2/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CROSS SECTIONS SIGMA SUBPC AND SIGMA SUBPP AT THE EFFECTIVE P ENERGIES 20-600 GEV WERE MEASURED BY USING EHA APP. PLACED ON THE SPACE STATIONS (ORBITING SATELLITES) PROTON MINUS 1, MINUS 2, AND MINUS 3. WITH THE RISE OF THE RHO ENERGY THE CROSS SECTION SIGMA SUBPC INCREASED BY (20 PLUS OR MINUS 5)PERCENT. THE CROSS SECTION SIGMA SUBPP WAS DETD. BY THE DIFFERENCE METHOD (POLYETHYLENE-C) WITH ERRORS 8-20PERCENT. THE MEASURED DEPENDENCE OF SIGMA SUBPP ON THE ENERGY DOES NOT CONTRADICT THE OBSD. INCREASE OF THE CROSS SECTION SIGMA SUBPC IN THE SAME ENERGY RANGE. VARIOUS METHODIC EFFECTS AND TRIVIAL PHYS. PROCESSES WHICH COULD AFFECT THE VALUES OF MEASURED CROSS SECTIONS WERE ANALYZED. THE OBSD. INCREASE OF THE CROSS SECTIONS CANNOT BE EXPLAINED BY THESE EFFECTS. FACILITY: INST. YAD. FIZ., MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--THE RIGIDITY SPECTRA OF PRIMARY COSMIC RAY NUCLEI GROUPS -U-

AUTHOR-(03)-VOLODICHEV, V.N., GRIGOROV, N.L., SAVENKO, I.A.

G

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--PRIMARY COSMIC RAY, SPECTRUM, GEOMAGNETISM, NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/005061/B03 STEP NO--HU/2506/70/029/000/0395/0398

CIRC ACCESSION NO--AT0144426

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144426

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE RATIOS OF THE FLUXES OF NUCLEI GROUPS WITH CHARGES ABOVE OR EQUAL TO 1, 2, 6, AND 16 IN THE GEOMAGNETIC CUTOFF RIGIDITY RANGE FROM 3 TO 16 GV. FROM THE CONSTANCY OF THESE RATIOS WITH RIGIDITY IT IS CONCLUDED THAT THE INTEGRAL SPECTRA OF THESE GROUPS OF NUCLEI ARE SIMILAR BETWEEN 3 AND 16 GV. THE MEASURED INTENSITY OF VARIOUS NUCLEI IS NOTED TO BE TWICE AS HIGH AS THAT OBTAINED BY ONE GROUP OF AUTHORS AND COINCIDES WITH ANOTHER GROUP OF RESULTS. FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--MEASUREMENTS OF THE PRIMARY COSMIC RAY SPECTRA IN THE 10 TO THE 10TH POWER TIMES 10 TO THE 14TH POWER EV ENERGY RANGE FROM PROTON 1, 2,

AUTHOR-(05)-AKIMOV, V.V., GRIGOROV, N.L., NESTEROV, V.E., RAPOPORT, I.D., SAVENKO, I.A.

COUNTRY OF INFO--USSR, HUNGARY

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SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS, VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY

TOPIC TAGS--PRIMARY COSMIC RAY, PROTON SPECTRUM/(U)PROTON 3 SCIENTIFIC SATELLITE, (U)PROTON 2 UNMANNED LABORATORY, (U)PROTON 1 UNMANNED LABORATORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605060/F08 STEP NO--HU/2506/70/029/000/0517/0520

CIRC ACCESSION NO--AT0144422

UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144422

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRITPTION OF THE RESULTS OF MEASUREMENTS OF THE SPECTRUM OF THE PRIMARY COSMIC RAY PROTONS ON THE ENERGY RANGING FROM 10 TO THE 10TH POWER TO 10 TO THE 13TH POWER EV AND THE SPECTRUM OF ALL PARTICLES OF THE PRIMARY COSMIC RAYS RANGING FROM 10 TO THE 11TH POWER TO 10 TO THE 14TH POWER EV CARRIED OUT ON PROTON 1, 2, AND 3 SATELLITES. THE APPROXIMATING FUNCTION WHICH DESCRIBED THE PROTON SPECTRUM IS PRESENTED. IT IS SHOWN THAT THE SPECTRUM OF ALL PARTICLES CAN BE REPRESENTED BY SUPERPOSING THE OBTAINED PROTON SPECTRUM AND POWER SPECTRUM OF PARTICLES WITH CHARGES OF ABOVE OR EQUAL TO 2.Z.W.

FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--STUDY OF X RAYS CARRIED OUT ON THE SATELLITE COSMOS 208 -U-

AUTHOR-(05)-ANISIMOV, M.M., GRIGORUV, N.L., ILLARIONOVA, N.V., KALINKIN, L.F., MELIORANSKIY, A.S.
COUNTRY OF INFO--USSR, HUNGARY

G

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, SPACE TECHNOLOGY

TOPIC TAGS--X RAY STUDY, ARTIFICIAL EARTH SATELLITE, PROPORTIONAL COUNTER, X RAY SPECTROMETER, SPACECRAFT CARRIED EQUIPMENT, COLLIMATOR/(U)COSMOS 208 SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605061/805 STEP NO--HU/2506/70/029/000/0309/0311

CIRC ACCESSION NO--AT0144429

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144429

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DESIGN OF THE X RAY SPECTROMETER INSTALLED ON THE SATELLITE COSMOS 207 IS DESCRIBED. THE EFFECTIVE AREA OF HTE PROPORTIONAL COUNTERS WAS 270 SQ CM. SLOT WINDOW COLLIMATORS WITH AN OPENING ANGLE OF 32 MIN BY 18 DEG (FWHM) WERE USED. PRELIMINARY DATA CHARACTERIZING HTE OPERATION OF HTE INSTRUMENT DURING FLIGHT ARE REPORTED. FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

1/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--HIGH ENERGY ELECTRONS IN CIRCUMTERRESTRIAL SPACE -U-

AUTHOR-(04)-GRIGOROV, N.L., KALINKIN, L.F., KOGANLASKINA, YE.I., SAVENKO, I.A.

COUNTRY OF INFO--USSR

G

SOURCE--MOSCOW, KOSMICHESKIYE ISSLEDOVANIYA, VOL. VIII, NO 3, 1970, PP 418-422

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY, PHYSICS

TOPIC TAGS--HIGH ENERGY PARTICLE, ELECTRON FLUX, ENERGY SPECTRUM, TELESCOPE, CHERENKOV DETECTOR, SCINTILLATION COUNTER, STRATOSPHERE, PRIMARY COSMIC RAY/(U)PROTON 1 UNMANNED LABORATORY, (U)PROTON 2 UNMANNED LABORATORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0514 STEP NO--UR/0293/70/008/003/0418/0422

CIRC ACCESSION NO--AP0132714

UNCLASSIFIED

2/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPERIMENT WAS CARRIED OUT FOR DIRECT MEASUREMENT OF ELECTRON FLUXES AND DETERMINING THEIR ENERGY SPECTRUM IN CIRCUMTERRESTRIAL SPACE AT ALTITUDES 200-600 KM USING THE INSTRUMENT CARRIED ON THE SPACE STATIONS "PROTON-1" AND "PROTON-2". FIGURE 1 IN THE TEXT IS A DIAGRAM OF THE INSTRUMENT, A TELESCOPE FORMED BY SCINTILLATION AND GAS CERENKOV COUNTERS. THE DATA PRESENTED HERE INDICATE THAT BOTH IN THE STRATOSPHERE (AT ALTITUDES 25-40 KM) AND AT GREATER ALTITUDES (200-600 KM) THERE ARE CONSIDERABLE FLUXES OF ELECTRONS OF QUITE HIGH ENERGIES (E SUBE GREATER THAN OR EQUAL TO 10 PRIME7 EV). LARGE FLUXES OF "DIRECT" ALBEDO ELECTRONS IN THE STRATOSPHERE CAUSED BY THE INTERACTION BETWEEN PRIMARY COSMIC RAYS AND ATMOSPHERIC MATTER RESULT IN THE INJECTION OF THESE PARTICLES INTO CIRCUMTERRESTRIAL SPACE. CONSIDERABLE VARIATIONS IN TIME OF SECONDARY FLUXES OF SECONDARY ELECTRONS IN THE STRATOSPHERE, NOT ASSOCIATED WITH VARIATIONS IN THE INTENSITY OF PRIMARY COSMIC RAYS CAN BE REGARDED AS AN INDICATION OF THE EXISTENCE OF A "RESERVOIR" IN CIRCUMTERRESTRIAL SPACE INWHICH THERE IS AN ACCUMULATION OF ELECTRONS OF QUITE HIGH ENERGIES, THAT IS, EVIDENCE OF A RELATIVELY PROLONGED RETENTION OF THESE PARTICLES BY THE EARTH'S MAGNETIC FIELD. WHEN THE MAGNETOSPHERE IS DISTURBED THEY "LEAK" INTO THE ATMOSPHERE. HOWEVER, THERE IS AT PRESENT NO ADEQUATE CLARITY CONCERNING THE DETAILS OF THE MECHANISM OF TRAPPING OF ALBEDO HIGH ENERGY PARTICLES BY THE EARTH'S MAGNETIC FIELD, THEIR RETENTION IN THE FIELD, AND THE DIRECT CAUSES FOR THE LEAKAGE.

UNCLASSIFIED

3/3 040 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132714

ABSTRACT/EXTRACT--IT CAN BE POSTULATED THAT LONG TERM OBSERVATIONS AT ALTITUDES GAMMA 10 PRIME2 -10 PRIME3 KM WITH SIMULTANEOUS MEASUREMENTS WITH STRATOSPHERIC BALLOONS WILL MAKE IT POSSIBLE TO CLARIFY THE PRINCIPAL MECHANISMS OF FORMATION OF STRONG FLUXES OF HIGH ENERGY ELECTRONS IN CIRCUMTERRESTRIAL SPACE AND THEIR DUMPING INTO THE EARTH'S ATMOSPHERE.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ELECTROSURFACE PHENOMENA IN DISPERSED SYSTEMS -U-

AUTHOR-(02)-GRIGOROV, O.N., FRIDRIKHSBERG, D.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. LENINGRAD. UNIV., FIZ., KHIM. 1970, (1), 10C-22

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROOSMOSIS, ION EXCHANGE MEMBRANE, SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1783 STEP NO--UR/0054/70/000/001/0100/0122

CIRC ACCESSION NO--AP0123580

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123580

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPROX. 20 STUDIES ORIGINATING FROM LENINGRAD UNIVERSITY ON ELECTROOSMOSIS (MOTION OF 2 PHASE MIXTS. IN POROUS MEDIA, ELECTROOSMOTIC DRYING), STREAMING POTENTIALS, POLARIZATION PHENOMENA ON ION EXCHANGE MEMBRANES, AND ELECTROKINETIC PHENOMENA IN FLUIDIZED MIXTS. OF SOLID PARTICLES AND IN CAPILLARIES OF REGULAR GEOMETRY ARE SUMMARIZED.

