"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 612.111:612.27:616-036.882-08

LANOVENKO, I. I., and SAVEL'YEVA, L. O., Section of Hypoxial States of the Physiology Institute imeni O. O. Bogomolets, Kiev, Academy of Sciences Ukrainian SSR

"Changes in Red Blood Indexes in Dogs During Alpine Acclimatization and Resuscitation After a Long Clinical Death"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 2, Mar/Apr 72, pp 223-229

Abstract: Changes in the number of erythrocytes, reticulocytes, hemoglobin, and hematocrit cells of the peripheral red blood in dogs during a step-wise acclimatization (at 2100, 3700, and 4200 m) were studied. After 32 days of acclimatization the number of erythrocytes increased to 7.04±0.43 million/mm^3 of blood (control 6.07±0.15); reticulocytes to 16±0.6% (control 9±0.4%); hemoglobin to 20.02±0.31 g % (control 14.88±0.22 g %); hematocrit cells to 58% (control 43±0.6%). The average concentration of hemoglobin in a single erythrocyte and average volume of a single erythrocyte also increased. The red blood of dogs that were resuscitated after long clinical death caused by a hemorrhage differed. Blood indexes in dogs that survived were different from those of dogs that perished after resuscitation. A decrease in the content of all red blood components was observed during the resuscitation period (by artificial blood circulation from a dog-donor) in all cases. However,

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USSR

LANOVENKO, I. I., and SAVEL'YEVA, L. O., Fiziologichnyy Zhurnal, Vol 18, No 2, Mar/Apr 72, pp 223-229

the amount of erythrocytes, hemoglobin, hematocrit cells, and reticulocytes was different for dogs that survived as compared with those that perished after resuscitation. A normalization in the red blood composition in surviving dogs was established within 3-4 hours after resuscitation and all blood indicators were completely normal in 24 hours. A lower concentration of erythrocytes, hemoglobin, hematocrit cells, and reticulocytes immediately after resuscitation is attributed to blood dilution caused by blood from the dog-donor. A favorable course of blood normalization and restoration of other life functions after resuscitation in dogs that underwent Alpine acclimatization indicated that adaptation of the animal organism to high elevations was beneficial in this case, in comparison with dogs that were not subjected to high altitude acclimatization.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THERMAL AND X RAY PHASE ANALYSIS OF LANTHANON MOLYBDATE POTASSIUM AND MOLYBDATE SYSTEMS -U-

AUTHOR-(04)-SAVELYEVA, M.V., SHAKHNO, I.V., PLYUSHCHEV, V.YE., ANTONOVA, S.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 835-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, THERMAL ANALYSIS, X RAY ANALYSIS, METAL COMPLEX COMPOUND, LANTHANUM COMPOUND, MOLYBDATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1716 STEP NO--UR/0078/70/015/003/0835/0839

CIRC ACCESSION NO--AP0115545

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 020 UNCLASSIFIED

CIRC ACCESSION NO--AP0115545 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL AND X RAY DIFFRACTION STUDY OF K SUB2 MOO SUB4-LN SUB2(MOO SUB4)SUB3 (LN EQUALS GD, DY, HO, ER, OR Y) SYSTEMS SHOWED THAT THE SYSTEMS FORM ANALOGOUS PHASE DIAGRAMS AND 2 TYPES OF COMPLEXES: THE INCONGRUENTLY MELTING KLN(MOO SUB4)SUB2 (WHICH ARE ISOSTRUCTURAL WITH KY(MOO SUB4)SUB2) AND K SUB8 LN SUB2(MOO SUB4)SUB7 COMPDS. THE TEMPS. OF THE PHASE TRANSITIONS IN THE K SUB2 MOO SUB4 LN SUB2(MOO SUB4)SUB3 SYSTEMS ARE TABULATED AND THE PHASE DIAGRAM OF THE K SUB2 MOO SUB4-ER SUB2(MOO SUB4)SUB3 SYSTEM IS PRESENTED.

FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 033 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--INFRARED SPECTROSCOPIC STUDY OF DOUBLE MOLYBDATES OF SOME RARE EARTH AND ALKALI METALS -U-

AUTHOR-(04)-PETROV, K.I., VORONSKAYA, G.N., SHAKHNO, I.V., SAVELYEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, NEORG. MATER. 1970, 6(3), 515-18

S

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--ALKALI METAL, CRYSTAL LATTICE, IR SPECTRUM, MOLYBDATE, RARE EARTH METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0838 STEP NO--UR/0363/70/006/003/0515/0518

CIRC ACCESSION NO--AP0118014

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 033 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118014

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA (400-100 CM PRIME NEGATIVE1) OF DOUBLE MOLYBDATES OF THE MM PRIME (MOO SUB4) SUB2 TYPE (WHERE M EQUALS LI, NA, K; M PRIME EQUALS Y, GD, DY, HO, AND ER) SHOWED SIGNIFICANT DIFFERENCES WITH STRUCTURE TYPE. THE INTERPRETATION OF THESE SPECTRA WAS PERFORMED ON THE BASIS OF THE LOCAL SYMMETRY OF THE MOO SUB4 PRIME2 NEGATIVE IONS IN THE CRYSTAL LATTICE. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMUNOSORA, MOSCOW, USSR.

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USSR

SAVEL'YEVA, N. D., ZAVARZIN, G. A., and VEDENINA, I. Ya. UDC 576.809.4

"Hydrogen Bacteria"

Uspekhi mikrobiologii (Advances in Microbiology), No 7, 1971

Abstract: A survey of the hydrogen bacteria, microorganisms that synthesize all the cell components from molecular hydrogen, oxygen, and carbon dioxide, is presented. It is suggested that three main species be distinguished: Hydrogenomonas eutropha, H. pantotropha, and H. facilis. There is a discussion of the growth characteristics of hydrogen bacteria in non-flow-type culture and of the prospects for making practical use of them.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 050 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FEATURES OF CRACK FORMATION IN SINGLE LAYER SHEETS FROM GLASS FABRIC REINFORCED PLASTICS -U-

AUTHOR-(02)-GOLDMAN, A.YA., SAVELYEVA, N.F.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 178

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC DEFORMATION, GLASS FIBER, REINFORCED PLASTIC, CRACK PROPAGATION, PHOTOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0802 STEP NO--UR/0374/70/006/001/0178/0178

CIRC ACCESSION NO--AP0124471

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 050 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124471

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEFORMATION AND CRACKING IN GLASS FIBER REINFORCED PLASTICS (I) WERE STUDIED BY POLARIZED LIGHT UNIT PHOTOGRAPHY. CRACKS WERE FORMED AT THE TRANSVERSE AND LONGITUDINAL YARN CONTACT POINTS. THE BEHAVIOR OF STRAINED I DEPENDED ON THE REINFORCEMENT, E.G., INFLECTION POINTS ON THE STRESS STRAIN DIAGRAMS WERE DUE TO AGGREGATE CRACKS ALONG THE WEFT. SECONDARY TINY CRACKS WERE OBSD. BETWEEN FIBERS DUE TO A "RELEASED" TRANSVERSE YARN.

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USSR

UDC 547.26'118

TOROPOVA, V. F., CHERKASOV, R. A., SAVEL'YEVA, N. I., GRIGOR'YEVA, L. A., SHERGINA, I. V., OVCHINNIKOV, V. V., and PUDOVIK, A. N., Kazan' State University imeni V. I. Ul'yannov-Lenin

"Study of Stability of Complexes of Silver, Nickel and Cobalt Ions With Phosphorus Dithioacid Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1673-1676

Abstract: A study was made of the composition and stability of complex compounds of silver ions with a series of phosphorus dithioacid derivatives, as well as complexes of nickel and cobalt ions with diethyldithiophosphoric acid by the potentiometric method in a 90-percent ethanol-aqueous solution at an ionic strength of 0.3 and a temperature of 25°. Stability constants (log β_2) are determined and correlated with constants for substituents at the phosphorus atom in the molecule of the ligand, particularly for the 2,3-butylene glycol substituent.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR UDC 541.49+547.241

TOROPOVA, V. F., CHERKASOV, R. A., SAVEL'YEVA, N. I., SLYUSAR', N. V., PUDOVIK, A. N.

"Investigation of Complex Compounds of Dithio Acids of Phosphorus with Bivalent Nickel and Cobalt Ions, and Application of the Hammett Equation with σ_p Constants to the Complex-Forming Reactions"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, pp 1485-1489

Abstract: Complex compounds of dithio acids of phosphorus with bivalent nickel and cobalt ions were studied. The composition and stability constants of the complexes were determined in 90% ethanol-water solutions at an ionic strength of 0.3 and a temperature of 25°C. It was shown that the stability constants log β of the complexes conform to the Hammett equation with σ_p constants -- specific constants of the substituents associated with the phsophorus atom in the dithio acid molecule. Correlation parameters are compared for the reaction series of complex compounds of dithio acids of phosphorus with ions of various metals.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR UDC 541.49 + 547.241

TOROPOVA, V. F., CHERKASOV, R. A., SAVEL'YEVA, N. I., and PUDOVIK, A. N., Kazan' State University imeni V. I. Ul'yanov-Lenin, Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Effect of Substituents in Molecule of Phosphorus Dithioacids on Stability of Their Complex Compounds With Mercury Ions"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1043-1046

Abstract: The authors studied the effect of substituents at the phosphorus atom on the stability of complex mercury compounds with a series of phosphorus dithioacids of the type $(RO)_2PSSH$, $(RO)R'PSSH$ and R_2PSSH in water-ethanol solutions. The complexing was studied by the potentiometric method with a mercury indicator electrode. The stability constants (β) of the complex compounds were determined, and the redox potentials of some systems were measured. It is shown that $\log \beta_2$ can be correlated with the sum of substituent constants at the phosphorus atom. In the reaction series under consideration (n=16) $\rho = 2.60$, $r = 0.905$.

