

USSR

UDC 621.382.322

AYRAPETYANTS, S.V., KOMAROVSKIKH, K.F., MURYGIN, V.I., POSPELOV, V.V., STAFEYEV, V.I.

"Field Effect Transistor"

USSR Author's Certificate No 263750, filed 4 Dec 68, published 15 June 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B422F)

Translation: A field effect transistor is proposed which contains one p-n junction and an insulated gate electrode, with the p-n junction located perpendicular to the gate electrode, and the length of the base more than twice the diffusion length of the minority charge carriers. The transistor has a region of negative resistance in the volt-ampere characteristic (S-type).

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USSR

UDC 576.858.75.095 5

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., MEASNIKOVA, I. A.,
MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STAKHANOVA, V. M.,
Institute of Biology imeni D. I. Ivanovskiy, Academy of Medical Sciences,
USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the
1968-1969 Influenza Epidemic. Communication 1: Biological Properties of
Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuro-
amidase and eluent activities, stability against UV light, and pathogenic and
toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar
strains isolated in the USSR. The latter strains did not differ significantly
from the former. On the basis of the test results, it is assumed that evolu-
tion of the A2 virus in nature does not involve reversion to strains of group
A0. Additional studies with laboratory varieties are required to elucidate
this problem.

1/1

PROCESSING DATE--23OCT70

UNCLASSIFIED

1/2 016

TITLE--INJECTION CONDUCTIVITY IN COMPENSATED SEMICONDUCTORS WITH IMPURITY
SCATTERING -U-

AUTHOR--(05)-GRIGORYEV, V.K., KAZANTSEV, O.I., MURYGIN, V.I., RUBIN, V.S.,
STAFEEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHN. POLUPROV., JAN. 1970, 4, (1), 116-119

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM SEMICONDUCTOR, GALLIUM ARSENIDE SEMICONDUCTOR,
ELECTRIC PROPERTY, SEMICONDUCTOR IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0992

STEP NO--UR/0449/70/004/001/0116/0119

CIRC ACCESSION NO--AP0124651

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 016

CIRC ACCESSION NO--AP0124651

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECT OF CARRIER INJECTION OF THE V-A CHARACTERISTICS AND GENERAL ELECTRICAL PROPERTIES OF COMPENSATED SEMICONDUCTORS SUCH AS GE AND GAAS INCORPORATING IMPURITY SCATTERING IS DISCUSSED THEORETICALLY. A MECHANISM IS PROPOSED IN ORDER TO EXPLAIN THE CREATION OF A NEGATIVE DIFFERENTIAL RESISTANCE IN THE FORWARD BRANCH OF THE V-A CHARACTERISTIC DUE TO THE CHANGE IN SCREENING RADIUS ARISING FROM THE INJECTION. EXPERIMENTAL RESULTS QUALITATIVELY SUPPORT THE THEORY.

UNCLASSIFIED

Acc. Nr. **APG105554** - Abstracting Service:
CHEMICAL ABST.

Ref. Code
4R0449

126618n Magnetodiodes made from nickel-doped silicon.
 Karakushan, E. I.; Kovarskij, V. Ya.; Komarovskikh, K. F.;
 Kruzhanov, Yu. V.; Stalck, V. I. (USSR. Fiz. Tsh.
~~Poluprov.~~ 1970, 4(3), 628-69 (Russ). S-diodes were prepd. from
 Ni- and P-doped Si from the melt. The semi-insulating n-type
 Si platelets had a resistivity of 2 kilohm-cm, a thickness of 480-
 660 μ , and a diam. of the p-n junction of 150 μ (it was formed by
 the diffusion of evapd. Al); the 2nd contact was alloyed Au +
 Sb. The sensitivity to a magnetic field was characterized by the
 dynamic current (I) magnetosensitivity, $\gamma_i = \frac{dI}{dH} \frac{U_s - R_L \cdot I}{U_s}$,
 where U_s is the source voltage, R_L the load resistance, and H the
 magnetic field strength. The H dependence of γ_i had a sharp
 max., which increased with increasing U_s and decreasing R_L .
 The max. γ_i at room temp., with $U_s = 13$ V and $R_L = 80$ ohms,
 was 60 mA/kOe in a field of 1.3 kOe. The switching coeff. (ratio
 of the current without field to that in a field) was 70-250. The
 voltage magnetosensitivity, γ_v , increased with increasing I and
 increasing H . In a field of 6 kOe at $I = 10$ mA, $\gamma_v = 6$ V/kOe.
 Peter Vajda

REEL/FRA
19880569

172 018 UNCLASSIFIED PROCESSING DATE--18SEP70
 TITLE--EFFECT OF SURFACE STATE AND ILLUMINATION ON PHENOMENA IN STRONG
 ELECTRIC FIELDS IN GERMANIUM CONTAINING A GOLD IMPURITY -U-
 AUTHOR-(02)-KARIMOVA, I.Z., STAFEYEV, V.I.
 COUNTRY OF INFO--USSR
 SOURCE--FIZ. TEKH. POLUPROV. 1970 4(1) 213-16
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS, MATERIALS
 TOPIC TAGS--GERMANIUM, SILVER, ELECTRIC FIELD, DOPED ALLOY,
 ILLUMINATION, VOLT AMPERE CHARACTERISTIC
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1983/1824 STEP NO--UR/0449/70/004/001/0213/0216
 CIRC ACCESSION NO--AP0054658
 UNCLASSIFIED



2/2 018

CIRC ACCESSION NO--AP0054658

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME DATA, WHICH CONFIRM THE INJECTION DOMAIN MODEL GIVEN BY STAFEEV (1970), ARE PRESENTED CONCERNING THE EFFECT OF SURFACE STATE AND ILLUMINATION ON PROPERTIES OF AU DOPED GE IN STRONG ELEC. FIELDS. THE INJECTION OF MINORITY CARRIERS FROM THE SURFACE WAS STUDIED, WHILE INJECTION FROM CONTACTS WAS EXCLUDED BY CREATION OF ANTINEG. CONTACTS. THE CURRENT VOLTAGE CHARACTERISTICS OF THE SAMPLES WITH VARIOUS QUALITIES OF THE SURFACE WERE MEASURED DURING IMMERSION OF THE SAMPLES IN LIQ. N AND O. FURTHERMORE, THE EFFECTS OF CONTINUOUS AND PULSED ILLUMINATION WERE ANALYZED. THE RESULTS CANNOT BE EXPLAINED WITHOUT CONSIDERATION OF THE INJECTION OF MINORITY CARRIERS FROM THE NEAR SURFACE REGION AND OF THE CREATION OF INHOMOGENEITIES. THE LATTER FACTOR IS CONTROLLED BY SURFACE STATE AND ILLUMINATION. THE INJECTION DOMAIN MODEL ALLOWS ONE TO EXPLAIN REASONABLY ALL THE PHENOMENA.

UNCLASSIFIED

USSR

UDC: 621.382.2

KOZLOV, N. P., LEVASHOV, I. P., MURYGIN, V. I., POPOV, I. V., SONDAYEVSKIY, I. A. and STAFEYEV, V. I., Moscow Institute of Electronic Technology
"Some Research in S-Diode Neuristors"

Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972,
pp 1054-1061

Abstract: The neuristors investigated in this article have S-shaped volt-ampere characteristics and are of two types: first, with common anti-cutoff contact and a sectioned p-n junction; second, with common p-n junction and sectioned anti-cutoff contact. The schematics of both types are given. If the diode structures in the circuit are sufficiently far from each other, the switching delay time may be much less than the switching time of an individual element, and the interelement switching time can be neglected. It is shown that when the delay time between the switching of neighboring elements is much greater than the switching time, the dependence of the breakdown voltage on the parameters of the material has only a slight effect on the coupling between the active elements in the neuristor line. The second part of this paper describes experiments performed to verify the theoretical results of the first part. These experiments used neuristors of p-type germanium compensated by gold.

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1/2 JC9 UNCLASSIFIED
TITLE--EFFECT OF OLEIC ACID ON YEASTS -U-

PROCESSING DATE--20NOV70

AUTHOR--(049)ROZMANOVA, N.V., PALAGINA, N.K., CHERNYSH, V.G., STAFYEVA,
I.A.

COUNTRY OF INFO--USSR

SOURCE--PRIKL. BIKHIM. MIKROBIOL. 1970, 6(13), 303-6

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OLEIC ACID, YEAST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0113

STEP NO--UR/0411/70/006/003/0303/0306

CIRC. ACCESSION NO--AP0135615

UNCLASSIFIED

S

2/2 009

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135615

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OLEIC ACID ADDED AT 20 KG-TON OR MORE TO BAKERS' YEAST GROWN IN MOLASSES MINERAL MEDIUM SOMEWHAT INCREASED THE YIELD OF BIOMASS AND SIGNIFICANTLY ACCELERATED PROTEOLYSIS DURING STORAGE OF YEAST. IT IS NOT CLEAR WHETHER THIS IS DUE TO DIRECT ACCELERATION OF PROTEOLYSIS BY THE HIGH OLEIC ACID CONCNS. OR TO THE TOXIC ACTION OF OLEIC ACID OXIDES. FACILITY: LENINGRAD RES. INST. FOOD IND., LENINGRAD, USSR.

UNCLASSIFIED

Molecular Physics

USSR

UDC: 539.219.3:669.01

ARKHANOV, V. I., Academician of the Academy of Sciences of the UkrSSR, BABOSYUK, A. L., BALANAYEVA, N. O., BOHOSLOWS'KIYY, V. M., KOVALENKO, L. D., STAFYRYEVA, N. M., Donetsk Physicotechnical Institute, AS UkrSSR

"Investigation of the Kinetics of Growth of Layers in Two-Phase Scales"

Kiev, Dopovidi Akademii Nauk Ukrain's'koi URSR, Seriya A: Fizyko-Tekhnichni ta Matematychni Nauki, No 4, Apr 71, pp 341-344

Abstract: The authors investigate the kinetics of growth of layers of scale formed when Armco iron is oxidized at a temperature of 540°C and when cobalt is oxidized at 650°C. It is shown on the basis of experimental data that a layer of Fe_3O_4 forms when iron is oxidized in air, while the Fe_2O_3 layer on iron remains practically unchanged after a certain thickness is reached. In the case of cobalt, an increase is observed in the thickness of the Co_3O_4 layer, while the thickness of the CoO phase remains constant. These results are attributed to the imperfection of the oxides from which the scale is formed and to the collective participation of atoms in matter transfer.

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USSR

UDC 622.342:541.183.12

FRIDMAN, I. D., POCHKINA, L. YE., ZDOROVA, E. P., BEK, R. KU., MASLIY, A. I.,
PUNISHKO, O. A., POCHIVALOV, I. N., and STAFYEYVA, L. B.

"Ion-Exchange Technology in Gold Hydrometallurgy"

Moscow, Tsvetnyye Metally, No 3, Mar 70, pp 70-74

Abstract: Ion-exchange technology permits the use of filter-free systems, thus eliminating both costly equipment and cumbersome operations -- filtration of pulp and washing of precipitates as well as precipitation of Au from solutions. Sorption leaching, which is more complete in dissolving Au from ore and reduces the loss of dissolved gold in the dump pulp, offers much better conditions for higher Au extraction. In order to provide satisfactory results, the new technology requires the use of anionites, which are selective with respect to Au, and also have high kinetic, mechanical, and regeneration properties. The selectiveness of the AP-2 anionite, synthesized at the Kemerov Scientific-Research Institute for the Chemical Industry, was found to be 2--2.5 and its capacity -- 1.3--1.5 times that of similar anionites. The anionite was tested on a semi-industrial unit using a counter-current system. The high desorption capacity of the bifunctional AP-2 anionite with respect to metal impurities makes it possible to simplify the regeneration process and reduce the number of required elements. The process ...

