"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

SHERSTYANKIN, P. P., Vliyaniye uglovykh kharakteristik fotometrov na tochnost' opredeleniya svetovogo polya pri kvazidiffuznom rezhime, Minsk, 1971

evaluating errors in measurement of various parameters of a luminous field and in designing photometers for measuring them with predetermined accuracy. Resumé.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

Semiconductor Technology

USSR

UDC 546.681'19:539.238

MARONCHUK, YU. YE., SHERSTYAKOV, A. P., and SHERSTYAKOVA, V. N., Institute of Semiconductor Physics, Siberian Division, Academy of Sciences USSR, Novosibirsk University

"Impurity Levels in Epitaxial Films of GaAs"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 9, Sep 73, pp 1490-1496

Abstract: Expitaxial films of GaAs are of considerable interest for practical uses. It is necessary to have knowledge of the energy spectrum of the impurities in order to use films of GaAs in electronic instruments. Using different methods of crystallization and alloying GaAs results in different behavior of the impurities and consequently to a different energy spectrum of the electrons. The authors find that the long-wave bands of radiation in the spectra of photoluminescence of unalloyed films of GaAs produced by gas-transport epitaxy are produced by the presence of Ga vacancies and an uncontrollable impurity, apparently, copper. The deep centers of recombination in films doped with elements of the VI and IV groups are caused by the interaction of

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USSR

MARONCHUK, YU. YE., et al., Izvestiya Akademii Nauk SSR, Neorganicheskiye Materialy, No 9, Sep 73, pp 1490-1496

Ga vacancies with the impurity atoms. The absence of long-wave bands of radiation in films produced by liquid epitaxy both of unalloyed and alloyed elements of group IV is due to the small concentration of Ga vacancies in such films. The deep levels in films doped with a Te impurity are caused by the Ga vacancy generation and the formation of complexes such as $Ga_2V_{Ga}Te_3$. The article contains 7 figures and 18 bibliographic references.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR UDC: 621.315.592

MARONCHUK, Yu. Ye., SHERSTYAKOV, A. P., and SHERSTYAKOVA, V. N., Institute of Semiconductor Physics, Novosibirsk

"Photoluminescence Spectra of Epitaxial GaAs Layers"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1622-1623

Abstract: This brief communication is a discussion of gas-transported and liquid methods of epitaxial growth of GaAs layers. In layers grown by the gas-transport method, three bands of photoluminescent radiation with energies of 1.51, 1.28, and 1.02 ev are observed at 77° K and with an electron concentration of about 10^{16}/cc. In layers of greater purity, with electron concentrations of 10^{14}-10^{15}/cc and with a mobility of 8000 $cm^2/V \cdot sec$, the radiation bands for gas-transported epitaxial growth are also three in number, with energy levels of 1.51, 1.35, and 1.02 ev. In layers grown by liquid epitaxy, however, the photoluminescence radiation occurs in only one band with an energy of 1.51 ev, for GaAs with an electron concentration of 10^{14}-10^{16}/cc. Data concerning the photoluminescence to be expected with various types

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

MARONCHUK, Yu. Ye., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1622-1623

and concentrations of impurities is also given. Three spectra are plotted: two for each of the growth methods, gas and liquid, and one for layer thickness. This last spectrum, however, is subdivided into gas-transport and liquid epitaxial growth types.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR UDC 535.376:621.382

GUDZ, E.S., MARONCHUK, I.YE., SHERSTYAKOV, A.P., YAKUSHOVA, N.A.

"Electroluminescent Screen Of Matrix Type, Emissive In Visible Region Of Spectrum (Short Report)"

Elektron. tekhnika. Nauch.-tekhn. sb. Poluprovodn. pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1972, Issue 4(68), pp 120-122 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11B352)

Translation: The report concerns the creation of a flat electroluminescent screen of the matrix type based on solid solutions of $GaAs_xP_{1-x}$ and $Ga_xAl_{1-x}AS$ [sic]. The technology of the production of screens based on epitaxial building-up is considered. Summary.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

Semiconductor Technology

USSR UDC 546.681'19:539.238

MARONCHUK, YU. YE., SHERSTYAKOV, A. P., and SHERSTYAKOVA, V. N., Institute of Semiconductor Physics, Siberian Division, Academy of Sciences USSR, Novosibirsk University

"Impurity Levels in Epitaxial Films of GaAs"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 9, Sep 73, pp 1490-1496

Abstract: Expitaxial films of GaAs are of considerable interest for practical uses. It is necessary to have knowledge of the energy spectrum of the impurities in order to use films of GaAs in electronic instruments. Using different methods of crystallization and alloying GaAs results in different behavior of the impurities and consequently to a different energy spectrum of the electrons. The authors find that the long-wave bands of radiation in the spectra of photoluminescence of unalloyed films of GaAs produced by gas-transport epitaxy are produced by the presence of Ga vacancies and an uncontrollable impurity, apparently, copper. The deep centers of recombination in films doped with elements of the VI and IV groups are caused by the interaction of

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USSR

MARONCHUK, YU. YE., et al., Izvestiya Akademii Nauk SSR, Neorganicheskiye Materialy, No 9, Sep 73, pp 1490-1496

Ga vacancies with the impurity atoms. The absence of long-wave bands of radiation in films produced by liquid epitaxy both of unalloyed and alloyed elements of group IV is due to the small concentration of Ga vacancies in such films. The deep levels in films doped with a Te impurity are caused by the Ga vacancy generation and the formation of complexes such as $Ga_2V_{Ga}Te_3$. The article contains 7 figures and 18 bibliographic references.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR UDC: 621.315.592

MARONCHUK, Yu. Ye., SHERSTYAKOV, A. P., and SHERSTYAKOVA, V. N., Institute of Semiconductor Physics, Novosibirsk

"Photoluminescence Spectra of Epitaxial GaAs Layers"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1622-1623

Abstract: This brief communication is a discussion of gas-transported and liquid methods of epitaxial growth of GaAs layers. In layers grown by the gas-transport method, three bands of photoluminescent radiation with energies of 1.51, 1.28, and 1.02 ev are observed at 77° K and with an electron concentration of about 10^{16}/cc. In layers of greater purity, with electron concentrations of 10^{14}-10^{15}/cc and with a mobility of 8000 $cm^2/V \cdot sec$, the radiation bands for gas-transported epitaxial growth are also three in number, with energy levels of 1.51, 1.35, and 1.02 ev. In layers grown by liquid epitaxy, however, the photoluminescence radiation occurs in only one band with an energy of 1.51 ev, for GaAs with an electron concentration of 10^{14}-10^{16}/cc. Data concerning the photoluminescence to be expected with various types

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

MARONCHUK, Yu. Ye., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1622-1623

and concentrations of impurities is also given. Three spectra are plotted: two for each of the growth methods, gas and liquid, and one for layer thickness. This last spectrum, however, is subdivided into gas-transport and liquid epitaxial growth types.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 669.189

SHUL'TE, Yu. A., KORNEYCHUK, A. I., SHERSTYUK, A. A., and SPERANSKIY, B. S.

"Effect of Casting Temperatures on the Mechanical Properties and Cold Brittleness of G13L High-Manganese Steel"

Metallurgicheskaya i Gornorudnaya Promyshlennost', No 2, 1971, pp 48-50

Abstract: High-manganese steel with fine-grained structure has good mechanical properties and durability. The relation between the casting temperature and the mechanical properties of the steel were studied. The temperature of the metal was measured in the ladle directly in front of the casting form by a thermocouple and potentiometer setup. At lower casting temperatures, the mechanical properties were improved. The relation between impact strength a_K and casting temperature t is $a_K = 123 - 0.071\ t$. The strength σ_B is related to the casting temperature t by $\sigma_B = 220 - 0.097\ t$ and the specific elongation δ to casting temperature by $\delta = 123 - 0.062\ t$. Chemical composition also affects the mechanical properties. Samples for mechanical testing were cast from metals of the same composition at temperatures of 1440 and 1385°C. They were cooled in alcohol-liquid N_2 mixtures and tested for impact strength from +100 to -100°C. Samples cast at the lower temperature had greater strength.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HEATING OF CASTINGS IN A THERMAL FURNACE WITH A CAR TYPE BOTTOM -U-

AUTHOR-(05)-PARASYUK, P.F., SHERSTYUK, A.A., KORNIICHUK, A.I., TUMANSKIY, B.F., BERKUN, M.N.
COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 49-50

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL CASTING, METAL HEATING, HIGH MANGANESE STEEL, CAST STEEL, AUSTENITIC STEEL, METALLURGIC FURNACE/(U)110G13L HIGH MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1288 STEP NO--UR/0129/70/000/002/0049/0050

CIRC ACCESSION NO--AP0106069
UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR BETTER CONTROL OF HEATING IN A FURNACE WITH A CAR TYPE BOTTOM, THE THERMOCOUPLE SHOULD NOT BE PLACED IN THE ARCH OF THE FURNACE BECAUSE OF THE LARGE HEAT GRADIENT BETWEEN THE CASTING AND THE ARCH. IN THE STUDY OF HEATING A CASTING OF 110G13L FOR 17 HR, BECAUSE OF THIS LARGE HEAT DIFFERENCE, THE CASTING WAS NOT HEATED TO THE NECESSARY TEMP. AS A RESULT, INSTEAD OF PURE AUSTENITE, UNDISSOLVED CARBIDES REMAINED IN THE CASTING. THE AMT. OF SCALE FORMED ON 110G13L CASTINGS DEPENDS ON THEIR POSITION IN THE FURNACE; THE LESSER AMT. IN THE CENTER OF THE FURNACE, THE MOST AT THE END OWING TO LEAKS OF THE JOINT OF THE CAR TYPE BOTTOM AND THE LINING WALL. IN THW STUDY OF THE EFFECT OF COMPN. OF THE HEATING PRODUCTS FROM THE GAS ON SCALE FORMATION IN 110G13L DURING TEMPERING, ANAL. OF THE PRODUCTS SHOWED THAT WITH INCREASE IN EXCESS AIR, THE DEPTH OF THE SCALE AND DECARBURIZED LAYER ON THE SURFACE OF THE CASTINGS INCREASED. ARTHUR J. PEAT.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC [621.3.011.2.017.2:621.3.044.3+536.483]001.24

BERTINOV, A. I., ALIEVSKIY, B. L., SHERSTYUK, A. G., ORLOV, V. L., and ALABIN, G. P.

"Electrical Losses and Resistance of Cryogenic Inductors Allowing for the Magnetoresistance Effect"

Moscow, Izvestiya Akademii Nauk SSSR, Energetika i Transport, No 6, 1972, pp 72-77

Abstract: Powerful magnetic-field inductors based on hyperconductors of very pure metals at cryogenic temperatures are being used in electrical engineering and physics equipment and considered for use in electric power transmission lines. The authors present a graphical analytic procedure for determining the electrical losses P and resistance R of aluminum, beryllium, and copper circular inductor coils of rectangular cross section, allowing for the magnetoresistance effect caused by the transverse plane-meridional coil field. Experimental values of the resistivities as a function of the transverse magnetic field induction at low constant temperatures are used to calculate approximating polynomial functions. The procedure involves 1) selecting coil material coefficients from a table (or precalculating them) in accordance with the operating temperature, 2) finding other coefficients from a family of curves

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

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BERTINOV, A. I., et al., Izvestiya Akademii Nauk SSSR, Energetika i Transport, No 6, 1972, pp 72-77

based on the coil cross-section outer radius and width, and 3) calculating P and R as a function of the geometrical inductor dimensions, number of turns w, current density, space factor k_z, and above coefficients. A Nayri-2 electronic computer was used in the calculations. The method is illustrated by a cryogenic aluminum-wire solenoid having 1.1 cm and 3.56 cm inner and outer cross section radii, 4 cm width, w = 124, and k_z approximately 0.37. A cryostat with liquid helium at a temperature T = 4.2° K was utilized for the experiments. The authors attribute some difference in the calculated and observed data to unstable magnetoresistance over the winding length. The effect of the intrinsic magnetic field with a 350 A current produces nearly a 6-fold increase in the coil R and P. A simplified peak estimate of the magnetoresistance based on a maximum solenoid induction of about 0.96·T yields a 1.5 fold increase in the resistance by comparison with the actual values. The authors recommend this procedure for engineering use when designing cryogenic inductors.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 539.12

SHERSTYUK, A. I.