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Acc. Nr: AP0048288 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: 4R0472

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103183c Evaluation of technological variations for refining alloy AK4 based on rapid fatigue testing. Dervagin, G. A.; Savel'eva, T. P.; Shtovba, Yu. K.; Shneerova, E. I. (USSR). *Fiz. Khim. Obrab. Mater.* 1970, (1), 155–7 (Russ). The fatigue limit was detd. for Al alloy AK4 samples, refined by 6 technological procedures, a rapid testing method which allowed the investigation of ~60 samples to be completed within 15 days with a high accuracy. The samples prepd. by vacuum refining had the best endurance properties. V. Machacek

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Mechanical Properties

USSR

UDC: 669.15-196.55

SAVEL'YEVA, T. S., MASLENKOV, S. B., STEPANOV, V. P., and TAL'YANTSEV, V. S., Central Scientific Research Institute of Ferrous Metallurgy, "Elektrostal'" Plant

"Effect of Small Additives on the Anisotropy of the Plasticity in EP637 Steel"

Moscow, Stal', No 5, 1973, pp 448-449

Abstract: This article gives the results of investigations made by the authors into the effect of small quantities of carbon, boron, zirconium, and silicon on the anisotropy of the mechanical characteristics of EP637 (N18K9M5T) steel. The tests were made under industrial conditions in a vacuum induction oven with a capacity of 1.3 tons. The amounts of each additive element were, in percentage, C, 0.01-0.042; Si, 0.04-0.22; B, 0-0.006, and Zr, 0-0.09. Details of the experimental method are given. The mechanical characteristics of the metal were determined for longitudinal and transverse cuts of the ingots. A table is given of the chemical composition of the ingots, and curves are given of the effects of the various additives on the plasticity of the steel. It was found that more than 0.014%C sharply reduces the plasticity in transversely cut samples, and that zirconium increases the plasticity

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SAVEL'YEVA, T. S., et al., Stal', No 5, 1973, pp 448-449

index of the EP637 specimens. Silicon has little effect on longitudinal cuts but reduces the plasticity in transverse sections. It is recommended that boron content be kept to a minimum.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

Radiation Chemistry

USSR

UDC 546.98'221.09:542.973.2:546.791.6

SOKOLOVA, I. D., SAVEL'YEVA, V. I., GROMOV, B. V., RYASHENTSEVA, M. A., and MINACHEV, Kh. M.

"Utilization of Palladium Sulfide as a Catalyst During the Reduction of the Uranyl Ion"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, Vyp 9, 1972, pp 1938-1941

Abstract: Paladium sulfide acts as a catalyst in the reduction of U(VI) to U(IV) by formaldehyde without using radiation. Approximately 75% of the U is reduced in a $SO_4^{=}$ solution, 50% in an NO_3^-, and 35% in a Cl- soln. Addition of HF increases the yield to 100% and 90% for $SO_4^{=}$ and NO_3^-, respectively. The difference in yield is due to complexing of U(IV) by the anions; the more effectively free U(IV) is complexed, e.g. removed from solution, the further the reduction will proceed to completion. The reduction is strongly temperature-dependent. At about 60°C the yield jumps sharply from about 5% to about 75% then rapidly levels off. Unlike the metallic platinum and palladium catalysts, which rapidly lose their activity, the palladium sulfide surface does not become poisoned and may be used many times without regeneration.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 542.941:546.791.6'161

KIREYEVA, G. N., SAVEL'YEVA, V. I., and GROMOV, B. V.

"Photochemical Reduction of Uranyl Fluoride With Ethanol"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 906-909

Abstract: Reduction of uranyl ion with organic reducing agents was studied in fluoride medium under the influence of UV light. It was determined that out of a series of organic compounds the isopropyl alcohol and ethanol were the best reducing agents, the acetaldehyde and acetic acid -- the worst. The rate of photochemical reduction of uranyl ion depends on the quantity of organic reducing agent; for one mole of uranyl fluoride a 10 fold excess of isopropanol is required, 15 fold excess of ethanol, and 25 fold excess of methanol. The temperature has an inverse effect -- the higher the temperature the lower the quantity of reduced uranium. The reaction has a first order equation in respect to the uranium. The apparent reaction rate constants and energy of activation have been calculated.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--IMPROVEMENT IN THE PREPARATION OF PHOSPHATIDE CONCENTRATES -U-

AUTHOR-(05)-KLYUCHKIN, V.V., ZUYEV, E.I., SAVELYEVA, V.L., KONDRASHIN, N.A., PIDRIYKO, YE.V.

COUNTRY OF INFO--USSR

SOURCE--MASLO-ZHIR. PROM. 1970, 36(2), 34-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--HYDROLYSIS, CRUDE OIL, PETROLEUM PRODUCT, PHOSPHOLIPID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1559 STEP NO--UR/9085/70/036/002/0034/0037

CIRC ACCESSION NO--AP0118542

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118542

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDESIRABLE CHANGES IN PHOSPHOLIQIDS CAUSED BY THEIR SEPN. DURING HYDRATION OF OILS ARE HYDROLYSIS AND FORMATION OF DARK PHOSPHATIDES. THEREFORE, THE METHOD OF PRODUCTION MUST EXCLUDE OXION. PROCESSES AND HYDROLYSIS OF OIL. FOR THIS PURPOSE, THE CRUDE OIL FROM THE EXTN. EQUIPMENT FLOWS DIRECTLY TO HYDRATION WITH NEARLY COMPLETE ABSENCE OF CONTACE WITH AIR. THE CONTACT TIME OS OIL PHOSPHOLIQIDS WITH H SU82 O IS CONSIDERABLE DECREASED. THE HYDRATION PPT. IS SEPD. FROM THE OIL ON A SUPERCENTRIFUGE AT 15,000 RPM. DRYING AND DEODORIZING THE PPT. TAKES PLACE AT 730 MM AND SMALLER THAN 110DEGREES IN 0.8-2.4 MM LAYERS DURING 2.5-7 MIN. THE QUALITY AND STABILITY OF THE PHOSPHOLIQIDS OBTAINED ARE VERY GOOD. FACILITY: KHABAROVSK. MASLO-ZHIR. KOMB., KHABAROVSK, USSR.

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Nuclear Physics

USSR UDC 537.591.1

VERNOV, S. N., GRIGOROV, N. L., LIKIN, O. B., LOGAChEV, Yu. I., PISARENKO, N.F., SAVENKO, I. A., VOLODIChEV, N. N., and SUSLOV, A. A., Scientific Research Institute of Nuclear Physics, Moscow State University.

"Studies of Cosmic Radiation Aboard the Prognoz Satellites"

Moscow, Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

Abstract: Two Prognoz satellites were launched in April and June of 1972 into orbits with the following parameters: apogee -- 200,000 kilometers, perigee -- 950 kilometers, angle of inclination 65°. The satellites were launched toward the sun, the angles between projections of the apsides and the orbit through the plane of the ecliptic and the direction of the sun being 22 and 23 degrees, respectively. The angle between projections of the apsides of the two satellites was 77° in July 1972. The satellites served about six months each. Although they were in orbit during the decline in the 11-year solar cycle, their first months of observation coincide with an anomalous increase in solar activity. Background radiation was almost never recorded in these months. From April through September 1972, interplanetary space was filled with intensive streams of solar protons at energies of about 1 Mev. Higher energy protons were observed only during the August flares. The electron flow

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

was well correlated with the protons. Absorbed radiation dose during this interval, except for 2-7 August, was steady at approximately 24 mrad per day.

Calculations from the uniform nature of the declines in intensity of solar proton activity indicate that the absorbing layer is at a distance of approximately two astronomical units from the sun. It is remarkable that the state of interplanetary space remained the same over a long interval, in spite of substantial manifestations of solar activity; when perturbed, it recovered rapidly.

Increases in electron flow were observed several times without any corresponding increase in proton output, but every increase in proton output from the sun was accompanied by an increase in electron flow.

During intervals of low solar activity, the detectors which determined these correlations established a strong negative correlation between the counts of extra-solar protons at over 30 Mev and electrons under 500 kev.

The satellites recorded the intense solar activity of early August. An interesting phenomenon was the sharp increase in the flow of particles at all energies over the course of 2.5 hours early on 5 August. The peaks in the curves had particularly steep leading and trailing edges. It is theorized

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, pp 1138-1143

that this represented a magnetic "trap" with dimensions of approximately 0.1 au, traveling at approximately 2500 kilometers per second; the absence of any nucleons with $Z \geq 6$ indicates that the particles must all have been of solar origin.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

UNCLASSIFIED PROCESSING DATE--11DEC70

1/2 030

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

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

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

UNCLASSIFIED PROCESSING DATE--11DEC70

2/2 030

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.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 031

TITLE--EFFECTIVE CROSS SECTIONS OF INELASTIC PROTON INTERACTION WITH CARBON AND HYDROGEN NUCLEI IN THE 20-600 GEV REGION MEASURED AT THE

AUTHOR-(05)-SAVENKO, I.A., GRIGOROV, N.L., NESTEROV, V.YE., RAPOPORT, I.D., SURIDIN, G.A.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(4), 814-29

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, PHYSICS

TOPIC TAGS--PROTON INTERACTION, CARBON, HYDROGEN, NUCLEUS, INELASTIC INTERACTION/(U)PROTON 3 SCIENTIFIC SATELLITE, (U)PROTON 2 UNMANNED LABORATORY, (U)PROTON 1 UNMANNED LABORATORY

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PROXY REEL/FRAME--3007/1078 STEP NO--UR/0367/70/011/004/0814/0829

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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.

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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

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

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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

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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.

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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.

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1/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70

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

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

5

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

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DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605061/B03 STEP NO--HU/2506/70/029/000/0395/0398

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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.