UNCLASSIFIED

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USSR

UDC 616.981.455-036.21(571.62)

BUSOYEDOVA, N. N., ANTIP'YEVA, O. A., LIPAYEV, V. M., KOZLOVSKAYA, O. L., CHERNYKH, P. A., FEOKISTOV, A. Z., GRIGOROV, V. I., CHIPANIN, V. L., and KHAMAGANOV, S. A., Khabarovsk Antiplague Station

"Characteristics of Natural Foci of Tularemia in Khabarovskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 26-31

Abstract: A study conducted in the southern part of Khabarovskiy Kray indicated that natural foci of tularemia in forested and agricultural areas are different from those found in other parts of the USSR, because Arvicola terrestris and the common vole (Microtus arvalis) are absent, and hares and house mice are not numerous. Muskrats were found at only one focus. In forested regions the principal host is the large-toothed redbacked vole (Clethrionomys rufocanus), while the long-time reservoir and vectors are I. persulcatus and H. concinna ticks. Forest and field mice and the Siberian chipmunk were also infected. In agricultural regions the hosts are the northern redbacked and Far-Eastern vole (Clethrionomys rutilis; Microtus fortis), while D. silvarum and H. concinna ticks constitute the reservoir and vectors. A low epizootic level and still lower epidemic activity were typical for

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BUSOYEDOVA, N. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 4, Apr 71, pp 26-31

tularemia foci in Khabarovskiy Kray in the vicinity of the Amur River. The low rate of infection of human beings was due to the absence or small numbers of classical hosts (Arvicola terrestris, common vole, and hares) with which human beings may come into contact, the absence of active and widespread epizootics, and the predominance in agricultural areas of a rodent of the secondary host group (field mouse). Of seven cases of tularemia recorded, five were of the bubonic form. In one instance the source of infection was water containing P. tularensis, and in another instance the infection was apparently due to introduction of the agent into an eye by hands soiled with rodent feces. Testing of the population at known tularemia foci with tularin resulted in a positive allergic reaction in 1.2-2.5% of cases. The agglutination reaction was positive in 2.5-5.6%, and the passive hemagglutination reaction in 3,3-9.7% of cases. The data reported were obtained in an investigation conducted during 1956-1968.

2/2

USSR UDC: None

LUBENETS, V. D., PLASTININ, P. I., MOISEYENKO, L. A., and GRIGOROV, V. P.

"Rotor-Piston Compressor"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 33, 1972, p 77, Author's certificate No (11)357371

Abstract: The compressor contains a three-sided rotor with a cylindrical valve, turning inside a body with an epitrochoid inner surface. The rotor and its valve produce a step-wise cylindrical flow to increase the compressor's capacity. A diagram of the device is provided.

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USSR UDC: 621.372.832

MEKHANNIKOV, A. I., GRIGOROVA, V. R.

"Directional Waveguide Couplers With Identical Coupling Elements in the Narrow Wall"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 170-176 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B129)

Translation: The authors consider the characteristics of a wide-band directional waveguide coupler with coupling in the common narrow wall. It is shown that high directivity (30-40 DB) can be realized with coupling elements of identical dimensions by proper arrangement of the elements. Experimental results are presented. Three illustrations, bibliography of three titles. Resumé.

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USSR

GRIGOROVICH, A. F.

"Communications System for a Multimachine Computer Complex"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk, 1972, pp 116-126 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V691, by the author).

Translation: Problems of organization of communications in an eight-machine complex with three-dimensional placement of the machines at the points of a cube are studied. It is suggested that the connections between the machines be made according to the principle of the modified P_n graph. Particular attention is given to organization of transit transmission. Oriented graphs produced from the initial graph are studied for selection of directions of transit mission. The graph version selected is described.

A block diagram is presented of the circuits of the switch of the complex. Estimates are given for the hardware costs of the communications system.

JPRS 59028
6-73

GRIGOROVICH, G.M.

III-10. PROCEDURE FOR OBTAINING AND PHOTOELECTRIC PROPERTIES OF SOLID SOLUTIONS OF ZnTe-CdTe

[Article by G. M. Grigorovich, M. A. Ruvinskiy, Ivano-Frankovsk, Drogobych; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 34]

Solid solutions of ZnTe-CdTe were grown by two different methods -- the Bridgeman method and the vapor-gas phase method. The p-type single crystals obtained had high photosensitivity. The subsequent heat treatment in Zn and Cd vapor had a significant effect on the electrical conductivity of the specimens. In the highly resistent crystals of $Zn_xCd_{1-x}Te$ (x = 0.25, 0.53, 0.70 and 0.93), the negative photoconductivity was detected at room temperatures. The special procedure was developed for obtaining specimens with negative photoconductivity. Studies were made of the stationary and the kinetic characteristics of the positive and negative photoconductivity. The variation in photoelectric properties was investigated as a function of the crystal composition and the method of obtaining them.

The interpretation of the negative photoconductivity is based on the mechanism of decreasing the mobility in the single-recombination model of the p-type crystal with two effective deep levels of adhesion for the electrons and holes respectively. The nature of these levels was discussed. It is proposed that they are connected with the natural structural defects of the crystals.

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEGATIVE PHOTOCONDUCTIVITY DURING THE INTRINSIC AND IMPURITY EXCITATION OF ZINC TELLURIDE CADMIUM TELLURIDE -U-

AUTHOR-(02)-GRIGUROVICH, G.M., RUVINSKIY, M.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 355-6

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOCONDUCTIVITY, SINGLE CRYSTAL PROPERTY, CADMIUM TELLURIDE, ZINC TELLURIDE, SEMICONDUCTOR BAND STRUCTURE, LIGHT EXCITATION, RADIATION INTENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0096 STEP NO--UR/0449/70/004/002/0355/0356

CIRC ACCESSION NO--AP0105182

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105182

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOTOCOND., SIGMA SUBPH, IN IN P TYPE ZNTE-CDTE SINGLE CRYSTALS CONTG. 47PERCENT ZNTE WAS STUDIED AT ROOM TEMP. THE POSITIONS OF PEAKS AND EDGES ON THE SPECTRAL CHARACTERISTICS OF NEG. AND POS. SIGMA SUBPH COINCIDE WITH ONE ANOTHER IN INTRINSIC AND ALSO IN IMPURITY REGIONS. THE M LEVEL, SIMILAR TO 1.09 EV FROM THE VALENCE BAND TOP, PLAYS AN IMPORTANT ROLE IN ORIGIN OF THE NEG. SIGMA SUBPH AS WELL AS IN IR QUENCHING OF THE INTRINSIC POS. AND NEG. SIGMA SUBPH. THE IR QUENCHING OF SIGMA SUBPH IS CONNECTED WITH OPTICAL EXCITATION OF ELECTRONS FROM M CENTERS. THE DEPENDENCES OF PHOTOCURRENT ON LIGHT INTENSITY FOR PEAKS OF NEG. SIGMA SUBPH DURING THE INTRINSIC AND IMPURITY EXCITATION ARE NONLINEAR AND HAVE ANALOGOUS CHARACTER. THIS ANALOGY IS POSSIBLE ONLY BY SUPPOSING M LEVELS TO BE SINGLE TRAPPING LEVELS. FACILITY: DROGOBYCH. PEDAGOG. INST. IM. FRANKO, DROGOBYCH, USSR.

UNCLASSIFIED

USSR UDC 621.315.592

GRIGOROVICH, G. M., RUVINSKIY, M. A.

"Electrical Instability in Negative Photoconductivity"

Tomsk, Izvestiya VUZ -- Fizika, No 1, 1972, pp 137-138

Abstract: Negative conductivity, in this brief communication, is defined as the condition in photoconductivity in which the current when the photoconductive device is illuminated is less than the current flowing when the device is in darkness. This communication shows that under this condition, in the natural excitation of the photoconductive crystal, an instability may appear which is closely connected to the mechanism of stationary negative conductivity and which disappears when the transition to positive photoconductivity is made. The authors, connected with the I. Franko Pedagogical Institute of Drogobych, find that it is possible to have unattenuated photocurrent oscillations when some threshold value of the field and of the light intensity is reached, and they assert that it has actually been observed in high-resistance p-type ZnTe-CdTe crystals in negative photoconductivity situations.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DNA NUCLEOTIDE COMPOSITION IN MAMMALS WITH VARYING SENSITIVITY TO BLASTOMOGENIC AGENTS -U-

AUTHOR-(02)-GRIGOROVICH, N.A., BALAGOVSKAYA, ZH.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(2), 174-6

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, NUCLEOTIDE, LYMPHATIC SYSTEM, SPLEEN, MOUSE, HAMSTER, GUINEA PIG, MONKEY, CARCINOGEN, ELECTROPHORESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1652 STEP NO--UR/0250/70/014/002/0174/0176

CIRC ACCESSION NO--AT0133557

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133557

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NUCLEOTIDE COMPN. OF LYMPHATIC NODES AND SPLEEN DNA FROM MOUSE, SYRIAN HAMSTER, GUINEA PIT, AND MONKEYS (MACACA, PAPIO, CERCOPITHECUS) WAS DETD. BY PAPER CHROMATOG. COMBINED WITH ELECTROPHORESIS, BUT THE CORRELATION OF THE DNA NUCLEOTIDE COMPN. IN THESE MAMMALS AND THEIR SENSITIVITY TO THE BLASTOMOGENIC AGENTS WAS NOT CONFIRMED.

UNCLASSIFIED

Acc. Nr: AP0051931 Ref. Code: UR0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 87-90

CHANGES IN THE MACROMOLECULAR STRUCTURE OF CHROMATIN OF THE HEMOPOIETIC TISSUE IN THE MICE OF STRAIN BALB/c DURING INDUCTION OF RAUCHER LEUKEMIA

N. A. Grigorovich

Institute of Oncology and Medical Radiology, Minsk

Development of leukemia in the mice of Strain BALB/c induced by Raucher virus is followed by changes in the macromolecular structure of chromatin of the hemopoetic tissue. Investigation of the rheologic characteristics of chromatin points to its quaternary structure changes 4 hrs after administration of virus to the animals which comprise an increase in the interaction of nucleoproteid molecules forming chromatin. Investigation of rheologic characteristics of chromatin at later stages indicate changes in its tertiary structure: decrease in the degree of denaturation of DNA in chromatin at the beginning of hyperplasia of the hemopoietic tissue and increase in the degree of DNA denaturation in chromatin with increasing proliferation.