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FRIDMAN, I. D., et al, Tsvetnyye Metally, No 3, Mar 70, pp 70-74

includes the following phases: desorption of CN, Zn, and Ni with HNO_3 or H_2SO_4 solutions; desorption of Au, Ag, and Cu by chloride and sulfide solutions of thio-urea during electroelution, and desorption of Fe by NH_4NO_3 alkaline solutions at $50\text{--}55^\circ\text{C}$. The high desorption capacity of the AP-2 anionite determines the relatively short duration of the regeneration process: desorption of CN, Zn, and Ni -- 5 hrs; desorption of Au, Ag, Cu during electroelution -- 3--5 hrs; desorption of Fe--5 hrs. The complete procedural flow chart is given in the original article.

2/2

Radiobiology

USSR

UDC 577-391

RYAZANOV, V. M., and STAKANOV, V. A., Chair of Biophysics, Moscow State University

"The Role of Phospholipids in Irradiation Injury of Mammals with Different Degrees of Radiosensitivity"

Moscow, Vestnik Moskovskogo Universiteta, Seriya 6, Biologiya, Pochvovedeniye, No 6, Nov/Dec 71, pp 107-108

Abstract: Prior to their exposure to a 700 rad dose of radiation, white rats and guinea pigs were found to have the same overall percentages of phospholipids in the tissues of their livers, brains, and small intestines, although the phospholipid content of total lipids was higher in guinea pigs than in rats. Following irradiation, this index declined steadily in guinea pigs, but in white rats it increased, remained constant for 4-5 days, then dropped. As for the overall phospholipid content, it showed a significant decrease in both species. This corroborates a known fact that oxidizing chain reactions occur after exposure to radiation and result in the formation of lipid radiotoxins and the breakdown of natural phospholipid antioxidants. This fact also helps to explain the decrease in the antioxidizing activity of phospholipids which was observed in both species.

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Epidemiology

USSR

UDC 616.988.75-06:616.988.5]-053.8-036

ALEKSEYEVA, A. A., KETILADZE, Ye. S., KNYAZEVA, L. D., KRYLOV, V. F.,
GRUSHINSKAYA, I. A., ZHILINA, N. N., and STAKHANOVA, V. M., Clinical Department,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR
on the base of Clinical Infectious Disease Hospital No. 82, Moscow

"The Course of Mixed Influenza-Adenoviral Infection in Adults"

Moscow, Klinicheskaya Meditsina, No 1, 1973, pp 101-105

Abstract: Of 1055 patients, age 16 to 78 admitted to the authors' hospital with respiratory symptoms during the 1969 and 1970 influenza A2-Hongkong epidemics, 158 (15%) were diagnosed after physical examination and laboratory tests as having a mixed influenza-adenoviral infection. About one-third of these had the clinical symptoms of adenoviral infection (toxicosis, headache, head cold, pain in the throat, cough, pharyngitis) along with the usual symptoms of influenza. In the other two-thirds, the disease proceeded asymptotically in the form of a virus carrier state or subclinically. The average duration of the above symptoms was much longer than in those suffering from influenza or adenoviral infection alone; pharyngitis persisted the longest. Systematic follow-up (2 years) of the patients with chronic adenoviral infection exacerbated by influenza confirmed the continued presence of adenovirus even though the individuals felt well and exhibited no signs of inflammation of the respiratory tract.

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USSR

UDC 616.981.25-06:616.988.75-092.9

MURAD, A. S., and STAKHANOVA, V. M., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Experimental Study of Combined Staphylococcus-Influenza Infection"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 616-621

Abstract: Mice were inoculated with Staphylococcus aureus strain No 209 and influenza virus strain WS, given in nonlethal doses either simultaneously or successively at intervals up to 96 hrs. The synergistic effect of this combined infection was manifested in increased mortality (15-50%), as compared with control animals receiving bacteria only, virus only, or physiological saline (0-15%). Proliferation of both agents was a prerequisite for the synergistic effect. The period of elimination of bacteria from the lungs was protracted, so that the microbes were found for up to 15 days in the respiratory pathways of mice with compound infection but only for 4 days in control animals. No significant differences were observed in lung titers of influenza virus between experimental and control animals. It is suggested that the synergistic effect may be due to reduced phagocytosis in the lungs, as a result of virus-induced destruction of ciliary epithelium and ensuing pulmonary edema.

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W2 007

UNCLASSIFIED

PROCESSING DATE--11DEC70

TITLE--REACTION OF 1,5-DIKETONES WITH HYDROGEN SULFIDE IN ACID MEDIA -U-

AUTHOR--(05)-KHARCHENKO, V.G., KUPRANETS, N.M., KLEIMENOVA, V.I.,
RASSUDOVA, A.A., STANKEVICH, M.E.

COUNTRY OF INFO--USSR

SOURCE--ZH. URG. KHIM. 1970, 6(5), 1119-20 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--KETONE, HYDROGEN SULFIDE, BENZENE DERIVATIVE, THIOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1289

STEP NO--UR/C366/70/006/005/1119/1120

CIRC ACCESSION NO--AP0134963

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 007

CIRC ACCESSION NO--AP0134963

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RCOCHR PRIME1 CHR
 PRIME2 CHR PRIME3 COR PRIME4 WITH H SUB2 S AND HBR, HI, OR P SUB2 O SUB5
 IN INERT SOLVENTS GIVES 2,R,3,R PRIME1, 4,R PRIME2, 5,R PRIME3, 6,R
 PRIME4, PENTASUBSTITUTED THIOPYRANS, WHICH DISPROPORTIONATE IN ACID
 MEDIUM TO GIVE ONE MOL. OF THE CORRESPONDING TETRAHYOROTHIOPYRAN (I) AND
 2 MOLS. OF THE CORRESPONDING THIOPYRYLIUM CHLORIDE. PROPERTIES OF THE
 FOLLOWING I ARE GIVEN (R, R PRIME1, R PRIME2, R PRIME3, AND R PRIME4
 GIVEN): PH, H, H, H, PH; PH, H, PH, H, PH; PH, H, ME, H, PH; ALSO R
 EQUALS PH, R PRIME1 EQUALS H, R PRIME2 EQUALS P, MECC SUB6 H SUB4, (R
 PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4; R EQUALS PH, R PRIME1 EQUALS H,
 R PRIME2 EQUALS C SUB6 H SUB3 (OME) SUB2 3,4, (R PRIME3 R PRIME4 EQUALS
) (CH SUB2) SUB4; AND (R EQUALS R PRIME1 EQUALS) (CH SUB2) SUB4, (R
 PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4, R PRIME2 EQUALS H OR ME.
 FACILITY: SARATOV. POLITEKH. INST., SARATOV, USSR.

UNCLASSIFIED

1/2 009

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--CONVERTER STEELMAKING -U-

AUTHOR--(05)-BAKLAN, P.P., CSTAPENKO, V.D., STAKHNEVICH, V.L., GVOZDEV,
A.I., PERESVETOV, S.M.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,623
REFERENCE--UTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, STEEL MANUFACTURE PROCESS, SPONGE IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1824

STEP NO--UR/0482/70/000/0000/0000

CIRC ACCESSION NO--AAC132069

UNCLASSIFIED

2/2 CC9 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AA0132089
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL IS MELTED BY USING CHARGES
OF SMALLER THAN 30PERCENT HEAT ORE BRIQUETS AND SMALLER THAN OR EQUAL TO
40PERCENT SPONGE FE. FACILITY: GOSUDARSTVENNIY
PROYEKTO-IZYSKATEL'SKIY I TORFUHAZVEDOCHNYY INSTITUT GIPRATORFAZVEDKA.

UNCLASSIFIED

USSR

UDC 681.332.65

STAKHOV, A. P., and POLOSUKHINA, L. A.

"Determining the Static Conditions of Bipolar Switches"

Pribory i sistemy avtomatiki. Resp. mmezhved. nauch-tekhn. sb. (Automation Instruments and Systems. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 16, pp 91-95 (from RZh-Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B252)

Translation: The qualitative features of transistorized switches designed to commute voltages which vary with respect to the zero level are investigated. A procedure is presented which permits preliminary determination of the static conditions. The parameters of the calculation are residual voltages measured under no-load conditions at the output, with base currents of one and 10 milliamps. There are 3 illustrations, one table, and a 1-entry bibliography.

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СТАКHOV, L.F.

UNCLASSIFIED

SECTION V 501 *Секция Атмосфера Кавказ*

name: Institute of Photosynthesis, Pushchino
description:

PC5-89
JUNE 71

photosynthesis
(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. Khuzaleva, V. I. Strel'eva, and Ye. F. Yegorova (3). At 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:

ALLIANCE OF PHOTOSYNTHESIS

- Akulova, Ye. A.
- Gavrilova, V. A.
- Khuzaleva, S. G.
- Lebedev, A. I.
- Makarov, A. D.
- Kal'yan, A. N.
- Mukhin, Ye. N.
- Olyanishnikova, G. D.
- Popova, N. B.
- Prokharova, L. I.
- Sadovnikova, N. D.
- Sheleeva, V. L.
- Sidorov, A. N.
- Stakhov, L. E.
- Stolovitskiy, Yu. M.
- Surovlev, V. I.
- Yegorova, Ye. F.
- Yevstigneyev, V. B.

И
ИНИЦИАЦИОН

Public Health, Hygiene and Sanitation

USSR

UDC: 614.48:615.478.74

YERMOLENKO, I.N., LYUBLINER, I.P., and STAKHOVSKIY, YE.V., Institute of General and Inorganic Chemistry, Academy of Sciences, Belorussian SSR, and Belorussian Scientific Research Institute of Hematology and Blood Transfusion

"Filters Made of Cellulose Derivatives for Sterilizing Air and Liquids"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 107-111

Abstract: Filters made of cellulose phosphate and impregnated with the anti-septics methylene blue, tryptaflavine, and silver exhibited marked antimicrobial activity. Air became sterile when passed through filters containing more than 0.25% methylene blue or 0.25% tryptaflavine, and more than 0.62% silver. Filters containing more than 0.62% silver sterilized liquids, while those with 0.5% methylene blue or 0.5% tryptaflavine had only a bacteriostatic effect. The materials tested were resistant to laundering, highly air permeable and capable of sterilizing a large volume of air without regeneration. These features, plus their biological compatibility and inexpensiveness, recommend them as filters and for use in manufacturing protective clothing, masks, etc.

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Acc. Nr: **AP0043940**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 107-111

FILTERS MADE OF CELLULOSE DERIVATIVES
FOR STERILIZATION OF AIR AND FLUIDS

Yermolenko, I. N.; Lyublner, I. P.; Stakovskiy, Ye. V.

Antimicrobial fibrous materials on the basis of cellulose were obtained by introduction of ionic groups into the composition of a polymere by esterification with phosphoric acid in the presence of urea and subsequent sorption of the preparations-aseptics (methylene blue, trypanflavine and silver) from water solutions. Antimicrobial activity of these materials was determined by passing the air through a layer of the filter into a fluid nutrient medium, with subsequent transfer to spolid media.

It was shown that when methylene blue and trypanflavine content was over 0.25% and silver — over 0.62 of the weight of the filter, the latter proved to sterilize the air well. Treatment of these materials in noniogenic washing agents was not accompanied by reduction of antimicrobial activity.

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USSR

UDC 621.886.6:539.319

GASPARYAN, S. A., STAKYAN, M. G., MAK, S. L., Yerevan Polytechnical Institute
imeni K. Marks

"Evaluating the Effect of Stress Concentration Under Nonstationary Load Regimes"

Yerevan, Izvestiya Akademii nauk Armyanskoy SSR, Seriya tekhnicheskikh nauk,
No. 4, 1971, pp 43-47

Abstract: The effect of stress concentration in terms of the longevity requirement is evaluated for groups of machine parts operating under conditions of cyclic overloads and upon which are imposed requirements for providing a certain "time resource" since the probability of nonbreakdown is very sensitive to changes in overstresses. The cyclic strength of smooth and notched parts (key connections) is discussed. The sums of the relative longevities α are considered as statistical values; a relationship is proposed for determining the probability value α . The effect of the concentration of stresses is evaluated by the coefficient α , which is the ratio of the probabilities of nonbreakdown $L(N)$ for smooth and notched parts. A probability estimate of the coefficient $L(N)$ is given as a function of the level of the overstresses, the form of the stress state, and given load regimes.