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1/3 045 UNCLASSIFIED PROCESSING DATE--23DEC70

TITLE--INCREASE IN THE INTENSITY OF SOLAR PROTONS MEASURED ON THE 'PROTON 3' ARTIFICIAL EARTH SATELLITE -U-

AUTHOR-(04)-ZELDOVICH, M.A., KOVRIZHNYKH, O.M., MADEYEV, M.O., SAVENKO, I.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, VESTNIK MOSKOVSKOGO UNIVERSITETA, FIZIKA, ASTRONOMIYA, NO 2, 1970, PP 229-230

DATE PUBLISHED-------70

SUBJECT AREAS--SPACE TECHNOLOGY, PHYSICS, ASTRONOMY,ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--PROTON, SOLAR FLARE, RADIO EMISSION, SPACECRAFT CARRIED EQUIPMENT, QUARK, PRIMARY COSMIC RAY, PROPORTIONAL COUNTER, TELESCOPE, SPECTRUM, SOLAR RADIATION BURST, SOLAR RADIATION INTENSITY, RADIATION MEASURING INSTRUMENT/(U)SEZ 13 INSTRUMENT, (U)PROTON 3 SCIENTIFIC SATELLITE

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/3 045 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126529

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SEZ-13 INSTRUMENT CARRIED ABOARD THE "PROTON 3" INSTRUMENT ON 7 JULY 1966 REGISTERED AN INCREASE IN PROTON INTENSITY IN THE ENERGY RANGE 100 TO 1,000 MEV. THE INTEGRAL SPECTRUM OF SOLAR PROTONS HAS THE FORM N SIMILAR TO E PRIME NEGATIVE1.5. AN OPTICAL FLARE OF THE IMPORTANCE 2B ON THAT DATE LASTED ABOUT TWO HOURS. THIS FLARE WAS ACCOMPANIED BY AN X RAY BURST AND TYPES II AND IV RADIO EMISSION. THIS ARTICLE GIVES THE RESULTS OF MEASUREMENTS OF THE BURST OF SOLAR PROTONS ON 7 JULY 1966 WITH INSTRUMENTATION CARRIED ABOARD "PROTON 3". THIS SATELLITE WAS LAUNCHED ON 6 JULY 1966 IN A CIRCUMTERRESTRIAL ORBIT WITH AN APOGG OF 630 KM, APOGEE OF 190 KM AND ORBITAL INCLINATION OF 64DEGREES. THE SATELLITE CARRIED NO INSTRUMENT SPECIALLY DESIGNED FOR MEASURING LOW ENERGY PROTONS. ACCORDINGLY, DATA ON THE BURST OF 7 JULY WAS OBTAINED AS A RESULT OF MEASUREMENTS WITH THE SEZ-13 INSTRUMENT, WHOSE BASIC PURPOSE WAS A SEARCH FOR QUARKS IN PRIMARY COSMIC RAYS BEYOND THE LIMITS OF THE ATMOSPHERE. THE SEZ-13 INSTRUMENT CONSISTS OF 12 PROPORTIONAL COUNTERS FORMING A TELESCOPE. THE PROTONS COULD ENTER THE TELESCOPE ANGLE OF VIEW FROM TWO OPPOSITE DIRECTIONS. A LATITUDINAL INTENSITY VARIATION WAS OBSERVED BECAUSE THE SATELLITE INTERSECTED GEOGRAPHIC LATITUDES FROM 0 TO 64DEGREES. IT WAS CONFIRMED THAT THE SPECTRUM OF SOLAR PROTONS HAS THE FORM N SIMILAR TO E PRIME NEGATIVE 1.5.

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CIRC ACCESSION NO--AP0126529

ABSTRACT/EXTRACT--PRELIMINARY DATA INDICATE THAT THE INTENSITY OF GALACTIC COSMIC RAYS WITH ENERGIES IS GREATER THAN 1,000 MEV AND WITH ENERGIES IS GREATER THAN 10,000 MEV IS 0.64 PARTICLE CM PRIME NEGATIVE1. SEC PRIME NEGATIVE1. STERAD PRIME NEGATIVE1 AND 0.127 PARTICLE CM PRIME NEGATIVE2. SEC PRIME NEGATIVE1. STERAD PRIME NEGATIVE1. THESE INTENSITIES CAN BE SOMEWHAT EXAGGERATED BECAUSE NO ALLOWANCE WAS MADE FOR SECONDARY RADIATION FORMING DURING THE ABSORPTION OF HIGH ENERGY GALACTIC COSMIC RAYS IN THE MATERIAL OF THE SATELLITE. FACILITY: NUCLEAR PHYSICS SCIENTIFIC RESEARCH INSTITUTE, MOSCOW UNIVERSITY.

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SAVENKO IA.

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Acc. Nr.: AP0042566 Ref. Code: UR0293

Gamma Quanta with Energy Greater than 50 MeV in Cosmic Radiation

(Abstract: "Measurements of Fluxes of Gamma Quanta with Energies Greater than 50 MeV in Primary Cosmic Radiation on the 'Kosmos-208' Artificial Earth Satellite," by L. S. Bratolyubova-Tsulukidze, N. L. Grigorov, L. F. Kalinkin, A. S. Melioransskiy, Ye. A. Pryakhin, I. A. Savenko and V. Ya. Yufarkin; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 136-139)

The artificial earth satellite "Kosmos-208" carried a telescope of Cerenkov counters with radiators of Plexiglas and lead glass, surrounded by a scintillator for protection against the background of charged particles, for measuring the fluxes of cosmic γ-quanta with energies greater than 50 MeV. There is a dependence between the counting rate of γ-quanta and geographic latitude, probably related for the most part to imitations of γ-radiation by charged particles. The article gives the values of the total intensities of γ-quanta for the high and equatorial latitudes. The latter data, interpreted as the upper limits of the fluxes of primary γ-rays, are $(1.0\pm0.4)\cdot10^{-4}$, $(6\pm3)\cdot10^{-5}$ and $(1.0\pm1.0)\cdot10^{-5}$ (cm^2-sec-sterad)$^{-1}$ for $E_\gamma \geqslant 50$, 90 and 146 MeV respectively. Within the limits of error these results agree with the data obtained using the artificial satellite OSO-III.

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FROM: FBIS, Daily Report, Soviet Union, 15 April 1970, Vol. III, No. 73, p. d 6-8

USSR

PROTON SCIENTIFIC LABORATORIES AID MEASUREMENT EXPERIMENTS

Moscow PRAVDA 12 Apr 70 p 3 L

[Interview with Moscow University Scientific Research Institute of Nuclear Physics Laboratory Chief I.A. Savenko, "Proton--Explorer of the Universe"]

[Text] The era of man's conquest of space, which began with Yu. A. Gagarin's first space flight, opened broad prospects to modern science to understanding the secrets of the universe. In recent years space research has been accomplished with the aid of many automatic apparatuses and manned craft, the results of which are of considerable scientific and practical significance.

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Among the explorers of the universe an eminent place belongs to the Proton scientific laboratories. The first of these, weighing 12.2 tons, was launched about 5 years ago. For the first time it carried a multiton scientific apparatus for cosmic ray research beyond the limits of the atmosphere. Then followed the launching into earth orbit of stations Proton 2, 3, and, finally, 4, whose weight amounted to some 17 tons.

A PRAVDA correspondent asked Moscow University Scientific Research Institute of Nuclear Physics Laboratory Chief I.A. Savenko to answer questions connected with research in the Proton program.

Question: Why do the Proton stations' carry such considerable weight?

For many years various methods have been used to study cosmic rays, which are currents of charged particles--protons and heavier atomic nuclei. Cosmic particles acquire energy--from scores of millions to hundreds of billions of electron-volts. Breaking into the terrestrial atmosphere, they encounter nuclear atoms of the air. Here the complex nuclei are broken down into their component nucleons (protons and neutrons). Secondary particles of a different nature are now propagated. In these processes the cosmic ray primary particles expend their energy. As a result, a sharp reduction in the current of cosmic rays and a considerable change in their composition takes place. Thus, at sea level the strength of the current of high-energy particles is approximately 10,000 times less than at the upper limits of the atmosphere.

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In order to reduce to some extent the absorbent effect of the surrounding air the study of cosmic rays is conducted at high mountain stations, where the strength of high-energy particles is approximately 10 times greater than at sea level. The most complex apparatus is used for this. But even installations with a sensor working area of dozens of square meters cannot compensate for the absorption of particles in the earth's atmosphere. Hence, in order to study primary cosmic rays, for a long time scientists have used various means of aeronautics--probe ballons and high aerostats--with whose aid comparatively light scientific apparatus is raised to the upper layers of the atmosphere. However, this equipment has proved to be unsuitable for the study of particles of very high energy. The fact is that for physicists the recording of a cosmic ray particle is not enough. It is necessary to know what energy it acquires.

A new method of studying high-energy particles of cosmic rays, devised in the Soviet Union, has helped the solution of the problem. The basis of this method, proposed in 1954 by Doctor of Physico-Mathematical Sciences N.L. Prigorovoy, is the principle of measuring the energy of an individual particle with the aid of the so-called ionized calorimeter. It is connected with various apparatus which permit the study of the physical characteristics of the primary particle itself and also the peculiarity of its interaction with atomic nuclei.

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In an ionized calorimeter the energy of a primary particle is measured by its complete absorption in a thick layer of matter. Hence all installations which use this method are very heavy. Their weight amounts to many tons. But Soviet space technology permits very heavy satellites to be launched into an earth orbit.

The ionized calorimeter method was also the basis of the first experiments with particles of primary cosmics rays of ultrahigh energy directly in outer space. This explains the great weight of the Proton series space stations.

Question: What main scientific results have been obtained by these stations?

Answer: In research into cosmic rays, the Proton satellites studied for the first time by direct methods the energy distribution of cosmic ray particles in the field of energies ranging from tens of billions of electron-volts to 100 trillion electron-volts. This energy gap is the most "difficult" to study, and, prior to the experiments on the Proton stations, information on it was of an approximate nature.

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Research was then continued on the Proton 4 space station. Thanks to the use of heavier and improved scientific apparatus, it was possible to extend the range of measurements to 1 quadrillion electron-volts.

For the first time an attempt was also made on the Proton satellite to study by direct methods the chemical composition of primary cosmic rays in the range of energies above 2 trillion electron-volts. Research showed that with the growth in the energy of particles, the Proton stream subsides faster that the heavy nucleus stream. This conclusion "conflicts" with the widespread view of the constancy of cosmic rays' chemical composition.

Streams of electrons of nongalactic origin, which have energies of hundreds of millions of electron-volts were discovered. In addition, for the first time in the USSR the Proton stations measured the sky's "luminance" in a gamma-ray range of energies of tens and hundreds of millions of electron-volts. These measurements have served as a point of departure in our investigation of the universe in the gamma-astronomy sphere.

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Measurements were also made on the Proton space stations of one of the fundamental parameters which characterize the collision of particles with atomic nuclei--an effective cross section of the interaction of protons and of protons with carbon nuclei. Effective cross section is a concept which is used in nuclear physics to designate the probability of the interaction (meeting) of nuclei. Here one nucleus acts as a bombarding particle (cosmic radiation), and another as the target (the absorbing surface of the device on the proton).

High accuracy was achieved in the measurements because they were made outside the atmosphere. The fact of the growth of the effective cross section of inelastic interaction in proportion to an increase in the energy of the protons which fly into the nucleus has been established. Meanwhile, according to concepts which had previously been formed, the probability of the interaction of protons at superhigh energies should remain constant in a broad range of energies.

Question: Will you tell us about the prospects of cosmic ray research on heavy scientific stations.

Answer: Two main factors determine the research prospects--scientific problems and technical potential. If one speaks of the physics of high-energy cosmic rays, for which heavy scientific stations are necessary, the comprehensive results obtained on the Proton stations are determining our scientific tasks to a considerable extent.