"Reduced Coulomb Green Function for the Radial Schrödinger Equation"

Leningrad, Optika i Spektroskopiya, Vol 30, No 2, 1971, pp 356-357

Abstract: Expressions for the reduced Coulomb Green function of the base 1s state of the hydrogen atom have been obtained in several earlier works. However, in many cases corrections to the wave functions of the excited state must be determined. This is necessary, in particular, in determination of the wave function of the valence electron in the field of closed shells of the core of a multielectron atom by methods of the theory of perturbation. This work presents an expression for the reduced Coulomb Green function for calculation of states with arbitrary values of main quantum number n and azimuthal quantum number l.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 532.526

SHERSTYUK, A. N.

"On Determining the Point of Detachment of a Turbulent Boundary Layer"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 99, pp 53-59 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7B693)

Translation: Basing his analysis on Prandtl's semiempirical formula relating tangential stress to transverse velocity gradient, and on approximation of the tangential stress profile by a polynomial of the transverse coordinate (in accordance with an idea of K. K. Fedyayevskiy), the author derives a criterion for detachment of a two-dimensional turbulent boundary layer -- a relationship between the Reynolds number calculated from the depth of momentum loss, and a parameter which characterizes the pressure gradient.

It is noted that over a broad range of Reynolds numbers, the product of the layer thickness at the point of detachment by the static pressure gradient is 0.04 of the dynamic pressure of the external flow, and the ratio between the depths of displacement and momentum loss is equal to 2.3. Bibliography of 6 titles. A. V. Kolesnikov.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--A CONTRIBUTION TO THE THEORY OF TURBULENT JETS -U-

AUTHOR--SHERSTYUK, A.N.

COUNTRY OF INFO--USSR

SOURCE--MINSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, ENERGETIKA, NO 3, 1970, PP 115-120
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TURBULENT JET, INCOMPRESSIBLE FLUID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1664 STEP NO--UR/0143/70/000/003/0115/0120

CIRC ACCESSION NO--AT0123495

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0123495

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED OF THE CALCULATION OF TURBULENT JETS OF AN INCOMPRESSIBLE LIQUID. THE METHOD IS BASED ON A REFINED JET MODEL. BESIDES THE USUAL JET BOUNDARY AN EXAMINATION IS MADE OF THE PULSATION BOUNDARY ON WHICH THE LENGTH OF THE PATH OF MIXING IS EQUAL TO ZERO. THE WIDTH OF THE PULSATION REGION IS LARGER THAN THAT OF THE JET: B SIMILAR TO DIVIDED BY B IS APPROXIMATELY EQUAL TO 1.5 FOR BASE SECTION OF THE JET; B SIMILAR TO DIVIDED BY B EQUALS 2.2 FOR THE TRAIL BEHIND THE BODY. A NEW LAW IS SUGGESTED FOR THE LENGTH OF THE PATH OF MIXING ACCORDING TO WHICH THE PULSATION BOUNDARIES DL DIVIDED BY DY EQUALS NOT EQUAL TO X SUB1 (X SUB1 EQUALS 0.18). NOT ONLY IS THE FIELD VELOCITY DETERMINED, BUT JET BOUNDARIES AS WELL. EXPERIMENTAL AND CALCULATED DATA ARE COMPARED SHOWING THEIR SATISFACTORY COINCIDENCE.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 621.357.7

VESELOVSKAYA, I. YE., and SHERSTYUK, N. I.

"Internal Stresses of a Platinum Coating on Titanium"

Moscow, Zashchita Metallov, Vol 6, No 3, May-Jun 70, pp 302-305

Abstract: A study was made of internal stresses occurring during electrodeposition of platinum on a titanium surface. The optimal conditions for obtaining coatings with minimum internal stresses were found. The platinum plating was carried out at 70 ± 1°C. The anode made of platinum-plated titanium was placed parallel to the cathode with a spacing of 6-7 cm. In order to avoid the boundary effect, the anode surface was one-fourth the size of the cathode surface. The electrolyte compositions were (in g/liter): Pt (in the form of $H_2PtCl_6 \cdot 6H_2O$) 10; $NaNO_2$ 280; NH_4NO_3 1-2; NH_4OH 50 (electrolyte I) or 1-1.5 (electrolyte II). It was found that the internal stresses of the coatings exhibit little dependence on the platinum concentrations within a broad range of 8.0-4.5 g/l. Only during deposition from new electrolyte I during the initial period and from old electrolyte I with a platinum concentration less than 7 g/l were coatings with increased internal stresses obtained. In comparison with electrolyte I, coatings from electrolyte II were more matte. The internal stresses in electrolyte II were very small: 0.5 kg/mm^2 in the new electrolyte and 0.7-1.0 kg/mm^2 in the old electrolyte. In the

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

VESELOVSKAYA, I. YE., and SHERSTYUK, N. I., Zashchita Metallov, Vol 6, No 3, May-Jun 70, pp 302-305

experiments the deviation y was at the limit of accuracy of the measurements, and no dependence of the internal stresses on the thickness of the coating was detected. A reverser did not improve the external form and yield with respect to current in electrolyte II.

The experiment demonstrated that a platinum coating on titanium from electrolyte II has an advantage over the coating from electrolyte I from the point of view of danger of cracking as the result of internal stresses. However, an experiment in long-term operation of a platinum-plated titanium anode showed that coating from electrolyte I with a current reverser is characterized by less wear and a longer service life in comparison with a coating of equal thickness from electrolyte II.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE USE OF PITUITRIN IN HEMORRHAGIC ESOPHAGEAL VEINS AND DURING SURGERY IN PATIENTS WITH PORTAL HYPERTENSION -U-

AUTHOR-(03)-TSATSANIDI, K.N., NOVIK, M.G., SHERTSINGER, A.G.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP 29-33

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PITUITARY GLAND, HORMONE, HEMORRHAGE, VEIN, DIGESTIVE SYSTEM, SURGERY, HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1020 STEP NO--UR/0589/70/104/005/0029/0033

CIRC ACCESSION NO--AP0109171

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109171

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 96 PATIENTS WITH THE PORTAL HYPERSENSION SYNDROME TO REDUCE PORTAL PRESSURE PITUITRIN WAS USED (20 UNITS INTRAVENEOUSLY BY DRIP ADMINISTRATION) IN A COMPLEX OF MEASURED DIRECTED TO CESSATION OF BLEEDING FROM ESOPHAGEAL VEINS. BLEEDING WAS ARRESTED IN 65 CASES (67.7PERCENT). IN 27 PATIENTS, IN WHOM PITUITRIN WAS NOT ADMINISTERED, HEMORRHAGE WAS LIQUIDATED BY CONSERVATIVE MEASURES IN 6 OF THEM (22.2PERCENT). PHARMACOLOGICAL PORTAL DECUMPRESSION WITH PITUITRIN IN 29 PATIENTS DURING SURGERY FOR PORTAL HYPERTENSION RESULTED IN REDUCTION OF THE OPERATIVE BLOOD LOSSES. NO SERIOUS SIDE REACTIONS HAVE BEEN NOTED. FACILITY: OTD. PORTALNOY GIPERTENZII INSTITUTA KLINICHESKOY I EKSPERIMENTAL'NOY KHIRURGII MINISTERSTVA ZDRAVOOKHRANENIYA SSSR AND 52-Y GORODSKOY KLINICHESKOY BOL'NITSY G. MOSCOW.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR UDC: 538.4

PUTYATA, V. I., SHER'YAZDANOV, G. B.

"Concerning Flow of a Liquid of Finite Conductivity Around a Thin Foil in a Transverse Magnetic Field"

Tr. II Resp. konf. po aerogidromekh., teplcobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey" (Works of the Second Republic Conference on Aerohydromechanics, Heat Exchange and Mass Exchange. "High-Velocity Aerodynamics" Section), Kiev, Kiev University, 1971, pp 218-224 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7B14)

Translation: The authors study flow of an inviscid incompressible fluid of finite conductivity around a thin foil in the presence of an external homogeneous magnetic field. It is assumed that the magnetic field lies in the plane of the foil and is perpendicular to the direction of the undisturbed flow. The question reduces to solution of a boundary-value problem for the harmonic function ϕ formulated previously (see McCune, J. E., J. Fluid Mech., 1960, 7, No 3, pp 449-468 -- RZhMekh 1962, 8B14); the distinguishing feature of this problem is the presence of a second derivative of ϕ in the boundary condition. A method of solving this

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

PUTYATA, V. I., SHER'YAZDANOV, G. B., Tr. II Resp. konf. po aerogidromekh., teplootmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey", Kiev, Kiev University, 1971, pp 218-224

problem is proposed on the basis of asymptotic representation of ϕ in the form of a series in a small parameter, and subsequent solution of the Hilbert problem for a plane with a slit. Bibliography of six titles.
A. B. Vatazhin.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--IMPROVEMENT IN THE CHARACTERISTICS OF HYDROGEN CONDENSATION PUMPS -U-

AUTHOR-(02)-SHVETS, A.D., SHESEVSKIY, B.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 587-91

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS

TOPIC TAGS--HIGH VACUUM PUMP, CRYOGENIC LIQUID COOLING, GAS LIQUIFACTION, LIQUID HYDROGEN, SLUSH HYDROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1928 STEP NO--UR/0057/70/040/003/0587/0591

CIRC ACCESSION NO--AP0108257

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

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2/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108257

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DISCUSSION IS GIVEN ON THE OBTAINING OF ULTRAHIGH VACUUMS BY USING H CONDENSATION PUMPS. THE CHARACTERISTICS OF H IN DIFFERENT STATES ARE CONSIDERED. THE USE OF A H SLUSH RATHER THAN LIQ. H, WHICH BOILS AT ATM. PRESSURE, HAS A NO. OF ADVANTAGES. THE TEMP. OF THE PUMP SURFACE IS DECREASED RESULTING IN THE ACHIEVEMENT OF A LIMITING VACUUM OF 2.5 TIMES 10 PRIME NEGATIVE19 MM HG WITH RESPECT TO N. FOR THE SAME THERMAL LOAD, THE OPERATIVE LIFE OF THE PUMP IS PROLONGED. ALSO, LESS OF THE COOLING AGENT IS LOST IN FILLING THE VOL. OF THE PUMP WITH THE H SLUSH.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 621.165.539.4

SHESHENEV, M. F., Candidate of Technical Sciences, and SHKOL'NIKOVA, B. E., and SAMARINA, N. N., Engineers, All-Union Institute of Heat Engineering and Central Scientific Research Institute for Heavy Machine Building

"Use of Type-15Kh12V2K2MF 12% Chrome Steel for Turbine Blades"

Moscow, Teploenergetika, No 5, 1972, pp 74-76

Abstract: It has been found that the main reason for rupture of turbine blades is vibration fatigue resulting rom the operation of the blades in resonant modes. This work presents the results of the study of the metal of two 0.5-t pilot-scale melts of E1756K steel, containing 0.13-0.16% C, 12.3-12.6% Cr, 0.66-0.73% Mo, 1.8-2.04% W, 0.34% V, 1.7% Co, 0.35-0.42% Si, 0.89-0.76% Mn, 0.06-0.015% S, and 0.017-0.024% P. Heat-treated rods 30 mm in diameter were tested. The properties of the material were found to be quite promising for the manufacture of turbine blades. The steel has good heat resistance and fatigue characteristic at 600°C. The long-term strength over 10,000 hours is 17-18 kg/mm^2, 100,000 hours--14 kg/mm^2. The minimum relative elongation in long-term rupture was 9%. The creep limit at this temperature for a deformation rate of 1% in 10^5 hr is about 7.5 kg/mm^2. The fatigue limit at 600°C with a symmetrical loading cycle is 24 kg/mm^2 for smooth specimens, 15 kg/mm^2 for notched specimens (10^8 cycles). The attenuation decrement at 600°C is approximately twice that at 20°C.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 632.95

VTOROV, B. G., KALMANOVSKIY, V. I., CHULPANOVA, L. V., SHESHENIN, V. A., and YASHIN, YA. I.