REEL/FRAME
19820414

Genetics

USSR UDC 547.963.3:616-006

GRIGOROVICH, N. A., and BALAGOVSKAYA, Zh. M., Division of Special Methods of Treatment, Scientific Research Institute of Oncology and Medical Radiology, Ministry of Health BSSR, Minsk

"Comparison of the Effect of Blastomogenic Agents on the Genetic Apparatus of Animal Cells. I. The Effect of Various Kinds of Blastomogenic Agents on the Nucleotide Composition of DNA in Cells Sensitive to Them"

Leningrad, Tsitologiya, Vol 12, No 11, Nov 70, pp 1,433-1,438

Abstract: A study was made of the nucleotide composition of DNA isolated from certain mouse tissues, which are sensitive to blastomogenic agents, including ionizing radiation (spleen), estradiol monobenzoate (spleen). Rauscher virus (spleen), urethane (lungs), and carbon tetrachloride (liver). None of these agents caused any significant changes in the nucleotides studied. The results support the hypothesis that the transformation of normal cells into tumor cells is related to epigenomic phenomena rather than to the mutability of somatic cells.

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USSR

UDC 539.37:539.40

BULAT, S. I., GRIGOROVICH, V. K., OSIPOV, V. G., and TIKHONOV, A. S., Moscow

"Ductility and Strength of Alloys in the Copper-Nickel Systems"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 157-161.

Abstract: Results are presented from an experimental study of the ductility and strength characteristics of copper-nickel alloys at the temperatures of hot deformation and at room temperature. The ductility and strength were studied in extension and during hot rolling. The greatest deformation resistance at room temperature is that of the alloy of copper with 60% nickel. As the temperature increases, this maximum is displaced toward the more refractory component -- nickel. The strength maxima correspond to the minima of relative reduction in area, elongation and permissible reduction in rolling. These factors are interpreted from the thermodynamic standpoint.

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Mechanical Properties

USSR

[illegible]
[illegible] A. A. Bochvar, [illegible]
[illegible] I. P. Zarubin

"Ductility and Strength of [illegible] Alloys [illegible]

Moscow, Metallurgizdat [illegible], 1959, [illegible]
68-69

Abstract: [illegible] considered, and an [illegible] procedures of [illegible] to the most [illegible] Mo at temperatures [illegible] described by a [illegible] γ-phase in [illegible] gation and [illegible] composition [illegible] the use of [illegible]

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1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HARDENING NIOBIUM ALLOYS BY THE PRECIPITATION OF REFRACTORY OXIDES -U-

AUTHOR-(03)-GRIGOROVICH, V.K., PRIDANTSEV, M.V., SHEFTEL, E.N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. OBRAB. MATER. 1970, (1), 103-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL OXIDE, PLASTICITY, NIOBIUM ALLOY, ZIRCONIUM ALLOY, HAFNIUM ALLOY, REFRACTORY METAL, METAL HEAT TREATMENT, MECHANICAL PROPERTY, METAL AGING, OXIDE REFRACTORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0630 STEP NO--UR/0472/70/000/001/0103/0107

CIRC ACCESSION NO--AP0105609

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0105609

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF AGING NB-ZR AND NB-HF ALLOYS CONTG. O WAS STUDIED TO FIND THE OPTIMUM HEAT TREATMENT PROCEDURES WHICH RESULT IN THE HIGHEST STRENGTH PROPERTIES. WITH AN INCREASE IN THE O CONTENT A HIGHER AGING TEMP. IS REQUIRED TO ACHIEVE THE HIGHEST STRENGTH PROPERTIES AND THE HARDENING EFFECT IS DECREASED OWING TO AGING. THE HARDENING PHASES IN THE RESP. ALLOYS ARE ZRO SUB2 AND HFO SUB2. A HEAT TREATMENT PROCEDURE IS PROPOSED WHICH PROVIDES FOR AN ENHANCED STRENGTH AND CONSERVES A SATISFACTORY PLASTICITY.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--COMBINED TREATMENT OF SPINAL HEMANGIOMAS -U-

AUTHOR--GRIGORUK, P.T.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 101-103

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BONE DISEASE, TUMOR, SURGERY, IODINE ISOTOPE, CHEMOTHERAPY, RADIOTHERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1913 STEP NO--UR/0475/70/000/005/0101/0103

CIRC ACCESSION NO--AP0129262

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129262

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMONG 134 PATIENTS WITH PRIMARY AND METASTATIC TUMOURS OF THE SPINE, 9 HARBOURED HEMANGIOMAS (8 FEMALES, 1 MALE; AGE: MOST FREQUENTLY OVER 40). ANALYSING THE CLINICAL SYMPTOMATOLOGY AND LABORATORY DATA, THE AUTHOR PRESENTS IN DETAIL RESULTS OF TREATMENT AND SUGGESTS THAT COMBINED TREATMENT INCLUDING SURGICAL INTERVENTION AND INTRODUCTION OF RADIOACTIVE IODINE INTO THE VERTEBRAL BODY PROVED EFFICIENT. ROENTGEN THERAPY IS INDICATED IN EARLY STAGES O THE DISEASE AND IN ASYMPTOMATIC COURSE OF THE NEOPLASTIC PROCESS. FIVE PATIENTS WERE TREATED BY ROENTGEN IRRADIATION AND FOUR BY THE COMBINED METHOD. FACILITY: DNEPROPETROVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR UDC 543.27+633.11:582.85.2

GRIGORYAN, A. G., Junior Scientific Associate, Armenian Institute of Plant Protection

"Determination of the Contamination of Air With Stem Rust Uredospores"

Moscow, Zashchita Rasteniy, No 7, 1972, p 35

Abstract: In May 1967, in 23 different areas in Caucasia, air pollutants were collected by sucking 250 L of air in 5 mins through filters, and the samples were examined microscopically. Uredospores were found in all samples. The highest number of spores was collected in Kazakhskiy (2,455 specimen per m^3 of air) and Shamkhorskiy (1,934) regions, which are located about 500 m above sea level and where distribution of stem rust, especially on weeds, was considerable. The concentration of the pathogens was also appreciable in altitudes of over 2,000 m, covered with snow up to 1.2 m deep: $75/m^3$ in Sevanskiy, 67 in Bichanakskiy, and 22 in Selimskiy passes. The smallest number of specimens was collected in the Sevanskiy Basin: $6/m^3$ in Azizbekovskiy, 5 in Krasnosel'skiy, and 4 in Nako regions. It is concluded that stem rust of wheat develops in Armenia as a result of the fungus being brought in with air currents from the warmer regions in Georgia and Azerbaydzhan.

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USSR

UDC 51:621.391

GRIGORYAN, A. K.

"One Method of Decomposition of Finite Automata"

Avtomatiz. Nauchn. Issled. Morey i Okeanov. Ch. 1 [Automation of Scientific Investigations of the Seas and Oceans, Part 1 -- Collection of Works], Sevastopol', 1970, pp 216-219 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V323 by G. Blokhina).

Translation: Conditions are found, allowing the existence of an automaton C to be established for any arbitrary two automata A and B such that combination of B and C produces an automaton equivalent to A. Two cases are studied. In the first case, the output of automaton B must be identical with the input of automaton C. In the second case, in addition to this, the output of automaton C may be connected to a certain input of B. The corresponding algorithms are presented.

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Phytology

UDC 582.035

USSR

OBRAZTSOV, A. S. and GRIGORYAN, A. K. All-Union Scientific Research Institute of Fodder, All-Union Academy of Agricultural Sciences imeni V. I. Lenin; Scientific Research Institute of Agriculture, Ministry of Agriculture Armenian SSR

"Reaction of Plants to Artificial and Natural Shortening of the Day"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 6, Jun 70, p 113

Translation: The characteristics of the reactions of plants to artificial shortening of the day in northern regions and the natural shortening in connection with extending the planting into southern regions were investigated. In the reactions of plants to artificial shortening of the day, there is a cumulative effect of the indirect effect of the photoperiod, depressions of growth processes connected with a shortage of photosynthesis products and disturbance of the natural course of illumination. The plants are deprived of morning and evening light, characterized by low intensity and comparatively high content of the long waves of the spectrum: Full darkness is suddenly followed by light of high intensity, and in the evening bright light is followed by total darkness. With natural shortening of the day, the course of illumination is not disturbed, and, as is seen from experiments, the photoperiodic reaction appears weaker than with artificial shortening in experiments. The plants (corn, sorghum, barley, peas)

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USSR

OBRAZTSOV, A. S. et al, Biologicheskiy Zhurnal Armenii, Vol 23, No 6, Jun 70, p 113

which react mildly to shortening of the day in experiments, did not show any appreciable photoperiodic reaction to artificial shortening of the day by extension of the planting southward to 55° to 40° N. The forms of plants with a high degree of photoperiodic reaction, near the obligatory short-day or long-day (perilla, late varieties of vetch, oats) reacted both to the artificial and to the natural shortening of the day, only to a lesser degree. They are capable of blooming normally in a much wider range of lengths of day in nature than in experiments with artificial shortening.

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USSR UDC 663.13+547.211

GRIGORYAN, A. N., Candidate of Chemical Sciences

"Protein From Natural Gas"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 512-516

Abstract: The article deals with work done in the USSR and abroad on the biosynthesis of protein substances from natural gas. The use of natural gas (methane) as a carbon source for protein production has certain advantages, viz. low cost of the hydrocarbon raw material, high biomass yield, large natural gas reserves and easy transportability, and the possibility of obtaining the finished product without additional refinement. As a result there are plans in the United States to build an industrial enterprise by 1975 with a capacity of 9000 tons of feed protein from natural gas a year, and there are also production plans in Canada and West Germany. But the processing of methane into proteins by the microbiological method also has its difficulties, mainly the slow growth of microorganisms, the low solubility of methane in the culture medium, and the difficulties involved in drawing up a design for the process. The solution of questions involving the isolation and breeding

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USSR

GRIGORYAN, A. N., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 512-516

of active methane-assimilating microorganisms and the development of cultivation techniques and effective equipment will create conditions for making natural gas an important source for the microbiological synthesis of proteins.