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USSR

UDC: 621.396.69:621.316.8

STAL'BOVSKIY, V. V.

"Calculating the Temperature of a Defective Section of the Conducting Element in Thin-Film Fixed Resistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19), pp 89-101 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V267)

Translation: Simple models are considered for flaws in the conducting element of thin-film fixed resistors and relations are derived for determining the power released from a defective section for various modes of operation of resistors. A solution is found for the problem of distribution of the temperature field on the defective section of the conducting element in thin-film fixed resistors with a notch. A computational method is used for determining the temperature of the defective section of the conductive layer in VS and MLT resistors for different electrical load factors as a function of the size of the flaw. Resumé.

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1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ELASTIC REDUCTION IN THE LENGTH OF POLYPROPYLENE THREAD AND
COMPONENTS OF TOTAL DEFORMATION -U-
AUTHOR--(02)-TIRANOV, V.G., STALEVICH, A.M. S
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. TEKST. PROM. 1970, (1), 24-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--POLYPROPYLENE FIBER, ELONGATION, STRESS RELAXATION, ELASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0779 STEP NO--UR/0324/70/000/001/0024/0026
CIRC ACCESSION NO--AP0124448
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124448

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYPROPYLENE FIBERS WERE STRETCHED 4PERCENT OF THEIR LENGTH, KEPT IN THE STRETCHED STATE 1-960 MIN AND ALLOWED TO CONTRACT WITHOUT LOADING. THE TIME REQUIRED BY THE FIBERS TO ATTAIN THEIR PERMANENT SET VALUES INCREASED WITH THE TIME OF THE ELONGATING STRESS APPLICATION. DURING STRETCHING, DUE TO STRESS RELAXATION, THERE IS A DECREASE OF THE INSTANTANEOUS ELASTICITY (REBOUND ELASTICITY) AND AN INCREASE OF THE HIGH ELASTICITY COMPONENT OF THE FIBERS. THIS SHIFT IN THE ELASTIC PROPERTIES AFFECTS THE RELAXATIONAL FIBER PROPERTIES. FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

172 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TEMPERATURE EFFECT ON THE DEFORMATION PROPERTIES OF HIGH TENACITY
POLYACRYLONITRILE FIBERS -U-
AUTHOR--(04)--STALEVICH, A.M., LAZARIDI, K.KH., TIRANOV, V.G., VOLF, L.A.
COUNTRY OF INFO--USSR
SOURCE--LEGKA PROM. 1970, (1), 22-4
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--VISCOELASTICITY, POLYACRYLONITRILE FIBER, TEMPERATURE
DEPENDENCE, STATIC LOAD TEST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0879 STEP NO--UR/0518/70/000/001/0022/0024
CIRC ACCESSION NO--AP0124542
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124542

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VISCOELASTIC PROPERTIES OF POLYACRYLONITRILE (I) YARN (29.4 TEX) WERE EXAMD. AT STATIC LOADINGS AND AT NEGATIVE40 TO POSITIVE100DEGREES. THE TEMP. DEPENDENCE OF I FIBERS AT VARIOUS LOADINGS AT 100, 70, AND 40DEGREES; THE DEPENDENCE OF THE DEFORMATION AND OF THE DEFORMATION INTENSITY COEFF. ON THE TENSION AT NEGATIVE40, NEGATIVE20, 0, 20, 40, 70, AND 100DEGREES; AND FINALLY THE DEPENDENCE OF THE ELASTICITY ON THE TEMP. WERE DETD. A NEW FORMULA WAS SUGGESTED FOR THE ELASTICITY OF I IN THE GLASSY STATE FOR THE REGION OF LINEAR VISCOELASTICITY. FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

ELECTRONICS

Amplifiers

USSR

UDC 621.385.5

STAL'MAKHOV, V. O., SHCHEGOLEV, V. P.

"To an Evaluation of the Nonlinear Characteristics of a Type M Parametric Amplifier Based on the Fast Cyclotron Waves of a Beam"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 6, pp 166-170 (from RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A163)

Translation: An approximate nonlinear analysis of the pumping zone with a traveling wave of a Type M parametric amplifier based on the fast cyclotron waves of a beam is conducted by the averaging method of P. L. Kapitsa. The trajectories are investigated of electrons in a regime of strong input signals as a function of the phase of the entrance of an electron into the pumping area. The approximate evaluation conducted of the nonlinear properties of an electron-beam Type M parametric amplifier makes it possible qualitatively to calculate the basic characteristics in a saturation regime. 3 ref. Summary.

1/1

USSR

UDC: 621.375.9

GURZO, V. V., KULEKOV, M. N., and STAL'MAKHOV, V. S.

"Experimental Investigation of a Type M Electron Beam Parametric Amplifier with Distributed Coupling"

Kiev, Izvestiya VUZov SSSR--Radioelektronika, No 5, 1970, pp 642-645

Abstract: This article presents results of the experimental investigation of an M-type parametric amplifier in the decimeter range with a backward fast cyclotron wave in which the coupling and pumping components are made of sections of flat delay structures usually used in type M beam devices. A formula is found for the gain of the amplifier, and from it is derived a second relationship connecting the constant of the pumping wave propagation with the constant fields and the pumping frequency. It is found that the gain in the pumping region is proportional to the square of the delay in the pumping wave. The delay, in turn, characterizes the degree of nonuniformity in the high-frequency pumping field in the transverse direction. A defect of this particular amplifier is the comparatively high transmission loss with pumping. The author asserts, however, that methods of reducing these losses are already becoming apparent.

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- 6 -

1/2 034

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--ON THE DEFORMATION PROPERTIES OF A QUASIDILATANT DISPERSIVE SYSTEM AT
LOW SHEAR STRESSES -U-

AUTHOR--(05)-STALNOV, A.K., KRASHENINNIKOV, A.I., DEMISHEV, V.V., PETROV,
E.A., STUPEN, L.V.

COUNTRY OF INFO--USSR

S

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 308-309

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SUSPENSION, COPOLYMER, ACRYLONITRILE, ACRYLATE, SHEAR
STRESS, MATERIAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1548

STEP NO--UR/0069/70/032/002/0308/0309

CIRC ACCESSION NO--AP0112542

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0112542

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEFORMATION OF SUSPENSIONS OF A COPOLYMER OF ACRYLONITRILE WITH METHYLACRYLATE IN 2,NITROPROPANOL, 1 AT LOW SHEAR STRESSES INVOLVES THE FORMATION IN THE SYSTEM OF A STRUCTURE THE STRENGTH OF WHICH IS GREATER THAN THE SHEAR STRESS APPLIED. UNDER ISOTHERMAL CONDITIONS THE STRENGTH OF THE STRUCTURE FORMED DIMINISHES WITH TIME AFTER THE LOAD IS REMOVED.

UNCLASSIFIED

USSR

UDC: 534

KOLMAKOV, V. A., STAL'TSEV, A. S.

"An Ultrasonic Method of Measuring the Parameters of a Low-Frequency Acoustic Wave"

Tr. Taganrog radiotekhn. in-ta (Works of Taganrog Radio Engineering Institute), 1973, vyp. 34, pp 156-163 (from RZh-Fizika, No 5, May 73, abstract No 5Zh532 by Ye. B. Kudashev)

Translation: The article discusses an instrument for measuring sonic pressure and the oscillatory velocity of a plane, low-frequency acoustic wave. The method is based on using frequency as an informative parameter. It is shown that at a distance of less than the ultrasonic wavelength in the medium the parameters of the acoustic field can be determined from the relative frequency change by using a high-frequency detector. Frequency is measured by an analogous method, using a frequency detector to convert frequency to voltage. In this instance it is necessary to integrate the useful signal. The parameters of the instrument are examined. Estimates are made of the measurement errors due to deviation of the temperature of the medium from the initial value and the high-frequency error of pressure averaging

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USSR

KOLMAKOV, V. A., STAL'TSEV, A. S., Tr. Taganrog. radiotekhn. in-ta, 1973, vyp. 34, pp 156-163

in the acoustic channel. A schematic diagram of the instrument is given. The lower limits of measureable acoustic pressure and oscillatory velocity are $1.5 \cdot 10^4$ N/m² and 0.01 m/sec. The upper limits are determined by the cavitation threshold. The total measurement error does not exceed 1.5%. It is shown that by forming the signals of the sum and difference of the output voltages of the measurement channels of pressure and velocity and squaring these signals with respect to their sum, it is possible to determine the total energy of an acoustic wave. The error in measurement of acoustic energy (potential, kinetic, and total) of an acoustic wave is independent of whether it is a traveling wave or a standing wave, and amounts to 4%.

2/2

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USSR

STAM V. Ya.

"Infinite-Order, Linear Differential Equations with Nonintegral Right Sides"

Novosibirsk, Sibirskiy Matematicheskiy Zhurnal; November-December, 1970;
pp 1340-8

ABSTRACT: The article deals with infinite-order, linear differential equations

with constant coefficients

$$\sum_{n=0}^{\infty} a_n f^{(n)}(x) = f(x) \quad (a_n \neq 0). \quad (1)$$

The characteristic function

$$\Phi(t) = \sum_{n=0}^{\infty} a_n t^n \quad \text{is assumed to be of the}$$

integral exponential type. The right side $f(z)$ is assumed to be regular in the neighborhood of ∞ .

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USSR

STAM, V. Ya., Sibirskiy Matematicheskiy Zhurnal; November-December, 1970;
pp 1340-8

In the paper it is shown that in any angle as close as one pleases to π not containing some finite region B there exists a solution to equation (1) which is regular in that angle. For most assumptions concerning the characteristic function more precise results are obtained.

2/2

- 6 -

Acc. Nr: AF0047198

Ref. Code: UR0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1, pp31-34

N. A. Rabukhina, I. G. Stepanova, E. I. Zhibitskaya, A. E. Stauberger— CLINICO-ROENTGENOLOGICAL CHARACTERISTICS OF DEFORMATION OF THE SKULL AND MAXILLODENTAL SYSTEM IN CONGENITAL CLEFTS OF THE PALATE AND ALVEOLAR PROCESS OF THE MAXILLA IN ADULTS

Summary. The paper deals with an analysis of the results of clinico-roentgenological investigation of 51 patients with unilateral and bilateral complete cleft of the hard palate and alveolar process, aged 15–25 years. The authors carried out teleroentgenograms in frontal and lateral projections, enlarged panoramic roentgenograms of the jaws, tomograms of temporomandibular joints. It was found that in clefts of the hard palate and alveolar process the maxilla is displaced backwards and upwards; decrease of its basis is encountered more rarely than narrowing of the alveolar process of the maxilla. In 49 persons there were observed an increased size of the body and branch of the mandible, deformation of temporomandibular joints, whereby in 21 persons — disturbed formation of the base of the skull.

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FRAME
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USSR

UDC 621.391.1:51

STAMBLER, S. Z.

"Shannon's Principle for Classes of Message Sources"

Moscow, Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 26-37.

Abstract: A quantization theorem and its inversion are proven for classes of sources with both discrete and continuous time, satisfying the conditions of matching and full regularity. This represents proof of Shannon's principle for the general case of sources with discrete time satisfying the condition of full regularity when the conditions of compactness may not be fulfilled. A similar result is also proven for classes of sources with continuous time.