"Some Particulars in the Analysis of Pesticides by a Recombination Rate Constant Detector"

Tr. 2-go Vses. soveshch. po issled ostakov pestitsidov i profilakt. zagryaz-neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on Investigation of Residues of Pesticides, and Prevention of Pesticide Contamination of Foodstuffs, and Fodder and the External Environment), Tallinn, 1971, pp 47-50 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N404)

Translation: A recombination rate constant detector is used to analyse the residues of chlorine-containing pesticides in various materials in place of electron capture detectors. The recombination rate constant detector has a linear dynamic range of $\sim$ 500 (with respect to lindane), and higher sensitvity and stability than the electron capture detector.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 620.193.01

TOMASHOV, N. D., CHUKALOVSKAYA, T. V., CHERNOVA, G. P., PLAVNIK, G. M., NAZAROVA, R. I., ZAKHAROV, A. P., and SHESHENINA, Z. YE., Academy of Sciences USSR, Institute of Physical Chemistry

"Structural Study of Surface Layer on Ti-Pd Alloys"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun '72, pp 291-294

Abstract: The article describes results of an electron microscopic, electron diffraction and X-ray study of the surface layer forming on Ti-Pd alloy (Ti-0.2 percent Pd and Ti-1 percent Pd) during corrosion in 40 percent H_2SO_4 and 20 percent HCl at 100°. The electron microscopic study of the surface of Ti-Pd alloys after their corrosion confirms the supposition as to the accumulation of palladium on the surface in the form of very finely dispersed crystalline formations. After treatment of the surface with hot concentrated HNO_3, which dissolves Pd, the electron microphotographs show no particles. In the case of Ti-1 percent Pd palladium mainly forms very fine particles on the surface. The Pd accumulations on Ti-0.2 percent Pd alloy reveal a tendency towards the branched growth of primary crystallization centers.

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USSR

TOMASHOV, N. D., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 291-294

The results of the electron diffraction study of the surface of Ti-1 percent Pd alloy show that after corrosion in 20 percent HCl at 100° there are strong lines characteristic of Pd and very weak lines characteristic of TiO_2 and TiH_2. After treatment of the alloy in HNO_3 the lines characteristic of Pd disappear, and only TiH_2 and TiO_2 are found on the surface. The relative intensity of the reflections characteristic of Pd increases with an increase in the corrosion time, while it decreases for TiH_2 and TiO_2. After corrosion in 40 percent H_2SO_4 at 100° reflections characteristic of Pd, TiH_2, and TiO_2 are observed. However, the intensity of the Pd-characteristic lines is considerably weaker than after corrosion in 20 percent HCl at 100°, and they are of a diffuse character, while the intensity of the reflections characteristic of TiH_2 and TiO_2 is stronger.

X-ray analysis of the powdered surface layer that forms on Ti-1 percent Pd alloy shows that after corrosion in 20 percent HCl at 100° the alloy

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TOMASHOV, N. D., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 291-294

preferentially contains metallic palladium. After corrosion of the alloy in 40 percent H_2SO_4 at 100°, along with the strongest Pd lines, considerably weaker lines characteristic of Ti_2N are observed.

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Acc. Nr: AP0034720 S Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15, Nr 2, pp 17-23

THE STATE OF PERIPHERAL CIRCULATION IN RADIUM THERAPY

Vasil'veva, Ye. I.; Sheshina, G. A.

Summary

The state of the peripheral circulation in radium therapy was studied in 83 patients with malignant neoplasms, in 59 of them the heart was within the zone of irradiation. It was found that in irradiation of the region of the heart and remote areas of the body there occur hemodynamic shifts characterized by alteration of the arterial pressure, elasticity of arterial vessels, modules of resistance, systolic and minute blood volume and peripheral resistance. In a number of cases hemodynamic indices, prevalently their decline, as the result of which the state of circulation was maintained on an average level. However, the adaptation reaction was not always noted, as the result of which there was a disturbed concordance in the work of the heart and vessels. There were found signs of myocardial dystrophy and disorder of coronary circulation, thus deteriorating the state of the hemodynamics Disorder of the peripheral circulation in radium therapy should be considered not only from the viewpoint of vascular insufficiency. Apparently, of paramount importance is disturbance of the neurohumoral apparatus regulating the circulation.

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USSR

UDC: 532.5

SHESHUKOV, Ye. G.

"Motion of a Permeable Underwater Hydrofoil"

Tr. Seminara po krayev. zadacham. Kazansk. un-t (Works of the Seminar on Boundary Value Problems. Kazan' University), 1970, vyp. 7, pp 297-302 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9B529)

Translation: The author summarizes solution of the two-dimensional problem in linear formulation of motion of a foil of arbitrary shape in an ideal weightless fluid, assuming that this foil has a fluid-permeable section on the contour. A solution is given in general outlines of an analogous problem for the case of a thin, slightly curved foil moving parallel to a free surface. The author uses conformal mapping of a half-plane with a notch onto the inside of a circular ring with the aid of the proposed function. It is pointed out that formulas may be derived as a result of the solution for the angle of attack of the foil and the rate of flow of the fluid through the permeable section. A solution is given for the problem in the case of a flat plate moving at a small angle of attack, using a mapping function which contains zeta- and elliptical Jacobi functions. Hydrodynamic reactions are defined with regard to suction forces. It is shown to what extent these reactions differ from the analogous reactions of a plate without a permeable section. M. G. Kulayev.

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USSR

SHESTACHENKO, I. Ya.

UDC 533.697

"Study of a Nonstationary Air Flow Over an Active Turbine Grid"

Tr. Novocherkas. politekhn. in-ta (Works of Novocherkassk Polytechnical Institute), 1972, Vol. 258, pp 43-49 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B391)

Translation: A fixed straight lattice of active working blades is subject to a nonstationary air flow at $M \leq 0.3$. The nonstationary quality is achieved by traces behind a rotating lattice of circular rods located in front of the lattice being studied and approximately modeling the track of a nozzle grid. The blades were drained to measure the constant pressure component at 15 points and the variable component at 6 points. The amplitude of the variable pressure component decreases in the direction of the output from the grid. The ratio of the amplitude of the variable component of the circumferential force to the average value changes slightly with a change in the flow velocity and the velocity of the rods. G. L. Podvidz.

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USSR

UDC:533.17+533,73

YURINSKIY, V. T., SHESTACHENKO, I. Ya.

"Graphic Representation of Equation for Conversion of Energy for a Stream of an Ideal Gas"

Tr. Novocherkas. Politekhn. In-ta [Works of Novocherkassk Polytechnical Institute], 1973, 275, pp 14-21 (Translated from Referativnyy Zhurnal Turbostroyeniye, No 11, 1973, Abstract No 1.49.92)

Translation: The concept of the null-vector fields of velocities of forward motion of molecules of gas, angular velocities of rotary motion of molecules and gas elastic state energy is presented. Based on an equation from the kinetic theory of gases, the local enthalpy of a gas is graphically represented in the form of two coplanar components, placed in an orthogonal system of coordinates at an angle of 90° to each other. The graphic image of the energy transformation equation shows clearly that as molecular motion is developed, directed motion is weakened and vice versa. 2 Figures.

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USSR

UDC 62-135-253.5-226.3:533.6

SHESTACHENKO, I. YA.

"Investigation of Flow About an Active Turbine Cascade by an Unsteady Airstream"

Tr. Novocherkas. Politekhn. In-ta (Works of the Novocherkask Polytechnical Institute), No 258, 1972, pp 43-49 (from Referativnyy Zhurnal -- Turbostroyeniye, No 1, 1973, Abstract No 1.49.86)

Translation: An investigation was made of the influence of stream velocity, the rate of impeller rotation, and the intensity of the wake behind the nozzle blades upon the value of the variable pressure component at various points of the blade surface. It was determined that an insignificant change of the amplitude of pressure fluctuations at various point of the blade surface with an increase in the rate of wake movement permits the use, in the first approximation, of the data of quasi-steady research conducted on a specific cascade pair (the nozzle cascade and the working cascade) for evaluation of the variable forces. The experimental data confirm the assumption concerning the direct proportionality of the amplitude of the variable component of the peripheral force, and of its mean value, at the investigated changes of the airstream flow regime. The coefficient of proportionality varies insignificantly

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

SHESTACHENKO, I. YA., Tr. Novocherkas. Politekhn. In-ta, No 258, 1972, pp 43-49

for a specific cascade. It is mandatory to take this result into account in the design of a turbomachine blade for high dynamic strength. 3 figures, 4 references.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 537.533.3

BONDARENKO, Yu. V., BUDARNYKH, V. I., IL'IN, V. P., ISKOL'DSKIY, A. M., NESTERIKHIN, Yu. Ye., POPOVA, G. S., and SHESTAK, A. F.

"Electronic-Optical Converters in Forced Light Load Operation"

Novosibirsk, _Avtometriya_, No 6, 1971, pp 7-14

Abstract: Forced light load operation is defined as that mode of operation of the photocathode of an electronic-optical converter in which a photocurrent of high density is picked up in recording processes 10^{-9}-10^{-11} s in duration. In this kind of operation the obtained images are markedly distorted. The function of this paper is to take a closer look at the basic effects tending to deteriorate the image quality through experiments, the purpose of which is to investigate the effect of the electric field near the photocathode and the space charge in causing this distortion. A diagram of the experimental equipment is given and the experimental procedure explained. Photographic samples of the image distortion are shown and the reasons for the defects clarified. The authors [illegible] to B. A. [illegible] for his assistance in [illegible], and to L. N. [illegible] and I. N. [illegible]

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 621.373+621.397.331.222+621.386.2/7

BAYKOV, A. P., BELAGO, V. A., BUDARNYKH, V. I., DOMSENKO, V. I., KURASHOV, N. N., LYUBIN, V. M., MALIVAYKO, V. I., FEDOROVA, Ye. I., TSUKERMAN, V. G., and SHESTAK, A. F.

"Methods of Recording X-Ray Images in a Science Research Automation System"

Novosibirsk, Avtometriya, No 6, 1971, pp 67-80

Abstract: A description is given of a complex of pulsed x-ray sources with [illegible] for recording fast processes, along with [illegible] for visualizing two-dimensional x-ray images of [illegible]. The radiation required has a duration of [illegible] a brightness of several hundred kev. For [illegible] graphic film and television systems [illegible] the memory cells were the semiconductive [illegible] of vidicon tubes. In such a system, the image is impressed directly on the target of the x-ray vidicon with a controllable memory, or is fixed by re-recording the video signal on a vidicon with optical memory, thus allowing connection of the recording equipment to the input of an electronic computer. The purpose of a complex of this type is to gather scientific data as part of a system for automation of the research procedure. Descriptions of the equipment are given, together with photographs

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

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UDC: 621.373+621.397.331.222+621.386.2/7

BAYKOV, A. P., et al, Avtometriya, No 6, 1971, pp 67-80

of the x-ray and recording equipment as well as sample oscillograms of various equipment items. The authors express their gratitude to Yu. Ye. Nesterikhin and A. M. Iskol'dskiy for their delineation of the problem and their supervision of the work. For his assistance with the experiments made using this equipment, the authors thank E. V. Yanshin.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 616-002.828.084

SHESTAK, A. I., KAPTSEVICH, M. A. and RYZHIKOV, M. I.

