Acc. Nr: AP0049058 B Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr 1, pp 75-77

FIRST RESULTS OF TREATING STRABISMUS AND AMBLYOPIA AT A SPECIALIZED SANATORIUM DEPARTMENT

N. S. Bonova, N. Ya. Zeltser, V. P. Smolyakova

Summary

In January, 1968, the first in the Soviet Union eye sanatorium department for the treatment of strabismus and amblyopia became operative at the Childrens' Clinical Hospital No 1. Dysbinocular amblyopia (with visual acuity of up to 0.1 inclusive) and that of median degree with acentric fixation, as well as nonaccomodative strabismus demanding complex treatment were among indications for the referral to the sanatorium department.

In addition to special pleoptorthopic exercises the children undergo general tonic treatment for, being debilitated, their general health status must be improved to provide for successful correction of strabismus and amblyopia.

In the specialized sanatorium department a highly qualified, active, regular and long-term treatment of children with strabismus and amblyopia is ensured, which with outpatient management of some of them would appear to be impossible by virtue of domestic and other conditions.

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REEL/FRAME
19800845

AA 0 044291

Bondovsky, M.V.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

241105 THE DIODE MATRIX proposed is intended to facilitate the control of the whole assembly and ensure the absence of broken down diodes. When trigger counter 1 (see diagram) is set to the initial condition a test pulse is also given switching over relays 2,3. 2 applies a positive voltage from power supply 5 to the auxiliary line 4, whence through its diode and line 14 the diodes in any selected horizontal line 6, selected by change-switch 7,8 receive the voltage reversely and pass the total reverse current on via 3 to amplifier 9, set to function on some permissible current level. The test signal is also sent from 4 up each vertical to OR gates 11. As there are no signals incoming from 1 (in initial position) the comparison unit 12 functions if all the vertical lines are sound. The vertical line 14 is connected to a relay 15. When any horizontal line is connected to 5 for testing, the relay is shunted by a diode 10, and its contacts (not shown) open; this is a signal attesting the soundness of the horizontal line tested.

1/3

28.1.67. as 1102693/26-9. M.S.SLASHCHININ et alia. (12.8.69) Bul 13/1.4.69. Class 42m3. Int.Cl.G 06f.

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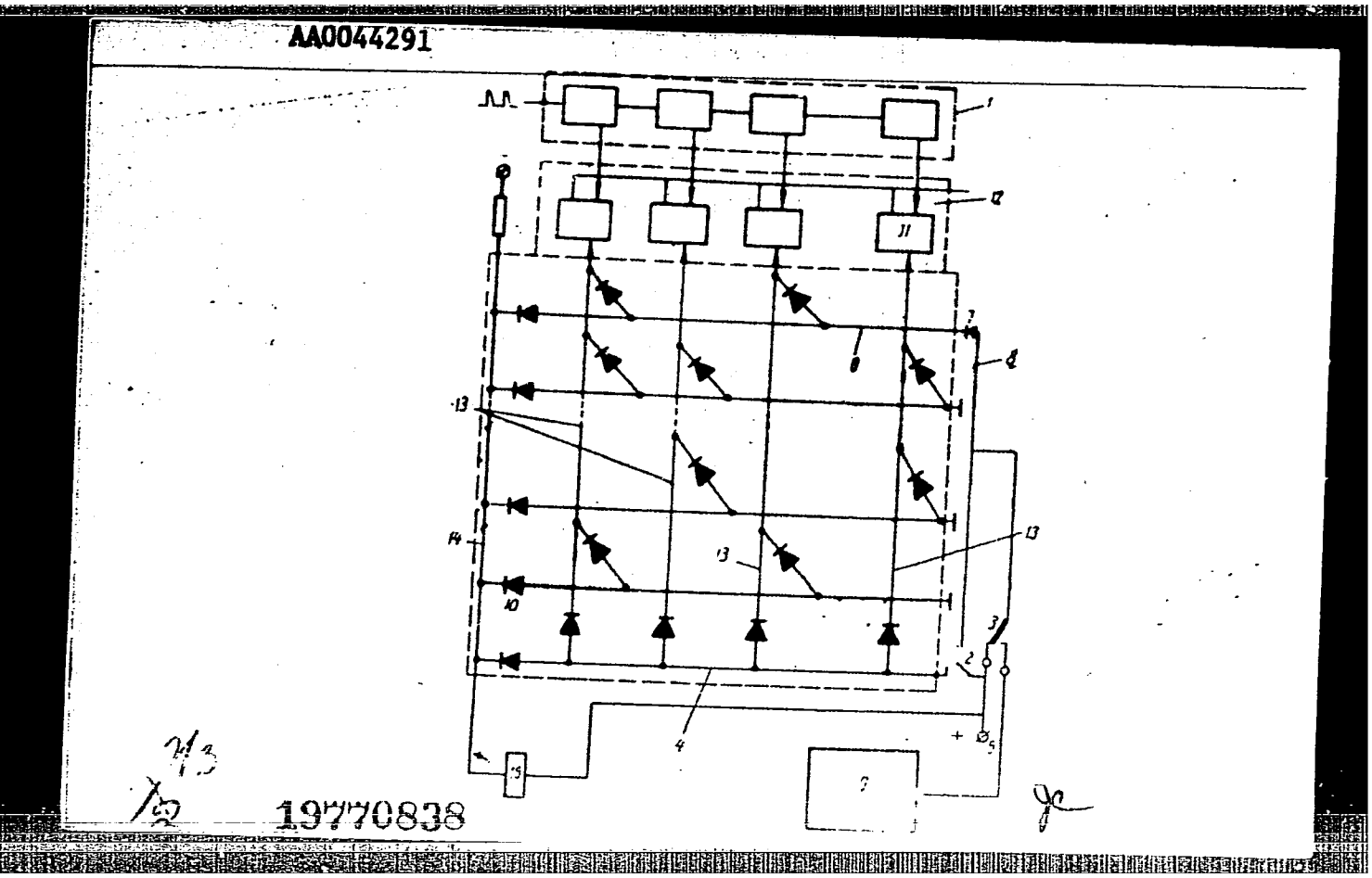