1/1

Acc. Nr:

APO053361

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR0228

S

103404a Gypsum-pozzolan cement-based additives for regulating the properties of concretes. Stambulko, V. I.; Aradovskii, Ya. L. (USSR). *Stroitel. Mater.* 1970, (2), 24-5 (Russ). Heat-liberation curves can be used to det. the amt. of retardant or complex additive required to control the start of setting and establish intensity of strength growth as a function of the type and amt. of additives. Delay in start of setting up to 30 min is achieved by adding 0.2% keratin retardant or 0.4% glue-lime and use of electrolytes CaCl₂, NaCl, and KCl gives increase in crushing strength by 10-30% during all periods of hardening. KCl gives the largest increase in strength during 1st hr and CaCl₂ for 28 days.
B. Z. Kamich

pc

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REEL/FRA
19830384

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USSR

UDC: 537.591.15

BETEV, B., GEORGIYEV, N., STAMENOV, Y., STANEV, T., YANMINCHEV, V., ASEYKIN, V. S., BOBOVA, V. P., KABANOVA, N. V., ROMAKHIN, V. A.; Physics Institute of the Bulgarian Academy of Sciences; Physics Institute of the Soviet Academy of Sciences

"Concerning Some Characteristics of the Muon Component of Extensive Air Showers in Mountain Regions"

Moscow, Izvestiya Akademii Nauk SSSR: Ser. Fizicheskaya, Vol 37, No 7, Jul 73, pp 1484-1487

Abstract: The joint experiment of the Physics Institute of the Soviet Academy of Sciences and the Bulgarian Physics Institute on studying the muon component of extensive air showers was continued in 1971-1972 at the Tien-Shan complex installation. The spatial distribution function for the flux of muons with $E_{\mu} \geq 5$ GeV in the distance interval of 8-60 m, $\rho_{\mu} \approx r_{\mu}^{-0.89 \pm 0.04}$, as well as the number of muons as related to the number of electrons in the shower $N_{\mu} \sim N^{0.86 \pm 0.04}$ were found.

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USSR

UDC 632.95

STAMOVA, L., KHLEBAROV, N., and MANEVA, M., Bulgaria

"Biological Activity of Dibromfos"

Moscow, Khimiya v Sel'skom Khozyaystve, No 7, Vol 11, 1973, pp 46-48

Abstract: Solutions of different concentrations of dibromofos (0,0-dimethyl-0-(1,2-dibromo-2,2-dichloroethylphosphate) were tested on fruiting molds, leaf blotch, and other diseases attacking feed grains. Fungicidal activity was determined by the radius around the spot of dibromofos in a petri dish which was sterile. Thirteen different species of fungi were tested using concentrations of 0.02 to 0.2% solutions. Radii of the sterile zones ranged from 0 to 24 mm for the former and 26-31 mm for the concentrated solution. Bacterial activity was determined in a similar way for 11 species using concentrations ranging from 0.02 to 0.5%. The sterile zones for this study ranged from 13 to 26 mm for the least and 45 to 56 mm for the most concentrated solutions. It was demonstrated that dibromofos may be used as an insecticide, a fungicide, or a bactericide.

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USSR

UDC 616.72-002.031.14-022.6-085.831.4-07:616.441-008.6-072.7

STANCHINSKAYA, V. G., Arthritis Department, Clinic of the Central Institute of Health Resorts and Physiotherapy, Moscow

"Alteration of Thyroid Function in Patients With Rheumatoid Arthritis Under the Influence of Long-Wave Ultraviolet Radiation"

Moscow, Voprosy Kurortologii, Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, No 5, Sep/Oct, 70, pp 418-420

Abstract: The therapeutic effect of UV irradiation was studied by the radioactive tracer method (using I¹³²) and by determination of protein-bound iodine in the blood of 63 patients suffering from rheumatoid arthritis. The patients were in various stages of the disease. Twelve patients had clinical symptoms of slight thyrotoxicosis and were emotionally unstable, irritable, and had finger tremors. Fifty of the patients had increased hemogglutination rates. The reduction in thyroid activity was monitored in 10 patients by the radioactive iodine method. Younger patients (under 30 years of age) showed enhanced thyroid activity after irradiation. After 3-4 treatments, the patients seemed improved and, in 52 cases, the rheumatoid arthritis was reduced to a minimal or moderate level. Patients with thyroid hyperfunction also responded well to the treatment.

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USSR

STANEV, G. P.

UDC 519.281

"Certain Modifications of the Algorithm of Robbins and Monroe"

V sb. Adaptatsiya, identifikatsiya, raspredelen, kontrol' (Adaptation, Identification, Distribution, Control -- Collection of Works), Frunze, "Ilim", 1970, pp 66-70 (from RZh-Matematika, No 10, Oct 70, Abstract No 10V125)

Translation: Two algorithms for stochastic approximation are considered which are applicable in the case of drift of the parameter to be evaluated. The convergence of these algorithms is shown. Authors abstract.

1/1

USSR

UDC 535.853:535-14

STANEVICH, A. YE., ZAZVORKA, V. V., POLUSHKIN, YU. I., and RUDYAVSKAYA, I. G.,
Candidates of Technical Sciences

"A Spectrophotometer for the Long-Wave Infrared Region"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 6, Jun 73, pp 32-37

Abstract: A description is given of the first domestically produced two-beam SP-143 spectrophotometer for the 20-500 micron region, and results of tests on an experimental model are presented. The instrument is designated for automatic recording of the absorption spectra of solid, liquid, and gaseous objects at various temperatures, as well as reflection spectra of solid specimens. Spectra of atmospheric water vapor, recorded during single-beam and two-beam operation of the instrument are presented. The spectral resolution of the instrument is 0.5-1.0 cm^{-1} , the precision is to within $\pm 0.5 \text{ cm}^{-1}$, the photometric exactness is to within 1-2%, and the purity of the spectra is, as a rule, not less than 99%. 3 figures. 1 table. 6 references.

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USSR

GONCHAROVA, L. I., STANEVICHYUS, A.-I. A

"The LP Language"

Algoritmy i Algoritmich. Yazyki [Algorithms and Algorithmic Languages --
Collection of Works], No 5, Moscow Acad. Sci. USSR Computer Center, 1971,
pp 94-104, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972,
Abstract No 3 V510 by the author's).

Translation: A description is presented of a language which can be used as
the basis for an automatic system for solution and investigation of problems
of linear programming. The language allows access to a library of sub-
routines, each of which solves some part of the overall problem, control
of their operation, varying the parameters defined.

USSR

UDC 536.24

STANEVSKIY, A. G., KIVOSTOV, V. I.

"Calculation of Characteristics of Friction, Heat and Mass Transfer in a Turbulent Boundary Layer of a Compressed Gas with a Transverse Flow of Material, the Heat Capacity of Which Depends Strongly on Temperature"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 1, 1972, pp 66-68.

ABSTRACT: A process model is used, according to which the complex dependence of enthalpy of injected material on temperature can be represented as an approximation formula. On this basis, a method is suggested allowing phase and chemical transformations to be considered in calculating the characteristics of friction, heat and mass transfer in the turbulent boundary layer of a compressed gas.

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USSR

UDC 536.24

~~SEANEVSKIY, A. G.~~, Engineer and KHVOSHOV, V. I., Candidate of Technical Sciences, Associate Professor

"Calculation of the Surface Temperature Distribution of a Porous Plate by Supersonic Flow-Past and Uniform Heterogeneous Injection Into the Turbulent Boundary Layer"

(Article presented by Candidate of Technical Sciences V. I. Krutov, Professor of Moscow Higher Technical School named N. E. Bauman)

Moscow, IVUZ, Mashinostroyeniye, No 2, 1972, pp 75-80

Abstract : On the basis of the theory of limit laws of the turbulent boundary layer, a calculation method is suggested of the temperature distribution by length of a porous plate during its flowing around by a supersonic non-dissociated gas flow and uniform injection into the turbulent boundary gas layer distinct from the initial gas flow by its physical properties. By this method, non-isothermal effects and compressibility and heterogeneity effects

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USSR

STANEVSKIY, A. G. and KHVOSTOV, V. I., IVUZ, Mashinostroyeniye, No 2, 1972,
pp 75-80

of injection can be taken into consideration. On the basis of calculation results, the suggested method is compared with other methods which use different approximation formulas. It is demonstrated that heat transfer coefficients calculated by the suggested method are in good agreement with calculations from approximation formulas. Three illustr., 23 formulas, seven biblio. refs.

2/2

- 16 -

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF IODOLACTONIZATION OF ANIONS OF ALKENE AND
ALKADIENECARBOXYLIC ACIDS -U-
AUTHOR--(03)-STANINETS, V.I., SHILOV, YE.A., KORYAK, E.B.
COUNTRY OF INFO--USSR S
SOURCE--UKR. KHIM. ZH. 1970, 36(4), 363-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--REACTION KINETICS, ALKENE, DIENE, CARBOXYLIC ACID ESTER,
IODINE, LACTONE, CYCLIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605019/COL STEP NO--UR/0073/70/036/004/0363/0367
CIRC ACCESSION NO--AP0140914
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140914

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE REACTION OF ALKENE AND
 ALKADIENECARBOXYLATE IONS WITH IODINE TO FORM CYCLIC IODO LACTONES IS
 BISMOL. THE FOLLOWING KINETIC CONSTS. ARE REPORTED (ION, K SUB2 AT
 20DEGREES IN L. MOLE NEGATIVE PRIME1 SEC NEGATIVE PRIME1, E SUBA KCAL
 MOLE NEGATIVE PRIME1, LOG ALPHA, AND NO. OF ATOMS IN THE RING GIVEN:
 (FORMULAS SHOWN ON MICROFICHE). THE DIFFERENCE IN RATES FOR I AND II IS
 ATTRIBUTED TO THE NECESSITY OF CONVERTING I TO II BEFORE CYCLIZATION.

FACILITY: INST. ORG. KHIM. KIEV, USSR.

UNCLASSIFIED

USSR

SAMOYLENKO, STANISLAV

"Reduction of Noise in Complex Systems"

Riga, Nauka i Tekhnika, No 3 (128), March 1971, pp 8-10

Abstract: This article contains a very general discussion of "signal" and "logical" means of reducing the noise in information gathering, transmission, storage, and processing as related to the formation of a general theory of noise reduction in information systems. Various methods of achieving these goals, both in use and predicted for the immediate future, are mentioned. Signal and logical methods of eliminating errors in the transmission process are discussed briefly. It is pointed out that there is a sufficient theoretical base offering the possibility of constructing codes to detect and correct distortions (both in digital and analog communications) characteristic transmission channels of various types.

Radio astronomy and radar systems are considered characteristic of information gathering systems. Again signal and logical methods of reducing noise are noted: primarily methods of time, frequency, and spatial filtration of signals

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USSR

SAMOYLENKO, STANISLAV, Nauka i Tekhnika, No 3 (128), March 1971, pp 8-10

and logical methods based on using defined laws characteristic of studied objects; possible rates of variation of the studied processes with time; possible time sequences of values of the studied variables; correspondence of the received values to a known fixed set; and so forth.

On the signal level, the problem of reducing the noise of information storage consists in finding information carriers and forms of signals which will insure the least noise, and on the logical level, methods of noise-proof encoding similar to those used in information transmission have basic significance. Reliability of the computers used is closely related to reducing the noise of information processing. This includes information transmission between the individual computer modules, information storage in the ready-access and external memories, and also data conversion in the processors. Signal methods include minimization of failures by decreasing the noise level and increasing discrimination of individual signals corresponding to the binary bits of the machine words. The logical methods include control of information conversion accuracy at the level of individual machine words or series of them. Noise-proof encoding methods play a significant role here.