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The discovered growth of the effective cross section of interaction with the growth of the energy of protons is of great significance for the theory of elementary particles. However, the question arises: to what energies of colliding particles will this growth continue? How does the effective cross section of inelastic interaction depend on the target nucleus' atomic weight and on the primary particle's nature?

We have yet to elucidate the mechanism of the enrichment of cosmic rays of high energies with heavy nuclei. For this it is essential to make a detailed study of the chemical composition and the energy distribution of particles of energies of trillions and tens of trillions of electron-volts. An important task is to elucidate the mechanisms of the generation and seizure by the earth's magnetic field of the electrons of high energy which were discovered by the Protons.

Orbital scientific stations with qualified personnel on board will appear in the immediate future. Under these conditions it will be possible to carry out research with scientific apparatus, including ionized calorimeters, spark chambers, and nuclear photographic emulsions. It will be possible to "see" every primary particle and to visually observe the results of its interaction with atomic nuclei.

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These methods will make possible more convincing research of the composition of primary cosmic rays in the range of superhigh energies. Under conditions close to those in laboratories they will make it possible to study the processes of the interaction of particles of those energies which will not be achieved in the immediate decade in accelerators which being built and those planned.

Prospects are being disclosed of studying the characteristics of the interaction of complex nuclei at high and superhigh energies, and this will place at scientists' disposal material which it is impossible to obtain by any other method.

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PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii, 1970, Vol 70, Nr 1, pp 18-23

DIFFICULTIES IN DIAGNOSIS OF SOME DEMYELINIZATING DISEASES OF THE NERVOUS SYSTEM

S. N. Savenko

The diagnosis and differentiation of the so-called transitional form of diffuse-disseminated sclerosis, of some atypical forms of dissiminated sclerosis and subacute leukoencephalitis of the adults in many cases gives ground to big difficulties. The most important criteria in the diagnosis of diffuse-disseminated sclerosis are the following: 1) severe mental disorders in the form of progressive organic dementia; 2) a distinct (usually symmetrical) dilatation of brain ventricles; 3) crude changes of the EEG, characterized by slow and reducted α-rhythm, a distinct prevalence in the EEG background of slow, more frequently Q-activity, the existence in the majority of the cases of paroxysmal rhythms. In rare cases dissiminated sclerosis has an onset and preceeds as «schizophrenia», and only in the terminal stage pyramidal-cerebellar symptoms adjoin. In the adults — subacute leukoencephalitis sometimes proceeds with myoclonia and typical EEG changes.

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USSR UDC: 621.375:621.39(075.8)

KUSHNIR, F. V., SAVENKO, V. G., and VERNIK, S. M.

"Measurements in Communications Engineering; Textbook for Electrical Engineering Communication Institutes"

Svyaz' (Communications) 1970, 543 pp, illustrated, 1 ruble 38 kopeks (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A332K)

Translation: Contemporary methods and measurement procedures in electrical communications are systematically explained; requirements of measuring instruments are confirmed and methods of their realization are indicated. Fundamentals of the theory of measurement errors are given. Electromechanical instruments, voltage supplies, and methods of obtaining oscillograms of electrical oscillations are described. Separate chapters are devoted to measurements of current, voltage, power, frequency, phase difference and phase parameters, nonlinear distortions, modulation, intensity of the electromagnetic field, noise in communication channels, parameters of two-terminal networks and the attenuation of four-terminal networks, random process characteristics, measurements on communications lines, and the automation of measurements. The book is a textbook for students in the technical departments of VUZ communications schools. It can also be used in the practical work of engineers and technicians. Ten tables, 384 illustrations, bibliography of 11. Annotation

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RAZIN, G.I., SAVENKO, V.G., SHCHELKIN, A.P.

"Increase Of Precision Of Measurers Based On The Hall Effect Of Continuous Currents Of Charged Particle Beams"

V sb. Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp 2 (Materials Of Scientific-Technical Conference. Leningrad Electrical Engineering Institute Of Communications, No 2), Leningrad, 1970, pp 227-231 (From RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A370)

Translation: The effect is considered of various factors (position of beam in an ion conductor and its cross section) on the basic error of a noncontact Hall measurer of the currents of charged particle beams. Summary.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DISTRIBUTION OF SHORT LIVED RADON DECAY PRODUCTS ON AEROSOL PARTICLES OF MINE AIR -U-

AUTHOR-(02)-SAVENKO, YE.I., SERDYUKOVA, A.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., GEOL. RAZVED. 1970, 13(3), 123-7

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVE DECAY, RADON, RADIOACTIVE AEROSOL, BISMUTH ISOTOPE, POLONIUM, LEAD ISOTOPE, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0419 STEP NO--UR/0151/70/013/003/0123/0127

CIRC ACCESSION NO--AT0114699

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

UNCLASSIFIED PROCESSING DATE--16OCT70

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CIRC ACCESSION NO--AT0114699

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PARTICLE SIZE DISTRIBUTION OF PRIME 218 PO, PRIME214 PB, AND PRIME214 BI WAS DETD. BY MEASURING THEIR MOBILITY IN AL ELEC. FIELD. AN APP. WAS USED THAT CONSISTED OF AN IONIZER, AN ELECTROSTATIC PRECIPITATOR, AND A DEVICE RECORDING THE ALPHA ACTIVITY. THE AIR WAS DRAWN THROUGH THE APP. AT 20 L.-MIN. THE AEROSOL PARTICLES WERE CHARGED WITH A CORONA DISCHARGE. THE IONIZER WAS AN ORG. GLASS CYLINDER WITH A RADIUS OF 1.1 CM AND A LENGTH OF 5 CM WITH 2 ELECTRODES, 1 CONSISTING OF 18 CU RODS (1 CM LONG AND 0.1 CM IN DIAM.) AND THE OTHER OF A CU PLATE 4.5 CM LONG AND 1.5 CM WIDE. THE DISTANCE BETWEEN THE ELECTRODES WAS 1 CM. ON THE RODS A NEG. VOLTAGE OF 2500 V WAS APPLIED, AND ON THE PLATE A POS. VOLTAGE OF 2500 V. THE TIME REQUIRED FOR CHARGING PARTICLES WITH A RADIUS OF 0.005-0.1 MU WAS 2.6 TIMES 10 PRIME NEGATIVE2 TO 5 TIMES 10 PRIME NEGATIVE4 SEC. CALCNS. SHOW THAT IN THE APP. THE DISTRIBUTIONS OF PARTICLES WITH A RADIUS OF 0.008-0.12 MU CAN BE STUDIED. LAB. VERIFICATION SHOWED THAT THE EFFICIENCY OF THE APP. IS 74PERCENT. THE ACTIVITY DISTRIBUTION CURVES SHOW 2 MAX.: AT SIZES SMALLER THAN 0.015 MU (ABOVE 50PERCENT ACTIVITY) AND AT 0.036 MU (20PERCENT). IF THE POLLUTION OF THE AIR WITH DUST IS BETWEEN 1.4 AND 2.1 MG-M PRIME3, THE ACTIVITY DISTRIBUTION MAX. IS BETWEEN 0.055 AND 0.072. MU. FACILITY: MOSK. GEOLOGORAZVED INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF THE COMPOSITION OF LIMESTONES ON THE QUALITY OF MILK OF LIME IN THE PRODUCTION OF MAGNESIUM OXIDE FROM SEA BRINE -U-

AUTHOR-(04)-GURCHINOVA, L.N., SAVENKOV, M.I., KIRICHENKO, T.P., IVANOVA, G.M.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(2), 15-17

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--LIMESTONE, MAGNESIUM OXIDE, SEA WATER, BRINE, LIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0880 STEP NO--UR/0131/70/035/002/0015/0017

CIRC ACCESSION NO--AP0118049

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0118049 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY WAS DETD. OF USING LIMESTONES OF VARIOUS QUALITIES FOR PRODUCING MGO FROM BRINES. QUALITY AND YIELD OF PURIFIED PRODUCT DEPEND PRIMARILY ON THE MINERAL AND CHEM. COMPNS. OF THE LIMESTONES AND DEGREE OF CALCINATION. THE QUALITY OF MILK OF LIME FROM GANGUE LOADED MATERIALS CAN BE INCREASED BY A 2 STAGE TREATMENT OF THE MILK OF LIME THROUGH HYDROCYCLONES AFTER INITIAL SAND REMOVAL. FACILITY: UKR. NAUCH.-ISSLED. INST. OGNEVPOR. KHARKOV, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

SAVENKOV, M. V. UDC: 519.2

"Statistical Analysis of Sets of Dissimilar Indices of the Reliability of Technical Articles"

Kibernet. i vychisl. tekhn. Resp. mezhved. sb. (Cybernetics and Computer Technology. Republic Interdepartmental Collection), 1972, vyp. 18, pp 76-80 (from RZh-Kibernetika, No 5, May 73, abstract No 5V357 by the author)

Translation: The paper deals with questions of constructing an algorithm of analysis of statistical data on the reliability of technical articles accumulated over a long time interval in the memory of an information computer system. The algorithm is based on using the apparatus of multidimensional statistical analysis and allows a clear physical interpretation. A program for the "Ural-3" computer is developed on the basis of the proposed algorithm.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR UDC 632.95

KHOKHLOV, P. S., SAVENKOV, N. F., BLIZNYUK, N. K., CHAYEVA, T. I., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Method of Obtaining Amides of Dialkylphosphoric Acid"

USSR Author's Certificate No 248659, Cl. 12o, 16 (C 07c), filed 4 Mar 68, published 26 Feb 70 (from RZh-Khimiya, No 19 (II), 10 Oct 70, Abstract No 19 N576P by L. V. RAZVODOVSKAYA)

Translation: Compounds of the formula $RC(O)CH=CHNHP(O)(OR')_2$ (I), where R = alkyl, aryl, R' = alkyl, are obtained by the interaction of $RC(O)CH=CHNH_2$ (II) with $ClP(O)(OR')_2$ (III) in the presence of Et_3N. To a solution of 0.02 mole II (R = $4\text{-}ClC_6H_4$) and 0.02 mole Et_3N in 20 ml benzene, 0.02 mole III (R' = Et) in 5 ml benzene is added, heated 4 hours at 75-80°, and filtered, the filtrate is evaporated, and I (R = $4\text{-}ClC_6H_4$, R' = Et) is obtained, yield 85.2%, melting point 172-4°. Analogously obtained are the following I (shown are R, R', yield, melting point): $4\text{-}ClC_6H_4$, Bu, 86.3, 179-80; $4\text{-}BrC_6H_4$, Bu, 55.7, 207-9 and I (R = H, R' = Et), yield 94, $n^{20}D$ 1.4802, d_4^{20} 1.1562. I can be employed as pesticides.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SYNTHESIS AND SOME PROPERTIES OF ACYLVINYLETHYLENIMINES -U-