"Sanitary and Epidemic Control Measures in Foci of Deep Mycoses"

Minsk, Zdravookhraneniye Belorussii, No 2, 1973, pp 53-57

Abstract: Brief comments on the prevalence of coccidioidomycosis, histoplasmosis, blastomycosis, and similar fungus diseases, biology of the causative agents, similarity of mycoses to some other diseases, prognosis, and treatment are followed by a discussion of the steps taken to prevent mycoses from assuming epidemic proportions. These include immediate imposition of quarantine as soon as a focus is discovered, sampling of soil, water, etc. for use in laboratory determination of the pathogen, widespread application of disinfectants, and house-by-house checks to find and treat humans or animals with the disease. A chart summarizes the published data on the incubation period, mechanism of infection, site of the process, clinical symptoms, differential diagnosis of the major mycoses.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 621.396.6-181.5(088.8)

BARASH, Yu. V., BOGDANOV, S. S., SHESTAK, V. V., BELOPOL'SKIY, M. I., SIMDYANOV, G. I.

"A Device for Combining Microelements"

USSR Author's Certificate No 259612, filed 30 Aug 68, published 3 Jun 70 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V190 P)

Translation: This Author's Certificate introduces a device for combining microcomponents such as the microminiature elements of radio electronic circuits. The device is made in the form of a specimen stage which can be moved in two mutually perpendicular directions and is mounted on a rotating base connected to a mechanism for holding and adjusting the position of one of the elements to be combined. In order to increase the resolving power of the device, the adjustment mechanism is made in the form of a column which rotates about a vertical axis. This adjustment mechanism and the specimen table are subjected to the action of micro-adjustment units, each of which is made in the form of a plate which changes its linear dimensions as a result of thermal expansion.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/3 027 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DETERMINING THE MASS EVAPORATING DURING A METEOR FLARE -U-

AUTHOR-(02)-MUSIY, V.I., SHESTAKA, I.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ASTRONOMICHESKIY VESTNIK, VOL 4, NO 2, 1970, PP 108-111

DATE PUBLISHED-------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--EVAPORATION, METEOR, LUMINESCENCE, PHOTOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1327 STEP NO--UR/0454/70/004/002/0108/0111

CIRC ACCESSION NO--AP0131771

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/3 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131771

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOTOMETRIC MASS OF A METEOR BODY IS DETERMINED USING THE ESPRESSION SHOWN ON MICROFICHE, WHERE M IS THE MASS OF THE METEOR BODY CORRESPONDING TO THE TIME T SUBIN (INITIAL), T SUBFIN (FINAL) IS THE TIME OF METEOR DISAPPEARANCE, I IS METEOR BODY LUMINOSITY, T IS THE LUMINOSITY FACTOR, V IS VELOCITY. THE TIMES OF ONSET AND TERMINATION OF A FLARE ARE DENOTED T SUBINF, T SUBFINF. THE MASS EVAPORATING FROM THE METEOR BODY SURFACE DURING THE TIME FROM APPEARANCE OF THE METEOR TO ONSET OF THE FLARE IS DETERMINED USING FORMULA (1). ASSUMING V TO BE CONSTANT, THE MASS EVAPORATING DURING THE FLARE IS DETERMINED USING THE EXPRESSION SHOWN ON MICROFICHE, WHERE M SUBPI IS THE MASS EVAPORATING FROM THE SURFACE OF AN INDIVIDUAL FRAGMENT WHOSE LUMINOSITY IS I SUBPI. VELOCITY IS ASSUMED TO BE CONSTANT AND EQUAL TO THE METEOR BODY VELOCITY AT THE TIME T SUBFINF. THE DIMENSIONLESS FACTOR T SUB2 IS DEPENDENT ONLY ON VELOCITY AND COMPOSITION OF THE FRAGMENT. PHOTOGRAPHIC OBSERVATIONS AT ODESSA ASTRONOMICAL OBSERVATORY WERE USED IN COMPUTING M PRIME SUBF EVAPORATING DURING FLARES. AS A COMPARISON THE MASSES PRIME PRIME SUBF WERE COMPUTED; THIS IS THE MASS EVAPORATING DURING FLARES ON THE ASSUMPTION THAT THE LUMINOSITY FACTOR T IS DETERMINED BY THE EXPRESSION T EQUALS T SUBO V; WHERE T SUBO EQUALS 5.02 TIMES 10 PRIME NEGATIVE10 CM PRIME NEGATIVE1: SEC:

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CIRC ACCESSION NO--AP0131771

ABSTRACT/EXTRACT--THE TABULATED DATA SHOW THAT THE MASSES OF MATTER EVAPORATED IN A FLARE, M PRIME SUBF AND M PRIME PRIME SUB , COMPUTED UNDER DIFFERENT ASSUMPTIONS CONCERNING THE LUMINOSITY FACTOR T, DIFFER BY A VALUE DELTA M SUBT EQUALS M PRIME SUBF-M PRIME PRIME SUBF, WHICH MUST BE INTRODUCED INTO THE EXTRA ATMOSPHERIC METEOR AND MASS M INFINITY. THE MAGNITUDE OF THIS CORRECTION IS SOMETIMES COMPARABLE WITH THE EXTRA ATMOSPHERIC METEOR MASS AND EVEN GREATER THAN IT, INDICATING THE NEED FOR A DEFFERENT APPROACH TO THE DETERMINATION OF PHOTOMETRIC MASSES OF "NORMAL" AND FLARE METEORS. THE MASS OF THE NONFLARE PART OF ANY METEOR HAVING A FLARE IS DETERMINED USING FORMULA (1), WHEREAS THE MASS EVAPORATING DURING THE FLARE IS DETERMINED USING FORMULA (2); FOR "NORMAL" METEORS THE ENTIRE MASS IS COMPUTED USING FORMULA (1). FACILITY: ODESSA ASTRONOMICAL OBSERVATORY.

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USSR

UDC: 517.917

SHESTAKOV, A. A.

"Power Stability of the Unperturbed Motion of Essentially Nonlinear, Nonautonomous Systems of Differential Equations"

Tr. Vses. zaochn. in-t inzh. zh.-d. transp. (Transactions of the All-Union Correspondence Institute of Railroad Transport Engineering) 1970, No. 46, pp 54-58 (from RZh-Matematika, No. 3, March 71, Abstract No. 3B170)

Translation: For a system of equations of the form

$$y' = Y(t,y)$$

where $t \in R^1$, $y \in R^n$, $Y(t,y) \in (C, \mathrm{Lip}_y)$ in $[0, +\infty) \times R^n$, $Y(t,0) \neq 0$, $\forall y = 0$, $Y(t,y) \neq 0$, $Y(t,y)$ is a homogeneous function in y of degree m, m (>1) is a rational number with an odd denominator the following theorem is proved:

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

SHESTAKOV, A. A., Tr. Vses. zaochn. in-t inzh. zh.-d. transp., 1970, No. 46, pp 54-58

Theorem: If the solution $y \equiv 0$ is uniformly asymptotically stable (in the sense of RZhMat, 1960. I642K), for each solution of this system there is an upper bound for $t \geq t_0$

$$|y(t,t_0,y_0)| \leq [a|y_0|^{1-m} + b(t - t_0)]^{1/(1-m)},$$

where $a > 0$ and $b > 0$ are constants. If, moreover, $Y(t,y)$ is limited to the sphere $|y| = 1$, the same lower bound (only a and b varying) is valid. A. Andreyev

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

Navigation Aids

USSR

UDC: 621.396.983

SOLOMONIK, M. Ye., ROTENBERG, M. I., IL'IN, G. B., RASIN, A. M., SHESTAKOV, A. V., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"A High-Precision Radio Direction Finder With Steerable Antenna"

Moscow, Radiotekhnika, Vol 27, No 8, Aug 72, pp 1-6

Abstract: The errors in radio direction finding due to distortions of the phase front of the received signal increase with a reduction in wavelength. One way to reduce these errors is to take a "sample" of the electromagnetic field from as large a region of space as possible. A new way to realize this method on meter wavelengths is considered which combines simplicity of the direction finder circuit with short-base antennas and reduced sensitivity to local distortions of the phase front. The antenna is steerable about the vertical axis. The motion of the antenna results in a change in the errors of the instrument in accordance with a periodic law, with the result that time averaging considerably reduces error. The authors discuss the theory of operation of such a direction finder with an antenna which moves in a closed curve.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--KINETICS AND MECHANISM OF CATALYTIC CONVERSIONS OF ACETYLENE. VI. HYDRATION AND HYDROCHLORINATION OF ACETYLENE IN SOLUTIONS OF CUPROUS

AUTHOR-(05)-SHESTAKOV, G.K., YERMAKOVA, A., MIKHALCHENKO, V.G., TEMKIN, O.N., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 406-11

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, CHLORINATION, HYDRATION, ACETYLENE, COPPER CHLORIDE, CATALYSIS, REACTION KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0892 STEP NO--UR/0076/70/044/002/0406/0411

CIRC ACCESSION NO--AP0124555

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 013
CIRC ACCESSION NO--AP0124555
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF HYDROCHLORINATION AND HYDRATION OF C SUB2 H SUB2 WERE MEASURED IN CUCLNH SUB4 CL,HCL,H SUB2 O SOLNS. AT 80DEGREES IN A FLOWING GRADIENT FREE REACTOR. THE RATE OF HYDROCHLORINATION W PRIMEX EQUALS 0.573 TIMES 10 PRIME NEGATIVE6 A SUBCUPOSITIVE PRIME1.48 A SUBCLNEGATIVE PRIME2.7P SUBC2H2H SUBO A SUBH2O AND THE RATE OF HYDRATION W PRIMEA EQUALS 3.9 3.19 TIMES 10 PRIME NEGATIVE6 A SUBCLNEGATIVE PRIME1.44 P SUBC2H2 H SUBO A SUBH2O)-(1 PLUS 2.6 H SUBO A SUBH2O). THE FRACTIONAL VALUES OF THE EXPONENTS AND AN ANAL. OF THE PROPOSED REACTION MECHANISM INDICATE THE PRATICIPATION OF CUCL PRIME2 NEGATIVE, CUCL SUB3 PRIME2NEGATIVE, AND CU SUB2 CL SUB3 PRIME NEGATIVE. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--KINETICS AND MECHANISM OF THE CATALYTIC DIMERIZATION OF ACETYLENE. IV. EFFECT OF TEMPERATURE ON THE REACTION RATE -U-

AUTHOR-(04)-SHESTAKOV, G.K., TIKHONOV, G.F., TEMKIN, O.N., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(3), 575-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL KINETICS, DIMERIZATION, ACETYLENE, CHEMICAL REACTION RATE, TEMPERATURE DEPENDENCE, EQUILIBRIUM CONSTANT, ACTIVATION ENERGY, CHLORINATION, HYDROGEN CYANIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/D02 STEP NO--UR/0195/70/011/003/0575/0578