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1/3 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--HISTOCHEMICAL CHARACTERISTICS OF LEPROUS LESIONS OF THE BUCCAL MUCOSA -U-

AUTHOR-(03)-PANIKAROVSKIY, V.V., GRIGORYAN, A.S., BUSYGINA, M.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 32-38

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HISTOCHEMISTRY, LEPROSY, COLLAGEN, MACROPHAGE, BLOOD VESSEL, TUMOR, GLYCOGEN, CYTOPLASM, MOUTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0438 STEP NO--UR/0206/70/000/004/0032/0038

CIRC ACCESSION NO--AP0124183

UNCLASSIFIED

2/3 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124183

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN THE BUCCAL MUCOSE IS AFFECTED IN LEPROSY, THE LEPROMATOUS PROCESS INVOLVES ITS DIFFERENT COMPONENTS. ELEMENTS OF THE CONNECTIVE TISSUE UNDERGO DESTRUCTION, PARTICULARLY FIBRILLAR STRUCTURES. AT THE PEAK OF THE LEPROMATOUS PROCESS FRAGMENTATION AND LYSIS OF COLLAGEN FIBERS ARE OBSERVED. THE REMAINING FIBRILLS HAVE DIFFERENT THICKNESS AND SHAPE, ARE IRREGULARLY ORIENTED, AND ACQUIRE ARGENTOPHILIA. THE ELASTIC CARCASS OF THE BUCCAL MUCOSE IS DESTROYED. INTENSIVE PROLIFERATION REACTION OF LYMPHO HISTIOCYTIC ELEMENTS IS NOTED. LEPROUS CELLS REPRESENTING DERIVATIVES OF THE HISTIOCYTIC SERIES POSSESS ALL THE CHARACTERISTICS OF MACROPHAGES WHICH HAVE THE STRUCTURE AND HISTOCHEMICALLY DETECTABLE PROPERTIES SPECIFIC FOR LEPROUS FORMATIONS. INVOLVEMENTS OF THE WALLS OF BLOOD VESSELS IS CONSIDERABLE, EVEN THOUGH THIS PROCESS IN SPECIFIC GRANULOMAS IS FREQUENTLY OVERLAPPED BY INTENSIVE FORMATION OF NEW VESSELS OF THE CAPILLARY TYPE. EPITHELIUM OF THE BUCCAL MUCOSE IN FOCI OF LEPROUS LESIONS IS CHARACTERIZED, AS A RULE, BY REARRANGEMENT OF CYTOPLASMIC GLYCOGEN, THE AMOUNT OF WHICH IN PROLIFERATING EPITHELIAL CELLS IS FREQUENTLY INCREASED MARKEDLY. IN THOSE CASES WHERE LEPROMATOUS FOCI OCCUR IN THE IMMEDIATE PROXIMITY TO THE EPITHELIAL LINING OR INVOLVE IT IN THE PROCESS, DESTRUCTION OF THE BASAL MEMBRANE IS OBSERVED. EPITHELIAL CELLS OFTEN UNDERGO NECROSIS, ULCERATIVE DEFECT IS FORMED, THE BOTTOM OF WHICH CONSISTS OF THE GRANULATION TISSUE.

UNCLASSIFIED

3/3 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124183

ABSTRACT/EXTRACT--AS LEPROUS FOCI DEVELOP, THE AMOUNT OF FIBER FORMING CELL ELEMENTS CHARACTERIZED BY INCREASED PIRONINOPHILIA OF THE CYTOPLASM INCREASES IN THEM, FIBRILLOGENESIS IS INTENSIFIED MANIFESTING IN MARKED SUBSTITUTION OF LEPROMATOUS FOCI BY THE CICATRICIAL TISSUE.

FACILITY: PATOMORFOLOGICHESKAYA LABORATORIYA TSENTRAL'NOGO N-I INSTITUTA STOMATOLOGII, MOSCOW, AND KAFEDRA TERAPEVTICHESKOY STOMATOLOGII SMOLENSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

Acc. Nr: AP0046254 G Ref. Code: UR0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1, pp 9-14

Panikarovskiy, V. V.; Grigor'yan, A. S.; Sazonova, V. I.

THE STATE OF THE ADRENAL CORTEX IN RATS KEPT ON A SACCHAROSE-CASEIN CARIESOGENIC DIET

Summary. At early periods of the experiment (7th—21st day) in the glomerular zone there were noted a drop in the content of lipids, intensification of pyroninophilia, decrease of the level of ascorbic acid. In the ganglionic zone, on the contrary, there were observed an intensification of sudanophilia, a drop in the RNA content and focal intensification of the reaction to ascorbic acid. At late periods of observation (30th—180th day) the referred to changes intensify. However, on the 360th day in some cells of the glomerular zone there appear sudanophilic inclusions, while in cells of the ganglionic zone sudanophilia decreases simultaneously. In the adrenal glands of rats at different periods of the experiment there appear sub-, intra- and extracapsular regenerative proliferates from cells of the glomerular and (more rarely) of the ganglionic zone.

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REEL/FRAME 19781372

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SYNTHESIS AND REACTIONS OF BETA,GAMMA UNSATURATED AMINES. IX. AMINATION OF ISOPRENE AND STYRENE BY PRIMARY MONO AND DIAMINES -U-

AUTHOR-(04)-MARTIROSYAN, G.T., KAZARYAN, A.TS., GRIGORYAN, E.A., BABAYAN, A.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 446-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, AMINE DERIVATIVE, ISOPRENE, STYRENE, BENZENE DERIVATIVE, PRIMARY AMINE, SECONDARY AMINE, TERTIARY AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1666 STEP NO--UR/0366/70/006/003/0446/0449

CIRC ACCESSION NO--AP0112660

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112660

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE AMINATION OF H SUB2 C:CMECH:CH SUB2 WITH 1 EQUIV. RNH SUB2 (R EQUALS PR OR BU) IN THE PRESENCE OF NA METAL, 56.4PERCNET RN(CH SUB2 CH:CME SUB2) SUB2 (I) AND 12.9PERCENT RNHCH SUB2 CH:CME (II) WERE FORMED. WHEN 5 EQUIVS. RNH SUB2 WERE USED, THE YIELDS OF I AND II WERE, RESP., 32 AND 35PERCENT. USING PHCH:CH SUB2, THE REACTION WITH 1 EQUIV. RNH SUB2 GAVE 56.2PERCENT RN(CH SUB2 CH SUB2 PH) SUB2 (III) AND 23.9PERCNET RNHCH SUB2 CH SUB2 PH (IV). WHEN 3 EQUIVS. RNH SUB2 WERE USED, THE YIELDS OF III AND IV WERE, RESP., 0 AND 57.2PERCENT. THESE DIFFERNECES ARE DUE TO THE INTRAMOL. TRANSAMINATION OF II LEADING TO INTERMEDIATES, SUCH AS (RN PRIME NEGATIVE CH SUB2-CH:CME SUB2)NA PRIME POSITIVE, WHICH IS IMPOSSIBLE IN THE CASE OF IV. THE REACTION OF II WITH PHCH:CH SUB2 OR IV WITH H SUB2 C:CMECH:CH SUB2 GAVE 52.1-94PERCENT RN(CH SUB2 CH SUB2 PH)CH SUB2 CH:CME SUB2. FACILITY: INST. ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

Antibiotics

USSR UDC 576.851.45.098.31

MIShAN'KIN, B. N., RYZhKO, I. V., and GRIGOR'YAN, E. G.

"Study of Penicillinase Activity in Microbes of Plague, Pseudotuberculosis, and Pasteurella X"

Moscow, Antibiotiki, No 7, 1973, Vol 18, pp 621-624

Abstract: For almost 20 years the fact that the plague microbe has a high sensitivity to benzylpenicillin in vitro but yet this antibiotic is ineffective in curing plague has needed explanation. It may be assumed that the primary reason for this is that the enzyme system of the microbe or of the animal tissue has characteristics which neutralize the activity of the penicillin. White mice were used in an attempt to determine the penicillin activity of the plague microbe in vitro and in vivo; the investigation was also made for the closely-related microbes of pseudotuberculosis and Pasteurella X. Of the three species, only Pasteurella X possessed penicillinase activity closely associated with the resistance to penicillin. Attempts to induce in vivo penicillinase activity in the plague microbe strain EV were not successful. It may be assumed that the reason the penicillin is not effective in treating experimental plague in mice is related to acylase in either the microbe or in the macroorganism.

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USSR UDC 576.851.45.095

GURLEVA, G. G., DOMARADSKIY, I. V., KHALYAPINA, Ye. Ye., ALUTIN, I. M., TARANOVA, V. N., PUSHNITSA, N. P., KOL'TSOVA, Ye. G., MARCHENKOV, V. I., SHCHEGLAKOVA, N. M., and GRIGOR'YAN, E. G., Rostov-on-Don Scientific Research Antiplague Institute

"Biological Properties of Pasteurellae Isolated From Various Species of Animals"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 54-58

Abstract: A comparative study was performed on P. avicida, P. cuniculicida, B. avisepticus, B. suisepticus, B. bovisepticus, and B. ovisepticus (a total of 27 strains) isolated from chickens, pigs, suckling pigs, calves, steers, sheep, house mice, and rabbits in various geographic areas in 1936-1967. The tinctorial, cultural, morphological, and biochemical properties of these strains as well as their sensitivity to antibiotics, nucleotide DNA composition, and virulence to albino mice, albino rats, and pigeons revealed that they constitute a homogeneous group and belong to a single species -- P. multocida. Significantly, all the strains investigated are sensitive to colicines E+J, F, G, J+G, and S_5. If the findings are confirmed by supplementary investigations, the colicin test may well be used for a differential diagnosis of P. multocida.

USSR UDC 661.183.7

KULIYEV, Al. M., GRIGORYAN, E. V., and ARUTYUNOVA, E. G., Bakinsk Branch, All Union Scientific Research Institute of Gasses

"Study of the Effect of Chemical Composition of a Displacer on the Adsorption Capability of Silica gel"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 5-6 (71-72), 1971, pp 90-92

Abstract: It was shown in earlier work that substituting high molecular weight fractions of petroleum for the water molecules of a hydrogel yields silica gel with high adsorption. This particular study was devoted to individual fractions of petroleum, especially to their effect on the gel. The study showed that treatment of silica gel with a displacer containing primarily aromatic hydrocarbons will yield an adsorbent with very fine pores, and high activity. When treated with parafine hydrocarbons, the pores in the adsorbent become coarse.

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USSR UDC 621.771.23:621.771.011

ZHELEZNOV, Yu. D., PAVLOV, I. M., YARGSTORF, P., GRIGORYAN, G. G., and FROINDEL', P., Moscow Institute of Steel and Alloys

"The Effect of Outer Parts on the Edgewise Deformation in the Light-Gauge Sheet-Rolling Process. First Report"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy — Chernaya Metallurgiya, No 11, 1970, pp 81-85

Abstract: The interaction mechanism of outer parts with the deformation source in the process of light-gauge sheet rolling is discussed from the viewpoint of the edgewise interaction of internal longitudinal stresses. The physical interpretation of this interaction is discussed by reference to diagrams showing the alignment process of the transverse difference of thickness of a band and the relation between the irregularity of the edgewise deformation and internal stresses. Experimental data show that with increasing length of the band, the transverse difference of thickness decreases in the beginning and then becomes constant. A function is derived from which a coefficient characterizing the capacity of self-alignment from externally acting parts can be determined. A comparison of experimental and theoretical rolling data is presented.