AA0044291

AUTHORS: Slashchinin, M. S.; Bonovskiy, M. V.; Kuz'min, Ye. I.

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UDC: 669.715'782.004.69

BOOM, Ye. A.

"The Nature of Modification of Silumin-type Alloys"

Priroda Modifitsirovaniya Splavov Tipa Silumin [English version above], Metallurgiya Press, Moscow, 1972, 72 pp.

Translation of Foreword: The scientific and technical revolution, reaching all the industrial nations of the world, could not but extend to the area of production and application of metal materials. It has been particularly influential as concerns aluminum.

In modern technology, aluminum is primarily used as its alloys, which are usually differentiated, depending on the method of production of products of these alloys, into forging and casting alloys.

Among the many casting alloys based on aluminum, aluminum-silicon alloys, called silumins, particularly the more complex alloys of this system, containing small quantities of magnesium, manganese and other metals, occupy a dominant position. One of the most important operations in the process of production of silumin-type alloys is modification. The nature of this phenomenon has not yet been fully studied and continues to be of great interest to metallurgists and metal scientists throughout the world.

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USSR

Boom, Ye. A., Priroda Modifitsirovaniya Splavov Tipe Silumin, Metallurgiya Press, Moscow, 1972, 72 pp.

No attempt has yet been made to summarize the many works which have studied this phenomenon from various points of view, except for the monograph of S. M. Voronov and A. N. Samorukov, Issledovaniye Splavov Tipe Silumin [Study of Silumin-type alloys], published in 1933 and now largely obsolete, plus a small section in the book Modifitsirovaniye Struktury Metallov i Splavov [Modification of the Structure of Metals and Alloys] by M. V. Mal'tsev, published in 1964.

The large quantities of factual material in the domestic and foreign literature, the interesting and original ideas of various researchers, and the work of the author of this book on the creation of a new modification theory, performed at various times over a period of almost 25 years have served as the basis for the writing of the present monograph.

The author thanks all those whose advice, constructive criticism or concrete aid helped him in the performance of his work.

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Boom, Ye. A., Priroda Modifitsirovaniya Splavov Tipe Silumin, Metallurgiya Press, Moscow, 1972, 72 pp.

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USSR

UDC 539.171.017

BOOS, E. G., VINITSKIY, A. Kh., TAKIBAYEV, Zh. S., TURSUNOV, R. A., CHASNIKOV, I. Ya., Institute of High-Energy Physics of the Academy of Sciences Kazakh SSR

"Comparison of the Characteristics of Pion-Nucleon and Proton-Nucleon Interactions"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1701-1704

Abstract: The various characteristics of inelastic proton-nucleon (pN) and pion-nucleon (πN) collisions were compared, since they are of great interest in explaining the characteristics of the mechanism of hadron interactions and in determining the possibility of distinguishing different types of events formed by cosmic ray particles. The work is based on experimental material obtained in studying collisions between 17-Gev pions and 20-Gev protons with nucleons of a nuclear emulsion. The CERN synchrotron was used in the study. A comparison of experimental material for these energies was convenient, since the center-of-inertia systems of hadron collisions in this case have approximately the same velocity. Data obtained

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BOOS, E. G., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1701-1704

from analyzing 288 πN-interactions found in nuclear emulsions irradiated by 60-Gev pions in the accelerator of the Institute of High-Energy Physics (Serpukhov) were also used in the study. A table is given showing the coefficient of asymmetry of the angular distribution of the charged pions as a function of the number of secondary charged particles. Despite the presence of asymmetry in individual groups of proton-nucleon collisions, the angular distribution of π-mesons from pN-interactions was practically the same averaged over all multiplicities. In pion-nucleon collisions there was found a strong asymmetry of the charged pions in the leading hemisphere of the center-of-inertia system that decreased with the growth of the number of secondary charged particles. This asymmetry is sometimes explained by the primary pions conserving their direction, but at an energy of 17 Gev the hypothesis of a "conserving pion" encounters certain difficulties, since the number of pions contributing to the asymmetry of the angular distribution of pions summed over all multiplicities is approximately equal to the number of interactions necessary

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-BOOS, E. G., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1701-1704

to assume the absence of charge exchange of the primary pion. It is concluded that there is a difference in the characteristics of πN- and pN-interactions which does not disappear completely upon taking into account "conserving pions", since the divergence is more characteristic for a small number of secondary charged particles. At the same time, coincidence of the characteristics of these interactions is noted for collisions with large values of four-dimensional transfers.