CIRC ACCESSION NO--AP0140284

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140284

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXTREME DEPENDENCE OF RATE OF C SUB2 H SUB2 DIMERIZATION ON TEMP. WAS STUDIED. IN 50-95DEGREES REGION, ALL PARAMETERS OF KINETIC EQUATION OF C SUB2 H SUB2 DIMERIZATION CHANGE IN DIFFERENT WAYS AND THE EFFECTIVE RATE CONST. (K SUBEFF) AND ELEMENTARY STAGE EQUIL. CONST. (K SUBA) CHANGE WITH TEMP. ACCORDING TO THE EQUATIONS: K SUBEFF EQUALS 8.92 TIMES 10 PRIME3 EXP(30,500-RT) MOLE L. PRIME NEGATIVE1 HR PRIME NEGATIVE1 ATM PRIME NEGATIVE2 AND K SUBA EQUALS 6.3 TIMES 10 PRIME NEGATIVE11 EXP(16,800-RT) ATM PRIME NEGATIVE1. THE NEG. VALUE OF ENERGIES OF ACTIVATION IN THESE EQUATIONS IS DISCUSSED AND AN ANALOYG IS GIVEN TO HYDROCYANATION AND HYDROCHLORINATION OF C SUB2 H SUB2 IN THE PRESENCE OF CU(I). FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/3 015 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--MECHANISM OF THE ACTION OF MULTICOMPONENT METAL COMPLEX CATALYSTS IN SOLUTIONS -U-

AUTHOR-(04)-TEMKIN, O.N., KALIYA, O.L., SHESTAKOV, G.K., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2), 398-401

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, CATALYST ACTIVITY, ALKENE, ACETYLENE, METAL CATALYST, ORGANOMERCURY COMPOUND, EXCHANGE REACTION, PALLADIUM COMPOUND, ORGANOCOPPER COMPOUND, ACETIC ACID, CHLORINATION, COPPER CHLORIDE, CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1537 STEP NO--UR/0020/70/190/002/0398/0401

CIRC ACCESSION NO--AT0100162

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/3 015 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0100162

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LITERATURE DATE WERE CRIT. REVIEWED CONCERNING THE ACTION MECHANISMS OF MULTICOMPONENT METAL COMPLEX CATALYSTS IN REACTION INVOLVING OLEFINS, AROMATIC COMPOS., AND ACETYLENE. THE ADDITIVE, THE SUBSTRATE ACTIVATION, AND THE STEP BY STEP MECHANISM WERE DISCUSSED, TOGETHER WITH THE MECHANISM IN WHICH ONLY CONCN. AND ACTIVITY OF THE METAL CATALYST COMPLEX ARE AFFECTED BY ONE OF THE CATALYTIC SYSTEM COMPONENTS. MOREOVER, EXPTL. STUDIES SHOWED THAT PHOAC WAS OBTAINED WITH 78-84PERCENT YIELD WITHIN 6 HR BY THE CONVERSION PHHGOAC-(NA O AC) YIELDS PHOAC PLUS HG IN BOILING ACOH. THE FOLLOWING RESULTS WERE ESTABLISHED FOR THE EXCHANGE REACTIONS OF PHHGOAC WITH PDCL SUB2, PD(OAC) SUB2, AND CU(OAC) SUB2 IN GLACIAL ACOH: (1) REACTIONS OF ELECTROPHILIC SUBSTITUTION WERE MARKEDLY FASTER THAN THE OXION. REDN. HETEROLYSIS OF PD AND CU ORGANOMETALLIC COMPDS.; (2) BIPHENYL WAS FORMED FAST AND QUANT. AT LOW TEMPS. IN THE PRESENCE OF PDCL SUB2; (3) IN THE PD (OAC) SUB2-NAOAC SYSTEM, PHOAC AND BIPHENYL WERE FORMED WITH ABOUT 25PERCENT YIELD; (4) THE EXCHANGE OF PHHGOAC WITH CU(OAC) SUB2 OCCURRED AT 60-80DEGREES, BUT PHENYLCUPRIC ACETATE DEGRADATION OCCURRED AFTER LONG HEATING IN BOILING ACETIC ACID, AND THE PHOAC SO FORMED WAS RAPIDLY MERCURATED AND SEPD. AS PHENOLMERCURIC ACETATE CHLORIDE. EXPTS. SHOWED THAT EITHER TRANSCHLORO(BETA CHLOROVINYL)MERCURY OR BETA CHLOROVINYLCOPPER WERE FORMED IN BOTH HYDROCHLORINATION AND OXYCHLORINATION OF ACETYLENE AS INTERMEDIATE COMPDS., ACCORDING TO WHETHER HGCL SUB2-HCL OR CUCL HCL SOLNS. WERE USED FOR THE REACTION.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

3/3 015 UNCLASSIFIED

CIRC ACCESSION NO--AT0100162 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--THREE MECHANISMS WERE IDENTIFIED IN SUCH PROCESSES WHEN THEY WERE CARRIED OUT IN CUCL CUCL SUB2 AND HGCL SUB2-CUCL SUB2 SOLNS.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 681.327

TERYAYEV, V. A., SHESTAKOV, I. B., PEREPLETCHIKOV, G. N., MARKOVSKIY, V. N., IVASHKIN, G. P., MAR'YANOVSKIY, M. M.

"Method of Manufacturing Thin-Film Magnetic Matrices"

USSR Authors' Certificate No 251713, Filed 2 April 1968, Published 10 February 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B161P, by N. V.)

Translation: A method is suggested for manufacturing thin-film magnetic matrices differing from known methods in that in order to decrease the ohmic resistance of the control lines and retain the magnetic properties of the matrix, the conducting layers are produced by gluing down foil using organic varnishes (glues) as the matrices are heated in the presence of a magnetic field in the plane of the substrate. One illustration.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC: 621.396.96:681.32

POPOV, D. I., AVDEYEV, V. V., FEDOROV, V. A., SHESTAKOV, N. D.

"Effectiveness of a Device for Digital Two-Dimensional Filtration of Radar Images"

Tr. Ryazan. radiotekhn. in-ta (Works of the Ryazan Radio Engineering Institute), 1972, vyp. 33, pp 203-209 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G16)

Translation: The necessity for two-dimensional filtering arises, for instance, when objects are to be recognized on two-dimensional radar images of a locality. When image scanning is present, i. e. as a result of conversion of the two-dimensional image to a one-dimensional image, the problem reduces to recognition of a pattern consisting of individual points; it can be solved by reckoning the number of pulses which fall into the next formation, whose position on the subsequent line is determined by the pulse of the previous line. A device which realizes this method is described. The results of calculation of the characteristics of the device are presented. Bibliography of five titles. N. S.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

NIKITIN, A. I., SHESTAKOV, S. A.

"Influence of Dispatcher Time on Characteristics of an Operational System with Priority Servicing Discipline"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1972, No 1, pp 86-90 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V684, by the authors).

Translation: The influence of the time necessary for switching from one program branch of a control computer to another with higher priority on the main characteristics of the servicing discipline with absolute priority of requests is studied.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

SHESTAKOV, S.D.

CHEMICAL HUSBANDRY

J665 60515 17 Nov 73

THE CHEMICAL SYNTHESIS AND APPLICATIONS OF AMINO ACIDS

[Article by Doctor of Chemical Sciences V. M. Belikov] Moscow, Vestnik Akademii Nauk SSSR, Russian, No 8, August 1973, pp 33-39]

Proteins of all organisms from the virus to man consist of 24 amino acids which on the basis of their biological value are divided into the replaceable (the organism can itself synthesize them for the construction of proteins at an adequate rate) and the irreplaceable (the organism can itself synthesize them from outside in the form of food). Each protein contains a definite quantity of each amino acid. If in a protein the protein there is none or little of any irreplaceable amino acid, the protein of the organism will not be constructed. From this arises the need for balancing of the ration, that is, the addition to low-valued proteins of lacking amino acids, which leads to an increase of their nutrient value.

On the diagram on the following page, casein -- a nutritional part of each protein -- was taken as a standard. The crosshatched natural protein in PEC (protein effectiveness coefficient) units. The addition of a certain quantity of lysine, the first limiting amino acid, to the product leads to a sharp increase of nutrient value, and the addition of a second limiting amino acid increases the nutrient value to the level of animal proteins.

Balancing is widely used in agriculture, especially in animal husbandry. According to the data of N. F. Ivanov, F. Ikechev, the inclusion of 0.2-0.5% lysine to the ration of young pigs and chicks permits reducing the consumption of feed protein by 25% and increasing the consumption of fodder by 10-15%. Generalizing the results of research of the animals and foreign authors, S. D. Shestakov calculated that when the production of 20,000 tons of lysine per year has been organized it is possible to obtain an additional 1.2 million tons of meat

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 577.391+577.15.081

POSTNOVA, T. I., GLAZER, V. M., and SHESTAKOV, S. V., Moscow State University imeni M. V. Lomonosov

"Repair of X-Ray-Induced Damage in DNA by Polynucleotideligase in Vitro"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 4, Dec 70, pp 976-978

Abstract: A study was conducted of possibilities of repairing single strand breaks in DNA induced by x-ray irradiation by the methodology based on phage transformation. The degree of damage and repair of DNA was determined by the level of biological activity. Even relatively low doses of x-rays lower considerably the transformation activity of DNA. Polynucleotideligase (PNL) has no effect on parent DNA but restores almost completely the activity of DNA deactivated by DNAase (which results in single strand breaks of the 5'P- and 3'OH-type). Incubation of irradiated DNA with PNL results in considerable increase of the transformation activity, which however does not exceed 50%. This may be due to the fact that ether breaks occur -- such as 3'P- and 5'OH- which do not respond to PNL. A higher degree of inactivation lowers the repair capacity of PNL -- probably because of polystrand-type breaks.

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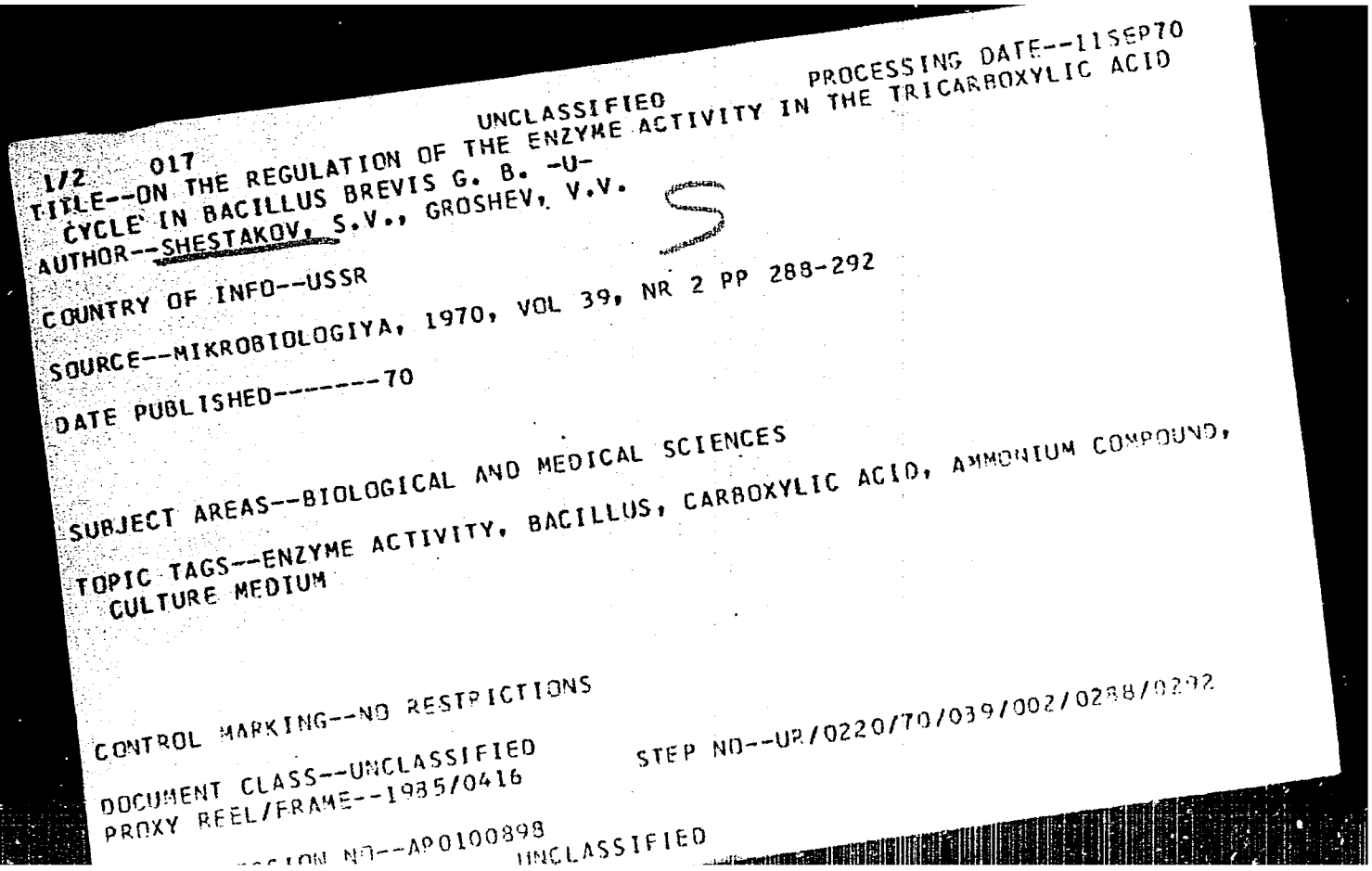