2/2

USSR

UDC 691. 328:539.4

MIRONOV, S.A., Professor, Doctor of Technical Sciences, (Scientific Research Institute of Reinforced Concrete) (NIIZhB), MUGRIM, S.F., Candidate of Technical Sciences, STANISLAVOVA, E.K., Engineer (Construction and Billeting Section of the All-Union Scientific Research Institute for the Construction of Trunk Pipelines) (SKG VNIIST)

"Strengthening of Concrete in Contact With Permafrost Soils"

Moscow, Beton i Zhelezobeton, No 6, June 71, pp 3-5

Abstract: Results are presented of a series of investigations on strengthening of concrete without additions and with chemical additions (small quantities), maintained in permafrost grounds (0 to -30°C), and on the effect of various factors on concrete strengthening. The results show that the rate of strengthening depends substantially on cement activity and that a preliminary maturing of the fresh poured concrete at positive temperatures using electric heating with subsequent thermal curing, ensures the formation of a favorable capillary-porous structure and confers to the concrete a specific strength before freezing. Thanks to this, the strengthening rate in permafrost grounds increases, while the destructive processes due to freezing, decrease. By adding small quantities of salts (calcium chloride) the rate of hardening may be increased. Recommendations are given on consideration of strengthening rate in the foundations and other constructions, erected in permafrost grounds with temperature not lower than -30°C.

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USSR

UDC 612.1-06:612.865/.867

6

NAVAKATIKYAN, A. O., KUNDIYEV, Yu. I., LYSINA, G. G., TOMASHEVSKAYA, L. I.,
IERKACH, V. S., KAPSHUK, A. F., KOVALEVA, A. I., STANISLAVSKAYA, TS. D.,
OSINSKAYA, L. S., and PARLYUK, A. F., Kiev Institute of Industrial Hygiene and
Occupational Diseases

"Effect of Mental Work Accompanied by Nervous and Emotional Stress of Varying
Degrees on the Cardiovascular System"

Moscow, Kardiologiya, No 3, 1973, pp 50-56

Abstract: In addition to making a statistical analysis of 1,585 cases of
myocardial infarction among Kiev workers, the authors ran physiological studies
on engineers, typesetters, mathematicians, and neurosurgeons. They found that
the effects of mental work on the cardiovascular system vary with the degree
of nervous tension and some other factors. The manifestations range from incip-
ient functional disturbances of regulation to severe pathology. Moderate ten-
sion elevates blood pressure, the increase in systolic and diastolic pressures
being related. Great tension, however, tends to disrupt the relationship
probably because the centers regulating vascular tonus become uncoordinated.
Intense nervous and emotional strain increases the heart beat as well as the
"slow" waves among the periodic constituents of the correlation function of

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USSR

NAVAKATIKYAN, A. O., et al., Kardiologiya, No 3, 1973, pp 50-56

6

the cardiac rhythm, an indication of an intensification of central neuroendocrine influences on cardiac activity. As the tempo of work and degree of emotional stress increase, the amount of catecholamines and 17-hydroxycorticoids excreted with urine also gradually increases. Thus, tense mental work markedly affects the cardiovascular system. The resulting changes correlate with the functions of the sympathico-adrenalin system and adrenal cortex.

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USSR

UDC: 621.37/39(038)

STANISLAVSKIY, K. G., STANISLAVSKIY, V. K.

"Circuits of Operating Demonstration Models for Radio Technology. Album"

Skhemy deystvuyushchikh demonstratsionnykh maketov po radiotekhnike. Al'bom
(cf. English above), Moscow, "Prosveshcheniye", 1970, 206 pp, ill. 1 r. 94 k.
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A16 K)

Translation: The article presents circuits which may be put together by advanced students and used as an aid in conducting theoretical and practical lessons in the 9-th and 10-th classes in school, junior college and vocational education classes in the area of radio electronics. Brief technical information is given on making, adjusting and using the proposed circuits. A. K.

1/1

- 25 -

USSR

UDC 621.43.052

~~STANISLAVSKIY, L. V.~~, Candidate of Technical Sciences, and TOLKACHEV, N. A.,
Senior Instructor

"Exergic Analysis of Losses in the Gas Distribution System of an Internal
Combustion Engine With a Turbosupercharger"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 5,
1972, pp 97-101

Abstract: In determining the losses of the gas distribution system of an
internal combustion engine with a turbosupercharger, exergic analysis is
employed to relate the resistance of the exhaust of the system to the re-
sistence of the intake elements. 2 figures. 2 references.

1/1

USSR

UDC: 621.313.322-82.001.3

STANISLAVSKIY, L. YA. (Candidate of Technical Science), MALAYKOV, I. Z. (Engineer), MINATSEVICH, E. N. (Engineer), and SIMELIRSKIY, N. A. (Engineer)

"A 40 Megawatt Vertical Reversible Hydroelectric Motor-Generator Set with Direct Line Starting"

Moscow, Elektrotehnika. No 3, 1970, pp 9-13

Abstract: A reversible hydroelectric generating system has been developed for the Kiev Hydrostorage Power Station, and is claimed to be unique for its type. Three units are to be installed at the Kiev station, each rated at 40 Mw in the motor mode and 33.4 Mw in the generator mode. Rotational speed is 166.7 rpm; rotor axes are vertical. The design is intended for peak load handling, hence had to be more versatile than usual hydropower generating systems; in addition to being reversible, the equipment must withstand three startups and shutdowns per day, which creates extra problems in heating of the starter windings and in bearing friction in the support thrust bearing. The bulk of the discussion concerns the solutions obtained to these problems. Design calculations are given for optimum spacing and size of the starter winding so as to insure even heating of all segments; as a result the system may be thrown on the line directly without danger of winding burnout. Because of the reversibility feature, the thrust

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USSR

STANISLAVSKIY, L. YA, et al, Elektrotehnika, No 3, 1970, pp 9-13

bearing had to be specially designed for maximum entrainment of oil in its segments. To avoid the possibility of dry starts due to heat deformation of the bearing surfaces, high-pressure oil is forced into the bearing gaps during the start and stop periods. Two structural drawings of the system are included.

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USSR

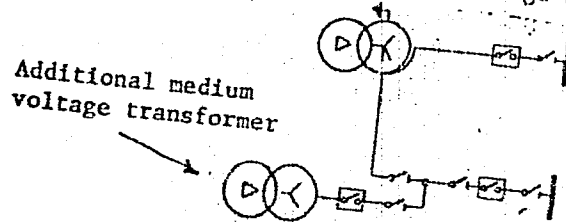
GUR'YEV, R. G., STANISLAVSKIY, R. L.

UDC 621.3.062.88(088.8)

"Standby Electric Power Supply Unit"

USSR Author's Certificate No 265267, Filed 4 Feb 67, Published 23 Jun 70 (from RZh-Elektrotehnika i Energetika, No 3, Mar 71, Abstract No 3Ye88P)

Translation: A standby electric power supply unit SN ES i PS [medium voltage, electric power plant, and substation] equipped with a coupling autotransformer has been patented. It is distinguished by the fact that in order to improve the reliability, an additional medium voltage transformer is included in the autotransformer coupling circuit on the medium voltage side (see the Figure).



USSR

UDC: 621.37/39(038)

STANISLAVSKIY, K. G., STANISLAVSKIY, V. K.

"Circuits of Operating Demonstration Models for Radio Technology. Album"

Skhemy deystvuyushchikh demonstratsionnykh maketov po radiotekhnike. Al'bom
(cf. English above), Moscow, "Prosveshcheniye", 1970, 206 pp, ill. 1 r. 94 k.
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A16 K)

Translation: The article presents circuits which may be put together by advanced students and used as an aid in conducting theoretical and practical lessons in the 9-th and 10-th classes in school, junior college and vocational education classes in the area of radio electronics. Brief technical information is given on making, adjusting and using the proposed circuits. A. K.

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- 25 -

USSR

UDC 615.371.035.4(047)

STANISLAVSKIY, Ye. S., Moscow Institute of Vaccines and Sera imeni Mechnikov

"Cross-Reacting Microbial Antigens and Vaccine Prophylaxis: a Review of the Literature"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 42-47

Abstract: A review is presented of the Soviet and foreign literature on the part played by antigens in susceptibility to infection and in the formation of postvaccinal immunity and development of postvaccinal complications. It has been established that various pathogenic and nonpathogenic microbes have antigens in common and that these antigens are mostly polysaccharides. Antigenic, or more precisely, molecular mimicry is relatively widespread among pathogenic bacteria. Cross-reacting determinants arose as a result of this mimicry. Antigenic similarity is caused by the structural resemblance between these determinants, the identity of the chemical bonds between the carbohydrate radicals, and their sequence in polysaccharides similar to the amino acid sequence in protein antigens. Vaccines made from microbes (Streptococci, Staphylococci, etc.) that exhibit cross-reactions with host tissues must be used with caution, because vaccination may induce autoimmunity.

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USSR

UDC 615.371.035.4(047)

STANISLAVSKIY, Ye. S., Moscow Institute of Vaccines and Sera imeni Mechnikov
"Cross-Reacting Microbial Antigens and Vaccine Prophylaxis: a Review of the
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Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,
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Abstract: A review is presented of the Soviet and foreign literature on the part played by antigens in susceptibility to infection and in the formation of postvaccinal immunity and development of postvaccinal complications. It has been established that various pathogenic and nonpathogenic microbes have antigens in common and that these antigens are mostly polysaccharides. Antigenic, or more precisely, molecular mimicry is relatively widespread among pathogenic bacteria. Cross-reacting determinants arose as a result of this mimicry. Antigenic similarity is caused by the structural resemblance between these determinants, the identity of the chemical bonds between the carbohydrate radicals, and their sequence in polysaccharides similar to the amino acid sequence in protein antigens. Vaccines made from microbes (Streptococci, Staphylococci, etc.) that exhibit cross-reactions with host tissues must be used with caution, because vaccination may induce autoimmunity.

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USSR

UDC 615.373:616.927-078.73

TENDETNIK, Yu. Ya., BASOVA, N. N., and STANISLAVSKIY, Ye. S., Central Institute of Epidemiology and Moscow Institute of Vaccines and Sera imeni Mechnikov

"Erythrocyte H(d)-Diagnosticum and Its Use in the Passive Hemagglutination Reaction in Typhoid Fever"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 129-133

Abstract: Soluble H(d) antigen was obtained from deflagellated Salmonella muenchen and Salmonella mission cells. The H(d) diagnosticum was prepared by sensitizing sheep erythrocytes with the soluble antigen. The diagnosticum proved to be highly sensitive and quite specific in the passive hemagglutination reaction with sera obtained from typhoid patients and from patients with other infectious diseases (pneumonia, influenza, tuberculosis, dysentery, and so forth) as well as with sera from healthy persons. The sera from healthy persons and from patients with diseases other than typhoid reacted weakly with the diagnosticum (most of the titers did not exceed 1:160). On the other hand, the erythrocyte H(d) diagnosticum was highly active in the hemagglutination reaction with sera from typhoid patients; the titer was 1:640 or more in over 75% of the cases.

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USSR

UDC 612.6.02:612.79.017.1-06:576.8

KHRPATOVSKIY, I. D., and STANISLAVSKIY, Ye. S., Organ and Tissue Transplantation Laboratory, USSR Academy of Medical Sciences and Moscow Institute of Vaccines and Sera imeni I. I. Mechnikov

"Immunodepressive Effect of a Bacterial Extract in Skin Allotransplantation in Mice"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, Vol. 1, Jan/Feb 71, pp 51-53

Abstract: Immunological tolerance to skin allotransplants, to exogenous erythrocytes, and to Salmonella typhi was induced. Laboratory mice served as donors and recipients of skin grafts. The bacterial extract was prepared by grinding a suspension of nonpathogenic strains of E. coli, centrifuging the samples, and collecting the supernatant fluid. With properly graded and timed injections of the bacterial extract, the survival time of the skin grafts on treated mice was 2.5 times longer than on control mice. A chart was compiled, indicating the optimum doses and periods of extract injections for the purpose of prolonging

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USSR

KIRPATOVSKIY, I. D. and STANISLAVSKIY, Ye. S., Eksperimental'naya
Khirurgiya i Anesteziologiya, Vol. 1, Jan/Feb 71, pp 51-53

the survival of skin grafts. The extract suppressed the primary
and secondary immunological responses to sheep erythrocytes. The
extract decelerated production of antibodies against Salmonella
typhi after the first inoculation but was ineffective after the
second experimental infection.

