF A SMALL PART OF THE DAMAGE INDUCED BY NITROUS ACID. NO DIFFERENCE IN THE FREQUENCY OF RECOMBINANTS INDUCED BY NITROUS ACID WAS SLIGHTLY HIGHER THAN THAT OF WILD TYPE. IT IS CONCLUDED THAT THERE IS A CORRELATION BETWEEN SESITIVITY TO THE LETHAL EFFECT AND FREQUENCY OF INDUCED RECOMBINANTS, IN AGREEMENT WITH THE PREMISE THAT RECOMBINATION IS A RESULT OF DAN DAMAGE. THE FREQUENCY OF RECOMBINATION IN WILD TYPE CELLS WAS HIGHEST WHEN INDUCED BY GAMMA RAYS, SLIGHTLY LOWER WITH UV AND NITROUS ACID, AND LOWEST WITH I. FACILITY: I. V. KURCHATOV INST. AT. ENERGY, MOSCOW, USSR.

UNCLASSIFIED

1/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--DETERMINING THE THERMAL RESISTANCE OF A DISC TYPE RECTIFIER USING ELECTROTHERMAL ANALOGY -U-

AUTHOR--(U4)-OLYAK, V.D., KRASNOBAYEV, A.M., ROMANOVSKIY, V.F., OSTRENKO, V.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTROTEKHNIKA, 1970, NR 2, PP 30-32

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--THERMAL ANALYSIS, SEMICONDUCTOR RECTIFIER, PN JUNCTION, COOLING RATE, ELECTRONIC CIRCUIT MODELING/(U)VKL300 SEMICONDUCTOR RECTIFIER, (U)EGCA960 ELECTROINTEGRATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/1222

STEP NO--UR/0292/70/000/002/0030/0032

CIRC ACCESSION NO--AP0123186

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30UCT70

CIRC ACCESSION NO--AP0123186

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDY THE APPLICATION OF THE ELECTROTHERMAL ANALOGY METHOD FOR DETERMINING THE HEATING TEMPERATURE OF THE P,N,JUNCTION AND THERMAL RESISTANCE OF THE VKL,300 SEMICONDUCTOR POWER RECTIFIER. THE ELECTROD MODEL IS MADE FROM CONDUCTING PAPER. THE EGDA-9-60 ELECTROINTEGRATOR WAS USED FOR MEASURING. THE WORK PRESENTS A DETERMINATION OF THE SCALES OF ANALOGOUS TRANSFORMATION, THEIR INTERRELATIONSHIP, CALCULATION OF THE ELEMENTS OF THE MODEL ALONG WITH A DETERMINATION OF THE P,N,JUNCTION HEATING TEMPERATURE AND THERMAL RESISTANCE OF THE RECTIFIER UNDER THREE COOLING REGIMES. A COMPARISON OF THE DATA OBTAINED FROM THE MODEL WITH THE RESULTS OF THE FULL SCALE EXPERIMENT SHOWS GOOD AGREEMENT.

UNCLASSIFIED

Magnesium

USSR

UDC 669.721

OLYUNIN, G. V., MUZHZHAVLEV, K. D., IVANYUSHKINA, L. A., and
YUZHANINOVA, T. P.

"Thermal Balance of Powerful Diaphragm-Type Magnesium Electrolyzer
With Top Mounting of Anodes"

Tsvetnyye Metally, No 3, Mar 71, pp 62-64

Abstract: In order to determine the degree of utilization of power and the nature of thermal losses in magnesium electrolyzers of different capacities with identical design, the thermal balance of an electrolyzer was measured. Recommendations are given to decrease heat losses and increase the efficiency of the electrolyzer. The most important means of decreasing the heat losses and increasing efficiency is said to be decreasing the quantity of gas exhausted at the cathode, plus reduction of losses from the anode heads and through the top cover, increasing the removal of magnesium from the electrolyzer without increasing the heat losses.

1/1

Magnesium



USSR

UDC 669.721

OLYUNIN, G. V., MUZHZHAVLEV, K. D., IVANYUSHKINA, L. A., and
YUZHANINOVA, T. P.

"Thermal Balance of Powerful Diaphragm-Type Magnesium Electrolyzer
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Abstract: In order to determine the degree of utilization of power and the nature of thermal losses in magnesium electrolyzers of different capacities with identical design, the thermal balance of an electrolyzer was measured. Recommendations are given to decrease heat losses and increase the efficiency of the electrolyzer. The most important means of decreasing the heat losses and increasing efficiency is said to be decreasing the quantity of gas exhausted at the cathode, plus reduction of losses from the anode heads and through the top cover, increasing the removal of magnesium from the electrolyzer without increasing the heat losses.

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UDC 539.171.12

USSR

BENGALI, N., GALAKHMATOVA, B. S., CULAMOV, I. R., KALACHEVA, Z. F., OMAR, M. R.
and FOMANOVSKIY, Ye. A.