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USSR

UDC 539.171.017

TAKIBAYEV, Zh. S., BOOS, E. G., TURSUNOV, R. A., Institute of High-Energy Physics of the Academy of Sciences Kazakh SSR

"Calculating the Cross Section for Coherent Particle Generation by Protons As a Function of Primary Energy"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1799-1800

Abstract: The cross section for coherent processes was calculated as a function of primary energy using the measurements of Grigorov, et al, on the effective cross sections for the inelastic interaction of protons with carbon nuclei in the energy range 20-60 Gev (Preprint 69-182(167), Scientific Research Institute of Nuclear Physics, Moscow State University, 1969). The empirical relationship given in this study

$$\sigma_c(E) = \sigma_c(20)\ (1 + a \ln E/20) \qquad (1)$$

is used, where σ_c is the cross section for the interaction of a proton with a carbon nucleus at energy E, $\sigma_c(20) = (216\pm7)$ mbarn, and $a = (6.8\pm1.2)\cdot10^{-2}$. In this expression it is assumed that the quantity $1/3$

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TAKIBAYEV, Zh. S., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1799-1800

with other data. The figure shows that the growth in cross section with a rise in energy in the interval 20-600 Gev obtained in the work of Grigorov can be explained by the contribution of coherent processes if a rapid growth in the cross section for coherent interaction of protons with nuclei can be observed in the energy range >20 Gev. This analysis was based only on consideration of coherent reactions with three charged particles in the final state, but consideration of the contribution of events with five charged particles would have practically no effect on these results.

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USSR

UDC: None

TAKIBAYEV, Zh. S., BOOS, E. G., SAN'KO, L. A., MUKHORDOVA, T. I., MOSIYENKO, A. M., ZAYTSEV, K. G., and SHARAPOV, K. V., Institute of High-Energy Physics, Kazakhstan Academy of Sciences

"Studying Four-Beam pp-Interactions at Pulses of 19.1 Gev/s"

Moscow, Yadernaya Fizika, vol 16, No 5, 1972, pp 974-982

Abstract: The purpose of the present paper is to study the general dynamic characteristics of secondary particles from four-beam proton-proton interactions, such as pulse and angle distributions, inelasticity, and correlation between nucleons, at primary pulses of 19.1 Gev/s. A comparison of the experimental and theoretical results is also made. The difference between the approach taken by the experiments of this paper and that of earlier work in the same direction is that the present paper takes into account information regarding the nature of the charged particles obtained by direct measurements of the ionization loss density. The experiments involved observations in a two-meter waveguide of a bubble chamber irradiated by protons with a pulse of 19.1 ± 0.1 Gev/s, in which 17,700 events were recorded and 11,000 interactions were

USSR

UDC: None

TAKIBAYEV, Zh. S., et al, Yadernaya fizika, vol 16, No 5, 1972, pp 974-982

selected for measurement. A table is given of various methods of obtaining experimental data and the corresponding results. Comparison of the theoretical and experimental results indicates that the multiperipheral model on which the former is based shows closer agreement with the experimental distribution of inelastic pp interaction, depending on the number of secondary charged particles. The authors express their appreciation to the Committee on Track Chambers of CERN, workers in the Laboratory of Elementary Particles, the Division of Computer Techniques, and the Mathematical Physics Laboratory of the IFVE[Institute of High-Energy Physics] of the Kazakhstan Academy of Sciences, as well as the LVTA Laboratory of the Joint Institute of Nuclear Research.

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USSR

UDC 539.126

SAN'KO, L. A., RUS'KINA, G. Ya., MUKHORDOVA, T. I., TAKIBAYEV, Zh. S., BOOS, E. G.

"Methods of Determining Background Noise"

Alma-Ata, Izvestiya AN Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No 6, Nov-Dec 71, pp 6-12

Abstract: An important problem in the analysis of interactions in high-energy situations is the determination of background noise distributions of the effective masses of the particles involved. This paper discusses a method for computing noise distributions, based on experimental data for the angles and impulses of the particles, and demonstrates the possibility of determining the noise by various methods of particle combinations and the formation of known nonresonance combinations. Also examined is the effect of small dip angles of the particles on the form of the noise distribution, information which is essential in the study of particle interactions in nuclear photoemulsions. To investigate all aspects of the method, the authors used random stars modeled at energy levels of 10 Gev and experimental

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SAVKO, L. A., Izvestiya AN Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No 6, Nov-Dec 71, pp 6-12

data of particle angles and energies from four-ray events recorded in nuclear emulsion at an energy level of 20 Gev.

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TAKIBAYEV, Zh. S.; BOOS, E. G.; et al

"Determination of Partial Cross Sections of Inelastic pp-Interactions during a 10-Bev/sec Pulse"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR: Seriya Fiziko-Matematicheskaya; March-April, 1972; pp 20-4

ABSTRACT: The article describes a method of isolating events and the method used to determine the partial cross sections in pp-interactions during a primary proton pulse of 10 Bev/sec. Identification of the events was made with respect to the magnitude of the deficiencies of the mass M_0^2 and the confidence level of the observed χ^2 hypothesis.