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Biophysics

USSR UDC 577.3

CHUMAKOV, V. M., GRIGORYAN, G. L., SUSKINA, V. I., ROSANTSEV, E. G., and KALMANSON, A. E., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Study of Spin Labels in Animal Tissues"

Moscow, Biofizika, Vol 16, No 3, May/Jun 71, pp 564-565

Abstract: The stable free iminoxyl radicals 2,2,6,6-tetramethyl-4-aminopiperidine--1-oxyl and its maleic acid imide derivative were injected intraperitoneally to rats, mice, and frogs in aqueous solutions in a dose of 500-600 mg/kg. Within 2-4 hrs after injection of the solutions, the lyophilized tissues of the animals exhibited EPR spectra indicating the presence of firmly fixed (immobilized) free radicals. Wetting of the tissues with physiological saline solution transformed the EPR signal of firmly fixed free radicals into one typical for radicals with a higher mobility. On treatment of the lyophilized tissues with water vapor and O_2, the concentration of iminoxyl radicals, as indicated by the EPR spectrum, first increased to a maximum and then gradually decreased. The mositure content of the tissue samples in these experiments was brought to only 10% (i.e., only bound water was present), os that the radicals remained in the firmly fixed state. It was shown in earlier work by Chumakov and Kalmanson that

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USSR

CHUMAKOV, V. M., et al., Biofizika, Vol 16, No 3, May/Jun 71, pp 564-565

under these conditions the EPR tissue semiquinone signal associated with the semiquinone of coenzyme Q also increases and, on passing through a maximum, finally disappears. In the present work, disappearance of this signal, which contributed to the central component of the iminoxyl radical EPR spectrum, resulted from changes in the tissues spectrum (e.g., rat liver tissue) upon treatment with water vapor and O_2. A reaction between the iminoxyl and semiquinone radicals in the tissues could be assumed. The fact that the iminoxyl radicals react with semiquinones in a reversible reaction with the formation of hydroxylamines was established in experiments conducted in vitro in which semiquinones derived from benzoquinone, duroquinone, and naphthoquinone were applied. The results obtained indicated that iminoxyl spin lables are convenient redox indicators for the study of processes of electron transfer in the respiration chain of biological oxidation in mitochondria.

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USSR UDC 542.91:542.978

ROZANTSEV, E. G., GRIGORYAN, G. L., GUSOVSKAYA, T. P., GODOVIKOV, N. N., AND TEPLOV, N. YE., Institute of Chemical Physics, Academy of Sciences USSR and Institute of Metallorganic Compounds, Academy of Sciences USSR

"Synthesis of Some Spin-labelled Inhibitors and Choline-esterase Substrate"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 2334-2336

Abstract: 1.2 g of 2,2,6,6-tetramethyl-4-chloroacetoxypiperidine-1-oxyl (I) was dissolved in 8 ml ether, 0.75 g of dimethylaminomethylacetate was added to it, and the reaction mixture was left standing for one day. The solvent was evaporated yielding crystalline N,N'-dimethyl-N-acetoxymethyl-N-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)carboxymethylammonium chloride m.p. 163.5-165°. Addition of triethylamine to (I) under similar conditions gave N,N,N,-triethyl-N-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)carboxymethylammonium chloride, m.p. 109-111°. A solution of 2 g of (I) in absolute ether was added slowly with cooling and stirring to 1.55 g O-ethylenthylchlorophosphonate and 1.2 g triethylamine in absolute ether. After 24 hrs of standing the reaction mixture was filtered, the solvent was evaporated and the product --
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USSR

ROZANTSEV, E. G., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 2334-2336

O-ethyl-O-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)methylphosphonate crystallized slowly from hexane. Analogously the O-p-nitrophenyl-O-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)methylphosphonate was obtained from O-p-nitrophenylmethylchlorophosphonate, triethylamine and (I).

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1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--SYNTHESIS OF BENZOTHIAZOL 2 YLTHIO CELLULOSE -U-

AUTHOR-(03)-GRIGORYAN, G.L., TULYAGANOV, M.M., GAFUROV, T.G.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 200-1

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--THIAZOLE, CHLORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE, CELLULOSE RESIN, EXCHANGE REACTION, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0668 STEP NO--UR/0460/70/012/003/0200/0201

CIRC ACCESSION NO--AP0124340

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--30OCT7(

CIRC ACCESSION NO--AP0124340

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF CHLORINATED CELLULOSE WITH KSR (R IS 2 BENZOTHIAZOLYL) GIVES THE TITLE COMPD. (I). THE REACTION PROCEEDS TO COMPLETION IN HCONME SUB2 SOLN. AT 150DEGREES IN 3 HR. IN WATER IN 6 HR AT 100DEGREES, ONLY SIMILAR TO 50PERCENT REPLACEMENT OF CL WITH SR WAS ACHEIVED; HOWEVER, THE PRODUCT HAD LIGHTER COLOR THAN THAT PREPD. IN HCO NME SUB2. FACILITY: NAUCH. ISSLED. INST. KHIM. TEKHNOL. KHLOP. TSELLYUL., TASHKENT, USSR.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SYNTHESIS AND INFRARED SPECTROSCOPIC STUDIES OF CELLULOSE MODIFIED WITH 2,MERCAPTOBENZOTHIAZOLE DERIVATIVES -U-

AUTHOR-(05)-GRIGORYAN, G.L., TULYAGANOV, M.M., GAFUROV, T.G., ADYLOV, A., TASHPULATOV, YU.T.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 753-60

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, IR SPECTRUM, SPECTROSCOPIC ANALYSIS, CELLULOSE, MERCAPTAN, BENZENE DERIVATIVE, EPICHLOROHYDRIN, CHEMICAL REACTION MECHANISM, CHEMICAL BONDING, THIAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1228 STEP NO--UR/0459/70/012/004/0753/0760

CIRC ACCESSION NO--AP0134902

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134902

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

3,(3,CHLORO,2,HYDROXYPROPYL)BENZOTHIAZOLE,2,THIONE (I) AND 2,(2,3,EPOXYPROPYLTHIO)BENZOTHIAZOLE (II) WERE PREPE. FROM 2,MERCAPTOBENZOTHIAZOLE (CAPTAX) (III) AND EPICHLOROHYDRIN. A REACTION MECHANISM IS PROPOSED. CELLULOSE (IV) WAS MODIFIED WITH I, II, AND A 1:1 III,OCN(CH SUB2) SUB6 NCO ADDUCT AT 150DEGREES TO GIVE S AND N CONTG. PRODUCTS. SPECTRAL DATA SHOWED THAT THE MODIFYING AGENTS WERE CHEM. BOUND TO IV. FACILITY: NAUCH.-ISSLED. INST. KHIM. TEKHNOL. KHLOP. TSELLYUL., TASHKENT, USSR.

USSR UDC 576.851.2

POSTOYAN, S. T., and GRIGORYAN, C. M., Yerevan Medical Institute, and Institute of Epidemiology and Hygiene imeni N. B. Akopyan

"Properties of Bacteriocins of Pathogenic and Nonpathogenic Staphylococci"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 7, 1970, pp 107-108

Abstract: A study of 46 pathogenic and 22 nonpathogenic staphylocin-producing strains showed that they differ from one another in various physicochemical properties. For example, 32 of the 68 were able to penetrate a cellophane membrane; 28 cultures remained stable for 3 to 5 days and 40 for only 1 or 2 days. Staphylococcus cultures were more sensitive to nonpathogenic staphylocin-producing strains. Six types of staphylocins were established on the basis of comparable characteristics. It is suggested that staphylocin typing may be used for epidemiological purposes.

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Biophysics

USSR

KOKORIN, A. I., ZAMARAYEV, K. I., GRIGORYAN, G. L., IVANOV, V. P., and ROZANTSEV, E. G., Institute of Chemical Physics, Academy of Sciences USSR

"Measuring the Distance Between Paramagnetic Centers in Solid Solutions of Iminoxyl Radicals, Biradicals, and Spin-Labeled Proteins"

Moscow, Biofizika, No 1, 1972, pp 34-41

Abstract: The purpose of the work was to develop a method for measuring the distance between stable iminoxyl radicals from their ESR spectra and test it on the hemoglobulin molecule. The mean distance r between the N and O groups of iminoxyl spin labels was determined from their spectra. The distances between the paramagnetic groups of 11 different iminoxyl biradicals were measured by 3 different methods: (a) from the values of the dipole-dipole separation, (b) from the values of the second central moment of the spectrum, and (c) from the parameter d_1/d (ratio of the total intensity of the extreme components of the spectrum to the intensity of the central component). The values of r determined by the different methods proved to be in good agreement with one another. Measurements of d_1/d showed that the distance between the N and O groups decreased after the denaturation of human hemoglobin spin-labeled at β-93 cysteine and FG-4 histidine. Dipole-dipole interaction was found to

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KOKORIN, A. I., et al., Biofizika, No 1, 1972, pp 34-41

exist between Fe^{+3} methemoglobin and the unpaired electron of the spin label attached to the SH-β-93 group.

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USSR

GRIGORYAN, G. V., NIKOLAYEV, N. N., and OKUN', L. B., Institute of Theoretical and Experimental Physics, State Committee on the Use of Atomic Energy

"Electromagnetic Interaction of Muon and $K_L \to 2\mu$ Decay"

Moscow, Yadernaya Fizika, Vol 15, No 5, May 72, pp 995-998

Abstract: Calculations of the lower bound for the probability of $K_L \to 2\mu$ decay usually assume that the amplitude of the $2\gamma \to 2\mu$ transition is described by quantum electrodynamics. It is this amplitude of two photons with $J^P = 0^-$ at a c.m.s. energy equal to the K meson mass which determines the imaginary part of the $K_L \to 2\gamma \to 2\mu$ amplitude. The article considers how justified the hypothesis concerning the validity of quantum electrodynamics is in this case and whether it can be discarded in order to explain the contradiction between experiment (A. R. CLARK, T. ELIOTT, R. C. FIELD, et al.: $\Gamma(K_L \to 2\mu)/\Gamma_L < 1.8 \cdot 10^{-9}$) and theory (L. M. SEHGAL: $\Gamma(K_L \to 2\mu)/\Gamma_L > 5.6 \cdot 10^{-9}$). Five types of experimental data are discussed: viz., 1) $K_L \to 2\mu$

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GRIGORYAN, G. V., et al., Yadernaya Fizika, Vol 15, No 5, May 72, pp 995-998

decay; 2) anomalous magnetic moment of muon; 3) mu pair photoproduction on nuclei; 4) formation of so-called "tridents": $\mu \rightarrow 3\mu$ transition in nuclear field; 5) $\eta \rightarrow 2\mu$ decay. Conclusion: Data on $g - 2$ and mu pair photoproduction rule out the breakdown of muon electrodynamics as an explanation of the CLARK et al. experiment provided this breakdown does not fall in the narrow energy region near the K meson mass and does not decline rather quickly towards larger or smaller energies.

The authors thank V. N. GRIBOV, A. D. DOLGOV, V. I. ZAKHAROV, B. L. IOFFE, and I. YU. KOBZAREV for useful discussions.

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1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--POLARIMETRIC OBSERVATIONS OF MU CEP -U-

AUTHOR--GRIGORYAN, K.A.