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1/2 027 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--A STUDY OF THE INDICES OF HUMORAL IMMUNITY IN THE PATIENTS
SUFFERING FROM FOOD POISONING OF SALMONELLA ETIOLOGY -U-
AUTHOR--(02)-SHUBA, L.I., STANISLAVSKIY, YE.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 97-99
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA TYPHIMURIUM, SEROLOGIC TEST, HEMAGGLUTINATION,
BLOOD SERUM, MOUSE, ANTIBODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0164

STEP NO--UR/0016/70/000/005/0097/0099

CIRC ACCESSION NO--AP0114560

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114560

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS STUDIED THE SERA OF PATIENTS SUFFERING FROM FOOD POISONING OF SALMONELLA ETIOLOGY (SALM. TYPHIMURIUM) WITH THE AID OF SEROLOGICAL TESTS; PROTECTIVE ACTIVITY OF THESE SERA WAS DETERMINED. AS ESTABLISHED, DESPITE THE PRESENCE IN THE SERA OF THESE PATIENTS OF O ANTIBODIES DETECTABLE BY AGGLUTINATION AND PASSIVE HEMAGGLUTINATION REACTIONS, THE SERA FAILED TO PROTECT THE MICE (CC-57 BR) FROM EXPERIMENTAL SALMONELLOSIS. HOWEVER, THE SERA OF THE MENTIONED PATIENTS PRODUCED AN ANTIENDOTOXIC EFFECT IN THE TEST OF PASSIVE PROTECTION OF MICE; THIS ACTIVITY INCREASED DURING THE DISEASE. THE TITRES OF HUMORAL O ANTIBODIES CORRELATED WITH ANTIENDOTOXIC ACTIVITY OF THE BLOOD SERUM IN SEVERE AND MODERATELY SEVERE FORM OF THE DISEASE.

FACILITY: I MOSCOW MEDITSINSKIY INSTITUT IM.

SECHENOVA.
MECHNIKOVA.

FACILITY: MOSCOW INSTITUT VAKTSIN I SYVOROTOK IM.

UNCLASSIFIED

Acc. Nr: **AP0043869**

Ref. Code: UR 9016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 27-32

DYNAMICS OF IMMUNE RESPONSE IN MICE FOLLOWING
ADMINISTRATION OF PERTUSSIS MONOVACCINE
Khazanova, L. Ye.; Stanislavskiy, Ye. S.;
Khromacheva, R. P.; Sandulova, S. L.

The authors studied the relationship of the level of various classes of specific immunoglobulins in the blood and resistance of vaccinated mice to experimental pertussis meningoencephalitis in various schemes of administration of the antigen.

Experiments were carried out on mongrel and inbred (CBA abd C57BL) mice. Agglutination and passive hemagglutination reactions were used for detection of Ig M- and Ig G-antibodies. Single immunization of mice with corpuscular pertussis vaccine caused a weak response (according to the data of antibody production). Administration of high subtoxic doses of the vaccine was followed by preponderant synthesis of Ig M-antibodies. Mice immunized one were resistant against meningoencephalitis, in the absence of antibodies detectable in the blood. Second administration of pertussis vaccine to mice had a marked stimulating effect on the synthesis of antibodies, particularly of Ig G. However, the level of specific resistance failed to show considerable change or reduction.

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As a result of vaccination intact mice of C57BL species, highly sensitive to pertussis, acquired the capacity to elaborate specific resistance; less sensitive mice of CBA line were incapable of doing so.

Blood antibody level of mice failed to correlate with their resistance against pertussis meningoencephalitis.

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UDC 576.851.49.094.85:615.371:851.497.012.6

BOGDANOVA, V. V., STANISLAVSKIY, YE. S., MATER, G. A., and NEGINA, YU. P.,
Gor'kiy Institute of Epidemiology and Microbiology and Moscow Institute of
Vaccines and Sera imeni Mechnikov

"Protective Properties of Cell Fractions and Mixtures of Isolated from the
Vi-Positive Strain of Typhoid Bacillus"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971,
pp 87-89

Abstract: Various cell fractions isolated from *S. typhi* Ty₂ 4446 (capsular substance, cell walls, culture fluid, capsular substance + cell walls, culture fluid + cell walls) were tested as vaccines in mice. Two weeks after the mice were vaccinated, they were infected with a virulent strain of *S. typhi* Ty₂ 4446 (LD₅₀ 13 million cells). The mixture of cell walls and culture fluid proved to be the most efficacious in protecting mice infected with 5 LD₅₀ of typhoid bacillus. Both fractions possess little toxicity for mice and contain protective Vi and O antigens (whose macromolecular organization is close to the crude antigens in the original microbial cell). Unlike corpuscular vaccine, they do not contain intracellular components that may have immunodepressive activity or stimulate the synthesis of auto-antibodies. 1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF THE EXCESS AIR COEFFICIENT FROM CHROMATOGRAPHIC
ANALYSIS OF THE GAS COMBUSTION PRODUCTS -U-
AUTHOR-(02)-RABINOVICH, O.M., STANKEVICH, G.L.
COUNTRY OF INFO--USSR
SOURCE--ELEK. STA. 1970, 41(1), 28-32
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS
TOPIC TAGS--GAS CHROMATOGRAPHY, CHROMATOGRAPHIC ANALYSIS, COMBUSTION
PRODUCT, FUEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1541 STEP NO--UR/0104/70/041/001/0028/0032
CIRC ACCESSION NO--AP0118524
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118524

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF ANALYSES OF THE OPERATING CHARACTERISTICS OF A CHROMATOGRAPH WHILE USING AIR CARRIER GAS, FORMULAS ARE DERIVED FOR DETG. DILN. AND EXCESS AIR COEFFS. THE CHARACTERISTICS OF THE DESCRIBED METHOD INSURE HIGH ACCURACY AS COMPARES WITH CHEM. GAS ANALYZERS. THE METHOD ALLOWS ONE TO CALC. EXCS AIR WITHOUT COMPLETE ANAL. OF THE FUEL. FOR IMPROVING THE CALCNS., THE CONCNS. OF SOLID INCOMPLETE COMBUSTION PRODUCTS ARE INTRODUCED. FACILITY: KHAR'KOV. POLITEKH. INST., KHARKOV, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--STATIC ELECTRICITY ACCUMULATION IN POLYMER MATERIALS -U-

AUTHOR--(02)-STANKEVICH, K.I., TSENDROVSKAYA, V.A.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (6), 65-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR, BIOLOGICAL
AND MEDICAL SCIENCES
TOPIC TAGS--CONSTRUCTION MATERIAL, POLYVINYL CHLORIDE, STATIC ELECTRICITY,
PUBLIC HEALTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3007/0708

STEP NO--UR/0191/70/000/006/0065/0067

CIRC ACCESSION NO--AP0136147

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136147

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STATIC POTENTIAL (E IN V-CM) WAS DETD. OF POLY(VINYL CHLORIDE) TILES AND LINOLEUM IN VARIOUS BUILDINGS (HOSPITALS, YOUTH CLUB, RESEARCH INSTITUTE, PRIVATE DWELLING, TELEPHONE EXCHANGE). IN ALL CASES E LESS THAN OR EQUAL TO 240 WHEN THE RELATIVE AIR HUMIDITY (PHI) WAS GREATER THAN 25PERCENT. THIS E LEVEL DOES NOT HAVE ANY ADVERSE EFFECT ON HUMAN HEALTH (S. A. CHEBOTAREVA ET AL., 1968). WHEN PHI LESS THAN 25PERCENT, E MAY REACH 20,000.

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STANKOVICH, N. V.

GYROS

SO: JFRS 60530
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CAROL

DRIFT MOMENTS IN MAGNETIC SUSPENSIONS OF GYROSCOPIC INSTRUMENTS

UDC 531.383

Article by Yu. A. Gochin and N. H. Stankovich, Moscow Higher Technical School (inventor N. E. Kuznetsov), Leningrad, Soviet Union, Prilozhenie k Zhurnalov, No. 7, 1973, submitted 26 October 1972, pp. 75-76.

Questions connected with moments of stress in magnetic suspensions caused by geometric imprecisions in the manufacture of the rotor are examined. The moments of stress are analyzed for a rotor of arbitrary form.

Magnetic suspensions used to completely exclude mechanical contact in the supports of precision gyroscopic instruments can have exceptionally small drift moments. Only in that case can their use give a substantial improvement in the quality of the entire instrument. Experimental investigations have shown that the drift moments of magnetic suspensions have two components: 1) moments due to error in the form of the rotor occur during manufacture and 2) so-called hysteresis moments, caused by the presence of a hysteresis loop in the material of the rotor.

The present level of development of technology permits in most cases reducing these two components to the allowable limits. However, the requirements for the technology of manufacture of magnetic suspensions usually prove to be high. And so the task arises of working out rational requirements for the manufacturing technology which can be readily fulfilled, on the one hand, and permit obtaining the necessary precision of the instrument, on the other.

In this article an investigation is made of the moments caused by geometric errors in the manufacture of a cylindrical rotor, such as occurs, for example, in floating gyroscopic instruments. Let us examine, for example, a quadrupole magnetic suspension (see the bibliography) (Figure 1) under the following assumptions.

USSR

UDC 617-001.28-06:617-001.4-021.6-092.9-036.8:616.419

STANKEVICH, N. V., and FUNSHTEYN, L. V., Deceased, Laboratory of Pathological Anatomy, Central Scientific Research Institute of Roentgenology and Radiography, Ministry of Health USSR, Leningrad

"The Effect of Screening an Area of Bone Marrow on Hematopoiesis and Survival Rate of Irradiated Animals"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 7, 1971, pp 110-114

Abstract: A portion of the stomach wall was excised from 53 cats 25 hours (latent period) or 7 days (height of radiation sickness) after whole-body irradiation (208 r) with screening of one of the animals' hind legs with a lead shield. Screening of bone marrow markedly increased the survival rate and life-span of experimental cats, especially if the operation was performed during the latent period of radiation sickness. Moreover, changes in blood morphology were less pronounced in the screened animals. Another favorable effect of screening was manifested by the fact that the postoperative stomach wound healed at the same rate as in the control (operated but not irradiated) animals.

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USSR

UDC: 577.1:615.7/9

BELOVA, G.B., SHURUPOVA, YE.A., and STANKEVICH, V.V.

"Data on Toxicology of New Stabilizers in Vulcanizing Agents"

V sb. Sintez i issled. effektivn. khimikatov dlya polimern. materialov (Synthesis and Study of Effective Chemicals for Polymeric Materials -- Collection of Works), vyp. 3, Tambov, 1969, pp 466-475 (from RZh-Biologicheskaya Khimiya, No 9, 1970, Abstract No 9F2034 by A. IGNAT'YEV)

Translation: LD₅₀ for the following substances on being introduced a single time into the stomach of mice and rats was respectively: 2.3 and 4.0 g/kg for calcium dibenzoate; 1.85 and 0.9 g/kg for N, 4-dinitroso-N, N'-dimethylamine; and 3.4 and 6.7 g/kg for N,N'-dithiodimorpholine. Produce S-1 and polyphenol No 9 do not possess acute or subacute toxicity. Calcium dibenzoate when administered daily within 1/10 LD₅₀ did not accumulate and was of low toxicity. The dimethylamine and dithiomorpholine derivatives here studied possessed cumulative properties and adversely affected blood Hb, general condition and body weight of internal organs, and irritated the skin and mucosae.