Data on the nature of secondary charged particles were taken into account during the isolation of events by reaction channel. Transitions between reaction channels were taken into account in the determination of the cross section of a reaction. This problem was solved by the method of mathematical simulation of the reactions studied.

The article includes three tables, two figures. There are nine bibliographic references.
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TAKIBAYEV, Zh. S. et al, Izvestiya, AN Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No 6, Nov-Dec 71, pp 53-57

conclude with the caveat that the method leads to the suppression of a number of background combinations in ($N\pi$) particle sets but recommend its use for the analysis of PP interactions when the multiplicity of events is limited and the change in background distribution for three-particle sets is taken into account.

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USSR

UDC 539.1.073/.074

SAN'KO, L. A., TAKIBAYEV, ZH. S., BOOS, E. G., VOLKOVA, O. I., MOSIYENKO, A. M., ZAYTSEV, K. G., TEMIRALIYEV, T. T., and KHOLMETSKAYA, A. V., Institute of Nuclear Physics, Kazakh SSR Academy of Sciences, Alma-Ata

"Identification of Secondary Particles From the Ionization Losses in a Hydrogen Bubble Chamber"

Pribory i Tekh Eksper, No 4, 1971, pp 67-69

Abstract: The authors give the results of identifying secondary charged particles forming in the interactions of protons at an empulse of 10 GeV/sec in an 81-cm hydrogen bubble chamber. They show that by using the method of average length of discontinuities they can determine the nature of 30% of all positive particles in a certain range. Graphs are used to illustrate the authors' results. Figure 1 shows the relative error in density as a function of track length. Figure 2 shows the ionization curves computed for various types of particles. Figure 3 shows the distribution of data points relative to the ionization curves for positive and negative particles. Analysis of the authors' results shows that the method described herein will allow identification of 90% of all the particles measured. The article contains 3 figures and 4 bibliographic entries.

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Nuclear Physics

USSR

UDC 539.1.073/.074

BOOS, E. G., MOSIYENKO, A. M., SAN'KO, L. A., TAKIBAYEV, ZH. S., and TEMPRALIYEV, T. T., Institute of Nuclear Physics, Kazakh SSR Academy of Sciences, Alma-Ata

"Determination of the Nature of Charged Particles by Delta-Electrons in a Hydrogen Bubble Chamber"

Pribory i Tekh Eksper, No 4, 1971, pp 64-66

Abstract: The authors discuss the results of a new method of identifying high-energy charged particles by using delta-electrons. The delta-electrons were registered on secondary tracks of four-beam pp-interactions in an 81-cm hydrogen bubble chamber with a primary impulse of 10 GeV/sec. The effectiveness of the method is 4% of the total number of secondary particles; in principle it makes it possible to determine the nature of the particles in the region of impulses greater than 2 GeV/sec where it is practically impossible to make identification by measuring the ionization losses. The authors support their findings with equations and schematics. Figure 1 depicts the impulse spectrum for positive particles and delta-electrons. Figure 2 describes the distribution by the square of the mass for negative and positive particles. Figure 3 shows the impulse spectrum

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BOOS, E. G., et al., Pribory i Tekh Eksper, No 4, 1971, pp 64-66

of particles with an impulse greater than 2 GeV/sec. The article contains 3 figures and 3 bibliographic entries.

2/2

USSR

TAKIBAYEV, ZH. S., BOOS, E. G., SAN'KO, L. A., TEMIRALIYEV, T., ANTONOVA, M. G., YERMILOVA, D. I., MUKHORDOVA, T. I., KHOLMETSKAYA, A. V., and FEDOSEYENKO, V. V., Institute of Nuclear Physics, Academy of Sciences Kazakh SSR

"Study of Dynamics of Resonance Production in Four-Track Proton-Proton Interactions at Momentum of 10 Gev/c"

Moscow, Yadernaya Fizika, Vol 13, No 1, 1971, pp 113-123

Abstract: The article gives an analysis of 1800 four-track proton-proton interactions recorded in an 81-cm Saclay hydrogen bubble chamber irradiated with protons with a momentum of 10.01± 0.01 Gev/c on the CERN synchrotron. The following reactions are considered:

$$pp \to pp\pi^+\pi^-, \quad (1)$$

$$pp \to pp\pi^+\pi^-\pi^0, \quad (2)$$

$$pp \to pn\pi^+\pi^+\pi^-. \quad (3)$$

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TAKIBAYEV, ZH. S., et al., Yadernaya Fizika, Vol 13, No 1, 1971, pp 113-123

Nucleon and meson resonance production cross-sections are determined and the contribution of two-particle reactions studied. It is shown that pion production in all the channels considered is accompanied in most cases by nucleon resonance production. The contribution of boson resonances, which is greatest in the channel with π^0 meson production, does not exceed 10 percent of the reaction channel cross-section. Tne use of the maximum momentum method permits estimates of the cross-sections for different quasi-two-particle reactions. The cross-sections of the dynamic states being observed differ considerably in channels (2) and (3), where the number of pions and nucleons coincides. This may be due to changes in the nucleon charge in inelastic pp interactions.