AUTHOR-(04)-SAVENKOV, N.F., KHOKHLOV, P.S., ZHEMCHUZHIN, S.G., LAPITSKIY, G.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 707-10

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CONDENSATION REACTION, ETHYLENE, IMINE, ORGANIC SYNTHESIS, THICL, CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1960 STEP NO--UR/0366/70/006/004/0707/0710

CIRC ACCESSION NO--AP0125549

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF RCOCH:CHCL WITH R PRIME1 H GAVE RCOCH:CHR PRIME1 (I) (R IS ME, PH, OR 4,CLC SUB6 H SUB4, R PRIME1 IS ETHYLENIMINO). THE ACTION OF HCL ON I (R EQUALS ME) GAVE ACCH:CHNHCH SUB2 CH SUB2 CL. SIMILARLY, I REACTED WITH R PRIME2 SH OR R PRIME3 COSH TO GIVE, RESP., RCOCH:CHNHCH SUB2 CH SUB2 SR PRIME2 (II) OR RCOCH:CHNHCH SUB2 CH SUB2 SCOR PRIME3 (III) (COMPD. TYPE, R, AND R PRIME2 OR R PRIME3 GIVEN): II, ME, PH; II, ME, 4,CLC SUB6 H SUB4; II, ME, C SUB6 CL SUB5; II, PH, 2,5,CL SUB2 C SUB6 H SUB3; II, PH, C SUB6 CL SUB5; III, ME, ME; III, PH, PH; III, ME, 2,4,CL SUB2 C SUB6 H SUB3 OCH SUB2; AND III, PH, 2,4,CL SUB2 C SUB6 H SUB3 OCH SUB2.

FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

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USSR

UDC 632.95

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KHUZOVA, S. I., SVISTUNOVA, N. S., GUS'KOVA, L. A., FADEYEV, YU. N., SAVENKOV, N. F., KHOKHLOV, P. S., and BLYUZHYUK, N. K.

A Nematocide

USSR Author's Certificate No 296546, filed 17 Nov 69, published 27 Sept 71 (from Referativnyy Zhurnal -- Khimiya, No 10(II), 1972, Abstract No 10N528 by T. A. Belyayeva)

Translation: The nematocidal activity is determined for substances of the general formula $R(OCOCH_2CHCl_2)_n$ (I) (R= phenyl or arylene n=1-2), which are obtained by the reaction of halides of aromatic acids with vinyl chloride in the presence of $AlCl_3$. I is used in concentration 0.1, 0.01 and 0.001%. Some 30-50 mg I is dissolved in a 2-5-fold volume of acetone and mixed with 30-50 mg OP-7. The solution obtained is mixed with water. I ($R=C_6H_4$, n=2) (Ia) and I (R= p-$C_6H_4NO_2$, n=1) (Ib) causes 100% distruction of gallic nematode. I (R and n given): p-BrC_6H_4, 1 (Ic); m-C_6H_4-NO_2, 1; m-C_6H_4Cl, 1, Ia, b cause 100% destruction of Aphelenchoides bessey1, Aphelenchus avenae, and Ia and Ic (concentration 0.1 and 0.01%) cause a 100% destruction of Ditylenchus allii.

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USSR

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UDC 681.325.65

BAZILEVICH, R. P., ZAMORA, Ye. F., KOTLYAROV, A. V., SAVENKO, N. M., SEREDYUK, A. I., and SHISHKA, A. V.

"A Logic Device"

USSR Author's Certificate No 276525, Filed 29 Mar 68, Published 19 Nov 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B132 P)

Translation: A logic device is proposed. In order to determine the parity of permutations, the device will contain: a diode matrix which transmits signals in one direction along all columns and along all rows; programing switches for forming sequences of time-separated interrogation pulses (the inputs of the switches are connected to the outputs of a multiphase multivibrator, and the outputs of the switches are connected to the cathodes of the diodes of the matrix); programing switches whose inputs are connected to the cathodes of the diodes of the matrix and whose outputs are connected to the inputs of the corresponding parity flip-flops; dual programing switches for forming sequences of time-separated interrogation pulses and for feeding the appropriate pulses to the appropriate inputs of the parity flip-flops concerned with the number of inversions between individual

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BAZILEVICH, R. P., et al., USSR Author's Certificate No 276525, Filed 29 Mar 68, Published 19 Nov 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B132 P)

elements of the permutations. The device will also contain an indications flip-flop which is connected with the positive-sign indicator and the negative-sign indicator. The first input of this flip-flop is connected to the outputs of the parity flip-flops, and the second input is connected to the output of the multiphase multivibrator.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR Pesticides

SAVENKOV, N. P., and KHOKHLOV, P. S.

"Synthetic Method for β-Bromovinyl Ketones"

USSR Author's Certificate No 355148, filed 23 Feb 70, published 10 Nov 72 (from RZh-Khimiya, No 20, Oct 73, Abstract No 20N490P)

Translation: A patent is applied for for the synthesis of the compounds with the general formula BrCH:CHC(O)R (I) (R = alkyl, alkyl halide, Ph) based on the reaction of carboxylic acid chlorides or bromides with CH≡CH in presence of $AlBr_3$ at a temperature ranging from -20° to 60°. Exanple. Into a solution of 0.05 mole AcBr and 0.055 mole $AlBr_3$ in 70 ml CH_2Cl_2, CH≡CH is passed with stirring for 0.5 hr at 10-25°, the mixture is poured on ice, organic solvent is evaporated, dried over Na_2SO_4, CH_2Cl_2 is evaporated, vacuum distilled to yield I (R=Me), the yield 41.7%, b.p. 47-50°/20 mm, n_D^{2-} 1.4930, d_4^{20} 1.5960. Analogously following I were obtained (R, yield in %, b.p. °C/mm, n_D^{20}, d_4^{20} being reported: Et, 49, 68-9/20, 1.4910, 1.4865; Pr, 84.7, 55-8/6, 1.4925, 1.3934; iso-Bu, 72, 54-7/3, 1.4720, 1.2680; MeCHBr, 49, 63-4/2, 1.5395, 1.8906; Ph, 79.5, 55-7/0,015, 1.5952, 1.5254. I are intermediate products for the synthesis of pesticides.

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USSR 5

UDC 613.6:612.766.1

NAVAKATIKYAN, A. O., KUNDIYEV, Yu. I., AKHRIMENKO, A. P., MAKSIMOVA, O. F., VASILENKO, Yu. I., SAVENKO, N. P., BUZUNOV, V. A., TOMASHEVSKAYA, L. I., and DERKACH, V. S., Institute of Industrial Hygiene and Occupational Diseases, Kiev

"Principles for Quantitative Evaluation of the Difficulty and Strenuousness of Work on the Basis of Physiological Data"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1971, pp 3-9

Abstract: A four-level classification of jobs by difficulty and stress is proposed on the basis of research conducted by the Institute and the literature data. The criteria used to measure the amount of effort involved as well as the changes therein during the course of the workday include energy consumption (ranging from under 150 kcal/hour for class 1 work, e.g., computer programming, to 351 kcal/hour or more for class 4 work, e.g., steel casting), muscular, cardiovascular, central nervous, and endocrine functions. A table lists average values of several physiological functions in different kinds of work while another evaluates the difficulty and strenuousness of different kinds of jobs (e.g., operation of office machines is classified as class 1 in difficulty and class 2 in strenuousness, lathework 2 and 2, steel casting 4

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AVAKATIKYAN, A. O., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1971, pp 3-9

and 3). The article also discusses some of the theoretical and practical problems in establishing adequate criteria and in applying them to specific jobs, work conditions, and various groups of people (e.g., adolescents, females, elderly workers).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC: 621.317.8(088.8)

BADINTER, Ye. Ya., ZELIKOVSKIY, Z. I., KARASIK, N. Ya., PONYATOV, G. A., SAVENKOV, A. N., FARMAKOVSKIY, B. V., TSETENS, V. P., SHIROKSHIN, K. A.

"A Resistor With a Winding of Cast Microwire in Glass Insulation"

USSR Author's Certificate No 287161, filed 24 Nov 69, published 1 Feb 71 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V334 P)

Translation: This Author's Certificate introduces a resistor wound with cast microwire in glass insulation. The body of the resistor is made from an electrical insulating material such as glass. To improve the stability of operational characteristics in the negative temperature region, the core and insulation of the microwire are made from materials whose effective temperature coefficient of expansion is close to that of the body material. A modification of the resistor is proposed which is distinguished by the fact that borosilicate electric vacuum glass is used as the insulating material, and a ternary or more complex alloy is used as the core material. The components of the alloy are taken in the following ratios (percent): Cr--8-12, Mn--8-16, Si--6-12, Mo--0.1-5, Re--less than 2.2, Ce--less than 1.2, Pr--less than 1.2, the remainder--Ni-Co.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 621.785:666.152.001.4

STARODUBOV, K. F., SAVENKOV, V. YA., SPIVAKOV, V. I., STOLPAKOV, M. A., GORBATOV, V. I., and RUSETSKAYA, M. I.

"Heat Treatment of Steel Plates"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, (70), Jul-Aug 71, pp 41-43

Abstract: Workers of the Institute of Ferrous Metallurgy and the Zhdanov Metallurgical Institute have developed a method and facility for a new type of heat treatment of steel plates guaranteeing high rates and uniformity of cooling. Results of investigations carried out under laboratory and industrial conditions on steel plates of different thicknesses (3-28 mm) and brands (3, 20sp, 3 sp, and 14G2SAF) are discussed. An experimental-industrial lot of 10-mm-thick plates of 14G2SAF steel was heat-treated up to the yield point of σ = 60-65 kg/mm^2. Welded joints of 14G2SAF steel showed a loss of strength of 1-3% after welding. Four illustrations, two tables, two biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

UNCLASSIFIED

TITLE--THERMAL STRENGTHENING OF ROLLED METALS -U- PROCESSING DATE--30OCT70

AUTHOR-(05)-STARODUBOV, K.F., UZLOV, I.G., SAVENKOV, V.YA., POLYAKOV, S.N., BORKOVSKIY, YU.Z.