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USSR

UDC 564.621

BATALIN, Yu.V., KASIMOV, B.S., and STANKEVICH, Ye.F. (Geological Institute, Kazan')

"Dawsonite, a Possible Source of Aluminum Production"

Moscow, Razvedka i Okhrana Nedr, No 7, July 71, pp 59-62

Abstract: This article contains a review of potential world resources of dawsonite. In the USSR dawsonite has been found in the Donbass region in the form of needle-shaped crystals, and also in the trans-Carpathian region in mercury deposits and Neogenic deposits. Transcaucasia is considered to be a prospective region for dawsonite, because underground sodium carbonate-containing highly mineralized waters are widespread within its limits, and analcite-zeolite rocks are known in Mesozoic and Cenozoic deposits.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--POSSIBILITY OF THE INDUCED AMPLIFICATION OF CHARACTERISTIC X RAY
RADIATION -U-
AUTHOR--STANKEVICH, YU.L.
COUNTRY OF INFO--USSR
SOURCE--DUKL. AKAD. NAUK SSSR 1970, 191(4), 805-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--X RADIATION, ELECTRON ENERGY LEVEL, SPECIFIC DENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1598/0726 STEP NO--UR/0020/70/191/004/0805/0806
CIRC ACCESSION NO--AT0121385
UNCLASSIFIED

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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0121385

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF THE INDUCED AMPLIFICATION OF CHARACTERISTIC X RAY RADIATION IS ANALYZED TO SHOW THAT IN A SERIES OF CASES A QUASI STATIONARY INVERSIVE POPULATION CAN BE OBTAINED WHEN THE D. OF A SUBSTANCE IS CLOSE TO THAT OF THE SOLID STATE. THE QUASI STATIONARY INVERSE POPULATION OF 2 INNER ELECTRON LEVELS OF AN ATOM CAN BE SUSTAINED UNDER THE FOLLOWING CONDITIONS: w_{SUBAB} SMALLER THAN $w_{SUBBSIGMA}$, WHERE w_{SUBAB} IS THE COMPLETE PROBABILITY OF THE TRANSITION OF A VACANCY FROM LEVEL A TO THE UPPER LEVEL B AND $w_{SUBBSIGMA}$ IS THE PROBABILITY OF POPULATION OF THE VACANCIES AT THE VEEL B FROM THE UPPER LEVELS. THIS CONDITION IS VALID FOR AS SUBONE HALF YIELDS 2P SUBTHREE HALVES TRANSITION (LINE K ALPHA SUB2) IN ATOMS WITH Z SMALLER THAN OR SIMILAR TO 47 AND IS SUBONE HALF YIELDS 2P SUBTHREE HALVES TRANSITION (LINE K ALPHA SUB1) AT Z SMALLER THAN OR SIMILAR TO 36. THE INVERSIVE POPULATION CAN BE SUSTAINED AT TEMPS. SIMILAR TO 30-100 EV. AN EQUATION FOR CALCG. THE CROSS SECTION OF THE INDUCED CHARACTERISTIC X RAY RADIATION WAS DERIVED.

UNCLASSIFIED

USSR

UDC 547.495.9 + 615.717

STANKEVICHUS, A. P., LUBAS, A. A., and KOST, A. N., Kaunas Medical Institute

"Cyclic N-Carboxamides. II. Morpholine and Piperazine Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 1, Jan 71, pp 13-16

Abstract: A series of title compounds was synthesized in a structure-activity study of benzylguanidines. A mixture of 19 g morpholine, 28 g S-methylisothiourea sulfate and 15 ml water was heated for 3 hrs, cooled, the separated crystals were filtered, washed and dried to yield morpholyl-N-carboxamide hemisulfate, m.p. 300°. N-benzyl-N'-(o-chlorobenzyl)guanidine hydroiodide, m.p. 120° was obtained by reacting 43.1 g S-methyl-N-benzylisothiourea hydrochloride, 19.7 g o-chlorobenzylamine and 100 ml water. After heating for 2.5 hrs the mixture was left standing overnight, water layer was decanted, the residual material crystallized from ethanol. To obtain sym-tribenzylguanidine hydrochloride, m.p. 205°, a mixture of 4.13 g S-methyl-N,N'-dibenzyl-

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STARKEVICHUS, A. P., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 1, Jan 71, pp 13-16

isothiocurea hydroiodide, 1.1 g benzylamine and 25 ml water was heated 3 hrs, cooled, the aqueous layer was decanted, residual layer dissolved in dimethylformamide, shaken with 10% NaOH, extracted repeatedly with ether, dried, filtered, and acidified. Analogously N,N'-dibenzylguanidine hydrochloride, m.p. 186 was obtained. In another experiment 143 g. benzylamine hydrochloride and 97.2 g potassium thiocyanate in 50 ml water were heated on a steam bath, extracted with hot ethanol, evaporated, the residue was heated for 2 hrs at 155-160°, cooled, and extracted with water. Recrystallization from ethanol gave N-benzylthiourea, m.p. 160-161°. The remaining residue after water extraction was N,N'-dibenzylthiourea, m.p. 148°. Analogously H-o-chlorobenzylthiourea, m.p. 126°, and N,N'-bis-o-chlorobenzylthiourea, m.p. 150° were obtained as well as 1,2,3,4-tetrahydroisoquinoline-N-thiocarboxamide, m.p. 160-161°. Toxicity and very general biological effects of the compounds synthesized are mentioned.

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Acc. Nr:

AP0015430

Abstracting Service:

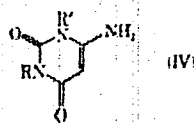
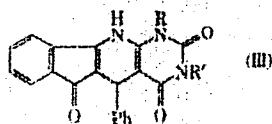
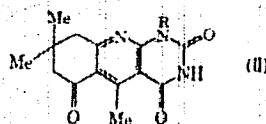
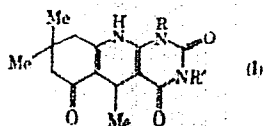
CHEMICAL ABST.

S 4170

Ref. Code:

U1R0409

89602e Constants of the acid dissociation of some nitrogen-containing polynuclear systems. Stankevics, E.; Popelis, I.; Grimsteins, E.; Ozola, A.; Duburs, G. (Inst. Org. Sin., Riga, USSR). *Khim. Geterotsikl. Soedin.* 1976, (1), 122-4 (Russ). The conventional spectrophotometric method was used to det.



the pK_a's of compds. I-IV (R and R' = H or Me). The results were presented in a table. Michael K. Hrenoff

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STANKO, V.I.

CHEMICAL TRANSFORMATION

SINGLE-ELECTRON TRANSFER AND CHEMICAL TRANSFORMATIONS
(Conference in Rostov-on-Don)

Article by Candidate of Chemical Sciences Z. V. Podgorsky, Moscow, Vostochnik Akademii Nauk SSSR, Ruzskan, No 9, September 1973, pp 107-108

*Z. V. Podgorsky
in Physics*

(26)

A conference on the role of electron transfer in chemical reactions was held in Rostov-on-Don on 22-25 May. It was organized by the Northern Caucasus Scientific Center of the High School about 40 reports were presented. Participating in the conference were the leading chemical institutes of the AS USSR and the republican academies, and also Rostov-on-Don, Moscow, Leningrad and Gorkiy universities.

Chemical reactions are usually regarded as the rupture and formation of bonds, that is, the rearrangement of the structure of a molecule. It is now considered, however, that the displacement of atoms or atomic arrangements is preceded by the transfer of electrons from one of the reacting molecules to the other. The study of that stage, which has become possible through the use of new instrumental methods of investigation especially of electron paramagnetic and nuclear magnetic resonance, expands concepts of the reaction mechanism as a sequence of elementary stages known to us.

As a result of electron transfer new particles appear, not known to organic chemistry of the past. The properties of these products were examined in a number of reports. Hemoglobin, cytochrome C and other enzymes with Fe(III) after electron transfer give non-equilibrium forms in which the iron has already gone over into the state Fe(II) but the protein part still retains its previous configuration (R. M. Davydov). The transformation of 4-41-dinitro-cis-stilbene into an anion-radical is accompanied by complete cis-trans isomerization. Destruction of the symmetry of the molecule leads to establishment of equilibrium 4-nitro-cis-stilbene in the presence of electron transfer given a mixture

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of nitron-radicals of zinc and (anti-alkyl) (Z. V. Todorov),
in the reports of S. P. Solodovnikov and M. I. Frenkel (to be
depend not only on the distribution of electron transfer
tion of the lone associates).

Triethylgermyl derivatives of lithium or potassium, as
with benzophenone, giving alcohols of triethylgermyl-substi-
tuted benzophenone. A completely different product forms in hex-
ethylgermane, side by side with benzophenone ketyl. In other
words, in hexamethylol of the existing particle appears the tri-
ethylgermyl anion, which reacts further according to a scheme of
single-electron transfer. Bimetallic organic compounds such as
bis-(triethylgermyl)-mercury or bis-(triethylgermyl)-cadmium
are capable of participating in electron transfer also in non-
polar solvents of the type of benzene. If a sufficiently strong
acceptor, for example tetracyanoethylene, is used (Academical
Union S. A. Kuvshinov and G. A. Abramov).

V. E. Kampel' and D. Yu. Orlovskaya revealed the gen-
eral mechanism of the oxidation of organometallic compounds,
according to which a single electron is torn away from these
derivatives and they simultaneously decompose into an organic
radical and the cation of the metal. The radicals, if they do
not react chemically, give off still another electron, being
oxidized to carbonyls. The reaction ends with the stage of
stabilization of those cations, for example, through their re-
action with molecules of the solvent. The establishment of such
a mechanism explains the formation of benzylic acetate as the main
product of the oxidation of benzylmercuracetate by lead tetra-
acetate in acetic acid. Aliphatic mercury chlorides under the
same conditions give ethers of acetic acid, paraffins and others.
The formation of hydrocarbons in that reaction also indicates
the existence of radicals as intermediates of the oxidation.

The ability of organomercuric compounds to act as elec-
tron donors was shown on the example of reactions of diethyl mer-
cury with tetrathiomethane (G. A. Shevchuk, I. I. Bolotkaya,
diethyl mercury gives an aromatic hydrocarbon and (triethylgermyl)-
mercury as the main product and a certain quantity of Ar₂H₂.
(A. N. Koshin, I. P. Beletskaya, and V. A. Shtrom). The obtained
results agree with the hypothesis that in the first stage of the
reaction the cation-radical of diethyl mercury and the radical Ar₂
form. The latter forms through electron transfer either to the
nitronium cation or to the tetrathiomethane. The cation-radical
of diethyl mercury decomposes, giving the highly reactive radical
Ar₂. That radical reacts insignificantly with the lowly reactive

1/3 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CHLORINATION OF O,CARBORANYLMAGNESIUM BROMIDES AND DETERMINATION OF
THE STRUCTURE OF C,B,DICHLORO,O,CARBORANES -U-
AUTHOR--(02)-STANKO, V.I.; ANOROVA, G.A.
7
COUNTRY OF INFO--USSR S
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 646-51
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, CARBORANE, MAGNESIUM COMPOUND,
GRIGNARD REAGENT, BROMINATED ORGANIC COMPOUND, ORGANOLITHIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1476 STEP NO--UR/0079/73/040/003/0646/0651
CIRC ACCESSION NO--AP0135144
UNCLASSIFIED