1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ON THE REGULATION OF THE ENZYME ACTIVITY IN THE TRICARBOXYLIC ACID CYCLE IN BACILLUS BREVIS G. B. -U-
AUTHOR--SHESTAKOV, S.V., GROSHEV, V.V.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2 PP 288-292

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ENZYME ACTIVITY, BACILLUS, CARBOXYLIC ACID, AMMONIUM COMPOUND, CULTURE MEDIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0220/70/039/002/0288/0292
PROXY REEL/FRAME--1985/0416

[illegible]ION NO--AP0100898 UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 017

CIRC ACCESSION NO--AP0100898

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMMONIUM IONS WERE SHOWN TO TAKE PART IN THE REGULATION OF THE ENZYME ACTIVITY IN THE TRICARBOXYLIC ACID CYCLE (TAC) AS WELL AS IN THAT OF ISOCITRATE DEHYDROGENASE (ID) AND MALATE DEHYDROGENASE (MD). THE EFFECT OF AMMONIUM IONS AND COMPOSITION OF ENZYME GROUPS, REGULATED BY THE IONS, DEPENDED ON THE CARBON SOURCE. THE SEQUENCE OF TAC REACTION IN THE CELLS OF P PRIME POSITIVE AND P PRIME NEGATIVE VARIANTS OF BAC. BREVIS, GROWING ON MEDIA WITH PYRUVATE OR GLUCOSE, WAS DIFFERENT. CLOSED CYCLE OPERATED IN THE P PRIME NEGATIVE CELLS, WHILE IN THE P-PRIME-POSITIVE CELLS WITH A LOW LEVEL OF ALPHA KETOGLUTARATE DEHYDROGENASE SUCCINATE WAS FORMED VIA THE REDUCTION PATHWAY. THIS DIFFERENCE WAS DUE TO A CHANGED ISOENZYME COMPOSITION OF MD. THE RATIO OF MD ISOENZYMES WAS CONTROLLED BY EXOGENOUS AMMONIUM IONS.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

SHESTAKOV, V.P.

Social Hygiene + Health

UDC: 616.17.4-032

ORGANIZATION OF PREHOSPITAL TREATMENT FOR PATIENTS ADMITTED IN INTERNAL MEDICINE DEPARTMENTS OF HOSPITALS

[Article by V.P. Shestakov, Chair of Social Hygiene and Public Health Organization (headed by Professor S.Ya. Freydlin), First Leningrad Medical Institute imeni I.P. Pavlov; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 1, 1975, submitted 6 July 1972, pp 37-40]

A most important prerequisite for improving the quality of medical care rendered to the people is organic unity and continuity in patient care from outpatient to hospital institutions.

A study of all 7,907 patients admitted during the period of one year in the departments of internal medicine of Leningrad hospitals revealed that only 61.8 percent of the patients had been treated in outpatient-polyclinic institutions prior to hospitalization. The percentage is not the same in relation to different diseases: it is high with reference to patients with peptic ulcers (88.4), malignant neoplasms (82.2), blood diseases (81.8), endocrine system disease (79.2), rheumatism (75.8), chronic (74.5), and acute (64.6) pneumonia, and lower in the case of nervous system pathology (38.4), angina pectoris (49.1), myocardial infarction (50), and respiratory pathology (50).

Among patients referred to hospitals, there were slightly more women (52.7%) than men (47.3%). There was considerable prevalence of women with reference to pathology of genitourinary organs (72.2%), endocrine system (71.1%), liver and biliary tract (69.9%), rheumatism (67.8%), and diseases of the blood (63.4%). There were more men with reference to peptic ulcers (74%), angina pectoris (66.8%), myocardial infarction (65.8%), acute (57.1%), and chronic (54.8%) pneumonia.

There were relatively few patients (20.7%) up to 29 years of age among those referred to hospitals, but 42.9 percent of the patients admitted are over 50 years of age. Of those patients who received ambulatory care before hospitalization 74.1 percent went to polyclinics in the area of their residence, the other 25.9 percent to institutions attached to their place of work and other outpatient facilities.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 536.3

LATYYEV, L. N., CHEKHOVSKOY, V. Ya., and SHPILRAIN, E. E., Institute of High Temperatures of the Academy of Sciences USSR

"On a Methodical Characteristic in the Investigation of the Spectral Emissivity of Metal by High Temperatures"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 2, Mar-Apr 72, pp 423—425

Abstract: By measurements of the spectral emissivity of metals $\varepsilon(\lambda,T)$, an additional reflected emission flux (a), resulting from repeated reflections in the system specimen-sight glass, is considered, applicably to the most prevailing tube method. From formulas of the incident and reflected fluxes, a function for a is derived, showing that a increases with decreasing spatial angle Ω, increasing reflectiveness of the specimen, and approaching of the sight glass. As a limiting value, a can be equal to the reflection coefficient of the sight glass, which is 8—12 %. Strictly speaking, the derived expression for a holds true only for flat specimens, but it is also satisfied with practically sufficient exactness for cylindrical specimens. Two illustr., twelve formulas, five biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ORGANOSILICON, PHOSPHORUS COMPOUNDS. REACTION OF BIS,TRILKYLSILYL, PHOSPHITES WITH SULFUR -U-

AUTHOR-(03)-ORLOV, N.F., SOROKIN, M.S., SHESTAKOV, YE.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 711-12

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOSILICON COMPOUND, ALKYL PHOSPHITE, SULFUR, PHOSPHORUS SULFIDE, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0940 STEP NO--UR/0079/70/040/003/0711/0712

CIRC ACCESSION NO--AP0124600

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

2/2 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0124600 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 22.6 G (ME SUB3 SIO) SUB2 PHO WITH 3.2 G S 7 HR AT 135-40DEGREES GAVE 53PERCENT (ME SUB3 SIO) SUB3 PS, B SUB1 79-80DEGREES, D PRIME20 0.9678, N PRIME20 SUBD 1.4350; SIMILARLY WAS PREPD. 41PERCENT (ET SUB3 SIO) SUB3 PS, B SUB1 159-60DEGREES, 0.9696, 1.4610. EVIDENTLY THESE ESTERS FORMED FROM INITIALLY FORMED (R SUB3 SIO) SUB2 P(S)OH WITH ELIMINATION OF (F SUB3 SIO)P(S)(OH) IN A FORM OF DISPROPORTIONATION. COMPDS. AMONG THE TRIORGANOSILY DERIVS. OF P CONTG. ACIDS WITH A P-O-SI LINK HAVE ENHANCED REACTIVITY IN RESPECT TO NUCLEOPHILIC REAGENTS; HENCE, COMPDS. WHICH AT THE SAME TIME CONTAIN THE P-O-SI GROUP AND THE HO GROUP ARE THERMALLY UNSTABLE AND UNDERGO FURTHER REACTIONS AT ELEVATED TEMPS. AS SHOWN HERE.

FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

TOVBIS, S. N., SHESTAKOV, Yu. G.

"Processing of Data by Statistical Methods"

Materialy po geol. i polezn. iskopayemym Krasnoyarsk. kraya [Materials on Geology and Useful Minerals of Krasnoyarsk Kray], No 9 Krasnoyarsk, 1973, pp 7-120 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V227 by the authors)

Translation: Using the processing of geological materials as an example, methods are described for estimation of statistical parameters, composition of sampling data, establishment of the closeness of the connection between characteristics studied and the determination of the influence of various factors on changes in quantities studied. Basic statements from the theory of pattern recognition and problems of preparation of data for computers when recognition programs are used are discussed.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

USSR

UDC 621.397.132:621.397.238

TSIRLIN, V. M., SHESTAKOV, Yu. N., TARASENKOV, G. V., PALITSKIY, V. M.

"A Device for Transmitting Image Signals and Accompanying Audio in a Single Channel in a Television System"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288026, class 21, filed 24 May 67, published 3 Dec 70, p 52

Translation: This Author's Certificate introduces a device for transmitting image signals and accompanying audio in a single channel in a television system based on Soviet Patent No 221029. As a distinguishing feature of the patent, the frequency band of the audio channel is expanded by connecting the output of the pulse-duration modulator to the inputs of the AND circuit both directly and through a delay line. The output of the AND circuit is connected to one of the inputs of a coincidence circuit, and the signal from a flip-flop is sent to the other input of the coincidence circuit.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202920008-6

UDC 621.397.238:621.397.62

USSR

KOROBKOV, L. A., TSIRLIN, V. M., SHESTAKOV, Yu. N., PETROV, V. A., PALITSKIY, V. M., KHOROBRYKH, V. T., BEREZIN, I. I.

"A Device for Reception of Television Image Signals With Accompanying Audio"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288028, class 21, filed 19 Apr 67, published 3 Dec 70, p 52

Translation: This Author's Certificate introduces a device for reception of television image signals with accompanying audio combined in a single channel of a television system. The device contains a synchropulse selector, sound and image separation modules, and modules for demodulating the audio channel signals. As a distinguishing feature of the patent, the device is designed for reducing transient interference and increasing the resistance to interference of the accompanying audio channel. Connected at the input of the installation are two devices for restoring the DC component of the video signal. One of these signal-restitution devices is connected to a device for synchromixture regeneration through an electronic switch controlled by a signal from the synchropulse selector. Signals from the synchropulse selector and synchrogenerator are sent to the device for

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KOROBKOV, L. A., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288028, class 21, filed 19 Apr 67, published 3 Dec 70, p 52

synchromixture regeneration. The second signal-restitution device is connected to a code-pulse demodulator and an amplifier through an electronic switch controlled by a signal from the synchropulse selector. The signal from the amplifier is sent to the output of the device through an optimum low-frequency filter and a bilateral clipper with low-frequency filter. Priority dates from 2 March 1967.

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1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--INFRARED ABSORPTION SPECTRA OF RARE EARTH SULFOSALICYLATES -U-

AUTHOR-(02)-SHESTAKOVA, M.T., PIRKES, S.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 993-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL BONDING, IR SPECTRUM, ABSORPTION SPECTRUM, RARE EARTH METAL, SPECTROSCOPIC ANALYSIS, THIOL, LANTHANIUM COMPOUND, CERIUM COMPOUND, PRASEODYMIUM COMPOUND, NEODYMIUM COMPOUND, SAMARIUM COMPOUND, EUROPIUM COMPOUND, GADOLINIUM, HOLMIUM, YUTRIUM

CONTROL MARKING--NO RESTRICTIONS

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CIRC ACCESSION NO--AP0123385

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA OF LA, CE, PR, ND, SM, EU, GD, HO, Y, AND ER 5-SULFOSALICYLATES WERE DETD. AND THEIR ABSORPTION MAX. ARE TABULATED. THE SALTS HAVE LN-O BOND OF MARKEDLY IONIC CHARACTER. FACILITY: SARATOV, GOS. UNIV. IM. CHERNYSHEVSKOGO, SARATOV, USSR.