G

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCHENIYA BYURAKANSKOY OBSERVATORII AKADEMIYA NAUK ARMYANSKOY SSR, 1970, NR 41, PP 13-19

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--TELESCOPE, ASTRONOMIC OBSERVATORY, PHOTOMETER, LIGHT POLARIZATION, STAR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0073 STEP NO--UR/2620/70/000/041/0013/0019

CIRC ACCESSION NO--AP0114469

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2/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114469

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLARIMETRIC OBSERVATIONS OF THE MU CEP WERE MADE ON MOONLESS NIGHTS FROM 1965 TO 1967 WITH THE PHOTOMETER MOUNTED AT THE CASSEGRAIN FOCUS OF THE 20 INCH TELESCOPE OF THE BYURAKAN OBSERVATORY. IN EACH PERIOD OBSERVATIONS OF THE MU CEP WERE MADE WITH DIFFERENT FILTERS. THE RESULTS OF MU CEP AND STANDART STARS ARE GIVEN IN TABS. 1-3. THE RESULTS IN PERIODS OF 1965 AND 1967 INDICATE, THAT THERE IS A SHARP INCREASE IN POLARIZATION WITH INCREASING WAVELENGTH. THE VALUES OBTAINED IN THE PERIOD 1966 INDICATE, THAT THERE ISN'T WAVELENGTH DEPENDENCE OF POLARIZATION OF MU CEP.

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1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--POLARIZATION OBSERVATIONS OF THE CLUSTERS NGC 129, 225, 581, 663, 744, 869, 884, 957 AND 6882 5 -U-

AUTHOR--GRIGORYAN, K.A.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCHENIYA BYURAKANSKOY OBSERVATORII AKADEMIYA NAUK ARMYANSKOY SSR, 1970 NR 41, PP 28-45

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--LIGHT POLARIZATION, TELESCOPE, ASTRONOMIC OBSERVATIORY, STAR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0075 STEP NO--UR/2620/70/000/041/0028/0045

CIRC ACCESSION NO--AP0114471

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114471

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OBSERVATIONS OF THE POLARIZATION OF THE STARLIGHT IN OPEN CLUSTERS NGC 129, 225, 581, 663, 744, 869, 884, 957 AND 6882-5 WERE MADE WITH THE PHOTOELECTRIC PHOTOMETER MOUNTED AT THE CASSEGRAIN FOCUS OF THE 16 INCH AND 20 INCH TELESCOPES OF THE BYURAKAN OBSERVATORY. THE RESULTS ARE LISTED IN TABLES 3-10 AND ARE GRAPHICALLY PRESENTED IN FIGS. 3-9. THE RATIO'S OF THE MEAN VALUE OF POLARIZATION TO THE MEAN VALUE OF VISUAL ABSORPTION ARE: P=AV (NGC 129) EQUALS 0,020; P-AV (NGC 225) EQUALS 0,031; P-AV (NGC 581) EQUALS 0,051; P-AV (NGC 663) EQUALS 0,033; P-AV (NGC 869-884) EQUALS 0,044; P-AV (NGC 957) EQUALS 0,024.

UNCLASSIFIED

USSR UDC 628.315.2

VINOKUR, E. A., GRIGORYAN, KH. A., and STEPANYAN, I. S., Kirovokan

"Purification of Sewage From the Production of Ion Exchange Resins"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 2, 1972, pp 13-14

Abstract: A study was carried out on the purification of sewage from the production of ion exchange resins KU-2, AV-17 and AN-18. Principal impurities in sewage from KU-2 are dichloroethane and sulfo-acids. Sewage from AV-17 and AN-18 contains methanol, benzene and various amines. Ozonization, chlorination and absorption methods proved to be inadequate for purification purposes. A very successful method was based on incineration, passing sewage through a temperature zone of 900-1000°C. Since KU-2 sewage could not be purified by biological oxidation (dichloroethane is toxic towards the microorganisms), it had to be distilled first through a column with 18 theoretical plates. The distillate collected the dichloroethane, and the residue could then be purified biologically. Sewage from the anions AV-17 and AN-18 could be purified by biological oxidation, using a two stage aeration.

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USSR UDC 681.325.65

ARUSTAMYAN, V. YE., GRIGORYAN, L. A., KAZARYAN, S. YE., MOMDZHYAN, I. A., and SARKISYAN, A. YE.

"Transistor-Transistor Logic Circuit"

USSR Authors' Certificate No 314307, Cl. H 03 k 19/08, filed 26 Feb 70, published 26 Oct 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B137P)

Translation: There are well-known devices which contain an input multiemitter transistor (T) connected by the collector to the base of an intermediate T, whose collector and emitter are connected to the bases of two output series-connected Ts. The logic circuit described differs from these in that it contains a complementary T connected by its collector to the emitter of the intermediate T, by its emitter to the collector of the input T, and by its base through the resistor to the base of the input T. This makes it possible to increase the operating speed of the device.

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USSR UDC 577.1:615.7/9

GRIGORYAN, M. S. and MURADYAN, O. M.

"Effect of Molybdenum on Some Protective-Adaptive Reactions"

V sb. Materialy III Zakavkaz. nauch. konf. patofiziologiv, 1972 (Proceedings of the 3rd Transcaucasian Scientific Conference of Pathophysiologists, 1972), Tbilisi, 1972, pp 62-63 (from RZh-Biologicheskaya Khimiya, No 4, Feb 73, Abstract No 4 F1899)

Abstract: Injection of rats with molybdenum (I) (0.025 to 600 mg/kg) increased serum glycoproteins at doses of 0.025 to 20 mg/kg, less so at 50 to 200 mg/kg; further increases in the dose of I and duration of its administration lowered the glycoprotein level. The results were similar with respect to the effect of I on sialic and neuraminic acids and on ceruloplasmin and lysozyme activities. It was concluded that I causes a state of dystonia in individual elements of the autonomic system, as was previously shown in the case of the acetylcholine-cholinesterase system and pyrocatechins.

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1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--COAGULOGRAM AND THROMBOELASTOGRAM IN PATIENTS WITH GASTRIC PEPTIC ULCER -U-

AUTHOR-(02)-ALIMOV, T.U., GRIGORYAN, N.A.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 54-57

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, LESION, SURGERY, BLOOD COAGULATION, ANTICOAGULANT DRUG, PROTHROMBIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1023 STEP NO--UR/0531/70/000/006/0054/0057

CIRC ACCESSION NO--AP0130058

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132058

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BLOOD COAGULATION SYSTEM AND THROMBOELASTOGRAM WERE STUDIED IN 50 PATIENTS WITH GASTRIC PEPTIC ULCER (42 MEN AND 8 WOMEN), AGED FROM 23 TO 82 YEARS; 27 PATIENTS WERE OVER 50 YEARS OLD. BILLROTH I OPERATION WAS PERFORMED IN 17, HOFMEISTER-FINSTERER OPERATION, IN 33 CASES. THE BLOOD COAGULATION SYSTEM WAS STUDIED BEFORE THE OPERATION, DURING ANESTHESIA AND OPERATION, AS WELL AS ON TEH 2ND-3RD, 5TH-7TH AND 10TH-12TH POSTOPERATIVE DAY. THE BLOOD COAGULATION INDICES IN MOST PATIENTS WAS WITHIN NORMAL VALUES. ETHER OXYGEN ANESTHESIA WITH THE USE OF MUSCLE RELASANTS CAUSES AN INCREASED QUANTITY OF FIBRINOGEN, PROACCELERIN AND A REDUCTION OF THE FIBRINOLYTIC ACTIVITY. DURING GASTRIC RESECTION AND IN THE POSTOPERATIVE PERIOD (ON THE 2ND-7TH DAY) THE BLOOD COAGULATION INCREASED ACCORDING TO DATA OF COAGULOGRAPHY AND THROMBOELASTOGRAPHY. ANTICOAGULANTS WERE EMPLOYED IN 20 PATIETNS (FOR THE PROPHYLAXIS OF THROMBOEMBOLIZATION) AFTER GASTRECTOMY. THE PROTHROMBIN INDEX WAS MAINTAINED ON THE LEVEL OF 40-50PERCENT OF NORM, PROCONVERTIN ON THE LEVEL OF 30-40PERCENT OF NORM. THERE WERE NO HEMORRHAGIC COMPLICATIONS ASSOCIATED WITH THE USE OF ANTICOAGULANTS. FACILITY: GOSPITAL'NAYA KHIRURGICHESKAYA KLINIKA ANDIZHANSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ADSORPTION OF THIOUREA ON MOLTEN GALLIUM -U-

AUTHOR-(04)-BAGOTSKAYA, I.A., FATEYEV, S.A., GRIGORYEV, N.B., BARDINA, N.G.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA, MAR. 1970, 6, (3), 369-372

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DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, THIOUREA, GALLIUM, ELECTRODE POLARIZATION, SURFACE ACTIVE AGENT, METAL PASSIVATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1988 STEP NO--UR/0364/70/006/003/0369/0372

CIRC ACCESSION NO--AP0125577

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125577

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF THIOUREA, CS(NH SUB2) SUB2, ON MOLTEN GA WAS STUDIED BY A METHOD BASED ON MEASURING THE DIFFERENTIAL CAPACITY AT A GA ELECTRODE AND PLOTTING POLARIZATION CURVES. BOTH IN AN ACID AND IN A NEUTRAL SOLUTION THE POTENTIAL CORRESPONDING TO THE EVOLUTION OF H ON THE GA MOVED IN THE POSITIVE DIRECTION BY 0.3 V IN THE PRESENCE OF THIOUREA, ALTHOUGH THE SLOPE OF THE POLARIZATION CURVES REMAINED UNCHANGED. THESE RESULTS ARE INTERPRETED IN TERMS OF THE ADSORPTION OF THE ORTION IN SUCH SOLUTIONS. THUS INCREASING THE PRESSURE OF O OVER THE SOLUTION DISPLACED THE STATIONARY POTENTIAL IN THE POSITIVE DIRECTION AND REDUCED THE SELF DISSOLUTION CURRENT. FOR HIGH C.D. AND O CONCENTRATIONS INTENSIVE PASSIVATION TOOK PLACE; UNDER CONDITIONS OF SELF DISSOLUTION THE PASSIVATION WAS PARTIAL. THE PRESENCE OF SURFACE ACTIVE SUBSTANCES ALSO PLAYED A MAJOR ROLE IN PASSIVATION PROCESSES.

USSR UDC: 681.332.65

ASOYAN, L. M., BELKIN G. G., GRIGORYAN, R. Kh., KARANYAN, K. Kh., ABADZHYAN, S. S., GEVORKYAN, S. G.

"Parallel Barker Code to Parallel Binary Code Converter"

USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

Translation: The converter suggested contains a register, each digit of which with the exception of the low-order digit, is made of two flip-flops connected with buses corresponding to the subdigits of Barker code and logic circuits. The ones and zeros outputs of the flip-flops of each digit are connected to two pairs of AND circuits respecitvely. The outputs of the AND circuits of each pair are connected through an OR circuit and delay line to the inputs of the second flip-flop of the same digit. The output of the OR circuit connected to the ones output of the triggers of the digit in question is connected also to the AND circuits connected to the outputs of the second flip-flop of the next digit. The output of the OR circuit connected to the zero outputs of the flip-flops is connected to the AND circuit which is connected to the outputs

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ASOYAN, L. M., USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

of the first flip-flop of the next digit. The ones outputs of the low-order digit flip-flop and the second flip-flops of the next digits are used as outputs corresponding to binary code. The circuit suggested combines the functions of a Barker code to parallel binary code converter with the functions of memorization of the binary code. One illustration.