USSR

UDC: 539.12

TAKIBAYEV, Zh. S., BOOS, E. G., and RUS'KINA, G. Ya.

"Study of the Properties of the Angular Distribution of Shower Particles in Proton-Nucleon Interaction at 76 Gigaelectron-Volts"

Alma-Ata, Akademii Nauk Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No 2, March-April 1971, pp 67-70

Abstract: Experimental data are presented for proton-nucleon interactions obtained by irradiating photoemulsion layers 6 cm x 10 cm x 200 μ using the internal beam of the Serpukhov accelerator at 76 gigaelectron volts. Data are presented graphically for the multiplicity distribution, the angular distribution of the shower particles in the center-of-mass system of colliding nucleons for events of varying multiplicity, the distribution of lg (γ_s/γ_c) for three multiplicity ranges, and the dependence of γ_s/γ_c on the multiplicity for three energy values E_0. The multiplicity distribution was found to be extremely broad. With an increase in n_s (relativistic tracks) the angular distribution becomes more isotropic. The distribution of $\lg(\gamma_s/\gamma_c)$ becomes less broad with an increase in n_s; however, the systematic shift toward high values of γ_s remains. Reasons are given for this phenomenon. The value of γ_s increases more rapidly than $\sqrt{E_0}$.

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USSR

TAKIBAYEV, Zh. S., BOOS, E. G., SAN'KO, L. A., and TEMIRALIYEV, T., Institute of High Energy Physics, Academy of Sciences USSR

"Study of Quasi-Two-Particle Reactions in Proton-Proton Interactions at 10 Gev/c"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 13, No 3, 5 Feb 71, pp 122-125

Abstract: The properties of quasi-two-particle reactions of the type $pp \to pN^*$, $pp \to p\Lambda$, $pp \to \Lambda N^*$, and $pp \to \Lambda\Lambda$ were studied. The reactions were identified in studying four-beam proton-proton interactions in an 81-cm hydrogen bubble chamber of Saclay irradiated at CERN by 10.01 ± 0.1 Gev/c protons. The reaction cross sections of the four reactions are given in a table. A second table gives experimental values for the ratio of the cross sections of different isotopic projections of the two-particle reaction $pp \to \Delta_{1236}\Delta_{1950}$. They are compared with calculations made for possible decay schemes of the isobar $\Delta_{1950} \to N_{\pi\pi}$. It was assumed that the isospin of the exchange particle is equal to unity. The experimental data are in good agreement with this hypothesis. It is also shown that the experiment does not contradict two hypotheses concerning the type of decay $\Delta_{1950} \to (_{\pi\pi})_{T=1} + N_{T=1/2}$ and Δ_{1950} 1/2

USSR

TAKIBAYEV, Zh. S., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 13, No 3, 5 Feb 71, pp 122-125

$\rightarrow (\pi)_{T=1} + \Delta(\pi N)_{T=3/2}$; the latter mode of decay agrees somewhat better with the average experimental values.

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1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--MECHANISM OF COHERENT PRODUCTION OF PARTICLES BY 19.8 GEV-C PROTONS -U-

AUTHOR-(03)-BOOS, E.G., TAKIBAYEV, ZH.S., TURSUNOV, R.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. AKAD. NAUK KAZ. SSR 1970, 26(2), 42-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PROTON BOMBARDMENT, COHERENT SCATTERING, ANGULAR DISTRIBUTION, PION, ANISOTROPY, NUCLEAR ISOBAR, PARTICLE PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0129 STEP NO--UR/0031/70/026/002/0042/0048

CIRC ACCESSION NO--AP0050220

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 021

CIRC ACCESSION NO--AP0050220

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPT. CARRIED OUT BY E. G. BOOS, ET AL. (1966) WAS VERIFIED. THE CURVE OF THE STATISTICAL BACKGROUND FOR THE REACTION P PLUS A YIELDS P PLUS 2 PI PLUS A WAS STUDIED. THE EXCHANGE OF THE POMERANCHUK POLE IMPROVES THE AGREEMENT WITH THE EXPT. DISTRIBUTION BUT IT IS NOT SUFFICIENT FOR A COMPLETE DESCRIPTION. THE DISTRIBUTION HAS A SHARP SCATTER IN THE REGION OF (1.4-1.5) GEV,C PRIME2. THE PROCESS THROUGH THE FORMATION OF A NUCLEONIC ISOBAR N PRIME (1470) WHICH IN 45PERCENT OF ALL CASES DECAYS INTO A N AND 2 PIONS. THE ANGULAR DISTRIBUTION OF SECONDARY CHARGED PARTICLES IN THE REST SYSTEM (P PI PI) WITH REGARD TO THE DIRECTION OF THE RESULTING MOMENTUM OF 3 PARTICLES SHOWS THAT IT IS SYM. WITH REGARD TO THE DIRECTION FORWARD BACKWARD AND ANISOTROPIC. COMPARISON WITH ISOTROPY SHOWS A PROBABILITY OF P(X PRIME2) EQUALS 0.01 WITH 4 DEGREES OF FREEDOM. THE PIONS AND PROTONS ARE EJECTED AT LARGE ANGLES WHICH POINTS TO A POSSIBLE DECAY MECHANISM OF M YIELDS DELTA (1236) PLUS PI.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CORRELATION BETWEEN FUNCTIONAL DEVELOPMENT OF THE HIPPOCAMPUS AND THE SEPTUM IN RABBITS IN ONTOGENESIS -U-