UNCLASSIFIED

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USSR

UDC 539.374;539.214

SHESTAKOVA, N. K.

"Experimental Study of Plastic Flow Under Plane Closed Piercing"

V sb. Tekhnol. mashinostroyeniya. Vyp. 22 (Technology of Machine Building. No. 22 -- Collection of Works), Tula, 1972, pp 164-169 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V486)

Translation: The plastic deformation of lead and aluminum plates (40 × 60 × 20 mm) during industrial fabrication of parts of the socket type by the inverse stamping method with a rigid stamp with pressing is investigated. A calculation of the deformation picture given in a previous work is verified during the test. The trajectories of the motion of material points of the sample are investigated. A metric grid was applied on the samples for this purpose and the picture was photographed at different stages in the deformation after removal of the detachable wall of the stamp. The predicted rigid triangular regions of the sample in which the motion of the material occurs with constant velocity were observed in the experiment. The trajectories of the motion agree with the calculated trajectories with satisfactory accuracy. Also verified

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SHESTAKOVA, N. K., Tekhnol. mashinostroyeniya. Vyp. 22, Tula, 1972, pp 164-169

was the existence of a nonstationary stage in the plastic flow that arises beyond the limits of a certain value of the ratio of the thickness of the bottom to the thickness of the wall as a function of the magnitude of the rolling and the friction conditions. E. L. Aero.

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USSR

UDC 547.427.3

NIFANT'YEV, E. YE., SHESTAKOVA, T. G., and KIRICHENKO, E. A.

"Triphenylphosphite Transesterification Reaction with Alcohols"

Leningrad, Zhurnal Obshchey Khimii, Vol 44, No 11, Nov 71, pp 2570-2571

Abstract: Highly purified triphenylphosphite reacts sluggishly in the transesterification reaction. The presence of catalytic amounts of metallic sodium shows no effect on the reaction. However, introduction of even trances of HCl accelerates the transesterification reaction considerably.

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USSR

UDC 547.427.3:547.26'118:541.64

SHESTAKOVA, T. G., KIRICHENKO, E. A., and NIFANT'YEV, E. Ye.

"Phosphorus-Containing Polymers. XX. Synthesis of Neutral Polyphosphites Derived from Hexitols"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 44, No 7, Jul 71, pp 1620-1624

Abstract: Sorbitol or mannitol reacted with triphenyl phosphite in molar ratios of 1:1, 1:2, and 1:3. The reaction took place at 130°. The hexitols also reacted in the same molar ratios with phosphorous acid hexaethyltriamide, which reacted more readily, the reaction taking place at 100-110°. The diethylamine formed could be removed from the reaction mixture more readily than phenol. The principal product (the only product of the reaction at molar ratios of 1:1 and 1:2) was hexitol polyphosphite. Upon reaction at a molar ratio of 1:3, low-molecular weight substances with the probable composition $C_6H_8O_6P_3(OPh)_3$ and $C_6H_8O_6P_3(NEt_2)_3$ were formed. Oxidation of the polyphosphites with NO_2 in dimethylformamide resulted in the formation of polyphosphates. On heating with S in dimethylformamide in an Ar stream, the polyphosphites were converted to polythiophosphates. Tests on the oxidation of oil AS-6 in the presence of the neutral hexitol phosphites (sorbitol triphosphite, mannitol triphosphite,

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SHESTAKOVA, T. G., et al., Zhurnal Prikladnoy Khimii, Vol 44, No 7, Jul 71, pp 1620-1624

1:1 sorbitol polyphosphite) showed that these substances were more effective antioxidants for transformer oil than acid hexitol phosphites.

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USSR

UDC 547.427.3:661.718.1

NIFANT'YEV, E. Ye., SHESTAKOVA, T. G., and KIRICHENKO, E. A.

"Phosphorus-Containing Polymers. XIX. Transesterification of Dimethyl Phosphite with Hexitols"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 44, No 7, Jul 71, pp 1577-1582

Abstract: By heating sorbitol or mannitol with dimethyl phosphite at 145-150° in an Ar stream in the presence of metallic Na acting as a catalyst and distilling MeOH, hydrogen phosphites of the hexitols that contained 1, 2, or 3 cyclic phosphite groups were obtained, depending on the molar ratio of the reacting compounds. At the molar ratio 1:1, the reaction proceeded according to the equation $C_6H_8(OH)_6 + (MeO)_2P(=O)H \rightarrow C_6H_8(OH)_4\langle O \rangle P(=O)H + 2\ MeOH$.

Prolonged heating of the hydrogen hexitol phosphites resulted in polymerization to acid polyphosphites, which apparently proceeded upon opening of the cyclic group. The acid phosphites and polyphosphites were oxidized with NO_2 to the corresponding acid phosphates. The phosphites were subjected to the Todd reaction (treatment with alkylamines and CCl_4), carried out in dimethylformamide.

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NIFANT'YEV, E. Ye., Zhurnal Prikladnoy Khimii, Vol 44, No 7, Jul 71, pp 1577-1582

Hydrogen sorbitol phosphite (1:1 ratio) was converted to sorbitol diethylamidophosphate by the reaction with diethylamine and CCl_4 and into neutral sorbitol phosphate by the reaction with triethylamine and CCl_4. Hydrogen sorbitol polyphosphite yielded sorbitol polyamidophosphate upon reaction with diethylamine and CCl_4 and sorbitol polyphosphate upon reaction with triethylamine and CCl_4. Tests with AS-6 oil showed that the cyclic hexitol phosphites would be effective antioxidants for transformer oil.

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UDC 632.95

USSR

NIFANT'YEV, E. YE., SHESTAKOVA, T. G., and KIRICHENKO, E. A.

"Method of Synthesizing Hexitolcyclophosphonates"

USSR Author's Certificate No 248675, filed 27 May 68, published 7 Jan 70 (from RZh-Khimiya, No 13, (II), 10 Jul 70, Abstract No 13N707)

Translation: Hexitolcyclophosphonates of the general formula $CH_2(OH)CH(OH)CH(OH)(O)CH(OH)CH_2OP(O)R$ (I) (R = alkyl, cycloalkyl) are obtained by the interaction of hexitolphosphonites with tertiary amines and CCl_4 in a dioxane medium at 80° with the subsequent recovery of I by known methods. Mannitol and sorbitol are used as hexitols. A mixture of 6.24 g sorbitol (mannitol) cyclohexylphosphonite in dioxane, 2.2 g Et_3N and 3.1 g CCl_4 is kept at 80° for 4-5 hr, Et_3N. HCl is filtered off, the dioxane is evaporated at 70°/10-20 mm, and 6.1 g I (R = cyclohexyl) are obtained, quantitative yield. I (R = iso-Bu) is obtained analogously. I can be used as physiologically active substances.

A. F. Prokof'yeva

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UDC 535.215.1

USSR

GRIGOR'YEV, R.V., NOVIKOV, B.V., SHESTAKOVA, T.V.

"Change In The Energy Spectrum Of The Trapping Centers Of CdS Crystals Exposed To Electron Bombardment"

Uch. zap. LGU (Scientific Annals Of Leningrad State University), 1970, No 354, pp 91-96 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B252)

Translation: The energy spectrum of the trapping centers in CdS crystals during change of their surface state on exposure to bombardment by electrons with energies of 3 kev is investigated by an analysis of the spectral distribution of photoconductivity and temperature distribution of thermostimulated conductivity. 2 ill. 12 ref. N.S.

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Acc. Nr. AP0055937 Abstracting Service: CHEMICAL ABST. 6/70 Ref. Code UR 0078

117254p Properties of zirconium and hafnium oxypropionates. Prozorovskaya, Z. N.; Komissarova, L. N.; Shestakova, T. V. (USSR). *Zh. Neorg. Khim.* 1970, 15(2), 335–40 (Russ). Products of thermal decompn. of $MO(EtCO_2)_2.H_2O$ (M = Zr or Hf) were, at 50–130°, $MO(EtCO_2)_2.0.5H_2O$; at 150–250°, $M_2O_3(Et_2CO_2)_2$; and, at 400–500°, MO_2; analyses are given. Intermediate products of the decompn. did not contain the M:O group (ir spectra). Diagrams of isothermal soly. of $MO(EtCO_2)_2.H_2O$ in $EtCO_2H$ were constructed and the compns. of liq. and solid phases are tabulated. The compn. of the solid phase ($MO(EtCO_2)_2.H_2O$) in the 10–100 wt. % propionic acid range remained unchanged. HMJR

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USSR

UDC 541.49+542.91

TETERIN, E. G., SHESTERIKOV, N. N., KRUTIKOV, P. G., and SOLOVKIN, A. S.

"IR-Spectroscopical Study of Uranyl di-n-Butylphosphates"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 3, Mar 71, pp 780-784

Abstract: Compounds forming during the reaction of di-n-butylphosphoric acid (DBP or NA) in nitric acid solutions, with the composition of $U:NO_3:A$ = 1:0:2, 1:1:4, and 1:1:2 were reinvestigated spectroscopically in the IR range. On the basis of the data obtained, speculations were made regarding the structure of such compounds. It has been stated that DBP acts as a bridge group in reactions with metals in nitric or hydrochloric acid solutions, its functional groups binding various metal atoms.

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THE DEPENDENCE OF THE MEAN THICKNESS

OF FAST ICE ON HUMMOCKING

[Kuzuvev, A. Ya., and Gleskerikov, N. P., Zavisimost' sredney tolshchiny prilaynogo l'da ot torosistosti, Problemy Arktiki i Antarktiki, Sbornik Statey, No. 32, 1969, pp. 30-35, Russian]

Ice thickness is one of the basic indices which characterize the ice cover of the Arctic seas. Therefore, a great deal of work has been devoted to the study of the laws governing its change in dependence upon hydrometeorological conditions. In the majority of the investigations, however, the thickness of level ice — which in the Arctic seas is encountered rather rarely — are examined. This situation happens the use of empirical or analytical methods for determining ice thickness concurrent with different degrees of hummocking. If we do not take into account the influence of hummocking, then the calculated values of the ice thickness can differ considerably from the actual.

As shown by numerous observations taken in fast ice, an increase of ice hummocking results in an increase of its thickness not only in the zone of the hummocks, but also in the comparatively level areas situated among the hummocks.

Numbers in the right margin indicate pagination in the original text.

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The question of the influence of hummocking on the mean thickness of the ice was examined earlier by P. A. Gordiyenko, who introduced the term "the depth [ili: "thickness"] of ice." [illegible]

The concept of "mean ice thickness" is used below in dealing with different degrees of hummocking.

Of ice is understood as that mean ice thickness which hummocked ice would attain if it were smoothed out. All protuberances having been removed and used to fill in all hollows. A. A. Kirillov [2] carried out calculations which showed that the role of hummocks in the data of P. A. Gordiyenko was somewhat overestimated, but to verify this by facts was not possible because of the lack of suitable observations.

In the navigational period of 1961, a continuous record of ice thicknesses was accomplished for the first time from the side of an icebreaker with the help of a device, the ITLM-2.** From the data of

** A measuring instrument for the thickness of sea ice.

these observations, the distribution features of the thicknesses of ice in the hummocks have also been examined.