2/3 013

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135144

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GRIGNARD REAGENT FROM 0.03 MOLE 1,2,CHLORO,O,CARBORANE AND ETMGBR IN TETRAHYDROFURAN (THF) WAS ADDED TO 0-5DEGREES TO CCL SUB4-C SUB6 H SUB6 AND KEPT 0.5 HR, THEN AT 0DEGREES 15 MIN, TO YIELD 11PERCENT 1,4,(5),12,TRICHLORO,O,CARBORANE, M. 145-9DEGREES, AND 15PERCENT 1,7(8),12 ISOMER, M. 127-9DEGREES; CHLORINATION, WITH CL, OF 1,2,CHLORO,P,CARBORANE GAVE THE SAME PRODUCTS IN SIMILAR YIELDS. 1,CHLORO,O,CARBORANE IN CCL SUB4 TREATED WITH CL 1 HR GAVE 1:3 MIXT. OF 1,10,DICHLORO,O,CARBORANE, M. 165-7DEGREES, AND 1,12 ISOMER, M. 152-4DEGREES. 1,BROMO,O,CARBORANE AND CL,CCL SUB4,ALCL SUB3 GAVE 15PERCENT 1,BROMO,10,CHLORO,O,CARBORANE,M. 164-5DEGREES AND 12PERCENT 1,BROMO,12,CHLORO ISOMER, M. 126-9DEGREES; BROMINATION OF THE GRIGNARD REAGENT GAVE SIMILAR RESULTS. BULI AND 1,METHYL,10 AND 12,CHLORO,O,CARBORANE MIXT. IN ET SUB2 O ADDED TO CCL SUB4 AND TREATED WITH 1 MOLE CL GAVE 39PERCENT MIXED ISOMERS, SEPD. CHROMATOGRAPHICALLY INTO 19PERCENT 1,METHYL,2,10,DICHLORO,O,CARBORANE, M. 175-60DEGREES, AND 16PERCENT 2,12 DICHLORO ANALOG, M. 149-50DEGREES. 1,METHYL,2,CHLORO,O,CARBORANE IN CCL SUB4 REFLUXED WITH CL 24 HR GAVE A LOW YIELD OF 1,METHYL,2,9,10,11,12,PENTACHLORO,O,CARBORANE, M. 236-8DEGREES, ALSO PREPD. FROM 1,METHYL,9,10,11,12,TETRACHLORO,O,CARBORANE AND BULI IN ET SUB2 O ADDED TO CCL SUB4. GRIGNARD REAGENT FROM BROMO, METHYL,O,CARBORANE AND MG IN THF WAS TREATED WITH 1 MOLE ETMGBR, HEATED 15 MIN AND ADDED TO 1 MOLE CL IN C SUB6 H SUB6 AT 5DEGREES TO YIELD A MIXT. OF 6PERCENT 1,METHYL,2,CHLORO,O,CARBORANE, 43PERCENT 1, METHYL,2,8,DICHLORO,O,CARBORANE (I) M. 220-2DEGREES, AND 49PERCENT

UNCLASSIFIED

3/3 013 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0135144
ABSTRACT/EXTRACT--ETMGBR ADDED TO 0.5 MOLE 1,METHYL,2,CHLORO,O,CARBORANE,
HEATED 15 MIN AND TREATED WITH 2 MOLES CL IN C SUB6 H SUB6 AT 5-7DEGREES
GAVE 8PERCENT 1,METHYL,2,CHLORO,O,CARBORANE, 68PERCENT I, AND 24PERCENT
METHYL,O,CARBORANE.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ISOTOPIC EXCHANGE OF O, M, AND P,B, IODOCARBORANES -U-
AUTHOR--(02)-STANKO, V.I., IROSHNIKOVA, N.G. S
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 311-15
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--ISOTOPE EXCHANGE, IODINATED ORGANIC COMPOUND, ORGANOBORON
COMPOUND, CARBORANE COMPOUND, SODIUM, ISOTOPE, IRON COMPOUND, CATALYST,
COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1410 STEP NO--UR/0079/70/040/002/0311/0315
CIRC ACCESSION NO--AP0101500
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISOTOPE EXCHANGE IN O, M, AND P, IODOCARBORANES WAS STUDIED WITH 10, IODO, O, CARBORANE, 9, IODO, M, CARBORANE, DI IODO, P, CARBORANE AND 9, 10, 11, 12, TETRA IODO, O, CARBORANE, PREPD. BY ELECTROPHILIC HALOGENATION. THE EXCHANGE OF 1, IODO, O, CARBORANE WITH NA PRIME131 I PROCEEDS IN THF ONLY IN THE PRESENCE OF FE(III) SALTS AND IS BEST DONE AT PH 7-9; ALONG WITH EXCHANGE THERE ALSO OCCURS RING CLEAVAGE AND FORMATION OF SOME 25PERCENT 8-PRIME131 I, DICARBAUNDECABORATE. WITHOUT ADDED FESO SUB4, THE EXCHANGE DOES NOT EXCEED 10 TO 12PERCENT, WHILE WITH FESO SUB4 IT REACHES 60 TO 70PERCENT. 9, IODO, M, CARBORANE EXCHANGES ITS IODINE IN THE ABSENCE OF FESO SUB4 AND THE YIELD IS SIMILAR TO 10PERCENT, BUT THE PRESENCE OF H SUB2 O AFFECTS THE REACTION GREATLY: WITH 5:1 THF+M SUB2 O AS THE MEDIUM, THE EXCHANGE IS ALMOST WHOLLY INHIBITED. 2, IODO, P, CARBORANE REACTS UNDER SIMILAR CONDITIONS ALSO, WHILE 10, 12, DI IODO, AND 9, 10, 11, 12, TETRA IODO, O, CARBORANES EXCHANGE THEIR IODINE CONTENT MANY TIMES MORE READILY IN THE PRESENCE OF FESO SUB4 THAN IN ITS ABSENCE; ALONG WITH THE EXCHANGE THE SIDE REACTIONS NOTED ABOVE ALSO OCCUR. THE ACTION OF FE(III) AS THE CATALYST IS ASCRIBED TO A COMPLEX FORMED BY FE PRIME POSITIVE PRIME POSITIVE ION AT THE IODINE ATOM OF THE IODOCARBORANE, FOLLOWED BY PROBABLE FORMATION OF AN ANION RADICAL SUCH AS C SUB2 B SUB9 H SUB11 BI. TIMES PRIME NEGATIVE AND FE PRIME POSITIVE POSITIVE POSITIVE; THE FORMER MAY LIBERATE I TIMES AND C SUB2 B SUB9 H SUB11 B NEGATIVE OR POSSIBLY C SUB2 B SUB9 H SUB11 B TIMES PRIME POSITIVE, I NEGATIVE AND FE PRIME POSITIVE POSITIVE POSITIVE, AND THE I NEGATIVE COMING FROM THE NA PRIME131 I.

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Acc. Nr:

AP0049504

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

CNR 0079

100794s Halogenation of *p*-carborane. Stankin, V. I.; Gol'tyapin, Yu. V. (USSR). Zh. Obshch. Khim. 1970, 40(1), 127-31 (Russ). Refluxing 1 g *p*-carborane in CCl₄ with 1 g AlCl₃ 2 hr gave 1 g 2-chloro-*p*-carborane, m. 189-90°, which chlorinated 10-12 hr in refluxing CCl₄ in the presence of AlCl₃ gave mainly the dichloride, along with 5-7% mono- and 15-20% trichlorides; after fractionation some 2,9-dichloro-*p*-carborane (I), m. 151-2°, was isolated. Similar chlorination 60 hr gave 15% I, 45% mixed 2,9,10- and 2,9,11-trichloro-carboranes; at least 4 isomeric tetrachlorides (35%) and some apparent pentachloride. Heating 0.5 g *p*-carborane 8 hr with 0.28 g Br and 0.3 g AlCl₃ in CS₂ gave 0.65 g 2-bromo-*p*-carborane, m. 140-1°. Similarly was prepd. 2,9-dibromo-*p*-carborane, m. 86-7°. Refluxing 0.5 g *p*-carborane with 0.8 g ICl in CS₂ in the presence of 0.5 g AlCl₃ 12 hr gave 0.65 g 2-iodo-*p*-carborane, m. 60-1°; similarly was prepd. 2,9-diiodo-*p*-carborane, m. 141-2°. Heating

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10 g mixed *m*- and *p*-carboranes (from isomerization of *o*-carborane at 760°) and 3 g AlCl₃ in CCl₄, 10-12 min until the *m*-isomer had vanished gave after an aq. treatment *p*-carborane and 9-chloro-*m*-carborane; these (1) heated with dry piperidine 0.5 hr then treated with H₂O and Et₂O gave 3 g pure *p*-carborane, or (2) the mixt. sepd. on Al₂O₃ to yield the 2 components by hexane elution. 2-Iodo-*p*-carborane and fresh Cu₂Cl₂ heated 1 hr at 360° in inert atm. gave 80-5% 2-chloro-*p*-carborane via halogen exchange. *p*-Carborane in CCl₄ was chlorinated in uv light 50 hr to 83% *B*-decachloro-*p*-carborane, m. 297-8°.

G. M. Kosolapoff

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UDC 615.849.2+616-073.916:546.79

BOCHKAREV, V. V., LEVIN, V. I., STANKO, V. I., SEDOV, V. V., KHARLAMOV, V. T., KOZLOVA, M. D., and TARASOV, N. F., Institute of Biophysics, Ministry of Health USSR

"New Radiopharmaceuticals and Prospects for Their Clinical Use"

Moscow, Meditsinskaya Radiologiya, No 1, 1972, pp 4-12

Abstract: Description of the methods of preparation and most important properties of some recent Soviet-developed radioactive drugs based on relatively short-lived isotopes: (a) In¹¹¹ preparations for liver (colloidal solution) and kidney (citrate complex) scanning; (b) iodobenzoic acid with I¹³¹ to study liver detoxification function; (c) colloidal solution of Pd¹⁰³ for prolonged and uniform preoperative irradiation of tumors of different sites and sizes; (d) combined oleophilic preparations with different isotopes (Y⁹⁰, In¹¹¹, Pd¹⁰³, Au¹⁹⁸) for local irradiation of lymph nodes; (e) X-ray contrast media, iodoethiol and iodolinethol, to visualize lymph nodes; (f) resorptive beta applicator with Y⁹⁰ for the treatment of eye tumors (clinical trials of the applicator in a group of patients with melanoblastomas showed complete or partial resorption of the tumor and no recurrences during the observation period (6 months to 2 years). Improvement in the technology of preparing two important

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BOCHKAREV, V. V., et al., Meditsinskaya Radiologiya, No 1, 1972, pp 4-12

diagnostic agents containing I¹³¹ albumin macroaggregates (used for scanning in many lung diseases) and polyvinylpyrrolidone (used in the diagnosis of exudative enteropathy and other diseases) has resulted in marked enhancement of their quality.

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UDC 534.232.46-8

GULYAYEV, Yu.V., IVANOV, S.N., MANSFEL'D, G.D., PRCKLOV, V.V., STANKOVSKIY, B.A.,
STEPANOV, B.G. [in-t radiotekhn. i radioelektron. AN SSSR--Institute Of Radio
Engineering And Radio Electronics, AS, USSR]

"Ultrasonic High-Frequency Transducer"

USSR Author's Certificate No 250554, Filed 5 July 67, Published 16 Jan 70 (from
RZh--Elektronika i yeye primeneniya, No 8, August 1970, Abstract No 8A347P)

Translation: An ultrasonic high-frequency transducer patented for use in ultrasonic delay lines and ultrasonic amplifiers contains a resonator and a piezosemiconductor crystal involving a layer stripped of charge carriers. With the object of obtaining ultrasonic oscillations of ultra-high frequency, the piezosemiconductor crystal is connected with the central core of the resonator by a thin dielectric layer (e.g., mica) and a controlled voltage source is connected to the central core of the resonator and to the crystal. 1 ill. L.K.

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I/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PRINCIPLES OF REANIMATION UNDER THE EMERGENCY SERVICE CONDITIONS
-U-
AUTHOR--(02)--STANKUZEVICH, N.A., POLYAKOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP
104-110
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--INJURY, TRAUMATIC SHOCK, FIRST AID

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0579 STEP NO--UR/0589/70/104/005/0104/0110
CIRC ACCESSION NO--AP0108794
UNCLASSIFIED