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USSR UDC: 621.317.353.1(088.8)

SHALDYKIN, O. K., GRIGOR'YAN, R. L.

"A Method of Measuring the Nonlinearity of Amplitude Characteristics of Two-Terminal Pair Networks"

USSR Author's Certificate No 275183, filed 19 Oct 68, published 14 Oct 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A310 P)

Translation: A method is proposed for measuring the nonlinearity of amplitude characteristics of a two-terminal pair network by measuring the nonlinear dependence of the output voltage of the device being studied on the input voltage. As a distinguishing feature of the patent, the accuracy and resolution of the measurements are improved by varying the amplitude of the output voltage of the device being studied in inverse proportion to the change in input voltage. The part of the signal which does not carry information on nonlinearity is compensated and sent to the measuring device through a circuit whose transmission ratio varies in proportion to the envelope of the input voltage of the two-terminal pair network being studied.

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Grigoryan, R.S. AMMFSTC FAT-23-750-72

DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
220 SEVENTH STREET NE.
CHARLOTTESVILLE, VIRGINIA 22901

In Reply Refer to:
FSTC HT-23-750-72
DIA Task No. T70 23 01

Date: 22 June 1972

TRANSLATION

ENGLISH TITLE: Solar Battery-Photovoltaic Cell Power Supply for Equipment

FOREIGN TITLE: Ustroystvo Dlya Pitaniya Potrebiteley Ot Solnechnoy Batarei S Fotopreobrazo Vateiyami

AUTHOR: R. S. Grigoryan, et al.

LANGUAGE: Russian

SOURCE: USSR Patent No. 271619

TRANSLATOR: Leo Kanner Associates

REQUESTOR: AMST-GE, Mr. Turner

Systems are known for supply of power consumers by solar power installations with photoconvertors, containing a commutator to connect the lead to a battery. The photogenerator in the systems is an inseparable power supply, so that changes in the lead impedence of one consumer influence the operation of the others, preventing them from operating in their optimal modes.

In the device suggested, the commutator has a relay and a power sensor, the contacts of which are included in the circuit of the coil of a relay which separates the solar battery into several sections, each of which is connected to individual consumers through the contacts of this relay. This allows the reliability of solar power installations to be increased.

The drawing shows a plan of the device suggested for power supply of two consumers. When the level of radiation is sufficient, for example, to supply only consumer one, the solar radiation level sensor or a similar power sensor outputs a signal to close normally open contact 2, which switches relay 3. This connects consumer one to the entire photobattery. When, as a result of

GRAPHICS NOT REPRODUCIBLE

This translation was accomplished from a xerox manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

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GRIGORYAN, R.S.

Power

USSR UDC 621.362:523.72-531.9

SHERMAZANYAN, YA. T., TARNIZHEVSKIY, B. V., GRIGORYAN, K. S., NERSISYAN, T. A., RODICHEV, B. YA.

"A Device for Supplying Powers to Equipment From a Solar Battery with Photovoltaic Cells"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271619, Filed 25 Jan 68, p 46

Abstract: This author's certificate introduces a device for powering equipment from a solar battery with photovoltaic cells. The device contains a commutator for connecting the load to the battery. As a distinguishing feature of the patent, the reliability of the device is improved by using relays and power pickups in the commutator with their contacts connected in the relay coil circuits. The contacts of the elements divide the solar battery into several sections, each of which is connected to each piece of equipment through the contacts of this relay.

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USSR

UDC 547.752+547.785.5

KARAGEZYAN, K. S., KHAZHAKYAN, L. V., GRIGORYAN, R. T., and TATEVOSYAN, G. T., Institute of Fine Organic Chemistry imeni A. L. Mndzhoyana, Academy of Sciences Armenian SSR (Yerevan) "Indol Derivatives. XXXVI. Derivatives of 3-(β-benzimidazolyl-2') ethyl indols"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 54-60

Abstract: The compounds 2-methyl-3-(β-benzimidazolyl-2')- and 2-methyl-3-(β-methyl-β-benzimidazolyl-2')-ethylindol were prepared for possible use in the pharmaceutical industry. The synthesis of intermediates is given together with melting points, calculated and experimentally determined composition, and IR and UV spectral data.

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USSR UDC 543.51+547.27

AGADZHANYAN, Ts. Ye., GRIGORYAN, R. T., Institute of Fine Organic Chemistry, Academy of Science Armenian SSR, Yerevan

"Mass Spectra of Biologically Active Compounds. III. Mass Spectrometric Study of Simple Dialkylaminoethers"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 2, 1971, pp 113-116

Abstract: The mass spectrometric study of biologically active compounds is continued. A series of amino alcohols with a tertiary amino group and their complex ethers were studied previously [A. L. Mndzhoyan, et al., Arm. Khim. Zh., 22, 779, 1969; 22, 883, 1969], and now biologically active compounds containing functional groupings in various positions of the molecule along with the tertiary amino group are studied by fragmentation of simple dialkylaminoethanol ethers. The mass spectra were taken on a mass spectrometer equipped with a system permitting evaporation of the substance directly in the ion source near the ionization zone with recording on a rapid-scan oscillograph. The results in the form of relative percentages of the maximum peak are presented in the form of figures. These figures specifically demonstrate the possibility of distinguishing isomeric diethylaminoethyl ethers from isomeric dimethylaminoethyl ethers and isomeric propyl ethers from each other. The fragmentation mechanisms are discussed in detail for each of these cases. Dimedrol fragmentation is also demonstrated.

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MEDICINE

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JPRS-53881
23 AUGUST 1971

UDC 576.858.25.095.873

THERMOINACTIVATION OF VIRUSES. REPORT 5. THERMOINACTIVATION AND THERMOSTABILIZING AGENTS AS A FACTOR DETERMINING THE LEVEL OF VEE VIRUS PRODUCTION IN CELL CULTURE

[Article by A.S. Novokhatskiy, S.S. Grigoryan, and F.I. Yershov, USSR Academy of Medical Sciences Institute of Virology imeni D.I. Ivanovskiy, Moscow; Moscow, Voprosy Virusologii, Russian, No 3, 1971, pp 327-333]

GRIGORYAN, S. S.

The general productivity of cells in media of different compositions was studied on the model of Venezuelan equine encephalomyelitis (VEE) and trypsinized chick embryo (TCE) cells. Medium No 199 with two percent bovine serum provided long-term and active virus production; the total yield of virus particles exceeded 10^4 PFU/cell. In minimal growth medium (Earle's solution with 0.22 percent sodium bicarbonate) the total virus yield was over 10 times lower despite the virus accumulation to comparatively high titers. The most effective agents providing for adequate thermostabilization of VEE virus at 37°C were found to be two percent bovine serum, 0.1 percent lactalbumin hydrolysate, and 0.02 percent crystalline bovine albumin.

Thermoinactivation of virus particles at culturing temperature is one of the essential factors affecting the level of virus production in cell culture. Using the model of VEE virus and TCE cells we studied the combined effect of thermoinactivation and growth medium composition on virus yield; the growth medium composition has a high degree of significance in determining the nature of the course and intensity of virus infectivity reduction due to thermal processes. This work is also

MEDICINE

GRIGORYAN, S. S.

COLEEN

JPRS- 53881
23 AUG 1971

UDC 576.858.25.095.6.083.35.095.18

THE EFFECT OF DIETHYLAMINOETHYL-DEXTRAN, PROTAMINE SULFATE, AND SULFATED AGAR POLYSACCHARIDES ON MULTIPLICATION OF VENEZUELAN EQUINE ENCEPHALOMYELITIS VIRUS IN CELL CULTURES

[Article by A.S. Nyezhnatchik, S.S. Grigoryan, and F.I. Yershov, USSR Academy of Medical Sciences Institute of Virology imeni D.I. Ivanovskiy; Moscow, Vopromy Virusologii, Russian, No 3, 1971, pp 317-322]

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The model of Venezuelan equine encephalomyelitis (VEE) virus and trypsinized chick embryo cells was used to study the effect of diethylaminoethyl-dextran (DEAE-D), agar polysaccharides (APS), and protamine sulfate (PS) on the pattern of virus-cell interaction. The presence of DEAE-D and PS in the growth medium inhibited virus production. The inhibiting effect of DEAE-D was manifested in the first stages of virus-cell interaction and was more marked with increasing pH. Sulfated agar polyanions inhibited virus multiplication, affecting later stages of reproduction. Reduction of the growth medium pH activated the inhibiting effect of polysaccharides.

Many works have been published recently on the effect of polycations and polyanions on arbovirus reproduction in tissue cultures 9,13-15. Some works reported a stimulating effect of DEAE-D on cell productivity 4. Considering that DEAE-D and PS essentially improve arbovirus plaque formation 8,12,13, we attempted to study the effect of these substances on VEE reproduction in trypsinized chick embryo cell cultures in greater detail. The basic index of productivity was the accumulation of infectious virus in the growth medium; virus titers were determined by the agar overlay plating method.

USSR UDC 612.84

DANILOV, V. I., DEMIRCHOGLYAN, G. G., AVETICYAN, Z. A., ALLAKHVERDYAN, M. A., GRIGORYAN, Sh. V., and SAVERIGYAN, G. Kh., Laboratory of Optical Reception, Academy of Sciences Armenian SSR

"Possible Mechanisms of the Magnetic Sensitivity of Birds"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 8, Aug 70, pp 26-34

Abstract: The possible role of the pecten in the eyes of birds as a photoreceptor and orientation factor which responds to Earth's magnetic fields during flight is discussed. The structure of the organ is described, and the results of investigations of its role and functions are reported. The processes which take place in the pecten of birds under the influence of an alternating magnetic field are as follows: As a result of irregularities in flight paths (e.g., changes in speed and altitude, head movements, etc.) the magnetic field stimulates heparin secretion and causes its concentration in the vascular network of the pecten. As a result of its negative electric charge and chemical properties, the heparin produces the excitation of the central nervous system. Through electromagnetic induction the alternating magnetic field causes the appearance of electromagnetic forces in the blood vessels of the pecten, which tend to irritate the vascular receptors of the pecten and the optical nerve fibers (with which the pecten is in contact). The combined action of the magnetic field and light on the pecten

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DANILOV, V. I., et al, Biologicheskiy Zhurnal Armenii, Vol 23, No 8, Aug 70, pp 26-34

creates conditions for a photomagnetic effect in the organ, leading to the formation of diffused electric waves which tend to excite the optical nerve fibers. On this basis, the pecten may be regarded as performing the functions of a biological photomagnetic magnetometer. Further experimental and theoretical study of this hypothesis are necessary.