Because of the construction features of the ITLM-2 (in the present version), it is impossible to make thickness observations at the moment the icebreaker breaks solid ice. Therefore, the observations were accomplished by the movement of the icebreaker within a lead completely filled with fine brash ice and very light floes. The record of the ice thicknesses was produced along a track segment

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USSR

UDC 539.376

KASHELKIN, V. V., SHESTERIKOV, S. A., Chair of the Theory of Plasticity

"Buckling of a Cylindrical Shell of Finite Length Under Creep"

Moscow, Vestnik Moskovskogo universiteta - Matematika, Mekhanika, No. 5, Sep/Oct 71, pp 60-64

Abstract: The shell is simulated by a two-layered model. Large displacements of points of the two-layered shell loaded by an external hydrodynamic pressure P of length $2\ l$ are studied. The thickness of each layer is h and the distance between layers is $2\ \delta$. Boundary conditions of the following types are considered: hinge support with fixed or movable (along the axis of the shell) hinges and also a rigid seal with fixed or movable ends. The transverse cross section of the shell is in the shape of a circular ring which is approximated by the curve obtained by the conjunction of two circles of different radii. The analysis is carried out for a narrow central section of the shell which is acted on by forces in the plane of the shell and by membrane forces perpendicular to this plane. A system of ordinary nonlinear differential equations is derived describing the deformation. An approximate simplified form of the system is given for shells where the buckling conforms to certain limiting relationships.

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IVANOV, E. V., SHESTERIN, I. S., TAMBIYEV, A. KH., and TELITCHENKO, M. M., Chair of Hydrobiology Moscow State University

"Using a High-Frequency Generator Based on Line Scanning to Study the Luminescence of Biological Objects in a High-Frequency Discharge"

Moscow, Nauchnyye Doklady Vysshey Shkoly. Biologicheskiye, No 1, 1970, pp 117-118

Translation: The method of photography in a high-frequency discharge can be used to determine the physiological state of biological objects. An electron-tube line scanning generator or a relatively simple design was employed in the experiments.

The possibility of photographing biological objects in high-frequency currents was first discovered by the Soviet investigator S. D. Kirlian (1949). the principle that he elaborated for observing the electrical state of living objects offers great promise for describing the behavior of leaves of different plants and human skin (V. Kh. Kirlian and S.D. Kirlian, 1964; V. S. Lysikov et al., 1964) in a high-frequency field, and for studying the primary energy shifts in the action of radiant energy, specifically, laser radiation (V. M. Inyushin, 1967). The same method has been used to study inanimate objects, e.g., to photograph the surfaces of metal ores and rocks

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IVANOV, E. V., et al., Moscow, Nauchnyye Doklady Vysshey Shkoly. Biologicheskiye Nauki, No 1, 1970, pp 117-118

(V. I. Mikhalevskiy and G. S. Frantov, 1966).

The method of photography in a high-frequency discharge was used to determine the physiological state of the following biological objects under normal and various experimental conditions: leaves of the flowering plant Elodea canadensis, algae of the genus Chara, and the crustacean Daphina magna.

The luminescence of living hydrobionts was compared with that of other organisms killed in different ways (fixation with 40% formalin, heating to 40° and 100° C).

The method was valuable in assessing the physiological state of living organisms. The live algae, Elodea leaves, and daphnids luminesced differently from killed organisms. Characteristically, the various injurious factors (temperature, fixation with formalin) affected the pattern of luminescence in different ways.

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IVANOV, E. V., et al., Moscow, Nauchnyye Doklady Vusshey Shkoly. Biologicheskiye Nauki, No 1, 1970, pp 117-118

In the device described by S. D.Kirlian, a spark generator is used to produce high-frequency currents. V. S. Lysikov et al. (1964) also used a spark generator (in a simplified version) to obtain photographs of leaves from higher plants. We developed and employed an electron-tube line scanner with an original circuit for high-frequency photographing (Fig. 1). Its distinguishing features include a relatively simple design, the possibility of assembling the generator from units and parts produced by Soviet industry, safety and reliability, low weight and small size. The frequency can be smoothly increased from 10 to 120 kHz, the voltage from 0 to 20 kv.

All these advantages, as well as our experience in using the method, lead us to recommend the generator for research on the electrical state of both living and nonliving objects.

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USSR - IVANOV, E. V., et al., Moscow, Nauchnyye Doklady Vusshey Shkoly

Discharge." In the collection: O biologicheskom deystvii mono khromaticheskogo krasnogo sveta (Biological Effects of Mono chromatic Red Light). Alma-Ata.

Kirlian, S. D. 1949. Author's certificate No 106401.

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Mikhalevskiy, V. I. and Frantov, G. S. 1966. "Photographing the Surfaces of Metal Ores With High-Frequency Currents," Shurn. nauchn. i prikladnoy fotografii i kinematografii (Journal of Scientific and Applied Photography and Cinematography). Vol 2, No 5

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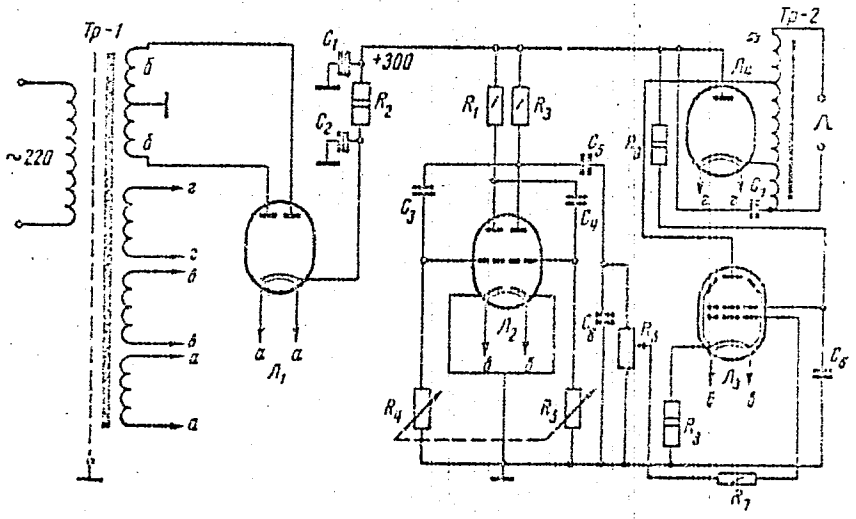
IVANOV, E. V., et al., Moscow, Nauchnyye Doklady Vusshey Shkoly. Biologicheskiye Nauki, No 1, 1970, pp 117-118



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USSR

IVANOV, E. V., et al., Moscow, Nauchnyye Doklady Vusshey Shkoly. Biologicheskiye Nauki, No 1, 1970, pp 117-118

Рис. 1. Схема высокочастотного генератора на базе строчной развертки. C_1, C_2 — 40 мкф×450 в; C_3, C_4—50 пф; C_5 — 0,025 мкф; C_6 — 0,5 мкф; C_7 — 0,05 мкф; C_8 — 300 пф; C_3, C_4, C_5, C_6, C_7, C_8 — рабочее напряжение 500 в; R_2 — 1 ком; R_1, R_3 — 20 ком; R_4 — 390 ком; R_5 — 390 ком; R_6 — 1,5 мом; R_7 — 360 ом; R_8 — 200 ом; R_9 — 10 ком; $Л_1$ — 5Ц3С; $Л_2$ — 6Н8С; $Л_3$ — 6П13С; $Л_4$ — 6П10П; *Тр-1* — силовой трансформатор; *ТР-2* — высокочастотный выходной трансформатор

Fig. 1. Circuit of a high-frequency generator based on line scanning. C_1, C_2 - 40 microfarads X 500 v; C_3, C_4 - 50 picofarads; C_5 - 0.025 microfarads; C_6 - 0.5 microfarad; C_7 - 0.05; C_8 - 300 picofarads; C_3, C_4, C_5, C_7, C_8 - working voltage 500 v; R_2 - kilohm; R_1, R_3 - kilohms; R_4 - 390 kilohms; R_5 - 390 kilohms; R_6 - 1,5 megohms; R_7 - 300 ohms; R_8 - 200 ohms; R_9 - 10 kilohms; L_1 - 5Ts3S; L_2 - 6N8S; L_3 - 6P13S; L_4 - gP10P; Tp-1 power transformer; TP-2 - high-frequency output transformer

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USSR

UDC 535.376:621.382

DOTSENKO, Yu. V., SELIVERSTOV, D. M., SHESTERNEV, A. N.

"Temporal Characteristics of GaP Semiconductor Diodes"

Tr. 7-y Konferentsii po yadern. elektron. T.1, Ch.4 (Works of the 7th Conference on Nuclear Electronics, Vol 1, Part 4), Moscow, Atomizdat, 1970, pp 313-322 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B233)

Translation: A study is made of the form of light pulses of GaP luminescent diodes (LD) applicable as simulators of pulsed radiation during investigation of the temporal characteristics of a photomultiplier. The glow of the LD was excited by current pulses of rectangular form with an intrinsic rise time of $\sim$ 4 nsec and was registered with the aid of a Type K 14 FS-50 photomultiplier, the signal from the anode of which was transmitted on a matched line to a S-I-II oscilloscope (intrinsic time of amplifier $\sim$ 5 nsec). The oscillographs inspected show that both fronts of the light pulse of the LD cousist of two components with relaxation times of 30 and 100 nsec. With inverse connected the relaxation time is $\leq$ 10 nsec. The delay of the LD glow with respect to the moment of admission of the signal and the divergence

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DOTSENKO, Yu. V., et al., Tr. 7-y Konferentsii po yadern. elektron. T.1, Ch.4 (Works of the 7th Conference on Nuclear Electronics, Vol 1, Part 4), Moscow, Atomizdat, 1970, pp 313-322 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B233)

of the delay were investigated and shown to be smaller with an inverse connection. The halfwidth of the time distribution of the moments of triggering amounts to 0.15 nsec. 5 ill. 3 ref. N. S.

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USSR UDC 621.311.42:621.316.1

SHESTERNIN, N. V.

"Standard Distribution Points and Transformer Substations for 6-10 kv Municipal Networks"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Municipal Electric Power Supply -- Collection of Works), Leningrad, Energiya Press, 1970, pp 219-221 (from RZh-Elektrotekhnika i Energetika, No 3, Mar 71, Abstract No 3Ye81)

Translation: Information is presented on standard designs of separate 6-10 kv distribution points and 6-10/0.4-0.23 kv transformer substations made of one and two power transformers up to 400 and 630 kilovolt-amperes per unit for municipal electric power networks developed by the Giprokommunenergo [State Republic Planning Institute of the Municipal Power System Management].

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TITLE--MEASUREMENT OF SMALL COLOR DIFFERENCES IN DYED TEXTILE MATERIALS -U-

AUTHOR-(03)-SHESTERNINA, G.P., BELENKIY, L.I., RYMOV, A.I.

COUNTRY OF INFO--USSR

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TOPIC TAGS--DYE, TEXTILE, TEST METHOD

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DISCUSSION WITH 12 REFS., FOLLOWED BY THE EXPTL. EVALUATION OF 4 WIDELY USED METHODS FOR THE DETN. OF CLOTH COLORS (D. NICKERSON, ET AL., 1944 AND 1950; G. WYSZECKI, 1963; S., ET AL., 1968). FACILITY: VSES. ZAOCH. INST. TEKST. LEGK. PROM., MOSCOW, USSR.

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Acc. Nr: AP0054293 Ref. Code: UR9115

PRIMARY SOURCE: Ortopediya, Travmatologiya i Protezirovaniye, 1970, Nr 3, pp 50-51

THE USE OF FIBRINOLYSIN IN THE TREATMENT OF FROSTBITES

N. P. Ivanova and *N. A. Shesternya*

Fibrinolysin has been applied by the authors with positive results in complex with other therapeutic measures in 5 patients with III—IV degree frostbites. The procedure of treatment is submitted.

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