COUNTRY OF INFO--USSR

SOURCE--(TERMICHESKOYE UPROCHNENIYE PROKATA) MOSCOW, METALLURGIYA, 1970, 367 PP

DATE PUBLISHED--------70

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

TOPIC TAGS--CHEMICAL COMPOSITION, METAL ROLLING, METAL HEAT TREATMENT, STEEL HARDENING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1462 STEP NO--UR/0000/70/000/000/0001/0367

CIRC ACCESSION NO--AM0121908

UNCLASSIFIED

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UNCLASSIFIED

CIRC ACCESSION NO--AM0121908 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: INTRODUCTION 7. CHAPTER I THERMAL STRENGTHENING OF ROLLED METALS (THE THERMOMECHANICAL AND THERMAL MACHINING OF ROLLED METALS UNDER CONDITIONS OF MASS PRODUCTION) 14. II THE TECHNOLOGY OF THERMAL STRENGTHENING OF ROLLED METALS 37. III THE CHEMICAL COMPOSITION OF STEEL FOR THERMAL STRENGTHENING 190. IV THE STRUCTURE OF THERMALLY STRENGTHENED STEEL ?. V THE PROPERTIES OF THERMALLY STRENGTHENED STEEL 248. LITERATURE 358. INFORMATION IS GIVEN ON THE THEORY OF THERMAL AND THERMOMECHANICAL TREATMENT APPLICABLE TO STRENGTHENING ROLLED METALS FROM LOW CARBON, MEDIUM CARBON AND ALSO LOW ALLOY STEEL. THE BOOK IS DESIGNED FOR A WIDE RANGE OF TECHNICAL ENGINEERS AT INSTITUTES, METALLURGY PLANTS, ENTERPRISES OF THE BUILDING INDUSTRY, MACHINE CONSTRUCTION.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 621.315.61.537.226

DIDKOVSKAYA, O. S., SAVENKOVA, G. Ye., KLIMOV, V. V., VENEVTSEV, Yu. N.

"A Piezoceramic Material"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 23, Aug 71, Author's Certificate No 310310, Division H, filed 8 Dec 69, published 26 Jul 71, p 167

Translation: This Author's Certificate introduces a piezoceramic material based on solid solutions of $Pb(Zr_xTi_{1-x})O_3$ with x = 0.4-0.6 with the addition of 0.5-5 mol.% Bi_2O_3 and 0.25-10 mol.% Li_2O. As a distinguishing feature of the patent, the sintering temperature is reduced and the dielectric and piezoelectric properties of the material are improved by adding 0.25-3.0 Mol.% Nb_2O_5.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 666.638

SAVENKOVA, G. Ye., DIDKOVSKAYA, O. S., KLIMOV, V. V., VENEVTSEV, Yu. N.

"A Piezoceramic Material"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 23, Aug 71, Author's Certificate No 310354, Division H, filed 3 Mar 70, published 26 Jul 71, p 177

Translation: This Author's Certificate introduces a piezoceramic material based on lead zirconate-titanate solid solutions containing an additive in the form of a mixture of oxides of tungsten and one of the bivalent elements. As a distinguishing feature of the patent, the sintering temperature of the material is reduced by using the above-mentioned additive in the form of tungsten oxide in amounts of 0.3-3.5 mol.%, oxide of one of the bivalent elements (Sr, Ca, Zn, Ba) in amounts of 1.0-10 mol.%, and by the addition of bismuth trioxide in amounts of 0.25-5 mol.%.

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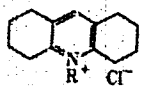
"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

Acc. Nr: AP0053437 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0366

111272w Interaction of 2,2′-methylenedicyclohexanone with primary amines in the presence of carbon tetrachloride [acridinium salts]. Kaminskii, V. A.; Savercihenko, A. N.; Tilichenko, M. N. (Dal'nevost. Gos. Univ., Vladivostok, USSR). *Zh. Org. Khim.* 1970, 6(2), 401–5 (Russ). The title reaction in benzene contg. 2–3 equivs. CCl_4 gave 80–5% substituted *sym*-octahydroacridinium chloride (I) (R is α-naphthyl, β-naphthyl, *p*-



(I)

C_6H_4OMe, $PhCH_2$, Ph, $CHCl_3$, and CH_2Cl_2). The same reaction takes place in pure CCl_4, but the yields are lower. CPJR

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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 615.217.32.015:612.89

SAVETEYEV, N. V., and SOFRONOV, G. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"The Action of Anticholinesterase Substances on the Cholinoreception in the Superior Cervical Sympathetic Ganglion of the Cat"

Moscow, Farmakologiya i Toksikologiya, Vol 34, No 2, Mar-Apr 71, pp 140-144

Abstract: The organophosphorus cholinesterase inhibitors -- armine and GA-102 (O-pinacolyl-S(β-ethylmercaptoethyl)-methylphosphonate -- enhanced 20-100 fold the sensitivity of the superior cervical sympathetic ganglion of the cat to acetylcholine and methylfurmethide; the sensitivity to nicotine was enhanced only twofold. The activity of nicotine, with complete inhibition of cholinesterase, returned to normal 2-1/2 hours after administration of armine and GA-102. Galanthamine increased reversibly the sensitivity of ganglion to acetylcholine. 2PAM reactivated the armine-inhibited cholinesterase in the ganglion and reestablished normal sensitivity to cholinomimetics. In absence of a reactivation of cholinesterase in the ganglion treated with GA-102, 2PAM has no effect on possible increase of the sensitivity of ganglion to acetylcholine and methylfurmethide, but aids to a speedier return to normal sensitivity to nicotine.

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USSR

UDC 539.292

SALLI, I. V., DOLINSKAYA, V. Z., BORSHCHEVSKAYA, D. G., and SAVICH, A. I.,
Dnepropetrovsk Division of the Institute of Mechanics, Academy of Sciences
Ukr SSR

"Disturbances of Regular Growth in Lamellar Eutectics"

Kiev, Metallofizika, No 39, 1972, pp 106-111

Abstract: The directed crystallization of Pb-Sn, Cd-Pb, Cd-Zn, Zn-Sn, and Cd-Sn alloys of eutectic composition was investigated with the crystallization accomplished by the method of zone melting using a unit with a moving annular crucible. Directed crystallization of the investigated alloys leads to the formation of lamellar colonies oriented in the direction of heat escape. Disturbances were observed in the regular lamellar growth of eutectic phases in the form of repeated transverse bands. 5 figures, 1 table, 13 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 621.371:551.510.535

VASIL'YEV, M. B. and SAVICH, N. A.

"Second-Order Corrections in Radio Wave Propagation Through the Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses: Section 3--collection of works) "Nauka," 1972 pp 77-83 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A368)

Translation: On the assumption of a spherically symmetrical ionosphere, relationships are obtained for refraction corrections, the phase path, and the spatial deviation of the radio beam trajectory from a straight line with an accuracy up to terms of the second order of smallness and with no limitations on the height of the source above the earth's surface; a numerical estimate is made of corrections of this order without taking into account the effect of the earth's magnetic field and the collision rate. Resume

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USSR

UDC 547.241.07

RAZUMOV, A. I., SAVICHEVA, G. A., and SOBCHUK, T. I., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"A Method of Making Phosphorylated Diacetals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329183, Division C, filed 6 Jul 70, published 9 Feb 72, p 101

Translation: This Author's Certificate introduces: 1. A method of making phosphorylated diacetals. As a distinguishing feature of the patent, a mixed neutral phosphite reacts with an haloacetal in the presence of heat in an inert gas atmosphere with subsequent isolation of the product by conventional methods. 2. A modification of this method distinguished by the fact that the process is conducted at 140-150°C.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC: 621.383.98

AVER'YANOV, G. A., SAFRONOV, I. N., SAVICHEV, B. M., YEGOROV, A. S.

"A Photoelectric Channel With Stabilization of the Range of Variation in the Output Signal"

Moscow, Pribory i Tekhnika Eksperimenta, No 2, Mar/Apr 72, pp 103-105

Abstract: The paper describes the circuit and gives the results of a laboratory check of the input section of a photoelectric channel which provides linear conversion and stabilization within the range of linearity of a monopulse light signal amplifier where the light signal varies over a wide power range. A block diagram of the photoreceiver and a schematic diagram of the input section of the photoelectric channel are given as well as the amplitude characteristic of the photoreceiver channel and oscillograms of output signals. Four figures, bibliography of two titles.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC 533.95:538.4

SAMARSKIY, A. A., Corresponding Member of the Academy of Sciences USSR, KURDYUMOV, S. SP., KULIKOV, YU. N., LESKOV, L. V., POPOV, YU. P., SAVICHEV, V. V., and FILIPPOV, S. S., Institute of Applied Mathematics, Academy of Sciences USSR, Moscow

"Magnetohydrodynamic Model of Unsteady Plasma Acceleration"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

Abstract: During an experimental study of pulsed plasma accelerators, some physical phenomena were discovered which cannot be explained within the framework of existing simplified models: viz., the existence of a laminated structure for the ejected plasma formation, motion counter to the accelerating ampere force, the presence of high-multiplicity ions in the plasma, heating up of the plasma to high temperatures in narrow sections, etc. Therefore, the authors undertook to calculate the dynamics of plasma formations in pulsed accelerators, with allowance for the spatial distribution of the physical characteristics of the plasma, radiation, and nonlinear effects in the plasma. As a result of computer-aided calculations, density, velocity, temperature,

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SAMARSKIY, A. A., et al., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

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current, and the magnetic field along the direction of motion were determined. It is shown that there are nonlinear mechanisms leading to the appearance of heated current layers (T-layers) in the medium, separated by intervals of relatively cold gas. The T-layers evolve and generate shock waves which propagate on both sides, and this leads in turn to the production of new T-layers, the formation of plasma clusters and their interaction, the return motion of the substance, and the appearance of closed current loops in the plasma. A study is made of the energy balance in the accelerator and the time redistribution of individual forms of energy.

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USSR

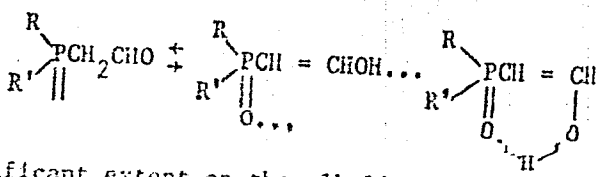
UDC 547.241

RAZUMOV, A. I., SOKOLOV, M. P., ZYKOVA, T. V., LIORBER, B. G., SAVICHEVA, G. A., SALAKHUTDINOV, R. A.