AUTHOR-(02)-BORAVOVA, A.I., NIKITINA, G.M.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 3, PP 593-601

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HIPPOCAMPUS, BRAIN, BIOPENTIAL, RABBIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1912 STEP NO--UR/0247/70/020/003/0593/0601

CIRC ACCESSION NO--AP0120567

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120567

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVOLUTION OF EVOKED POTENTIALS (EP) IN THE HIPPOCAMPUS AND THE SPETUM LUCIDUM TO ELECTRIC CUTANEOUS STIMULATION WAS STUDIED IN RABBITS AGED FROM ONE TO 90 DAYS. EP IN THE HIPPOCAMPUS ARE RECORDED BEGINNING WITH THE 5TH TO 6TH DAYS OF LIFE, THEIR CONFIGURATION AND TEMPORAL PARAMETERS REACHING A DEFINITIVE LEVEL BY THE 17TH TO 20TH DAYS, WITHOUT APPRECIABLE SUBSEQUENT CHANGES. EP IN THE SEPTUM HAVE A SIMILAR AGE DYNAMICS. THE DIFFERENCE IS FOUND IN THE CONFIGURATION OF HIPPOCAMPUS AND SEPTUM EP: THE NEGATIVE POSITIVE OSCILLATION IN THE SEPTUM IS OFTEN PRECEDED BY AN INITIAL POSITIVE WAVE. THE PARALLEL EVOLUTION OF THE HIPPOCAMPUS AND SEPTUM EP AND ITS CLOSE CONNECTION WITH ONTOGENETIC DEVELOPMENT OF THE THETA RHYTHM ENABLE AN EARLY FUNCTIONAL INTERACTION BETWEEN THESE STRUCTURES OF THE LIMBIC SYSTEM IN THE CENTRAL MECHANISMS OF THE ORIENTING REACTION.

FACILITY: LABORATORY OF COMPARATIVE ONTOGENESIS OF NERVOUS ACTIVITY, INSTITUTE OF BRAIN, USSR ACADEMY OF MEDICAL SCIENCES, MOSCOW.

UNCLASSIFIED

UDC 669.293.5:669.295.5

USSR

BAYKOV, A. I., KUZNETSOVA, M. I., SHADSKIY, D. V., MEL'NIKOVA, L. V., MIKHAYLOV, S. M., and BORSCHEVA, L. S.

"Technological and Superconducting Properties of 60T Alloy"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 193-202

Translation: The article studies the technological and superconducting properties of 60T alloy. The dependence of mechanical properties on the degree of cold deformation and diameter of the wire is demonstrated.

The mechanism of deformation of the alloy at high temperatures is studied. It is established that the high plastic properties of the alloy allow cold drawing of wire at 100 m/min. The influence of intermediate annealing and hardening and of final annealing on critical current density as a function of external magnetic field is studied.

7 figures, 4 tables, 4 biblio. refs.

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1/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--QUATERNARY SYSTEM OF COBALT, AMMONIUM, AND POTASSIUM SULFATES AND WATER AT 25, 50, AND 75DEGREES -U-

AUTHOR-(03)-BORBIYEVA, O., IMANAKUNOV, B., DRUZHININ, I.G.

COUNTRY OF INFO--USSR

SOURCE--IAV. AKAD. NAUK KIRG. SSSR 1969, (3), 64-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AQUEOUS SOLUTION, MULTICOMPONENT SYSTEM, PHASE DIAGRAM, SOLUBILITY, SOLID SOLUTION, CRYSTALLIZATION, AMMONIUM SULFATE, SULFATE, POTASSIUM COMPOUND, COBALT COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0767 STEP NO--UR/0560/69/000/003/0064/0068

CIRC ACCESSION NO--AP0104213

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104213

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUATERNARY SYSTEM COSO SUB4 MINUS (NH SUB4) SUB2 SO SUB4 MINUS K SUB2 SO SUB4 MINUS H SUB2 O WAS STUDIED BY THE ISOTHERMAL SOLY. METHOD. SEVEN CRYSTN. FIELDS OF THE SALTS WERE DETD.: THOSE OF THE INITIAL COMPONENTS, COSO SUB4 .7H SUB2 O (25DEGREES), COSO SUB4 .6H SUB2 O (50DEGREES), COSO SUB4 .H SUB2 O (75DEGREES), K SUB2 SO SUB4, AND (NH SUB4) SUB2 SO SUB4; THOSE OF BINARY COMPDS., COSO SUB4 .K SUB2 SO SUB4 .6H SUB2 O AND COSO SUB4 .(NH SUB4) SUB2 SO SUB4 .6H SUB2 O; THAT OF THE BINARY SOLID SOLN. BETWEEN K SUB2 SO SUB4 AND (NH SUB4) SUB2 SO SUB4; AND THAT OF THE COMPD. KCOSO SUB4 .L(NH SUB4) SUB2 SO SUB4 .MK SUB2 SO SUB4 .NH SUB2 O. THE EFFECT OF TEMP. ON THE SOLY. OF THE SALTS, BINARY COMPDS., AND SOLID SOLNS. WAS DETD., AND THE DEPENDENCE OF THE AREA OF THE CRYSTN. FIELDS ON THE SOLYS. ARE PRESENTED. THE SOLYS. OF THE INITIAL COMPDS. AND OF THE BINARY SOLID SOLN. DECREASE WITH INCREASING TEMP. WHILE THAT OF THE BINARY COMPDS. INCREASES. THE SYNTHESIS OF COMPLEX SOLID SOLNS. OF CO, K, AND AMMONIUM SULFATES IN BEST AT LOW TEMPS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420016-4"