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USSR UDC: 669.1:541/1

ZHUKHOVITSKIY, A. A., BELASHCHENKO, D. K., BOKSHTEYN, B. S., GRIGORYAN, V. A., GRIGOR'YEV, G. A., and GUGLYA, V. G.,

Fiziko-Khimicheskiye Osnovy Metallurgicheskikh Protsessov (Physico-Chemical Bases of Metallurgical Processes), Moscow, Metallurgiya, 1973, 392 pp

Translation: Annotation. This book contains the material of special courses used by the students of the Physics-Chemistry Department of the Moscow Institute of Steel and Alloys. This work makes it possible for a broad range of young specialists to acquaint themselves with many branches of modern physics and physical chemistry. The book contains: 104 illustrations, 17 tables, and 292 bibliographic entries.

Contents.

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ZHUKOVITSKIY, A. A., Physico-Chemical Bases of Metallurgical Processes, Moscow, 1973

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ZHUKOVITSKIY, A. A., Physico-Chemical Bases of Metallurgical Processes, Moscow, 1973

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USSR

ZHUKOVITSKIY, A. A., Physico-Chemical Bases of Metallurgical Processes, Moscow, 1973

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USSR

ZHUKOVITSKIY, A. A., Physico-Chemical Bases of Metallurgical Processes, Moscow, 1973

USSR

ZHUKOVITSKIY, A. A., Physico-Chemical Bases of Metallurgical Processes, Moscow, 1973

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Superalloys

USSR UDC 669.24'25-154:669.24'784-154:532.6:532.14

IKSANOV, B. A., MINAYEV, Yu. A., FATKULLIN, O. Kh., GRIGORYAN, V. A., Moscow Institute of Steel and Alloys

"Characteristics of Surface Solutions and Densities of Alloys in the Ni-Co and Ni-C Systems"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 12-14

Abstract: The paper presents experimental results of measurement of density and surface tension in the region of formation of solid solutions based on the intermetallic compound Ni_3Co. An analysis is made of observed anomalies in surface properties which agree with data on negative deviations in the behavior of volumetric solutions, and are qualitatively described by the thermodynamic theory of surface tension of A. A. Zhukovskiy. The quiescent drop method was used with forced formation on a cylindrical alundum substrate and indirect induction heating. The specimens and substrates were preannealed in a vacuum of $5 \cdot 10^{-5}$ mm Hg at 1300°C. Measurements were made in pure helium at temperatures of 1500-1650°C. The temperature dependence of surface tension shows flattening of the maximum with an increase in temperature above the liquidus line. It was found that the heat of adsorption

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IKSANOV, B. A., et al., IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 12-14

of cobalt increases over the entire range of concentrations. The results also confirm the previously observed weak surface activity of carbon. Adding carbon to nickel reduces the surface tension by 100 mJ per sq. m for every one percent of carbon added.

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MINAYEV, YU. A., GRIGORYAN, V. A., and UTOCHKIN, YU. I., Moscow Institute of Steel and Alloys

"Mechanism of Removal of Deoxidation Products From Liquid Steel"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 48-51.

Abstract: The mechanism of coagulation and removal of deoxidation products from liquid steel is studied. The essence of the method is as follows: the relative movement of particles may result from adsorbtion phenomena related to local concentration heterogeneities. When there is a concentration gradient in a sufficiently dilute solution, uneven adsorbtion occurs along the surface of a nonmetallic particle. This results in a surface tension gradient along the particle-metal division boundary, resulting in turn in mechanical movement of the nonmetallic inclusion. Calculations show that for particles measuring 1-25 u, orthokinetic coagulation is most probable under the influence of surface forces. It is assumed that these nonmetallic inclusions are enlarged by this mechanism in local volumes of metal, then float upward under the influence of the force of gravity.

Graphite

USSR UDC: 669.046.562

GRIGORYAN, V. A. and KARSHIN, V. P., Moscow

"Effect of Surface-Active Agents on the Dissolution Kinetics of Graphite in Molten Iron"

Moscow, Izvestiya Akademii nauk SSSR, Metally, No 1, Jan-Feb 72, pp 78-81

Abstract: It was the purpose of this paper to investigate the dissolution kinetics of graphite in iron in the presence of sulfur and oxygen as surface-active agents and to determine the characteristics of the act of chemical transformation. The study was conducted by the rotary disk method. The test specimens were prepared from AG-1500 grade graphite with a density of 1.87 g/cm^3. The metal was fused in a resistance furnace with a graphite heater. The oxygen content in the metal was varied by aluminum deoxidation, while that of sulfur by addition of iron sulfide. The dissolution rate was determined by the weight loss of the graphite specimen believed to be associated with the simultaneous processes of dissolution and oxidation, the latter displaying a lower rate of the elementary act. The reduction in dissolution rate with oxygen and sulfur additions is satisfactorily described by an adsorption isotherm. Sulfur addition produces changes in the surface properties of the graphite-melt interface, while the addition of

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GRIGORYAN, V. A., et al, Izvestiya Akademii nauk SSSR, Metally, No 1, Jan-Feb 72, pp 78-81

oxygen makes it possible to determine the parameters of the chemical interaction between graphite and the oxygen dissolved in the molten metal. The behavior of both additions may be established only when the process is realized in the diffusion region. (3 illustrations, 1 table, 4 bibliographic references).

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USSR

UDC 669.046.5

GRIGORYAN, V. A., MINAYEV, Yu. A., KARSHIN, V. P., and ALEYEV, R. A.

"Surface Phenomena in the Processes of Interphase Transfer in Metallurgical Systems"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS), (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 46-48

Translation of Abstract: The role of an interphase boundary in the graphite single crystal solution in liquid iron, and in the sulfur transfer from metal into slag, is considered. 3 figures.

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USSR

UDC 669.046.5

ZHUKHOVITSKIY, A. A., GRIGORYAN, V. A.

"Concerning the Thermodynamics of Deoxidizer Solutions in Liquid Metals"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS). (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys) Izd-vo "Metallurgiya," No 61, 1970, pp 35-41

Translation of Abstract: Problems of the activity of carbon dissolved in liquid metal are considered. It is shown that the study of metal oxides and the deoxidizer in the slag provides a good agreement between the experimental and theoretical values of oxygen content. 3 figures, 8 references.

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MINAYEV, YU. A., GRIGORYAN, V. A., and UTOCHKIN, YU. I., Moscow Institute of Steel and Alloys

"Mechanism of Removal of Deoxidation Products From Liquid Steel"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 48-51.

Abstract: The mechanism of coagulation and removal of deoxidation products from liquid steel is studied. The essence of the method is as follows: the relative movement of particles may result from adsorbtion phenomena related to local concentration heterogeneities. When there is a concentration gradient in a sufficiently dilute solution, uneven adsorbtion occurs along the surface of a nonmetallic particle. This results in a surface tension gradient along the particle-metal division boundary, resulting in turn in mechanical movement of the nonmetallic inclusion. Calculations show that for particles measuring 1-25 μ, orthokinetic coagulation is most probable under the influence of surface forces. It is assumed that these nonmetallic inclusions are enlarged by this mechanism in local volumes of metal, then float upward under the influence of the force of gravity.

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1/2 057 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MECHANISM OF THE INFLUENCE OF PULSATING BLOWING ON THE INTENSITY OF THE CONVERTER OXIDATION OF IMPURITIES -U-

AUTHOR-(04)-MINAYEV, YU.A., GRIGORYAN, V.A., BERMAN, L.I., FILIPPOV, K.S.

COUNTRY OF INFO--USSR

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SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 31-3

DATE PUBLISHED--------70

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CIRC ACCESSION NO--AT0132902 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXIDN. OF IMPURITIES IN A CONVERTER BATH IS DETD. BOTH BY THE CHARACTERISTICS OF THE KINETIC DIFFUSION CONDITIONS AND THE INTENSITY OF THE FEEDING OF THE OXIDIZER, AS WELL AS BY THE FORMATION DYNAMICS OF THE SLAG METALLIC EMULSION. THE DYNAMICS OF THE FORMATION OF EMULSION WAS STUDIED ON A NO. OF MELTS IN A NTMK 100 TON CONVERTER. INTERMEDIATE TIPPING OF THE CONVERTER WAS DONE TO SELECT THE SAMPLES FOR DETG. THE REGULUS METAL CONTENT IN THE SLAG LAYER. THE CONTENT OF THE ASSAY BUTTONS WAS COMPARED WITH THE RATE OF TRANSITION OF V INTO SLAG AND IWTH THE CONSUMPTION OF THE OXIDIZER. IN CASE OF ALL 8 TEST SAMPLES DURING THE COURSE OF THE ENTIRE PROCESS THE RATE OF TRANSITION OF V INTO THE SLAG VARIES IN ACCORDANCE WITH THE CHANGE IN THE NO. OF THE ASSAY BUTTONS. THUS, DURING OXIDN. OF V IN THE CONVERTER THE RATE OF TRANSITION OF THE COMPONENT INTO THE SLAG IS ESSENTIALLY DETD. BY THE DYNAMICS OF EMULSIFYING OF THE PHASES. THE PARAMETERS CHARACTERIZING THE EMULSION DEPEND ON THE PHYS. CHEM. PROPERTIES OF THE METAL AND THE SLAG, AS WELL AS ON HYDRODYNAMIC CONDITIONS. IN THE LATTER CASE, THE MANNER IN WHICH THE BLOWING IS PROVIDED IS THE DETG. FACTOR. IN ORDER TO EXPLAIN THE MECHANISM OF THE EFFECT OF PULSATING BLOWING ON THE KINETICS OF THE TRANSITION OF THE IMPURITIES, THE EXPTS. WERE PERFORMED ON A COLD MODEL OF THE CONVERTER. WATER WAS USED AS THE MODEL FOR THE METALLIC PHASE, AND PETROLATUM OIL AS THE MODEL FOR THE SLAG. THE APPLICATION OF PULSATING BLOWING LEADS TO A DECREASE IN GAS CONSUMPTION AND TO AN INCREASE IN THE AV. PRESSURE LEVEL AT THE NOZZLE.

UNCLASSIFIED

USSR

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BUDANOV, A. S., GRIGORYAN, V. G., NAYMARK, A. M.

"Elements of a System for Regulation of the Instantaneous Speed of a Synchronous Micromotor"

Elementy Tsifr. Sistem upr. [Elements of Digital Control Systems], Leningrad, Nauka Press, 1971, pp 104-108, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A137 from the Resume).

Translation: The operation of a phase detector and Kipp oscillators with adjustable delay is studied. These elements are used in a system for stabilization of the instantaneous velocity of a synchronous micromotor. 3 Figures; 1 Biblio. Ref.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF CASTRATION AND THE SUBSEQUENT ADMINISTRATION OF TESTOSTERONE PROPIONATE ON THE SUSCEPTIBILITY OF ANIMALS TO CONVULSIONS

AUTHOR-(02)-GRIGORYAN, V.Z., KHUDAVERDYAN, D.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. EKSP. KLIN. MED. 1970, 10(1), 11-17

DATE PUBLISHED--------70

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