"Reactivity and Structure of Phosphorylated Carbonyl Compounds. IX. Ketoenol Equilibrium of Phosphorylated Acetaldehydes"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 47-51

Abstract: Tautomeric conversions of dialkoxyphosphonyl and arylalkoxyphosphinyl acetaldehydes have been described previously (A. I. Razumov, et al., ZhOKh, No 41, 1954, 1971; No 41, 2164, 71]. The study of alkylalkoxyphosphinyl acetaldehydes from this point of view is a logical development of this pervious work. The methods of infrared and nuclear magnetic resonance ^{1}H and ^{31}P spectroscopy has been used to show that the ketoenol equilibrium of phosphorylated acetaldehydes



depends to a significant extent on the alkalinity of the P=O radical, spatial

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RAZUMOV, A. I., et al., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 47-51

effects and the effects of solvents. The calculated ketoenol equilibrium constants of both the undeveloped substances and 20, 10 and 5 percent molar solutions of them in carbon tetrachloride and the free energy ΔF are tabulated. In the aliphatic series, with an increase in the alkalinity, successive shifting of the equilibrium toward the enol form is observed. The values of ΔF found correlate satisfactorily with the Kabachnik constants [T. A. Mastryukova, M. I. Kabachnik, Usp. khim., No 38, 1751, 1969]. On dissolving the investigated substances in carbon tetrachloride (20, 10 and 5% molar solutions) a gradual shift in the aldo direction takes place.

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RAZUMOV, A. I., SAVICHEVA, G. A., ZYKOVA, T. V., SOKOLOV, M. P., SMIRNOVA, G. G., LIORBER, B. G., SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

UDC 547.241

"Reactivity and Structure of Phosphorylated Carbonyl Compounds. 8. NMR and IR Spectra of Arylalkoxyphosphinylacetaldehydes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2164-2167

Abstract: In a continuation of the previous study of dialkoxyphosphorylacetaldehydes, tautomerism in alkoxyarylphosphorylacetaldehydes (I) was studied on the theory that an aryl substituent at the P atom may affect the aldol-enol equilibrium. Measurements of the P-31 chemical shift in compounds I hinted at a shift in equilibrium toward the enol form. This was confirmed by NMR spectra of 20% I solutions in carbon tetrachloride: the NMR band of α-ethylenic proton revealed the presence of the enol form. The IR spectra of nondiluted I compounds indicated simultaneous existence of two enol forms: B with intermolecular and

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RAZUMOV, A. I., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2164-2167

C with strong intramolecular hydrogen bonds in addition to aldol form. The IR spectra of 5-20% I solutions in carbon tetrachloride reflected a sequential shift toward the aldol form with increasing dilution, so that practically only the aldol form existed in the 5% solutions. The IR spectral data showed that in triethylamine solutions of I, in contrast to carbon tetrachloride solutions, the equilibrium shifts toward the B chelated enol form which incorporates triethylamine.

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UDC 547.241+547.26'118

RAZUMOV, A. I., SAVICHEVA, G. A., ZYKOVA, T. V., SOKOLOV, M. P., LIORBER, B. G., and SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Reactivity and Structure of Phosphorylated Carbonyl Compounds. Part VII. NMR and IR Spectra of Dialkoxyphosphonylacetaldehydes"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1954-1957

Abstract: The considerable value of phosphorylated carbonyl compounds lies in the fact that they, like β-carbonyl compounds, exhibit keto-enolic tautomerism. The application of polarography and IR spectroscopy (in earlier studies) indicates that some β-phosphorylated aldehydes are mixtures of keto- and cis-enolic forms whose equilibrium depends on both the solvents and the pH of the aqueous solutions. This paper reports on tautomeric transformations of diethoxy- (I) and diisopropoxyphosphonylacetaldehydes (II) using NMR and IR spectroscopy. The tautomerism of both compounds was studied from the NMR spectra of (I) and its 5, 10 and 20% solutions in carbon tetrachloride, 30 and 50% solutions in triethylamine and from the NMR spectra of aldehyde (II) and its 10% solution in triethylamine at 20°C.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

RAZUMOV, A. I., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1954-1957

Readings of the NMR spectra were made on a YaMR-5535 spectrometer, the p31 NMR spectra were read on the RYa-2303 spectrometer and the IR spectra were read on UR-10 and UR-20 units. Both NMR and IR spectra indicate that dialkoxyphosphenylacetaldehydes and their solutions in CCl_4 are an aldo-form with a small admixture of the enolic structure. In triethylamine, the chelated enolic structure is predominant.

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USSR

UDC 621.762:669.018.5(088.8)

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AMOSOV, V. M., KARELIN, B. A., KITAYEV, B. L., SAVICHEVA, M. A., GUSEV, A. M., PAPILOV, V. P., and STEPANOVA, T. I.

"Powder Metal Alloy"

USSR Author's Certificate No 254092, filed 12 Jun 69, published 20 Mar 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G357 P)

Translation: A powder metal electrode alloy based on W is proposed for spark gaps. To stabilize the emission properties and to increase the rate of electrode atomization barium zirconate is introduced into the alloy composition. The barium zirconate possesses stable properties under the conditions of explositation and does not interact with the remaining components of alloy during sintering in the temperature interval 1550-1600°. The alloy is of the following composition: 0.5-4% Ni, 4-5% barium zirconate, and the remainder -- W. The alloy structure is in the form of fine-grain W, coated with solid W solution in Ni, and dispersed particles of barium zirconate uniformly distributed in grains and along grain boundaries.

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V. Chelnokov

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UNCLASSIFIED

PHARMACOGNOSTIC STUDY OF LEUCOJUM VERNUM -U-

PROCESSING DATE--13NOV70

AUTHOR-(02)-KALASHNIKOV, I.D., SAVICHEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 26-32

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--PHARMACOGNOSY, ALKALOID, THIN LAYER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0141

STEP NO--UR/0466/70/019/001/0026/0032

CIRC ACCESSION NO--AP0135638

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135638

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANATOMICAL STRUCTURE OF L. VERNUM AS WELL AS QUANT. AND QUAL. COMPN. OF ALKALOIDS WAS STUDIED AT THE END OF FLOWERING PERIOD. THE FOLLOWING CHARACTERISTICS WERE FOUND: PEDUNCLE PARENCHYM HAD AN AERENCHYM PATTERN, LEAF MESOPHYL CONTAINED LARGE AIR CONCEPTACLES, EPIDERMIS OF ALL ORGANS WAS BUILT UP BY PROSENCHYME TYPE CELLS, RAFIDES WERE PRESENT IN ALL ORGANS EXCEPT ROOTS, AND PRIMARY STRUCTURE OF ROOTS WAS TRI AND TETRARCHIC. 0.32 AND 0.45PERCENT OF ALKALOIDS WERE FOUND IN THE ABOVE AND UNDERGROUND PARTS OS PLANTS RESP. 6 ALKALOIDS WERE DETECTED BY THIN LAYER CHROMATOG.; 3 OF THEM WERE IDENTIFIED AS LYCORINE, GALANTHAMINE AND TAZETTINE.

FACILITY: L'VOV. MED. INST., LVOV, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

USSR

UDC: 681.3

GUSHCHENSKOV, V. N., ZHAVRID, L. M., KAZUSHCHIK, V. A., KOSAREV, Yu. G., SAVIK, N. P.

"Updating the Command System of the 'Minsk-222' Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 42, Novosibirsk, 1970, pp 74-80 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V548)

[No abstract]

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810016-9

SAVIK, Z. F.

JPRS 55341
6 May 72

UDC: 611.73.014.477-064-019

STRUCTURAL AND CYTOCHEMICAL CHANGES IN THE RAT'S SKELETAL MUSCLES ASSOCIATED WITH RESTRICTED MOBILITY

[Article by V.V. Portugalov, Ye.I. Il'ina-Kakuyeva, V.I. Starostin, K.D. Rokhlenko, Z.F. Savik; Institute of Developmental Biology, USSR Academy of Sciences, Moscow; Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Russian, No 11, 1971, submitted 19 January 1971, pp 82-91]

The problem of hypokinesia and hypodynamia now goes far beyond the framework of special issues in cosmonautics and clinical practice. In the last decade it has gained broad social significance. Indeed, with the development of technology and mechanization of industry the working and living conditions for large groups of people in developed nations are changing appreciably. There are fewer and fewer applications for the muscular component in man's endeavors.

Diminished muscular activity leads to a large number of changes in systems that do not appear to be related to locomotor functions. There is a change in synthesis of catecholamines, aldosterone, electrolyte balance is impaired, etc. Restricted muscular activity of man related to prolonged immobilization or strict bed rest is always associated with development of atrophy of skeletal muscles and demineralization of bone tissue. Clinicians are well aware of the fact that strict bed rest leads to changes in cardiac function, development of orthostatic hypotension, it is instrumental in development of venous thrombosis, chronic pneumonia, pulmonary embolism, urolithiasis, and many other pathological conditions. We also know that in the case of hypokinesia and hypodynamia there is prevalence of inhibitory processes over excitatory ones in the central nervous system, etc.

Thus, even a mere listing of the effects of limited motor activity shows that it is important to maintain man's motor activity at a specific level in order to keep many of the body's functions within normal range.

The objective of the present investigation was to determine the nature of structural and cytochemical changes in some skeletal muscles of the hind legs as related to different durations of hypokinesia and hypodynamia.

