

USSR

GUREVICH, YA. B., et al., Fizika i Khimiya Obrabotki Materialov, No 4,
Jul-Aug 71, pp 71-76

	Tensile (kG/mm ²)	Yield (kG/mm ²)	Elonga- tion, %	Reduction in Area, %
Steel A	160	145	9	45
*Steel B	170-290	140-275	6-11	20-37
*Steel C	180-265	150-250	5-12	20-45

*Mechanical property ranges for steels B and C are the result
of introducing variations in the heat treating modes.

Three figures, 2 tables, 7 bibliographical references.

2/2

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DETERMINING THE PORTION OF FRESH MIXTURE IN CRANKING CASE GASES OF
A FOUR CYCLE CARBURETOR ENGINE -U-
AUTHOR-(02)-KRUGLOV, M.G., DMITRIYEV, V.P. D
COUNTRY OF INFO--USSR
SOURCE--AVTO. PROM. 1970, 36(1), 6
DATE PUBLISHED-----70
SUBJECT AREAS--PROPULSION AND FUELS
TOPIC TAGS--INTERNAL COMBUSTION ENGINE, CARBON MONOXIDE, CARBON DIOXIDE,
COMBUSTION PRODUCT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1879 STEP NO--UR/0113/70/036/001/0006/0006
CIRC ACCESSION NO--AP0129239
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPORTION OF FRESH COMBUSTION MIXT. LEAKING INTO THE CRANKCASE IS DETD. BY ANALYZING THE GASES EXHAUSTED AND THOSE IN THE CRANKCASE FOR CO AND CO₂ AND O₂ AND DETG. THEIR RATIO. APPLIED TO A PASSENGER CAR ENGINE, THE METHOD SHOWED AN INCREASE OF THE FRESH CHARGE IN THE CRANKCASE WITH A HIGHER RPM. LEAKAGE OF THE FRESH MIXT. OCCURS MOSTLY DURING THE COMPRESSION CYCLE AND FIRST MOMENTS OF IGNITION WHEN THE MIXT. NEXT TO CYLINDER WALLS IS STILL COOL, INDICATING AN INFERIOR COMBUSTION AT THE CYLINDER WALLS AND IN THE CLEARANCE. FACILITY: MVTU IM. BAUMANA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.396.4:621.391.8

BYKHOVSKIY, M.A., DMITRIYEV, V.P.

"Noise Immunity Of Discrete Transmission In Multichannel Systems With Frequency Multiplexing And FM"

Elektrosvyaz!, No 9, Sept 1972, pp 38-45

Abstract: The noise immunity of the transmission of discrete data in multi-channel frequency multiplexing-FM systems is studied, taking account of both components of the noise (Gaussian and pulse) at the output of the FM demodulator. Three forms of FM demodulators are considered: the ordinary frequency discriminator and two types of tracking (system of phase frequency trim) demodulators. The results of the paper make it possible to determine the effect on the probability of error of the method of demodulation of the FM signal, the number of channels in the system, the frequency deviation index, and the duration of the telegraphic samples transmitted on one channel. An estimate is given of the potential noise immunity of signal reception in the multichannel communication systems considered. The range of applicability is determined of methods used in other works for calculating the probability of error. 6 ill. 12 ref. Received by editors, 29 March 1971.

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USSR

UDC 621.378:550.145:18

DMITRIYEV, V.G., YEREMEYeva, R.A., YERSHOV, A.G., ITKHOKI, I.YA., KARPOVA, YE.P.

"Engineering Calculation And Optimization Of Parameters Of Optical Band Frequency Doublers"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 5(11), 1972, pp 72-79

Abstract: At the contemporary level of development of experimental nonlinear optics, the necessity for engineering calculation and optimization of the parameters of frequency doublers is dictated by the appearance of a large number of nonlinear crystals which make it possible to obtain a high efficiency of conversion into the second optical harmonic without special focusing schemes. As a rule, relatively powerful solid-state lasers are used as the sources of initial radiation. The radiation of the lasers introduces a predominately pulse character and the divergence substantially exceeds the diffraction limit. During calculation of frequency doublers of such lasers it is necessary because of the back reaction to take into account both the pulse character of the initial radiation and the effect of saturation of the harmonic. Calculation of the enumerated factors introduces a number of special features in the nature of the calculation of the efficiency of conversion, such as determination of the optimum ratio

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DMITRIYEV, V. G., et al., Kvantovaya elektronika, No 5(11), 1972, pp 72-79

between the intensity of the exciting wave and the length of the nonlinear crystal, and others. The methods of calculation used in the present work were developed by others for the case of a prescribed field of initial frequency, and for a substantially nonlinear regime. For production of engineering graphs it is most advisable to conduct numerical integration of equations because analytical methods of calculation, valid in some approximations, lead to fairly awkward solutions. 5 fig. 1 tab. 11 ref. Received by editors, 6 Oct 1971.

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- 57 -

USSR

UDC: 621.378:530.145.18

DMITRIYEV, V. G., KUSHNIR, V. R., RUSTAMOV, S. R., FOMICHEV, A. A.

"Optimizing the Parameters of a Continuously Q-Switched Nd:YAG Laser With Nonlinear Crystal in the Cavity"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 111-112

Abstract: The paper gives the results of experiments on optimizing Nd:YAG laser parameters with conversion of emission to the second harmonic when a nonstoichiometric lithium metaniobate crystal is located inside the cavity. The laser operates in the quasicontinuous mode. So-called 100% conversion is attained when the average emission power on the fundamental harmonic is 310 mW. The peak powers on the fundamental and the second harmonic are 370 and 500 W respectively. The authors thank N. V. Shkunov for constructive criticism. Two illustrations, bibliography of eight titles.

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USSR

UDC 621.791.92:669.018.25

DMITRIYEV, V. V., Candidate of Engineering Sciences, Kazinskiy, L. R. and KIRSANOV, YU. KIRSANOV, YU. K., Engineers

"Equipment for Vacuum-Arc Build-up Welding of a Multi-Cutting High-Speed Steel Tool"

Moscow, IzVUZ-Mashinostroyeniye, No 12, 1972, pp 175-177

Abstract: The vacuum chamber from an ELU-4 electron-beam unit, partially modernized and equipped with additional mechanisms, was used at the Zhdanov Metallurgical Institute for investigating the vacuum-arc surfacing of a cutting tool. Pump VN-1 was replaced by a VN-4G pump which had a higher evacuation rate and provided a working vacuum of 10^{-3} - 10^{-4} mm Hg in 5-6 minutes.

Technical specifications of the unit are as follows:

Vacuum chamber volume, liters	800
Maximum vacuum obtainable, mm Hg.....	5×10^{-5}
Working vacuum, mm Hg	10^{-3} - 10^{-4}
Time to achieve working vacuum, min	5-6
Maximum sizes of parts being surface; mm	ϕ 300x200
Required power, kv	

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DMITRIYEV, V. V., et al., IzVUZ-Mashinostroyeniye, No 12, 1972, pp 175-177

- a) during vacuum pump operation6.2
- b) during welding10
- Cooling water consumption, liter/hour500

Tests with the vacuum-arc surfacing unit, conducted jointly with the Zhdanov Heavy Machine Building Plant, warranted it being recommended for use in surfacing operations. 2 figures, 1 table.

2/2

USSR

UDC 546.281 : 537.7

SIDORENKO, F. A., DMITRIYEV, Ye. A., and GEL'D, P. V., Ural Polytechnic Institute imeni S. M. KIROV

"Electron Energy Band in Chromium, Manganese, and Iron Monosilicides"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 8, 1972, pp 15-20

Abstract: The article describes results of measuring the dependence of the electric resistance (80-1000°K), thermoelectromotive force (80-700°K), and Hall coefficient (80-400°K) of chromium, manganese, and iron monosilicides on temperature, as well as calculations of characteristic parameters of the electron spectra of the compounds according to conventional formulas and according to narrow-band model formulas. The large effective masses, significant (10^{23} cm⁻³) concentrations, and low charge carrier mobilities, as well as the small distances for the Fermi level (0.1-0.2 eV) from the band edges indicate a high density of states in the electron energy bands of Cr and Mn monosilicides. Transport phenomena in chromium and manganese monosilicides occur within a narrow band tenths of an electron-volt wide. At low temperatures the band can be considered relatively wide (the electron gas is degenerate), while at high temperatures it must be regarded as narrow (the degree of degeneracy of the gas declines). The only substantial difference between the bands is in the degree of fullness.

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USSR

UDC: 519.2

DMITRIYEV, Ye. A.

"Mathematical Statistics in Soil Science"

Moscow, Moscow University, 1972, 292 pp, illustrated (from RZh--
Matematika, No 6, 1972, Abstract No. 6V201K)

Translation: This handbook is one of the first attempts at guidance in mathematical statistics for soil scientists particularly. It is written basically in accordance with the program set up for the corresponding course for students in soil science in the biological and soil faculty of the Moscow State University. Naturally, the handbook cannot pretend to completeness in the methods described nor to the depth and mathematical rigor of its exposition. However, those fundamentals presented by the book are completely adequate for solving a good many problems facing soil scientists and for understanding more complex statistical literature. From the author's foreword.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE SHIPS ARE TAKING THEIR POSITIONS -U-
AUTHOR--~~DMITRIYEV, YU.~~ D
COUNTRY OF INFO--USSR
SOURCE--TRUD, APRIL 19, 1970, COLS 5-7
DATE PUBLISHED--19APR70

SUBJECT AREAS--MILITARY SCIENCES, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--FLEET OPERATION, WAR GAMES, NAVAL FORCE
ORGANIZATION/(U)KOMSOMOLETS UKRAINY ASU SHIP, (U)MOSKOVSKIY KOMSOMOLETS
DESTROYER, (U)GREMYASHCHIY MISSILE SHIP

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0180 STEP NO--UR/9025/70/000/000/0003/0003
CIRC ACCESSION NO--AN0102251
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0102251

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING SHIPS ARE NAMED AS PARTICIPANTS IN THE "OKEAN" EXERCISE, THE "GREMYASHCHIY", A ROCKET SHIP, THE "MOSKOVSKIY KOMSOMOLETS", A DESTROYER, AND THE "KOMSOMOLETS UKRAINY", AN ANTISUBMARINE SHIP.