1/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MASS SPECTROMETRY OF GASEOUS PRODUCTS OF AMMONIUM PERCHLORATE THERMOLYSIS -U-

AUTHOR-(03)-ISAYEV, R.N., ZAKHAROV, YU.A., BORDACHEV, V.V.

B

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 302-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MASS SPECTROSCOPY, MASS SPECTROMETER, AMMONIUM PERCHLORATE, ISOTHERMAL TRANSFORMATION, CHEMICAL DECOMPOSITION, THERMAL EFFECT, CHEMICAL KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0554 STEP NO--UR/0075/70/044/002/0302/0305

CIRC ACCESSION NO--AP0113445

UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0113445
ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. THE END PRODUCTS OF NH SUB4 CIO SUB4 (I) THERMOLYSIS WERE ANALYZED MASS SPECTROMETRICALLY, IN PARALLEL WITH A KINETIC STUDY OF ISOTHERMAL DECOMPN. AND DTA. THE MAIN PRODUCTS OF DECOMPN. ARE H SUB2 O, HCl, Cl SUB2, O SUB2, N SUB2, N SUB2 O, AND NO. CHANGES OF TEMP. ALTER THE RATIO N SUB2 O IS TO NO IS TO N SUB2, DUE TO THE CATALYTIC EFFECT OF I ON REACTIONS IN THE GAS PHASE. THE ANAL. WAS CONDUCTED AT 2 MA EMISSION, 70 V IONIZATION, AND 1.5 KV ACCELERATING VOLTAGE. THE KINETICS OF ISOTHERMAL DECOMPN. OF I WAS STUDIED MANOMETRICALLY AT 211-390DEGREES, AN INITIAL PRESSURE OF 5 TIMES 10 NEGATIVE PRIME3 TORR, AND 200 MG SAMPLE (SMALLER THAN 60 MU PARTICLE SIZE). THE ACTIVATION ENERGY WAS 19.6 AND 24.5 KCAL-MOLE AT 211-30DEGREES AND 274-97DEGREES, RESP. THE 1ST STAGE OF THERMOLYSIS (I IN EQUILIBRIUM NH SUB3 PLUS HCIO SUB4 BY PROTON TRANSFER) TAKES PLACE TO A CERTAIN DEGREE AT ALL TEMPS., BUT THERE IS ALSO A SIMULTANEOUS DECOMPN. IN THE SOLID PHASE WITH ELECTRON TRANSFER FROM ANION TO CATION. DECOMPN. OF I PROCEEDS SIMULTANEOUSLY BY BOTH MECHANISMS, BUT IN THE REGION OF RELATIVELY LOW TEMPS., THE SOLID PHASE DECOMPN. PREDOMINATES.

UNCLASSIFIED

USSR UDC 621.313.12:538.4

APUKHTINA, YE. G., BORDACHEVA, V. V., VAL'DBERG, A. YU., VIKHROV, YE. A., KURKIN, V. P., MOSTINSKIY, I. L., NEKHOROSHEV, R. S., SOROKIN, G. S., FEDOROVA, ZH. S.

"Study of Various Methods of Trapping an Ionizing Additive in the U-02 Experimental Magnetohydrodynamic Generator"

V sb. Magnitogidrodinam. metod polucheniya elektroenergii (Magnetohydrodynamic Method of Obtaining Electric Power--collection of works), vyp. 3, Moscow, Energiya, 1972, pp 202-219 (from RZh-Aviatsionnyye i raketnyy dvigateli, otdel'nyy vypusk, No 11, Nov 72, Abstract No 11.34.137)

Translation: The requirements on additive injection systems are formulated. Methods of trapping an ionizing additive and the structural execution are described. The operating experience using additive injection systems in experimental magnetohydrodynamic generators is described, and results are presented from studies of the efficiency of trapping them with submicron K_2CO_3 dust from a flow of combustion products are presented. A study was made of the advantages and disadvantages of each of the systems. There are 7 illustrations and a 13-entry bibliography.