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UNCLASSIFIED

TITLE--UNIMOLECULAR AND BIMOLECULAR RECOMBINATION IN KCL:IN,AG AND KBR:IN CRYSTALS -U-

PROCESSING DATE--04DEC70

AUTHOR-(04)-LEYMAN, V.I., DENKS, V., LUKANTSEVER, N.L., SAVEKHIN, F.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1455-61

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--REACTION KINETICS, POTASSIUM CHLORIDE, BROMIDE, INDIUM, SILVER, THERMOLUMINESCENCE, REACTION MECHANISM, IONIZATION, RECOMBINATION LUMINESCENCE, ELECTRON HOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0169

STEP NO--UR/0181/70/012/005/1455/1461

CIRC ACCESSION NO--AP0129425

UNCLASSIFIED

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UNCLASSIFIED

CIRC ACCESSION NO--AP0129425 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS WAS INVESTIGATED OF ELECTRON HOLE PROCESSES IN THE CRYSTALS KCL-IN, AG AND KBR-IN IN EXCITATION WITH THE RADIATION IN THE REGION OF THE C BAND OF ABSORPTION OF IN PRIME POSITIVE CENTERS. IN WEAK EXCITATION, THE KINETICS OF RECOMBINATION EXCITATION IS UNIMOL.; I.E., ELECTORNS RECOMBINE WITH THE SAME IN PRIME2 POSITIVE CENTERS FROM WHICH THEY WERE REMOVED IN IONIZATION OF IN PRIME POSITIVE CENTERS. IN THIS UNIMOL. MECHANISM, LIGHT STORED BY THE PHOSPHOR IS PROPORTIONAL TO THE INTENSITY OF EXCITATION, E, THE RATIO OF THE PEAKS OF THERMOLUMINESCENCE IS INDEPENDENT OF E, AND THE APPLICATION OF AN ELEC. FIELD LEADS TO AN INCREASE IN THE MAT. OF STORED LIGHT.

FACILITY: INST. FIZ. ASTRON., TARTU, USSR.

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[illegible], S. V., NEFOMNYASHCHIY, I. V., SAMAROV, M. A., SAVIKIN, V. I., and RODNYY, M. I.

"Method of Producing Alloys of Titanium With Refractory Metals"

USSR Author's Certificate No 258598, Filed 28/01/67, Published 30/04/70 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G197 P)

Translation: A method is suggested for producing alloys of Ti with refractory metals by metallothermic reduction of preliminarily prepared solutions of chlorides of the alloying metals to $TiCl_4$. To increase the homogeneity and quality of the alloys produced, the chloride solutions are heated to a temperature above the boiling point of the solution before the reduction process.

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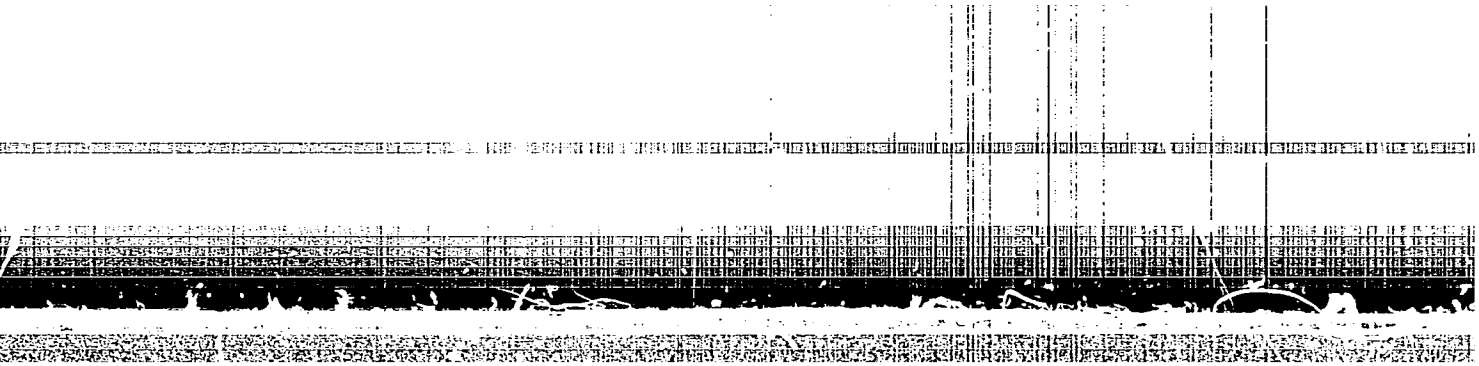

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USSR

RAZUMOV, A. I., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1954-1957

Readings of the NMR spectra were made on a YaMR-5535 spectrometer, the P31 NMR spectra were read on the RYa-2303 spectrometer and the IR spectra were read on UR-10 and UR-20 units. Both NMR and IR spectra indicate that dialkoxyphosphenylacetaldehydes and their solutions in CCl_4 are an aldo-form with a small admixture of the enolic structure. In triethylamine, the chelated enolic structure is predominant.

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USSR UDC 621.762:669.018.5(088.8)

AMOSOV, V. M., KARELIN, B. A., KITAYEV, B. L., SAVICHEVA, M. A., GUSEV, A. M., PAPILOV, V. P., and STEPANOVA, T. I.

"Powder Metal Alloy"

USSR Author's Certificate No 254092, filed 12 Jun 69, published 20 Mar 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G357 P)

Translation: A powder metal electrode alloy based on W is proposed for spark gaps. To stabilize the emission properties and to increase the rate of electrode atomization barium zirconate is introduced into the alloy composition. The barium zirconate possesses stable properties under the conditions of exploitation and does not interact with the remaining components of alloy during sintering in the temperature interval 1550-1600°. The alloy is of the following composition: 0.5-4% Ni, 4-5% barium zirconate, and the remainder -- W. The alloy structure is in the form of fine-grain W, coated with solid W solution in Ni, and dispersed particles of barium zirconate uniformly distributed in grains and along grain boundaries.

V. Chelnokov

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UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 015

TITLE--PHARMACOGNOSTIC STUDY OF LEUCOJUM VERNUM -U-

AUTHOR-(02)-KALASHNIKOV, I.D., SAVICHEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 26-32

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--PHARMACOGNOSY, ALKALOID, THIN LAYER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0466/70/019/001/0026/0032

PROXY REEL/FRAME--3007/0141

CIRC ACCESSION NO--AP0135636

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UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 015

CIRC ACCESSION NO--AP0135638

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANATOMICAL STRUCTURE OF L. VERNUM AS WELL AS QUANT. AND QUAL. COMPN. OF ALKALOIDS WAS STUDIED AT THE END OF FLOWERING PERIOD. THE FOLLOWING CHARACTERISTICS WERE FOUND: PEDUNCLE PARENCHYM HAD AN AERENCHYM PATTERN, LEAF MESOPHYL CONTAINED LARGE AIR CONCEPTACLES, EPIDERMIS OF ALL ORGANS WAS BUILT UP BY PROSENCHYME TYPE CELLS, RAFIDES WERE PRESENT IN ALL ORGANS EXCEPT ROOTS, AND PRIMARY STRUCTURE OF ROOTS WAS TRI AND TETRARCHIC. 0.32 AND 0.45PERCENT OF ALKALOIDS WERE FOUND IN THE ABOVE AND UNDERGROUND PARTS OS PLANTS RESP. 6 ALKALOIDS WERE DETECTED BY THIN LAYER CHROMATOG.; 3 OF THEM WERE IDENTIFIED AS LYCORINE, GALANTHAMINE AND TAZETTINE.

FACILITY: L'VOV. MED. INST., LVOV, USSR.

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UDC: 681.3

USSR

CUSHCHENSKOV, V. N., ZHAVRID, L. M., KAZUSHCHIK, V. A., KOSAREV, Yu. G., SAVIK, N. P.

"Updating the Command System of the 'Minsk-222' Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 42, Novosibirsk, 1970, pp 74-80 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V548)

[No abstract]

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SAVIK, Z. F.

JPRS 55341
6 May 72

UDC: 611.73.014.477-064-019

STRUCTURAL AND CYTOCHEMICAL CHANGES IN THE RAT'S SKELETAL MUSCLES ASSOCIATED WITH RESTRICTED MOBILITY

[Article by V.V. Portugalov, Ye.I. Il'ina-Kakuyeva, V.I. Starostin, K.D. Rokhlerkin, Z.F. Savik; Institute of Developmental Biology, USSR Academy of Sciences, Moscow; Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Russian, No 11, 1971, submitted 19 January 1971, pp 82-91]

The problem of hypokinesia and hypodynamia now goes far beyond the framework of special issues in cosmonautics and clinical practice. In the last decade it has gained broad social significance. Indeed, with the development of technology and mechanization of industry the working and living conditions for large groups of people in developed nations are changing appreciably. There are fewer and fewer applications for the muscular component in man's endeavors.

Diminished muscular activity leads to a large number of changes in systems that do not appear to be related to locomotor functions. There is a change in synthesis of catecholamines, aldosterone, electrolyte balance is impaired, etc. Restricted muscular activity of man related to prolonged immobilization or strict bed rest is always associated with development of atrophy of skeletal muscles and demineralization of bone tissue. Clinicians are well aware of the fact that strict bed rest leads to changes in cardiac function, development of orthostatic hypotension, it is instrumental in development of venous thrombosis, chronic pneumonia, pulmonary embolism, urolithiasis, and many other pathological conditions. We also know that in the case of hypokinesia and hypodynamia there is prevalence of inhibitory processes over excitatory ones in the central nervous system, etc.

Thus, even a mere listing of the effects of limited motor activity shows that it is important to maintain man's motor activity at a specific level in order to keep many of the body's functions within normal range.

The objective of the present investigation was to determine the nature of structural and cytochemical changes in some skeletal muscles of the hind legs as related to different durations of hypokinesia and hypodynamia.

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UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 035

TITLE--UNIMOLECULAR AND BIMOLECULAR RECOMBINATION IN KCL:IN,AG AND KBR:IN CRYSTALS -U-

AUTHOR-(04)-LEYMAN, V.I., DENKS, V., LUKANTSEVER, N.L., SAVIKHIN, F.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1455-61

DATE PUBLISHED--------70

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TOPIC TAGS--REACTION KINETICS, POTASSIUM CHLORIDE, BROMIDE, INDIUM, SILVER, THERMOLUMINESCENCE, REACTION MECHANISM, IONIZATION, RECOMBINATION LUMINESCENCE, ELECTRON HOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0169 STEP NO--UR/0181/70/012/005/1455/1461

CIRC ACCESSION NO--AP0129425

UNCLASSIFIED

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UDC 669.295.018.9(088.8)

USSR

GAMELKIN, B. S., GOLIKOV, V. V., OGURTSOV, S. V., NEPOMNYASHCHIY, I. V., SAMAROV, M. A., SAVIKIN, V. I., and RODNYY, M. I.

"Method of Producing Alloys of Titanium With Refractory Metals"

USSR Author's Certificate No 258598, Filed 28/01/67, Published 30/04/70 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G197 P)

Translation: A method is suggested for producing alloys of Ti with refractory metals by metallothermic reduction of preliminarily prepared solutions of chlorides of the alloying metals to $TiCl_4$. To increase the homogeneity and quality of the alloys produced, the chloride solutions are heated to a temperature above the boiling point of the solution before the reduction process.

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