UNCLASSIFIED

1/2 014 UNCLASSIFIED
TITLE--UNDER THE FLAG OF THE FATHERLAND -U- PROCESSING DATE--18SEP70
AUTHOR--DMITRIYEV, YU. D
COUNTRY OF INFO--USSR
SOURCE--TRUD, APRIL 14, 1970, P 4, COLS 1-6
DATE PUBLISHED--14APR70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MILITARY SCIENCES
TOPIC TAGS--WAR GAMES, NAVAL FORCE ORGANIZATION/(U)MIKHAIL KUTUZOV
CRUISER, (U)KRASNOGVARDEYETS ATOMIC SUBMARINE, (U)KOMSOMOLETS CRUISER,
(U)OKTYABRSKAYA REVOLYUTSIYA CRUISER, (U)GROZNYI MISSILE SHIP, (U)VARYAG
DESTROYER, (U)MOSKVA ANTISUBMARINE CRUISER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0179 STEP NO--UR/9025/70/000/000/0004/0004
CIRC ACCESSION NO--AN0102250
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0102250

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A TELEPHONE INTERVIEW, THE SKIPPER OF AN ANTI SUBMARINE CRUISER, THE "MOSKVA", REVEALED THE FOLLOWING NAMES OF THE SHIPS WHICH ARE TAKING PART IN THE "OKEAN" WAR GAMES, THE "MOSKVA", AN ANTISUBMARINE CRUISER, THE "VARYAG" AND THE "GROZNYI", ROCKET CRUISERS, THE "OKTYABRR, SKAYA REVOLUTSIYA" AND THE "KOMSOOLETS", CRUISERS, THE "KRASNOGVARDEYETS", AN ATOMIC SUBMARINE, THE "CHELYABINSKIY KOMSOOLETS", A SUBMARINE. A PHOTOGRAPH ALSO SHOWS A CRUISER, THE "MIKHAIL KUTUZOV". ACCORDING TO THE MOSKVA, S SKIPPER, HIS CRUISER IS EQUIPPED WITH SUBMARINE DETECTION GEAR. BESIDES IT CAN USE ITS HELICOPTERS FOR THE SAME PURPOSE. IF NEED BE, THE HELICOPTERS CAN ALSO ATTACK SUBMARINES.

UNCLASSIFIED

USSR

DMITRIYEV, YU. G. and TARASENKO, F. P.

"The Problem of Statistical Estimation of Nonlinear Functions of a Probability Density"

Tr. Sib. Fiz.-Tekhn. In-ta pri Tomsk. Un-te [Works of Siberian Institute of Physics and Technology at Tomsk University], 1973, No 63, pp 154-168 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V97)

Translation: Suppose a certain characteristic of a distribution is represented by a functional such as

$$J = \int F [g(x), g^{(1)}(x), \dots, g^{(r)}(x)] g(x) dx, \quad (1)$$

where F is a certain function, $g(x)$, $g^{(1)}(x)$, ..., $g^{(r)}(x)$ are the probability function and its derivatives up to order r inclusively. The problem of estimation of J is studied, if density $g(x)$ is unknown. In order to produce the estimate J_N , it is suggested that the so-called "direct" method be used, consisting in substitution of a certain non-parametric estimate of density into expression (1). The necessary non-parametric estimates are the estimates of density and its derivatives

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DMITRIYEV, YU. G. and TARASENKO, F. P., Tr. Sib. Fiz.-Tekhn. In-ta pri Tomsk. Un-te, 1973, No 63, pp 154-168

as suggested in the works of Parzen, E. A. Nadarai, etc., based on the method of "degenerating" kernels.

Conditions are presented which assure convergence of estimates J_N to J with a probability of 1, when functional (1) has any of the following representations

$$J = \int_{-\infty}^{\infty} \frac{(g'(x))^2}{g(x)} dx \text{ is the information of Fisher,}$$

$$J = - \int_{-\infty}^{\infty} g(x) \ln g(x) dx \text{ is the entropy and } J = \int_{-\infty}^{\infty} g^2(x) dx.$$

The properties of the estimates J_N are also studied, when a histogram and polygram are looked upon as estimates of unknown density $g(x)$. However, it is assumed in this case that the functional in question is independent of the derivatives of $g(x)$.

In conclusion, the possibility of producing estimates J_N using the U-statistics introduced by Hoffding is studied.

A. Pinskiy

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USSR

VINOKUROV, V. G., DIMITRIYEV, Yu. K., YEVREINOV, E. V., KOSTELYANSKIY, V. M.,
LEKHNova, G. M., MIRENKOV, N. N., REZANOV, V. V., KHOROSHEVSKIY, V. G.

"A Homogeneous Computer System of Minicomputers"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk,
1972, pp 127-145 (Translated from Referativnyy Zhurnal Kibernetika, No 6,
1973, Abstract No 6V600, by the authors).

Translation: The expediency is demonstrated of constructing homogeneous com-
puter systems (HCS) of minicomputers. A two-dimensional computer system, the
MINIMAKS is described. The elementary machines of this system are based on
ASVT-M modules. The composition of typical HCS software is presented. 20
biblio. refs.

1/1

1/2 020 UNCLASSIFIED
TITLE--TITANIUM DIOXIDE PRODUCTION -U- PROCESSING DATE--27NOV70
AUTHOR--(02)-DMITRIYEV, YU.M., GALITSKIY, N.V.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,378
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NR 1970
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--METALLURGIC PATENT, TITANIUM OXIDE, TITANIUM CHLORIDE, OXYGEN
COMPOUND, METALLURGIC RESEARCH FACILITY, CALCINATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1451 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126982
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126982

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TIO SUB2 IS PREPD. BY TREATING
TICL SUB4 WITH O,CONTG. METAL COMPOUNDS., E.G. OXIDES, DURING HEATING,
WITH SUBSEQUENT OR SIMULTANEOUS SEPN. OF THE TIO SUB2 FORMED FROM THE
BYPRODUCTS BY KNOWN METHODS. THE END PRODUCT IS CALCINED IN AN O,CONTG.
ATM., E.G. AIR, AT 650-1300DEGREES. FACILITY: VSESOUZNYI
NAUCHNO-ISSLEDOVATEL'SKIY I PROYEKTNYY INSTITUT TITANA.

UNCLASSIFIED

USSR

UDC 621.039.626

DNESTROVSKIY, Yu. N., and KOSTOMAROV, D. P.

"Energy Balance in 'Tokamak' Plasmas"

Moscow, Atomnaya energiya, Vol 29, No 6, Dec 70, pp 434-438

Abstract: Plasma energy balance in the Tokamak reactor is computed on the assumption that the losses are classical in nature. This paper gives the results of a numerical solution for ion and electron heat conductivity equations and the equations for the magnetic field of the plasma column current with the classical transfer factors taken into account. Through these computations, investigations are made of the ion and electron temperature and energy life-time as functions of the geometric dimensions of the plasma column, the plasma density, the intensity of the longitudinal magnetic field, and the discharge current power. Results of the computations are found to be in good agreement with the available experimental data. In the analysis, it is assumed that for the Tokamak system, the diffusion life time is much larger than the energy life time; as a consequence, the plasma diffusion can be neglected in comparison with the thermal conductivity, and the plasma density can be considered independent of time.

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USSR

UDC 612.821

DMITRIYEV, Yu. S., and FEDOROV, V. K.

"An Evaluation of Short-Term and Long-Term Memory in Rats"

Leningrad, Metodiki Otsenki Svoystv Vysshey Nervnoy Deyatel'nosti, "Nauka,"
1971, pp 5-10

Abstract: Defining short-term memory by a coefficient of regression which reflects increase in the number of positive conditioned defensive reflexes to signals which were applied during the experiments at intervals of 1-2 minutes, and long-term memory as an increase in conditioned reflexes from experiment to experiment (experiments conducted once each 24 hours), it was established that both types of memory progressively decrease as the stereo-type grows more complex. The complexity of the problem was evaluated by the number of combinations or experiments necessary to achieve a certain level of conditioned reflexes. Seven bibliographic entries.

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USSR

BAPTIZMANSKIY, V. I., BAKHMAN, N., DMITRIYEV, Yu. V., PROSVIRIN, K. S.,
SHEVELEV, V. V., YANKELEVICH, Ya. P., PODGORODETSKIY, A. A.

"The Problem of the Use of Coagulators During Deoxidation of Steel by Aluminum"

Moscow, Izv. Vuzov, Chernaya Metallurgiya, No 2, 1971, p 51-55.

Abstract: Analysis of the hydrodynamic and thermodynamic factors shows the possibility of using secondary large particles as coagulators for the products of deoxidization of steel with aluminum. The introduction of crushed lime, feldspar, and aluminum to the center mass during deoxidization in the process of siphon pouring of seven-ton ingots of type 3 kp steel was tested. Studies of rolled products produced from these ingots confirmed experimentally the possibility of reducing the level of contamination of the steel with stable nonmetallic inclusions by combined introduction of deoxidizers and coagulators.

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USSR

UDC: 620.195

TOLSTAYA, M. A., FLEGONTOVA, L. N., and DMITRIYEV, Yu. V., Moscow Aviation Technological Institute

"Tendency of Clad SAP-1 (Sintered Aluminum Powder) to Crevice Corrosion"

Moscow, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 565-569

Abstract: Cladding of SAP-1 sheets with aluminum alloys markedly increases their weldability during contact spot and roll welding. In this experiment the working media were 3.5% natural sea salt solutions (pH 7.9-8.0, $Cl^- \approx 0.55$ n.) and salt solutions simulating sea water. The test materials were double spot-welded work pieces from SAP-1 sheets clad with commercial AD1 aluminum. Four months of sea water testing of double-spot welded test pieces revealed that the AD-1 aluminum cladding layer was affected by corrosion in the gaps between the welded sheet. The corrosion concentrated in the finest gaps. Some test pieces showed advanced crevice corrosion through the plastic zone without having affected the cast zone; the latter was confirmed by rupture testing of the spot welds.

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USSR

TOLSTAYA, M. A., et al, Zashchita Metallov, Vol 6, No 5 Sep-Oct 70,
pp 565-569

The propagation of crevice corrosion through the plastic zone might have been caused by the presence of micro-gaps due to low-quality welds of AD-1 layers. It is most probable that such micro-gaps are formed with the penetration of crevice corrosion through the plastic layer. It is concluded that commercial AD-1 aluminum, despite its good weldability and workability, is not well suited for cladding SAP-1. In this respect, pure AV000 aluminum and AMg-1 aluminum-magnesium alloys which act as anodic coatings for SAP-1 are more resistant to crevice corrosion and hold greater promise.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--VARIATIONAL EVALUATIONS FROM ABOVE AND BELOW FOR LAM SHIFT ENERGY
-U-
AUTHOR--(02)-DMITRIYEV, YU.YU., YURYEV, M.S. D
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(3), 591-2
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHASE SHIFT, INTEGRAL EQUATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/0120 STEP NO--UR/0051/70/028/003/0591/0592
CIRC ACCESSION NO--AP0127746
UNCLASSIFIED

2/2 014
CIRC ACCESSION NO--AP0127746

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTEGRAL REPRESENTATION OF THE
BETHE LOGARITHM, IN K SUBO, FOR THE NONRELATIVISTIC PART OF THE LAMB
SHIFT OF AN AT. LEVEL WAS USED IN THE ESTN. OF THE UPPER AND LOWER LIMIT
OF IN K SUBO.