"Polarization of Protons as a Function of Energy during Elastic Scattering in
 ^{24}Mg "

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Fizicheskaya, Vol XXXV, No 8,
1971, pp 1695-1696

Abstract: The authors used the double-scattering method to measure the extent to which polarization of protons during elastic scattering in ^{24}Mg depends on energy. Their experiments were carried out for energies ranging from 5.9 to 6.5 million electron volts for 60° and 120° angles of scattering. While measuring the dependence of polarization on energy during elastic scattering, they also evaluated it for the case of inelastic scattering of protons in ^{24}Mg with an excitation level of 1.37 million electron volts, borrowing some needed data from another work. They found that polarization of protons varied considerably as a function of their energy for both angles in both types of scattering. The authors emphasize that their results are merely preliminary. They are planning further experiments to obtain spectroscopic information and data on the mechanism by which polarization is initiated.

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Acc. Nr. **AP0054346** - Abstracting Service:
CHEMICAL ABST. 10/70

Ref. Code

4R0032

117429z Amperometric determination of triphosphate ion.
 Omarkulova, G. O.; Songina, O. A.; Freze, N. A. (Kaz. Khim.-
 Technol. Inst., Alma-Ata, USSR). *Zavod. Lab.* 1970, 38(1),
 20-1 (Russ). $\text{Na}_3\text{P}_3\text{O}_{10}$, until recently, was detd. indirectly
 either by titrn. of H^+ evolved by addn. of excess Zn^{++} at pH
 3.8 or by pptn. by BaCl_2 at pH 5. $\text{P}_2\text{O}_7^{4-}$ interferes with the
 latter method. Presently $\text{P}_3\text{O}_{10}^{3-}$ is detd. directly either by
 chromatog. or gravimetrically by pptn. with $\text{Co}(\text{en})_2\text{Cl}_2$. The
 amperometric procedure is a variant of this gravimetric method.
 The titrn. was carried out with a dropping Hg electrode at
 -0.8 V vs. SCE . The soly. of the ppt. was decreased by adding
 EtOH to 30-50% by vol. One g of $\text{Na}_3\text{P}_3\text{O}_{10}$ was dissolved in
 H_2O and dild. to 100 ml. A 10-ml aliquot plus sufficient HCl
 ($\sim 0.5 \text{ ml}$) to give pH 3.6 and 10 ml of a buffer soln. made up of
 105 ml HOAc, 25-30 ml of EtOH, and 5-6 small pellets of gelatin
 were placed in the polarographic cell. O was purged by bubbling

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through CO₂ for 3-5 min and the soln. was titrated with Co(en)₃Cl₂ with agitation and continued CO₂ purging. The ppt. formed slowly and a const. current reading indicating the equivalence point was not achieved until 4-5 min after the 1st appearance of the ppt. Statistical comparison of the gravimetric and amperometric methods at the 95% confidence level gave variances of 0.28% and 0.30%, resp. Thus, while the accuracy of both procedures was exptl. the same, the amperometric method is preferred because a detn. takes only 20-30 min.

Heriman Koretzky J

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UDC 66.017

KORSUNSKIY, M. I., GENKIN, Ya. Ye., and OMAROV, M. M.

"X-Ray L-Spectra of Niobium and the Electron Structure of the Compound Nb₃Sn"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 89-91

Translation: The X-ray emission L-spectra of niobium in the compound Nb₃Sn are studied. The X-ray spectral data produced are used in forming conclusions about the electron structure of the alloy Nb₃Sn. It is established that in the region of the Fermi boundary, the weight of the d-states in the wave functions of collectivized electrons is near unity. The width of the energy zone of collectivized electrons is on the order of 7 ev, corresponding to a concentration of $\sim 1.6 \pm 0.2$ almost-free electrons per atom of the alloy. The weight of p-states in the wave functions of electrons creating local bonds is great, and there is an admixture of d-states. The authors believe that this facilitates the formation of directed chain bonds between niobium atoms.

1 figure; 5 biblio. refs.

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1/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT7

TITLE--SYNTHESIS OF NEW WEAKLY ACIDIC CATION EXCHANGERS BASED ON CHLORO
SUBSTITUTED PHENOLS -U-

AUTHOR-(03)-MANGASAROV, S.A., PAUSHKIN, YA.M., OMAROV, D.YU.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMGL. SOEDIN., SER. B. 1970, 12(3), 173

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION EXCHANGE RESIN, CHLORINATED AROMATIC COMPOUND, PHENOL,
CATALYTIC POLYMERIZATION

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/0662

STEP NO--UR/0460/70/012/003/0173/0173

CIRC ACCESSION NO--AP0124334

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124334

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYMN. OF CHLOROPHENOLS, SUC AS O CHLOROPHENOL, IN THE PRESENCE OF ALCL SUB3 CUCL SUB2, FECL SUB3, O MOCL SUB5 IN THE 150-300DEGREES RANGE GAVE ION EXCHANGE RESINS STABLE LESS THAN OR EQUAL TO 350DEGREES WITH ION EXCHANGE CAPACITY 2.5-4.5 MEQUIV.-G.