UNCLASSIFIED

Acc. Nr:

APO047645

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR0080

104601z Solid solutions of $2CaO \cdot SiO_2$ with some metal oxides. Eremin, N. I.; Egereva, A. I.; Dmitrieva, A. M.; Firfarova, I. B. (Vses. Nauch.-Issled. Proekt. Inst. Alyum., Magn. Elektrodnoi Prom., Leningrad, USSR). *Zh. Prikl. Khim.* (Leningrad) 1970, 43(1), 18-24 (Russ). Solid solns. of $2CaO \cdot SiO_2$ (I) with each of Na_2O , Fe_2O_3 , TiO_2 , and MgO formed either during slow or rapid cooling of heat-treated mixts. were investigated by means of x-ray anal. The soly. of Na_2O , Fe_2O_3 , TiO_2 , and MgO in the β -modification of $2CaO \cdot SiO_2$ is: 0.6, 1.8, 0.75, and 1.0% and the n_s of the solid solns. formed are 1.728-1.730, 1.740-1.742, (not given), and 1.730, resp. The phase diagram for the $MgO-2CaO \cdot SiO_2$ system is presented. The effect of the metal oxides on the transition of the β into the γ -modification of $2CaO \cdot SiO_2$ is discussed.

Ivan Wichterle

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REEL/FRAME
19791219

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1/2 027

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--SYNTHESIS GROWTH, AND STUDY OF THE OPTICAL CHARACTERISTICS OF CSCU
SUB2 CL SUB3 CRYSTALS -U-
AUTHOR--(05)--BELYAYEV, L.M., SOBOLEVA, L.V., GILVARG, A.B., DMITRIYEVA,
F.I., OGADZHANOVA, V.V.
COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(1), 205-7

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL OPTIC PROPERTY, CRYSTAL GROWING, THERMAL ANALYSIS,
COPPER CHLORIDE, CESIUM COMPOUND, CRYSTAL LATTICE STRUCTURE, LIGHT
TRANSMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0158

STEP NO--UR/0070/70/015/001/0205/0207

CIRC ACCESSION NO--AP0048450

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--A00048450

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CSCU SUB2 CL SUB3 WERE PREPD. FROM A STOICHIOMETRIC MIXT. OF CUCL SUB2.2H SUB2 O, METALLIC CU, AND CSCL IN 20PERCENT EXCESS. CSCU SUB2 CL SUB3 FORMS COLORLESS NEEDLES, BECOMING YELLOW AND THEN GREEN IN A MOIST ATM. DTA OF THE STARTING PRODUCT AND PREPD. SINGLE CRYSTALS SHOWED IDENTICAL RESULTS: AN ENDOTHERMIC EFFECT AT 280DEGREES CORRESPONDING TO THE M.P. OF CSCU SUB2 CL SUB3. CSCU SUB2 CL SUB3 BELONGS TO THE RHOMBODIPYRAMIDAL CLASS (3L SUB2 3PC, MMM) WITH UNIT CELL PARAMETERS A 9.49, B 11.88, AND C 5.61 ANGSTROM; THE BRAGG ANGLES OF THE 3 PRINCIPAL PLANES (100), (010), (001) ARE THETA (SUB100) EQUALS 90DEGREES 21 PRIME, THETA (SUB010) EQUALS 70DEGREES 27 PRIME, THETA (SUB001) EQUALS 15DEGREES 57 PRIME. THE PRINCIPAL NS, N GAMMA, N BETA, AND N ALPHA, ARE GIVEN FOR 8 MONOCHROMATIC WAVELENGTHS IN THE RANGE 408-691 MN. HIGH TRANSMITTANCE OF CSCU SUB2 CL SUB3 IN THE VISIBLE AND IR RANGE WAS FOUND (TO 20 MU FOR THE THICKNESS 4.5 MM). FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

UNCLASSIFIED

Miscellaneous

USSR

UDC 669.3.042.62

DMITRIYEVA, G. S., SHLEPTSOV, V. F.

"Melting and Casting of Nonferrous Metals and Alloys"

Plavka i Lit'ye Tsvetnykh Metallov i Splavov [English Version Above], (Works of Scientific Research and Planning Institute for Alloys and Processing of Nonferrous Metals, No 35), Moscow, Metallurgiya Press, 1971, 144 pages (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G343 K by S. Krivonosova).

Translation: Problems of the theory and technology of casting nonferrous metals and their alloys (basically Cu) are studied: new technological processes of melting and casting; intensification of the process; reduction of irretrievable losses; creation of new processes of continuous casting of ingots; vacuum melting of Cu, Ni, and their alloys. Results are presented from scientific research work on the improvement of technologies, investigation of heredity of cast structure, and development of technologies for the production of products with controllable structure and properties. Problems of automation of regulation of the metal level in a crystallizer during continuous casting and use of the method of rank correlation to study crystallization of Cu ingots are studied.

1/1

USSR

UDC 542.91:547.1'118

KHAYRULLIN, V. K., DMITRIYEVA, G. V., ALEKSANDROVA, I. A., and VASYANINA, M. A., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Kazan' Branch of the Academy of Sciences USSR

"A New Synthetic Method for Bifunctional Oxides of Tertiary Phosphines"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, Dec 73, pp 2744-2749

Abstract: Reacting mixed chlorophosphines containing one functional group with α, β -unsaturated acids or their amides leads to the formation of tertiary bifunctional phosphine oxides with functional groups $C \equiv N$, $COOH$, $COCl$, $COOR$, etc. Hydrolysis of the ethyl-bis-(β -cyanoethyl)phosphine oxide yields ethyl-bis-(β -carboxyethyl)phosphine oxide.

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USSR

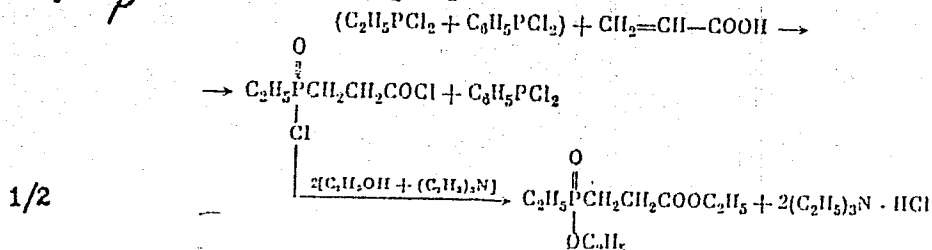
UDC 547.241.547.391.1

GASIZOV, T. KH., PASHINKIN, A. P., DMITRIYEVA, G. V., TUZOVA, L. L.,
 KHAYRULLIN, V. K., and PUDOVIK, A. N., Institute of Organic and Physical
 Chemistry imeni A. Ye. Arbutova, Academy of Sciences USSR

"Reactions of the Acyl Culonides of Trivalent-Phosphorus Acids with
 α, β-Unsaturated Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 8, 1972, pp 1730-1733

Abstract: A detailed study was made of the mechanism of the title reactions
 with special reference to behavior of the P atom of the chlorophosphines.
 The simultaneous reaction of the acrylic acid with equimolar mixtures of
 phenyl- and ethyldichlorophosphine (PDF and EDP, respectively) and the sub-
 sequent reaction with ethanol and triethylamino to form the ethyl ester of
 ethyl-β-carboethoxyethylphosphonic acid (45% yield) proceeds as follows:



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GAZIZOV, T. KH., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 8, 1972, pp 1730-1733

An analagous reaction occurs between PDP and ethyldichlorophosphite. On the other hand, EDP, when treated with a mixture of acrylic and metacrylic acids reacts only with the former which is a strong electrophil. These two observations support the assumption that the P atom has a nucleophilic character. Thermal analysis and NMR data on P^{31} were used to elucidate the nature of the intermediates. IR spectra were also discussed.

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USSR

UDC 542.91:547.1'118

PUDOVIK, A. N., ~~DMITRIYEVA, G. V.~~, ANOSHINA, N. P., ZYABLIKOVA, T. A., and KHAYRULLIN, V. K., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Reaction of Chlorophosphines with β -Chloroacrylic Acid"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 72, pp 1159-1164

Abstract: The article describes the reaction of methyl-, ethyl-, and phenyldichlorophosphine with β -chloroacrylic acids, as well as results of thermographic studies of some reactions of this type. The reaction of methyl-, ethyl- and phenyldichlorophosphine with cis- β -chloroacrylic acid gives alkyl- or aryl-(β -chloroformylvinyl)phosphinic acid chlorides, while the reaction with trans- β -chloroacrylic acid gives trans- β -chloroacrylic acid chloride.

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USSR

UDC 542.91:661.718.1

KHAYRULLIN, V. K., ~~DMITRIYEVA, G. V.~~ and PUDOVIK, A. N., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Reaction of Chloromethyldichlorophosphine with Propiolic Acid"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 71, pp 1254-1259

Abstract: The article describes results of a study of the reaction of chloromethyldichlorophosphine with propiolic acid. The reaction gives chloromethyl- β -chloroformyl vinylphosphinic acid chloride, which reacts with alcohol in the presence of triethylamine to give ethyl ester of chloromethyl- β -carbethoxy vinylphosphinic acid. When the latter is treated with PCl_5 , of the two ethoxy groups only the ethoxy group at the phosphorus is replaced by a chlorine atom. This can be seen by comparing spectrograms of the initial ester and the resultant chloromethyl- β -carbethoxy vinylphosphinic acid chloride. Heating of chloromethyl- β -chloroformyl vinylphosphinic acid with acetic anhydride gives acetyl chloride and 2-chloromethyl-2,5-dioxo-1,2-oxa-3-phospholene, which readily enters into diene synthesis reaction with 2,3-dimethyl-1,3-butadiene to give 5,6-dimethyl-1-chloromethyl-1,3-dioxo-2-oxa-1-phosphabicyclo-[3,0,4]-no-5,6-nene. In the alcoholysis of 2-chloromethyl-2,5-dioxo-1,2-oxa-3-phospholene 1/2

USSR

KHAYRULLIN, V. K., et al., Izvestiya Akademii Nauk SSR, Seriya Khimicheskaya, No. 6, Jun 71, pp 1254-1259

the attack by alcohol is directed against the phosphorus atom, while in the alcoholysis of 5,6-dimethyl-1-chloromethyl-1,3-dioxo-2-oxa-1-phosphabicyclo-[3,0,4]-no-5,6-nene the attack by alcohol, contrary to the ideas developed by R. G. PEARSON, is directed against the carbon atom of the carbonyl group to give 4-chloromethylhydroxyphosphinyl-5-carbethoxy-1,2-dimethylcyclohexene, probably as a result of steric factors.

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USSR

UDC 542.91:661.718.1

KHAYRULLIN, V. K., DMITRIYEVA, G. V., and PUDOVNIK, A. N., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Substituted Bicyclic Phospholanes"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 71, pp 1249-1254

Abstract: The interaction of 2-ethyl-2,5-dioxo-1,2-oxa-3-phospholene and 3-methyl-2-ethyl-2,5-dioxo-1,2-oxa-3-phospholene with 2,3-dimethyl-1,3-butadiene gives the corresponding diene synthesis reaction adducts. Alcoholysis of 5,6-dimethyl-1-ethyl-1,3-dioxo-2-oxa-1-phosphabicyclo-[3,0,4]-no-5,6-nene goes counter to R. G. PEARSON's rule with the attack of alcohol on the carbon of the carbonyl group of the ring and the formation of 4-ethylhydroxyphosphonyl-5-carbethoxy-1,2-dimethylcyclohexene. This can be explained by the presence of steric factors which hinder the attack on the phosphorus atom by alcohol.

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USSR

UDC 547.241 + 547.298.1

PUDOVIK, A. N., KHAYRULLIN, V. K., and ~~DMITRIYEVA, G. V.~~, Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Reaction of Chlorophosphines With Acrylamides and Methacrylamides in the Presence of Acetic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1034-1040

Abstract: The authors studied reactions of alkyl-dichlorophosphines, phenyl-dichlorophosphine and diethylchlorophosphine with substituted and unsubstituted amides of acrylic and methacrylic acids in the presence of acetic acid. It was found that alkyl- or aryl-dichlorophosphines react with dialkylamides of acrylic acid to form alkyl- or aryl(β -dialkylcarbamoyl)ethylphosphinic acid chlorides. Diethylchlorophosphine reacts with the diethylamide of acrylic acid to give diethyl(β -diethylcarbamoyl)ethylphosphine oxide. Dichlorophosphines react with amides of monosubstituted amides of α, β -unsaturated car-

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USSR

PUDOVIK, A. N., et al., Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1034-1040

boxylic acids in the presence of acetic acid to form substituted 2,5-dioxo-1,2-azaphospholanes. The likeliest mechanism for reactions of chlorophosphines with amides of α, β -unsaturated acids in the presence of acetic acid is one whereby the reaction begins with a nucleophilic attack of the β -carbon atom of the amide by the three-coordinate phosphorus atom.

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USSR

D UDC 542.91 + 661.718.1

KHAYRULLIN, V. K., DMITRIYEVA, G. V., and PUDOVIK, A. N., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Kazan, Academy of Sciences USSR

"Reaction of Ethyldichlorophosphine With Acrylic Acid Esters"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, Vol 4, Apr 70, pp 871-876

Abstract: The reaction of ethyldichlorophosphine with acrylic acid esters was studied in the presence of a proton donor to determine the reaction center of the conjugated system C=C-C=O in reactions with substituted dichlorophosphines. On the basis of their experimental data the authors propose the following mechanism for the reaction. The tricoordinated phosphorus atom of ethyldichlorophosphine carrying the unshared electron pair attacks the beta-carbon atom of acrylic ester. The bipolar ion formed adds a proton from the acetic acid by its negative end, while its anion adds to phosphorus. The intermediate complex formed is stabilized by splitting off an acyl chloride molecule. As a result of such a reaction the chloroanhydride of ethyl-(β -carbalkoxyethyl)-phosphinic acid and 1/2

USSR

KHAYRULLIN, V. K., et al, Izvestiya Akademii Nauk SSSR, Seriya
Khimicheskaya, Vol 4, Apr 70, pp 871-876

acetyl chloride are formed. When the reaction is carried out in the presence of acetic acid, the main products are the chloroanhydrides of ethyl-(β -carbalkoxyethyl)-phosphinic acid.

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USSR

UDC 542.91 + 661.718.1

D
KHAYRULLIN, V. K., DMITRIYEVA, G. V., and PUDOVIK, A. N., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Synthesis of Phenyl- β -chloroformylvinylphosphinic Acid Chloride"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 468-472

Abstract: Phenyldichlorophosphine reacts with propiolic acid to give phenyl- β -chloroformylvinylphosphinic acid chloride. Moderate heating of the latter with acetic anhydride in a benzene solution gives 2-phenyl-2,5-dioxo-1,2-oxaphospholene. Hydrolysis of the latter gives phenyl- β -carboxyvinylphosphinic acid, alcoholysis phenyl- β -carbethoxyvinylphosphinic acid. Treatment of the ethyl ester of phenyl- β -carbethoxyvinylphosphinic acid with phosphorus pentachloride gives phenyl- β -carbethoxyvinylphosphinic acid chloride.

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1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PECULIARITIES OF FISSION PRODUCT CONCENTRATION DISTRIBUTIONS OVER
OCEANS IN THE TROPICAL ZONE AND THEIR CONNECTION WITH ATMOSPHERIC
AUTHOR--(03)-DMITRIEVA, G.V., KRASNOPEVTSEV, YU.V., MALAKHOV, S.G.

COUNTRY OF INFO--USSR, PACIFIC OCEAN

SOURCE--J. GEOPHYS. RES. 1970, 75(18), 3675-85

DATE PUBLISHED-----70 :

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ATMOSPHERIC SCIENCES

TOPIC TAGS--FISSION PRODUCT, OCEAN RADIOACTIVITY, PARTICLE DISTRIBUTION,
ATMOSPHERIC CIRCULATION, TROPICAL ATMOSPHERE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1001

STEP NO--US/0000/70/075/018/3675/3685

CIRC ACCESSION NO--AP0136428

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0136428

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEW DATA ON THE LATITUDE DISTRIBUTION OF RADIOACTIVE FISSION PRODUCTS OVER OCEANS IN REGIONS OF THE TROPICAL ZONE ARE GIVEN FOR THE PERIOD 1967-1968. THE DATA SHOW A CONSIDERABLE HETEROGENEITY OF RADIOACTIVE FISSION PRODUCTS IN AIR IN THE TROPICAL ZONE OVER THE INDIAN OCEAN AND IN THE WESTERN PACIFIC OCEAN. THIS HETEROGENEITY IS EXPLAINED BY INTRUSION INTO THE TROPICAL ZONE OF PARCELS OF MORE RADIOACTIVE AIR FROM SUBTROPICAL TEMPERATE LATITUDES OF THE WINTER HEMISPHERE BEHIND QUASI MERIDIONAL COLD FRONTS. THE RADIOACTIVE AIR ENTERED THE EQUATORIAL REGION AND, UNDER CERTAIN SYNOPTIC CONDITIONS, MOVED ACROSS THE EQUATOR INTO THE AIR CIRCULATION OF THE OPPOSITE HEMISPHERE. AIR TRANSFER FROM THE SOUTHERN TO THE NORTHERN HEMISPHERE IS PRESUMABLY ASSISTED BY TYPHOONS THAT HAVE BEEN TRANSFORMED INTO LARGE SCALE CYCLONES OVER THE PACIFIC OCEAN.
FACILITY: HYDROMETEOROL. SERV., MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SYNTHESIS OF PHENYL,BETA,CHLOROFORMYLVINYLPHOSPHINIC ACID CHLORIDE
-U-
AUTHOR--(03)-KHAYRULLIN, V.K., DMITRIEVA, G.V., PUDOVIK, A.N.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 468-72
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, CHLORINATED ORGANIC COMPOUND, BENZENE
DERIVATIVE, PHOSPHINIC ACID, HETEROCYCLIC BASE COMPOUND, PHOSPHORUS
SULFIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0851

STEP NO--UR/0062/70/000/002/0468/0472

CIRC ACCESSION NO--AP0119755

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119755

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 7 G PROPIOLIC ACID TO 17.8 G PH PCL SUB2 IN C SUB6 H SUB6 (EXOTHERM) GAVE ON THE FOLLOWING DAY 50PERCENT PHP(O)CLCH:CHCOCL, B SUB0.04 140DEGREES, D PRIME20 1.3884, N PRIME20 SUBD 1.5795. THIS (10.5 G) AND 4.5 G AC SUB2 O IN C SUB6 H SUB6 HEATED 1 HR AT 60DEGREES GAVE BZCL AND 80PERCENT I, B SUB0.04 165DEGREES, 1.3464, 1.5720. THIS (1 G) AND 0.2 ML H SUB2 O IN 20 MIN AT 60DEGREES GAVE 94PERCENT PHP(O)(OH)CH:CHCO SUB2 H, M. 76-8DEGREES. SIMILARLY, ETOH GAVE 75PERCENT PHP(O)(OH)CH:CHCO SUB2 ET (IA), M. 138-40DEGREES. TO 18.3 G PHP(O)(OH)CH:CHCO SUB2 ET WAS ADDED 14.2 G PCL SUB5 AND CCL SUB4 AND THE MIXT. HEATED 1 HR AT 60DEGREES TO GIVE 91.3PERCENT PHP(O)CLCH:CHCO SUB2 ET (II), B SUB0.04 152DEGREES, 1.2713, 1.5455. TO 2 G II IN C SUB6 H SUB6 HEPTANE WAS ADDED 0.5 ML H SUB2 O AND 1 G ET SUB3 N TO YIELD 54PERCENT IA. II IN HEPTANE, C SUB6 H SUB6 TREATED WITH BUSH AND ET SUB3 N GAVE 83PERCENT PHP(O)(SBU)CH:CHCO SUB2 ET, B SUB0.04 180-2DEGREES, 1.1339, 1.5510. IR CURVES (6) WERE SHOWN. FACILITY: INST.ORG. FIZ. KHIM. IM. ARBUZOVA, KAZAN, USSR.

UNCLASSIFIED

UDC 591.51

USSR

KRUSHINSKIY, L. V., DASHEVSKIY, B. A., KRUSHINSKAYA, N. L., and ~~DMITRIYEV~~
~~I. I.~~, Moscow State University imeni M. V. Lomonosov, Institute of the
Biology of Development, Academy of Sciences USSR, Moscow

"Study of the Capacity of Tursiops truncatus (Montagu) Dolphins to Operate
With the Empirical Dimension of Figures"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 3, 1972, pp 755-758

Abstract: A brief survey of studies of the various capacities of dolphins for orientation and communication, including reasoning abilities, is presented, and experiments are described which were performed on two young adult females (Tursiops truncatus) which had been in captivity since 1958 and were quite tame. Both animals were highly interested in a game with a ball which frequently took precedence over their desire to eat, and therefore a procedure was developed which was constructed on the game activity of the dolphins. The experiments demonstrated clearly the ability of the animals to select a three-dimensional figure in which the ball could be placed over a two-dimensional figure. The study provides the basis for considering that dolphins can without preliminary training construct a behavior program the basis for which is the capacity to operate with the empirical dimensionality of figures.

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USSR

KRUSHINSKIY, L. V., et al., Doklady Akademii Nauk SSSR, Vol 204, No 3, 1972,
pp 755-758

From this it can be concluded that the dolphins have a well-developed elementary reasoning ability.

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DMITRIYEVA, I. L.

Biology

JPRS 57293

19 October 1972

UIC 612.8214

A STUDY OF THE COMPLEX FORM OF BEHAVIOR OF DOLPHINS
IN BOTTLES (MORFAS)

Article by I. V. Krushinsky, B. A. Dushovskiy, S. L. Krushinskaya and I. L. Dmitriyeva. Moscow State University, Faculty of Biology, Department of Development Biology of the Academy of Sciences USSR; Moscow, Zoological Institute of the Academy of Sciences, Moscow, Vol 22, No 4, 1972, submitted 13 March 1972, pp 718-725.

Dolphins are, at present, the subject of diverse and numerous investigations. The behavior of the bottle-nosed dolphin attracts special attention. This interest is caused, first, by the fact that they possess an exceptionally developed brain. According to the series of indexes of the brain worked out by Portman /26/, the bottle-nosed dolphin stands in second place after man. Second, dolphins, especially bottle-nosed dolphins, as works by Caldwell /18/, and Lilly /24/ show, are distinguished among mammals by their richness of sound signals, many of which are communication signals. Possibly, judging by Brattian's experiments /16/, they have the capacity to exchange these signals intelligently. The complexity and diversity of social relationships, the extremely developed mutual assistance among members of their society, the play activity and the clearly pronounced capacity for imitation may serve as indirect arguments for the examination of dolphins as animals which are characterized by highly developed higher nervous activity.