UNCLASSIFIED

USSR

UDC 619:616.988.43:635.22/.28

TOLSTYAK, I. Yo., BAKUMENKO, M. D., CHECHETKINA, N. P., KOROZENKO, P. A., and
~~OMELAVENKO, A. A.~~ Ukrainian Scientific Research Institute of Experimental
Veterinary Medicine

"Epizootiology of Food-and-Mouth Disease Variant A22"

Moscow, Veterinariya, No 5, May 71, pp 45-46

Abstract: The history of foot-and-mouth disease variant A22 in the Ukraine can be separated into two periods: the prevaccination period, when the fight against the infection consists primarily of veterinary sanitation measures, and the vaccination period, characterized by widespread use of aluminum hydroxide formaldehyde vaccine from lapinized A22 virus. Still, active immunization of animals in the Ukraine was required. The development of the disease in recent years (1956-1959) in various regions of the Ukraine is reviewed. It was concluded that the establishment of immune zones for cattle, using the above vaccine, might solve the foot-and-mouth disease problem for all animals within a given region.

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1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ELASTIC ELECTRON SCATTERING ON NICKEL 58, NICKEL 60, NICKEL 64, AND
TIN 112, TIN 118 ISOTOPES -U-
AUTHOR--(05)-KHAVASTUNOV, V.M., AFANASEV, N.G., AFANASEV, V.D., GULKAROV,
I.S., OMELARENKO, A.S.
COUNTRY OF INFO--USSR

SOURCE--NUCL. PHYS. A 1970, 146(1), 15-25

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ELECTRON SCATTERING, ELASTIC SCATTERING, NICKEL ISOTOPE, TIN
ISOTOPE, CHARGE DENSITY, ATOMIC RADIUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/0274

STEP NO--NE/0000/70/146/001/0015/0025

IRC ACCESSION NO--AP0119269

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

IRC ACCESSION NO--AP0119269

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABS. MEASUREMENTS HAVE BEEN PERFORMED FOR THE ELASTIC SCATTERING OF 225 MEV E ON PRIME 58,60,64 NI AND PRIME 112,118 SN ISOTOPES. THE EXPTL. RESULTS WERE ANALYZED BY USING THE HIGH ENERGY APPROXN. FOR THE FERMI TYPE CHARGE D. DISTRIBUTION. THE DERIVED ROOT MEANSQUARE RADII SHOW A CORRELATION BETWEEN THE CHANGE OF THE CHARGE RADIUS OF THE ISOTOPES AND THE ORBITAL MOMENTA (OR N SUBSHELL FILLING) OF THE ADDED N. THE RADII, DEDUCED FROM THE TRANSITION ENERGIES OF MUONIC ATOMS, TURN OUT TO BE SMALLER. AGREEMENT BETWEEN THE 2 EXPTS. CAN BE REACHED UNDER THE ASSUMPTION THAT THE CHARGE D. HAS A PRONOUNCED MAX. IN THE CENTRAL REGION OF THE PRIME58 NI NUCLEUS AND IS LESS PRONOUNCED FOR PRIME118 SN. FACILITY: PHYS. TECH. INST., KHARKOV, USSR.

UNCLASSIFIED

1/2 009
UNCLASSIFIED
TITLE--MESON ELECTROPRODUCTION ON A POLARIZED PROTON -U- PROCESSING DATE--16OCT70
AUTHOR--OMELAYENKO, A.S.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(2), 425-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTRON INTERACTION, PARTICLE PRODUCTION, PION, PROTON
POLARIZATION, GEOMETRY, CHARGE DENSITY, CALCULATION, NEUTRON PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1991/1035 STEP NO--UR/0367/70/011/002/0425/0429
CIRC ACCESSION NO--AP0110725
UNCLASSIFIED

272 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTROPRODUCTION PROCESS EP YIELDS EN PI PRIME POSITIVE ON A POLARIZED P IS CONSIDERED. CONTRIBUTIONS TO THE CROSS SECTION WHICH ARE DUE TO POLARIZATION OF THE TARGET ARE CALCD. FOR THE GENERAL CASE, THE SENSITIVITY OF THOSE CONTRIBUTIONS TO THE FORM FACTOR OF THE PI MESON AND TO THE CHARGE FORM FACTOR OF THE NEUTRON G SUBEN IS ESTD. IN THE REGION OF THE FIRST PI N RESONANCE. THE ASYMMETRY FOR THE PARTICULAR CASE OF FORWARD ELECTROPRODUCTION IS CALCD. FACILITY: FIJ. TEKH. INST., KHARKOV, USSR.

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