Thus, the enumerated characteristics of bottle-nosed dolphins' behavior in combination with their highly organized brain, provide a basis for considering that the bottle-nosed dolphin may possess a developed intellect.

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CLINICAL TRIALS OF CHLORACIZIN IN ISCHEMIC CARDIAC DISEASE -U-

AUTHOR--(05)--LEVINA, TS.A., ROMANOVSKAYA, A.I., DMITRIYEVA, I.T.,
KONOVALENKO, A.V., SIVOKONEVA, N.A.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 69-72

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, ATHEROSCLEROSIS, ARTERY, DRUG TESTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1685

STEP NO--UR/0475/70/000/004/0069/0072

CIRC ACCESSION NO--AP0129055

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0129055
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHLORACIZIN WAS EMPLOYED IN 70
PATIENTS WITH CHRONIC CORONARY INSUFFICIENCY AND IT WAS FOUND THAT THIS
DRUG IS ONE OF THE METHODS OF CHOICE IN THE TREATMENT OF ISCHEMIC CARDIAC
DISEASE, DUE TO ATHEROSCLEROSIS OF THE CORONARY ARTERIES.
FACILITY: ODESSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

Phytology

USSR

UDC 632.4+581.13

DEITRIYEVA, K. O., and ZHUKOV, B. I., Scientific Research Agricultural
~~Institute, Otary, Dzhambul Oblast'~~

"The Effect of Stem Rust of Wheat on the Rate of Synthesis of Nucleic Acids
in Wheat Leaf Tissues"

Moscow, Fiziologiya Rasteniy, Vol 18, No 2, Mar/Apr 71, pp 424-426

Abstract: The rate of incorporation of P^{32} into the nucleic acids of leaf tissues of wheat of the variety Saratovskaya 29 infected with stem rust of strain 40 was studied. Wheat of this variety is susceptible to infection with stem rust, strain 40. The rate of incorporation was determined in the following stages of fungal development: 1) incubation period; 2) vegetative development of the fungus leading to formation of chlorotic spots (5th day after infection); 3) formation of uredopustules (7th day after infection). The rate at which P^{32} was incorporated into infected plants became greater than that in uninfected controls on the 2nd day after infection (stage 1) and reached a maximum in stage 2 during the period immediately preceding and coinciding with the formation of chlorotic spots. On the 4th day after infection, the rate of synthesis of nucleic acids was four times higher than that in uninfected control plants. In stage 2, the content of nucleic acids
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USSR"

DNITRIYEVA, K. O., and ZHUKOV, B. I., Fiziologiya Rasteniy, Vol 18, No 2,
Mar/Apr 71, pp 424-426

was higher in infected than control plants. The period of maximum formation of nucleic acids corresponded to an increase in synthetic processes directed towards protection of the host against the parasite. In stage 4 of development of the fungus, the rate of synthesis of nucleic acids dropped sharply, becoming lower than that in control plants.

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D
Phytology

USSR

UDC: 581.19

DMITRIYEVA, K.O., PERUANSKIY, YU.V.

"Nucleic Acid and Protein Changes in the Process of Development of Necrosis on Wheat Leaves by Rust"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 1, Jan/Feb 70, pp 50-53

Abstract: Changes in a leaf blade of wheat of the rust-resistant variety Centenario chapingo (K-43028) infected with spores of stem rust of wheat at the time of appearance of the third leaf were studied. Studies were conducted on the 5th, 7th, 9th, 11th, 13th and 16th day after infection. The beginning of visible necrosis occurred on the 9th day, and was associated with definite changes in the nucleo protein metabolism. Within 5-7 days of infection an intense accumulation of RNA, DNA, and proteins was observed, apparently evoked by the stimulating effect of the pathogen on metabolism. If this mutual interaction continued it resulted in rapid aging of the leaves. However, in the necrotic areas on the 9-11th day, DNA content dropped in the nuclei of the cells, and its composition also altered. The cells surrounding the focus of infection died, creating a barrier to further spread of the mycelium. It was concluded that long before the necrosis in wheat leaves infected with rust appears, there is a complex biochemical "mechanism," highly sensitive, which results in alteration of the metabolism of DNA, RNA, and proteins, expressed quantitatively and qualitatively.

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USSR

UDC 621.3.-035.3:666.31.537.311.3

KUDRYAVTSEV, L. A., DMITRIYEVA, L. M., PEDOROV, A. P., and DANILKIN, V. I.

"Some Properties of Ceramic Ion Exchange Membranes"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 1, Jan 72, pp 30-33

Abstract: A study was carried out on the utilization of ceramic membranes with ionic conductivity in vacuum electrochemical processes. These materials were found to exhibit high mechanical strength as well as thermal and chemical stability. Ceramic membranes which exhibit ionic conductivity are based on solid porcelain to which minerals and granite pegmatites containing alkaline oxides were added: a) porcelain mass - spodumene with lithium conductivity; b) porcelain mass - synnirite with potassium conductivity; and c) porcelain mass - granite pegmatites with sodium conductivity. In spite of the fact that ceramic materials (with higher content of alkaline oxides) exhibit lower electroconductivity than glasses, they can be used in electrochemical processes, especially at elevated temperatures where the use of glass is very limited. Ionic transport across the ceramic membranes obeys the Ohm law, its function against the voltage plot is linear.

1/1

- 48 -

USSR

UDC: 621.372.41

RODICHEV, A. S., DMITRIYEVA, L. P.

"Frequency Departures of Quartz Resonators Under Impact as a Function of Resonator Orientation"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 21-25 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V446)

Translation: The paper deals with the effect of resonator orientation on the frequency departures of resonators under impact. A formula is derived for calculating frequency departures in the case of arbitrary resonator orientation from measurements of the departures during impacts in three directions. The experimental results are presented. Resumé.

1/1

- 39 -

DMITRIYEVA, L. V.

space biology

SO:SPRS 53388
17 Jan 71

UTC 629.78.048:581.12

ANALYSIS OF OXYGEN PRODUCTIVITY OF PLANT CONVEYERS WITH
DIFFERENT INTERVALS

4107579 *Space Biology*

Article by Ye. V. Lebedeva, L. V. Dmitriyeva, and E. N. Anandov, Moscow,
Kosmicheskaya Biologiya i Meditsina Russian, Vol 5, No 1, 1971, pp 25-29,
submitted for publication 14 August 1970.

Abstract: Several approaches to the management of conveyor plantations in the cultivation of higher plants in bioregenerative life support systems are discussed. It is shown that oxygen production by the conveyor plantation method is sufficiently uniform if the conveyor interval is not over one-eighth of the total time of plant cultivation in the area of the planting. A reduction of the cultivation period may increase the total amount of oxygen produced.

One of the principal requirements imposed on the link of higher plants in a biological life support system is the continuous reproduction of oxygen and food. This requirement can be satisfied only by the creation of a constantly operating plantation occupied by plants of different ages (conveyor belt).

In order for the conveyor belt to be effectively used it is necessary to make a proper determination of the time intervals between successive collections of the harvest (conveyor interval) and the age at which it is most advantageous to harvest the plants.

The principal relationships whose analysis makes it possible to determine the values of these parameters are: degree of nonuniformity in the release of oxygen from the conveyor as a function of the conveyor interval; the quantity of oxygen and plant material received from the entire sown area as a function of age of the harvested plants. These relationships can be computed from the corresponding characteristics of plantings of the same age. Below we give examples of such computations and an analysis of their results.

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--NMR AND EPR SPECTRA OF EUCRYPTITE AND SPODUMENE SYNTHETIC CRYSTALS

-U-
AUTHOR--(03)-DMITRIYEVA, L.V., ZONIN, Z.N., SHAKHDINAROV, G.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(1) 42-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--NUCLEAR MAGNETIC RESONANCE, ELECTRON PARAMAGNETIC RESONANCE,
CRYSTAL LATTICE STRUCTURE, IRON, LITHIUM, CRYSTAL IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1980/0238

STEP NO--UR/0181/70/012/001/0042/0045

CIRC ACCESSION NO--AP0048517

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--A0048517

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA WERE INVESTIGATED OF PRIME7 LI IN BETA EUCRYPTITE AND THE PRESENCE IS SHOWN OF 2 PHYS. NONEQUIV. POSITIONS OF LI IN THE LATTICE. THE QUADRUPOLE INTERACTION CONSTS. FOR LI(I) ARE ν PRIME2 QO-H EQUALS 125 KHZ, η EQUALS 0.60 AND FOR LI(II) ARE ν PRIME2 QO-H EQUALS 57 KHZ, η EQUALS 0.72. THE AXES OF THE 2ND CENTER DO NOT COINCIDE WITH THE CRYSTALLOGRAPHIC AXES. INVESTIGATION OF THE CRYSTALS OF BETA EUCRYPTITE CONTG. FE IMPURITY SHOWS THAT FE PRIME3 PLUS IONS CAN ENTER INTO VARIOUS LATTICE POINTS. THREE CENTERS OF THE ORTHORHOMBIC SYMMETRY WERE OBSD. WHICH DIFFER BY THE CONSTS. OF THE SPIN HAMILTONIAN AND ORIENTATION OF THE MAGNETIC AXES. FOR FE PRIME3 POSITIVE(I); B SUB2 PRIME0 EQUALS 2.55 GHZ, B SUB2 PRIME2 EQUALS 0.42 GHZ, FOR FE PRIME3 POSITIVE(II): B SUB2 PRIME0 EQUALS 10.2 GHZ, B SUB2 PRIME2 EQUALS 9.5 GHZ; FOR FE PRIME3 POSITIVE(III): B SUB2 PRIME0 EQUALS 5.94 GHZ, B SUB2 PRIME2 EQUALS 4.37 GHZ. PRELIMINARY RESULTS WERE OBTAINED ON EPR OF FE PRIME3 POSITIVE IN BETA SPÖDUMENE.

UNCLASSIFIED

USSR

UDC 681.2.087.92

BABAYEV, R.M., TIKHONOV, V.I., KLYSTOVSKAYA, M.D., DMITRIYEVA, L.Ye.

"A Semiconductor Hall emf Pickup"

USSR Author's Certificate No 241546, Filed 9 Mar 67, Published 3 Mar 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A109P)

Translation: This Author's Certificate introduces a semiconductor Hall emf pickup. To improve the temperature stability of its basic characteristics -- for instance, the voltage transmission coefficient -- the pickup is based on a solid solution of $\text{In}_{1-x}\text{Ga}_x\text{As}$, where $x = 0.15-0.20$. V.M.

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- 31 -

USSR

UDC 612.397.2+612.461.269.018:612.453/-06:612.592.1

KHOMULO, P. S., POPOV, A. A., and DMITRIYEVA, N. A., Chair of Pathological Physiology and Central Scientific Research Laboratory, Leningrad, Sanitary - Hygiene Medical Institute and Leningrad Pediatric Medical Institute

"Changes in Lipid Metabolism and Excretion of 17-Hydroxycorticosteroids With Urine in Polar Explorers During Adaptation to Life in the Antarctic"

Moscow, Kardiologiya, No 9, 1972, pp 48-52

Abstract: Blood cholesterol and phospholipid levels and excretion of 17-hydroxycorticosteroids with urine were studied in 98 members of the 1968-1970 Soviet Antarctic Expedition age 24 to 50. During the first month in the Antarctic the total blood cholesterol and phospholipid content increased proportionately but 6 months later the phospholipid concentration decreased while the cholesterol level remained high. These changes were directly related to the length of time spent in the Antarctic and independent of the food eaten. The cholesterol level was highest in those in the 41- to 50-year group and lowest in those under 30. The disturbance of lipid metabolism in the 6th month is similar to that observed in persons with active atherosclerosis. At this time there was also increased excretion of 17-hydroxycorticosteroids with urine, suggesting that the cause of the elevated blood

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USSR
KHOMULO, P. S., et al., Kardiologiya, No 9, 1972, pp 48-52

cholesterol level was intensified activity of the adrenal cortex. After 11 months the cholesterol level dropped but it was still higher than in the control group (persons of the same age in Leningrad).

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1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SYNTHESIS OF ALKYL SALICYLATE ADDITIVES BASED ON P,CRESOL -U-

AUTHOR--(05)--MONASTYRSKIY, V.N., TSVETKOV, O.N., DMITRIYEVA, N.A., KAZAKOV,
YE.I., KURENEV, K.D.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3), 17-19

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--SALICYLATE, ALKYLATION, CRESOL, PETROLEUM FRACTION, CHEMICAL
SYNTHESIS, ANTIOXIDANT ADDITIVE, DETERGENT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1491

STEP NO--UR/0065/70/015/003/0017/0019

CIRC ACCESSION NO--AP0112485

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0112485
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDITIVES, IMPARTING HIGH
DETERGENT, ANTIOXIDANT, AND ANTISCALING PROPERTIES TO OILS, WERE PREPD.
BY ALKYLATING P,CRESOL WITH AN OLEFIN FRACTION B. 240-320DEGREES,
OBTAINED BY WAX CRACKING, YIELDING 63.6PERCENT ALKYL,P,CRESOL. THE
LATTER WAS CARBOXYLATED TO OBTAIN THE ALKYL SALICYLIC ACID, WHICH WAS
TREATED WITH CA(OH) SUB2 TO GIVE THE ADDITIVE.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INTRAMITOCHONDRIAL FILAMENTOUS INCLUSIONS IN RAT THYROID GLAND
FOLLICULAR CELLS DURING HYPERPLASIA -U-
AUTHOR--DMITRIYEVA, N.P.
COUNTRY OF INFO--USSR
SOURCE--TSITOLGGIYA 12(3): 317-322, 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HYPERPLASIA, RAT, THYROID GLAND, MITOCHONDRION, NONMETALLIC
INCLUSION, ELECTRON MICROSCOPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0272 STEP NO--UR/9053/70/012/003/0317/0322
CIRC ACCESSION NO--AP0134077
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134077

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON MICROSCOPY REVEALED FILAMENTOUS INCLUSION, DURING HYPERPLASIA, WITHIN THE MATRIX OF SOME MITOCHONDRIA OF THE RAY THYROID FOLLICULAR CELLS. THESE STRUCTURES ARE RIGHT ANGLED OR SQUARE AND OCCUR IN DIFFERENT PARTS OF A MITOCHONDRIAL BODY. IN SOME CASES THESE ARE NEEDLE LIKE AND OCCUPY ALMOST THE WHOLE MITOCHONDRIAN, BEING ARRANGED ALONG ITS LONG AXIS. INTRAMITOCHONDRIAL INCLUSIONS ARE COMPOSED OF TIGHTLY PACKED THIN OSMIOPHILIC FILAMENTS AND ARE INTENSIVELY STAINED WITH URANIL ACETATE. THE FUNCTION OF THESE INCLUSIONS IS NOT YET CLEAR. THE MITOCHONDRIA CONTAINING FILAMENTOUS INCLUSIONS ARE, AS A RULE, AT DIFFERENT STAGES OF DEGENERATION. INTRAMITOCHONDRIAL INCLUSIONS SEEM TO BE DERIVED FROM THE MEMBRANES OF MITOCHONDRIAL CRISTAE AND TO ARISE AS A RESULT OF THE DISTURBANCES IN PHOSPHOLIPID METABOLISM IN MITOCHONDRIA. FACILITY: DEP. ELECTRON. MICROSCOP., INST. DEVELOP. BIOL., ACAD. SCI. USSR, MOSCOW, USSR.

UNCLASSIFIED

Oncology

USSR

UDC 616--006+616--006.34

DMITRIYEVA, N. P., Institute of Developmental Biology, Academy of Sciences, USSR,
Moscow

"Ultrastructural Transformations of Some Membrane Systems in the Cell in the
Course of Cancerogenesis"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 5, 1970, pp 1153-1155

Abstract: Cells of an artificially induced cancer in the thyroid gland were
studied, and changes in malignant cells contrasted with normal cells.

In the early stages of malignancy, there is a gross change in the endoplasmatic
reticulum: the formed elements lose their distinctness, vacuoles appear, ribo-
somes lose their shape, some other elements lose their form, and the cell appears
pale and granulated. Mitochondrial changes in outer and inner membranes and in
the plicae are significant in later stages. The membranes become thinner and
seem swollen and elongated. The plicae lose their regularity. These changes
differ utterly from the normal cell. Frequently transverse fractures of mito-
chondria are noted and the matrix becomes translucent. The polymorphism of
mitochondria, which never occurs in healthy cells, is of diagnostic significance.

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USSR

UDC 615.917:547.222].07:616.831-073.97

~~DMITRIYEVA, N. V.~~, Candidate of Medical Sciences and KULESHOV, YE. V., Chair of Labor Hygiene, Central Institute for Advanced Training of Physicians, Moscow

"Changes in Bioelectric Activity and Electrical Conductivity in the Brain of Rats Chronically Poisoned With Some Chlorinated Hydrocarbons"

Moscow, Gigiyena i Sanitariya, No 4, 1971, pp 20-25

Abstract: Daily exposure of rats to several chlorinated hydrocarbons (methylene chloride, dichloroethane, carbon tetrachloride, and tetrachloroethane) for 2 to 5 months produced two-phase changes in the electrocorticogram. The initial phase of excitation marked by an acceleration and increased amplitude of the background rhythms (especially the beta rhythm) gave way to a phase of inhibition with decreased frequency of the rapid oscillations and appearance of slow waves (including the delta rhythm which became dominant toward the end of exposure). Electrical conductivity of the tissues steadily decreased to 20 to 40% of the baseline values toward the end of exposure. Some 30 to 60 days after the end of the experiment, the electrocorticograms and electrical conductivity were almost indistinguishable from the control, suggesting that the changes in the indexes studied were functional in nature. The results
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USSR

DMITRIYEVA, V. N., *Gigiyena i Sanitariya*, No 4, 1971, pp 20-25

of the study support the possibility of applying the method used to the early diagnosis of latent forms of poisoning by chlorinated hydrocarbons.

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USSR

UDC 547.341.07

FRIDLAND, S. V., DMITRIYEVA, N. V., VIGALYUK, I. V., ZYKOVA, T. V., and SALAKHUTDINOV, R. A.

"Phosphorylation of Olefins With Phosphorus Trichloride in Presence of Perchloryl Fluoride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1494-1497

Abstract: The reaction of phosphorus trichloride with phenylacetylene, styrene, vinyl ethers, vinyl formate, and hexene-1 was studied in presence of perchloryl fluoride. Only hexene-1 yielded identifiable products: 2-chlorohexylphosphonic acid fluoridechloride and 2-chlorohexylphosphonic acid dichloride.

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USSR

UDC 547.341.07

FRIDLAND, S. V., DMITRIYEVA, N. V., VIGALOK, I. V., ZYKOVA, T. V., and SALAKHUTDINOV, R. A.

"Phosphorylation of Olefines With Phosphorus Trichloride in Presence of Perchloryl Fluoride. I. Phosphorylation of Cyclohexene"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 572-577

Abstract: It has been shown that the reaction of phosphorus trichloride with cyclohexene in presence of perchloryl fluoride yields the fluorochloro- and dichloroanhydrides of 2-chlorocyclohexylphosphonic acid (I). The fluorochloro anhydride is a new compound with following properties: b.p. $72^{\circ}/0.1$ mm, $d_4^{20} 1.3693$, $n_D^{20} 1.5050$. By means of alcohol esterification a series of esterfluoroanhydrides of (I) has been obtained. Dehydrochlorination of fluorochloro and of the dichloro anhydrides of (I) yields fluorochloro and dichloro anhydrides of cyclohexen-1-yl phosphonic acid which can be then converted to a series of esters. It has been shown that bromination of the chloro anhydride of 2-chlorocyclohexylfluorophosphonic acid occurs with a substitution of the hydrogen.

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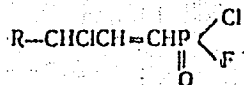
USSR

VIGALOK, I. V., FRIDLAND, S. V., DMITRIYEVA, N. V., LINKEVICH, N. S.

"Method of Production of Mixed Alkeno Phosphoric Acid Chlorides and Fluorides"

Otkrytiya Izobreteniya Promyshlennye Obraztsy Tovarnyye Znaki, No 5, 1972,
Patent No 355182.

Translation: 1. Method of production of mixed alkeno phosphoric acid chlorides and fluorides with the general formula



where R is alkyl, differing in that the corresponding olefin is interacted with phosphorus trichloride and perchloryl fluoride with subsequent separation of the end product by known methods.

2. Method according to Claim 1, differing in that the process is conducted at a temperature of not over 20°C.

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SPRS 69308
6-13

DMITRIYEVA, N. YE.

SESSION 111
111-1. OBTAINING AND STUDYING CERTAIN PROPERTIES OF SOLID SOLUTIONS OF THE
INDIUM ARSENIDE AND GALLIUM ARSENIDE SYSTEM

Article by B. A. Sakharov, M. D. Khlystovskaya, N. Ye. Daltiyeva, N. P. Chuvalova, Ye. V. Karlova, Ye. P. Radepkaya, Moscow; Novosibirsk, III Symposium on Protonic Acids, 4. Sbornik Referatov i Prezentatsiy, III Russian, 12-17 June, 1972, p. 251

The solid solutions of the indium arsenide and gallium arsenide system are interesting and prospective semiconducting materials the basic characteristic parameters of which have intermediate values between the parameters of such important compounds as Gallium arsenide and Indium arsenide.

In the given paper a study was made of the problem of obtaining solid solutions of the indium arsenide and gallium arsenide system by different methods: zone growth, directional crystallization, pulling from a melt by the Czochralski method, crystallization from the gas phase. Comparative characteristics of the materials obtained by these methods are presented.

A study was made of some optical and electrophysical properties of solid solutions of the indium arsenide and gallium arsenide system in the entire range of compositions. The spectra of the optical transmission in the wave length range of 0.9-2.5 microns were measured for temperatures of 77 and 300°K. The curves were obtained for the spectral dependence of the absorption coefficient. A study was made of the dependence of the concentration of the charge carriers, mobility and width of the forbidden zone on the composition of the solid solution.

USSR

UDC: 621.396.6:621.315.61

DMITRIYEVA, O. A.

"A Method of Making Carbon Black and Graphite With Low Resistivity"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 4 (36), pp 125-126 (from RZh-Radio-tekhnika, No 1, Jan 71, Abstract No 1V362)

Translation: Low-resistance carbon black and graphite for making resistors are produced by preannealing at 1320-40°C in a weakly oxidative medium. This gives carbon black with a minimum resistivity of ~15 Ω·cm, with a corresponding figure of 10 Ω·cm for graphite. It is noted that protracted pulverization is inadmissible. Low-resistance carbon black and graphite can also be used instead of silver in conductive cements. N. S.

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USSR

UDC: 621.396.6.002-76

DMITRIYEVA, O. A.

"Using Polyethylene Molds for Potting Radio Components"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 4 (36), pp 123-124 (from RZh-Radio-tekhnika, No 1, Jan 71, Abstract No 1V234)

Translation: The author notes the advantages of high-pressure polyethylene over other materials for molds used in circuit potting: elasticity, low cost, simplicity of the technological process. The potting technique is described.

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AA0043438 - Dmitriyeva, O.A.

UR 0482

1-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

229409 PROTEINACEOUS FODDER YEAST is obtained by cultivation of the *Candida* yeasts in a nutrient medium comprising a vegetable raw material hydrolysate such as e.g., wood hydrolysate as the carbon source. For ensuring increased yield of the proteinaceous fodder yeast and reducing substances, the starting wood is first subjected to the action of gamma-radiation and then pref. thermally treated at 150-200° for 5-60 mins. 10.5.67. as 1156535/28-13, SHARKOV, V.I. et al. Forestry Acad. Leningrad. (1.9.69) Bul. 15/25.4.69. Class 6a, Int. Cl. C 12k.

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10 2

19761770

AA0043438

AUTHORS: Sharkov, V. I.; Dmitriyeva, O. A.; Baburina, L. A.; Bosenko, A. M.

Leningradskaya Lesotekhnicheskaya Akademiya imeni S. M. Kirova

19761771

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DMITRIYEVA R. A.

JPRS 553240
1 MAR 78
UDC: 616.9-078

SANITARY MICROBIOLOGICAL RESEARCH DEALING WITH PREVENTION OF BACTERIAL AND VIRAL INFECTIONS

[Article by L.Ye. Korsh, G.A. Bagdasaryan, V.V. Vladavsky, Yu.G. Talayeva, Ye.A. Lyubetskaya, L.Z. Mikhova, M.A. Dmitriyeva (Moscow); Moscow, Vsesoyuznyi Nauchnyi Tsentr, Nauch. SSSR, Russian, No. 1, 1972, pp 71-78]

One of the decisive factors in nonspecific prophylaxis of bacterial and viral infections is institution of health improving hygienic measures. Prompt development of first and foremost sanitary measures is determined largely by the results of systematic sanitary microbiological investigations of environmental objects (water, air in buildings, soil).

Sanitary microbiology, which has been studying the quality of drinking water and sanitary state of reservoirs, soil, and air, jointly with hygienists, have developed sensitive methods and accumulated extensive experimental and factual data, which permitted recommendation of norms that are used in routine sanitary practice to regulate the quality of water.

From the standpoint of prophylaxis of intestinal infections, improvement of routine methods of rating the quality of water and sanitary condition of reservoirs with respect to bacterial contamination is becoming very important. One of the directions of work in this area is evaluation of existing methodological approaches to isolation of the E. coli group of bacteria as indicators of the degree of fecal pollution of water. For this purpose, the sanitary significance of bacteria included in the E. coli group was investigated, on the basis of fermentation of glucose at 45°, according to GOST [All-Union State Standard] 5216-50, for several years in different climate zones of the nation, in reservoirs of different types and with different degrees of pollution. It was established that the glucose temperature test does not permit precise differentiation between bacteria that are significant from the sanitary point of view and E. coli that have lost this property and water bacteria. This was confirmed not only for the reservoirs in the South but also in the temperate zone. The quality of water in reservoirs, with respect to fecal contamination, is best characterized by lactose-negative variants of Enterobacteriaceae, studied on lactose media at a temperature of 37° and demonstrated best by the method of membrane filters (L.Ye.

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COPOLYMERIZATION OF VINYL ACETATE WITH N,VINYLCAPROLACTAM -U-
AUTHOR--(03)-DMITRIYEVA, S.I., ELSABBAN, M.Z., MEOS, A.I.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 243-6
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--COPOLYMERIZATION, VINYL COMPOUND, ACETATE, CAPROLACTAM,
POLYVINYL ALCOHOL, SAPONIFICATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0679 STEP NO--UR/0460/70/012/003/0243/0246
CIRC ACCESSION NO--AP0124351
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124351

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYM. OF VINYL ACETATE (I) WITH N-VINYLCAPORLACTAM (II) WAS STUDIED AT 65DEGREES. THE REACTIVITY RATIOS WERE R SUB1 EQUALS 0.63, R SUB2 EQUALS 0.31; Q SUB2 AND E SUB2 WERE 0.11 AND NEGATIVE 1.5, RESP. (FOR II). MAX. YIELDS AND MOL. WTS. OF I-II COPOLYMERS WERE OBTAINED IN MEOH AND MEQAC. ALK. SAPON. OF I-II COPOLYMERS GAVE A POWD. VINYL ALC. NEGATIVE II COPOLYMER. FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.396.6-181.48(088.8)

ARSHINOV, V. I., ~~DMITRIYEVA, S. K.~~, KANDYBA, P. Ye., KOMAROVSKIKH, N. I.,
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

USSR Author's Certificate No 297129, filed 16 Oct 69, published 6 Apr 71
(from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11V368 P)

Translation: The proposed method for making diodes for thin-film cryotrons is based on sequential application of films of gold and a superconducting metal. As a distinguishing feature of the patent, a lead film with subsequent annealing at a temperature of 100-120°C is used as the superconducting metal to improve the technique of making the cryotronic integrated microcircuits, to increase speed, and to make the output signal more reliable. Resumé.

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USSR

UDC 537.312.62

ARSHINOV, V. I., ~~DMITRIYEVA, S. K.~~, KANDYBA, P. Ye., KOMAROVSKIKH, N. I.,
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K.

"Film Cryotrons Based on Au-Pb Intermetallic Compounds"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 3(29), pp 92-97 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12D691)

Translation: The paper describes the manufacturing technique and results of an experimental study of a new type of film cryotron having a diode of intermetallic compounds of gold with lead, and a gate and passive lines of lead. Basic electrophysical indices for the proposed type of cryotron are higher and less sensitive to deviations from given technological conditions than for conventional tin-lead cryotrons. Resumé.

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USSR

UDC: 621.318.57

ARSHINOV, V. I., ~~DMITRIYEVA, S. K.~~, KANDYBA, P. Ye., KOMAROVSKIKH, N. I.,
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 9, Mar 71, Author's Certificate No 297129, Division H, filed 16 Oct 69,
published 2 Mar 71, p 176

Translation: This Author's Certificate introduces a method of making diodes
for thin-film cryotrons. The procedure is based on sequential application
of gold and superconducting metal films. As a distinguishing feature of the
patent, the technology of making cryotron integrated circuits is improved
and the speed and output signal voltage of the cryotrons are increased by
using a lead film as the above-mentioned metal with subsequent annealing at
100-120°C.

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Acc. No. **AP:0034398**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 145-150

EFFECT OF FATS ON INTENSITY OF STAINING WITH VITAL STAINS IN CELLS
OF *PENICILLIUM CHRYSOGENUM*

Yudina, O. D.; Dmitriyeva, S. V.; Buneyeva, T. A.

National Institute for Antibiotics, Moscow

It was shown that absorption of the vital stains, such as neutral red and erythrosin by the cytoplasm of *P. chrysogenum* grown in the presence of fat was more intensive. Addition of fat to the medium had a transitory toxic effect on the young cells of the penicillin-producing organism. Addition of fat to old cultures of the penicillin producer resulted in severe damages of the cytoplasm. Sunflower oil was more toxic for the cells of *P. chrysogenum* as compared to whale fat.

D. A.

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REEL/F
FRAME
19711058
6

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THE USE OF DIFFERENTIAL CENTRIFUGATION IN A STUDY OF HETEROMORPHIC
PROPERTIES OF A SUBMERGED CULTURE OF ACTINOMYCES STREPTOMYCIN 773 -U-
AUTHOR-(03)-DMITRIYEVA, S.V., OSTRIKOVA, N.A., KOSHELEVA, G.I.
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 397-401
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ACTINOMYCES, STREPTOMYCIN, CULTURE METHOD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0152 STEP NO--UR/0297/70/015/005/0397/0401
CIRC ACCESSION NO--AP0114548
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH DIFFERENTIAL CENTRIFUGATION THE SUBMERGED CULTURE OF ACTINOMYCES STREPTOMYCINI 773 WAS BROKEN INTO 3 MYCELIAL AND 3 NON MYCELIAL FRACTIONS. CYTOMORPHOLOGICAL DIFFERENCES BETWEEN MYCELIA FROM FRACTIONS II, IV AND VI, AS WELL AS DIFFERENCES IN THE GROWTH AND ANTIBIOTIC PRODUCTION RATES WERE OBSERVED. THE MYCELIAL FRACTION IV IS OF THE GREATEST INTEREST. ITS EARLY APPEARANCE INDICATES A LOW LEVEL OF ANTIBIOTIC ACTIVITY. FACILITY: NATIONAL INSTITUTE FOR ANTIBIOTICS, MOSCOW.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PARTIAL TRANSITIONS DURING THE CAPTURE OF MU PRIMENEGATIVE MESONS
BY BORON 11 AND NITROGEN 14 -U-
AUTHOR-(04)-DMITRIYEVA, T.A., JAEGER, H.U., KISSENER, H.R., ERAMZHAN,
R.A.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 1193), 528-32
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--BORON ISOTOPE, NITROGEN ISOTOPE, PARTICLE ABSORPTION, MUON,
EXCITATION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1991/1055

STEP NO--UR/0367/70/011/003/0528/0532

CIRC ACCESSION NO--AP0110745

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0110745

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PARTIAL TRANSITIONS MU PRIME
NEGATIVE PLUS PRIME11 B YIELDS V PLUS PRIME11 BE ((ONE HALF) MINUS,
THREE HALVES; E EQUALS 320 KEV) AND MU PRIME NEGATIVE PLUS PRIME 14 N
YIELDS V PLUS PRIME14 C (2 PLUS, 1; E EQUALS 7.01 MEV) WERE CALCD. AT
GP-GA EQUALS 7; 1105 AND 11,000 SEC PRIME1 NEGATIVE. FACILITY:
OB'EDIN, INST. YAD. ISSLED., DUBNA, USSR.

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(21)

SECTION III SO: SELECTED PERSONNEL RESEARCH

PERIODS

PCS-89

SEPT 71

Name: Institute of Biochemistry, Pushchino

Description:

(U) During this quarterly reporting period, 25 new articles were

identified from the Institute of Biophysics, Pushchino. On the basis of these articles, it was possible to identify 32 new personalities with the Institute.

These personalities, the subjects of the articles, and the dates are given

below:

All-biophysics / physiology

Allyeva, S. A.	phosphorylation	1971 (32)
Aptikayeva, G. F.	radiation effect	1970 (35)
Arifova, D. F.	radiation effect	1971 (35)
Azhigun, Ya. I.	hypoxia	1965 (37)
Bregadze, I. F.	radiation effect	1970 (35)
Busevl, Ye. P.	luminescence	1970 (35)
Dmitriyeva, T. I.	radiation effect	1970 (35)
Dmitriyeva, V. A.	blood plasma	1969 (40)
Domarova, O. F.	radiation effect	1970 (39)
Dubrov, A. E.	biochemical analysis	1971 (41)
Gabolova, N. A.	muscle physiology	1971 (42)
Ganasi, Ye. B.	radiation effect	1970 (35)
Ivkova, M. N.	serum albumin	1971 (43)
Kosentkin, V. S.	phosphorylation	1971 (34)
Khokhlova, G. K.	muscle physiology	1971 (44)
Kislov, A. N.	saltatory gland	1970 (45)
Kiyegina, V. P.	oligonucleotide	1970 (46)
Korol, B. A.	radiation effect	1971 (44)
Kosholeva, G. N.	biochemical analysis	1971 (41)

DMITRIYEVA, T. F.

INITIALS

Kuzmina, S. V.	limbo culture	1970 (47)
Harkovich, D. S.	lactate dehydrogenase	1971 (48)
Hedvedeva, I. F.	radiation effect	1971 (44)
Peshkova, L. V.	phosphorylation	1971 (49)
Pronevich, L. A.	antibiotic	1970 (50)
Rodionova, M. A.	mitochondrion	1971 (51)
Shchepakin, V. N.	phosphorylation	1971 (49)
Skobeyev, Ye. M.	radiation/vibration	1970 (52)
Skobeyev, Ye. M.	radiation effect	1970 (35)
Isveckov, V. D.	blood plasma	1969 (40)
Starikhina, N. V.	lactate dehydrogenase	1971 (48)
Vilenchik, H. K.	radiation effect	1970 (53)
Zamyatnin, A. A.	muscle physiology	1971 (42)

Dubrov and Koshcheva (41) are associated with the Laboratory of Cell Biophysics at the Institute. Reference 52 above is of special interest since it presents an investigation of combined stresses, i.e., radiation and vibration. In addition to the above articles, five of the twenty-five (54-58) were authored by persons already identified with the Institute of Biophysics, Pushchino. Reference 55 associates the authors of the article, L. V. Slozhenkina, V. L. Kuzmina, and A. M. Kuzin, with the Department of Radiobiology at the Institute.

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USSR

YESAKOV, A. I., and ~~DMITRIYEV, T. M.~~ DMITRIYEVA, T. M.

Neyrofiziologicheskiye Osnovy Taktil'nogo Vospriyatiya (Neurophysiological Bases of Tactile Perception), Moscow, "Meditsina," 1971, 132 pp

Translation: Annotation: Data is provided about the intimate mechanisms of excitation of the mechano receptors of the skin, the adaptation, organization and properties of peripheral receptor fields. Emphasis is put on questions about the fluctuations in thresholds and the significance of that phenomenon to describe the physiological norm of sensitivity. A description is given of characteristics of lateral interaction among field receptors and receptors surrounding the receptor fields and the mechanism of its accomplishment. Aspects of the morphofunctional organization of the central pathways of the tactile analyser and properties of the central sensory switching on all levels of transmission of tactile information are elucidated. An examination is made of mechanisms of descending effects on the activity of the central sensory switching, as well as questions of efferent regulation of the apparatus of the tactile receptors. A description is given of the somatic and sympathetic paths of regulation of tactile receptors and the role of mediators in such regulation. The present status of the questions about the specificity of skin receptors is discussed.

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- 99 -

USSR

YESAKOV, A. I., and DMITRIYEVA, T. M., *Neyrofiziologicheskiye Osnovy Taktil'nogo Vospriyatiya*, Moscow, "Meditsina," 1971, 132 pp

A correlation is made between psychophysiological and electrophysiological research for an understanding of the mechanisms forming the tactile sense in man.

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Chapter II. Organization and Characteristics of the Receptor Field	11
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USSR

YESAKOV, A. I., and DMITRIYEVA, T. M., Neyrofiziologicheskiye Osnovy Taktil'nogo Vospriyatiya, Moscow, "Meditsina," 1971, 132 pp

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Chapter VIII. Descending Effects on the Activity of the Switching Relay of the Tactile Analysor	97
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Acc. Nr:

AF0048480

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

UR0070

105253z Magnetic properties of rare-earth stannates, $R_2Sn_2O_7$. Mitina, L. P.; Belyaev, L. M.; Dem'yanets, L. N.; Dmitrieva, T. V.; Lyubutin, I. S. (Inst. Kristallogr., Moscow, USSR). *Kristallografiya* 1970, 15(1), 183-6 (Russ). The temp. dependence of the magnetic susceptibility (χ) was measured for compds. of the $R_2Sn_2O_7$ type, where R = La, Pr, Nd, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Y in magnetic fields of 7 and 10 kOe at 100 - 600°K by means of a balance with electromagnetic compensation. Curves are shown. The values of molar susceptibility at 293°K, Curie const., paramagnetic Curie temp., and effective magnetic moment calcd. from the values measured are tabulated. The deviations from linearity of the $1/\chi(T)$ dependence were discussed. The effect of cryst. fields is mentioned as a possible cause of the deviation from the Curie law at lower temps.

V. Burjan

1/1

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1/2 025 UNCLASSIFIED **D** PROCESSING DATE--11SEP70
TITLE--MAGNETIC AND ELECTRIC HYPERFINE INTERACTIONS OF FE PRIME57 NUCLEI
IN VANADIUM AND SILICON GARNETS -U-
AUTHOR--LYUBUTIN, I.S., BELYAYEV, L.M., VISHNYAKOV, YU.S., DMITRIYEVA,
T.V., DODOKIN, A.P.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1204-1210
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--VANADIUM, SILICON, GARNET, MOSSBAUER EFFECT, IRON COMPOUND,
ELECTRIC FIELD, MAGNETIC FIELD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0989 STEP NO--UR/0056/70/058/004/1204/1210
CIRC ACCESSION NO--AP0105853
UNCLASSIFIED

2/2 Q25

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC/ACCESSION NO--AP0105853

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOSSBAUER EFFECTS FOR FE PRIME 57 NUCLEI IN THE SUBSTITUTED GARNET SYSTEMS $Y_{SUB3} MINUS X_{CA} SUBX_{FE} SUB5$ WITH $0 < X < 3.0$ AND $Y_{SUB3} MINUS 2X_{CA} SUB2X_{FE} SUB5$ WITH $0 < X < 1.5$ IS INVESTIGATED AT TEMPERATURES BETWEEN 78 AND 600 DEGREES K. IT IS FOUND THAT THE EFFECTIVE MAGNETIC FIELDS H_{SUBEFF} IN THE ALPHA-SUBLATTICE OF THE VANADIUM GARNETS IS LOWER THAN THE CORRESPONDING FIELDS IN SILICON GARNETS FOR EQUAL REDUCED TEMPERATURES $T-THETA$. SUBSTITUTION LEADS TO A STRONG GROWTH OF THE ELECTRIC FIELD GRADIENT IN THE ALPHA-SUBLATTICES OF VANADIUM AS WELL AS SILICON GARNETS, THE GROWTH BEING MORE PRONOUNCED IN THE VANADIUM GARNETS. IT IS ALSO FOUND THAT WITH GROWTH OF X THE MAGNITUDE OF THE ISOMER SHIFT IN THE ALPHA-SUBLATTICE DECREASES. THE EFFECTS CAN BE EXPLAINED BY A COVALENCE ADMIXTURE TO THE IONIC CHEMICAL BOND BETWEEN IRON AND OXYGEN IN THE ALPHA-SITES OF THE VANADIUM GARNETS.

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AM0033534

D

Dmitriyev, A. Ya.; Denisov, V. P.; Timonin, A. A.; Yermilov, A. A.; Zhelyabin, B. I.; Grishin, E. Ya.; Kirsanov, A. V.; Polyakov, V. A.; Leonidov, I. L.

From Space Vehicles to Orbital Stations (Ot kosmicheskikh korablye k orbital'nyy stantsiyam) Moscow, Mashinostroyeniye.

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III	The Program of Piloted Vehicles "Soyuz"	11
IV	Main Flight Stages of the Vehicles "Soyuz"	19
V	The World's First Experimental Cosmic Station and Prospects of Orbital Flights	43
		60

The book tells of the Soviet program for piloted flights and examines the main stages of development of Soviet Astronautics. Shown are prospects for the development of orbital stations.

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--WHIPLASH INJURIES OF THE CERVICAL AND UPPER THORACIC SPINE IN THE
EXPERIMENT AND CLINIC -U-
AUTHOR-(04)-YUMASHEV, G.S., GROMOV, A.P., DMITRIYEV, A.YE., PYRLINA, N.P.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 6, PP 1-5
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SPINAL CORD, SPINAL NERVE, INJURY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605003/C05 STEP NO--UR/9115/70/000/006/0001/0005
CIRC ACCESSION NO--AP0139508
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139508

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVIDENCE SHOWS THAT THE EXPERIMENTALLY PRODUCED "WHIPLASH" INJURIES OF THE CERVICAL AND UPPER THORACIC SEGMENTS OF THE SPINE, VESSELS AND NERVES LOCALIZE PRINCIPALLY AT THE LEVEL OF C SUB5 -TH SUB3. THEIR INTENSITY DEPENDS ON THE RATE OF OSCILLATION OF THE HEAD DURING "JERK" AND MAGNITUDE OF THE ARISING OVERLOADS. IN 23 PATIENTS OBSERVED BY THE AUTHORS FOLLOWING AUTOACCIDENTS, THE CLINICAL PICTURE IN SUCH "WHIPLASH" TYPE OF INJURIES WAS FOUND TO BE REPRESENTED BY A RANGE OF REGULARLY RECURRING SYMPTOMS OF A PATTERN WHICH GIVES REASON TO SPEAK ABOUT, TRAUMATIC CERVICAL WHIPLASH SYNDROME". THE AUTHORS COMMUNICATE THEIR SCHEME OF EXAMINATION OF PATIENTS AND THE METHODS OF TREATMENT APPLIED BY THEM.
FACILITY: KLINIKI TRAVMATOLOGII I ORTOPEDII I KAFEDRA SUDEBNOY MEDITSINY I MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM SECHENOVA.

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