1/1

USSR UDC 66.085.3/.5:678.742.2

P'YANKOV, G. N., KABANCHI, A. M., GOLODNYY, YU. F., BRASHKIN, N. A., LOPATIN, I. P., YARMILKO, YE. G., and BORDIKOVA, A. N., Institute of Physical Chemistry, Acad. Sc. UkrSSR

"Experimental Line for the Production of Radiation Modified Polyethyelene Tubes UR-0.4T"

Kiev, Khimicheskaya Tekhnologiya, No 2 (62), Mar-Apr 72, pp 50-52

Abstract: An experimental line has been constructed for the production of radiation modified polyethylene tubes. The novelty of this process is in the irradiation method. The tubes pass repeatedly through the irradiation zone in a spiral pattern, with alternating directions of the rotation, so that exposure is uniform to the radioactive source, and damage due to the radiation heat is minimal. As an example, a tube 6 mm in diameter, wall thickness up to 0.5 mm, moving at a velocity of 2m/min, after 6 passages through the chamber picks up a dose of 45 Mrads.

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USSR UDC 538.30

BAGROV, V. G., BORDOVITSYN, V. A., and KOPYTOV, G. F.

"Radiation Indicatrix of an Arbitrarily Moving Charge"

Tomsk, Izvestiya VUZ--Fizika, No 6, 1972, pp 86-91

Abstract: Noting that the most important characteristic of radiation is the full power of its instantaneous output, this paper theoretically investigates the angular distribution of the radiation power without making any particular assumptions regarding the nature of the moving charge producing it. For this investigation a point charge of specified magnitude moving along a specified trajectory and having specified velocity and acceleration values is considered. Although this problem has been repeatedly investigated, the results of such investigations related to particular cases of charge motion and did not dwell on the difference between the power and the intensity of the radiation. These defects are remedied in the present paper. The authors are associated with the S. M. Kirov Polytechnical Institute at Tomsk.

1/1

USSR

UDC: 530.12:531.18+538.3

BORDOVITSYN, V. A., M. V. Lomonosov Moscow State University

"Motion of an Electron in Constant and Orthogonal Electromagnetic Fields of Special Form"

Tomsk, Izvestiya VUZ -- Fizika, No 10, 1972, pp 88-92

Abstract: This paper represents a correction of an earlier paper (D. Coggesholl, et al, Phys. Rev. 66, 1944, p 187) in which a nonrelativistic solution was found for the problem of the motion of charged particles, electrons and protons, in a constant and nonuniform magnetic field depending on a single coordinate. The author of the present paper finds the solution to be inadequate in the high-energy region, especially for light particles such as electrons. He therefore derives his own solution for the more general relativistic problem of the motion of an electron in a heterogeneous magnetic field and a transverse electric field, where the electric field intensity is proportional to the same single coordinate as the magnetic field. It is established that for the electric field intensity weaker than the magnetic, the motion of the electron is similar to that described in the earlier

USSR

UDC 539.1.01

BAGROV, V. G., BORDOVITSYN, V. A., KOPYTOV, G. F., Tomsk Polytechnical Institute imeni S. M. Kirov

"On the Wave Zone of Radiation"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 30-33

Abstract: A criterion for the formation of a wave zone of radiation of an arbitrarily moving charge is discussed. It is noted that the notion of a wave zone plays a fundamental role in the theory of charge radiation but that a strict criterion for the formation of a wave zone did not exist for a long time; and the problem was discussed only for the particular case of radiation arising in the motion of a charge in a circle (synchrotron radiation). The instantaneous angular distribution of the radiation power of a charge is discussed in order to investigate in detail the appearance of a wave zone of radiation at a given distance from the charge. It is shown that the criterion for the formation of a wave zone in the general case of an arbitrarily moving ultrarelativistic charge is not different from the corresponding criterion for synchrotron radiation. It is noted that this fact is not unexpected and agrees with the conclusions of many authors relative to the general laws of radiation of ultrarelativistic charges.
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USSR

BAGROV, V. G., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No. 3, 1972, pp 30-33

The integral criterion for any velocities coincides exactly with the angular criterion in the particular case of a hyperbolically moving charge.

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B

USSR

UDC: 621.315.592

BORDOVSKIY, G. A. and IZVOZCHIKOV, V. A.

"Investigating the Mechanism of Space-Charge Limiting Currents in Nonuniform Semiconductors by the Method of Conductance Thermal Stimulation"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol. 4, No. 6, 1970, pp 1171-1173

Abstract: In uniform semiconductors, the mechanism of currents limited by the space charge is easily clarified by investigating the dependence of the voltage at the beginning of the current-voltage characteristic curve on the distance between the electrodes. This method gives results which do not correspond to experimental results when applied to nonuniform semiconductors, however. The authors have therefore developed the method of thermal stimulation of current for the investigation of the mechanism in PbO monocrystals. This thermal stimulation is observed after the voltage at the first sharp rise of the characteristic curve is applied without optical excitation; the space-charge limited currents are then determined by the filling of the traps and not by their ionization. The authors present tables and curves giving the results of their experiments, and conclude by expressing their gratitude to V. A. Bordovskiy for his assistance with the experimental work.

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USSR

UDC 621.355.2.035.4

BORDT, YE. F., NOVODEREZHKIN, V. V., and KOLIKOVA, G. A.

"Some Questions on the Technology of the Grid Formation in Automobile Type Lead-Acid Batteries"

Sb. rabot no khim, istochnikam toka. Vses n.-n akkumulyator. in-t (Collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries), Vyp 7, 1972, pp 48-54 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L228 by V. S. Levinson)

Translation: The factors were considered which influenced the change in the temperature of the electrolyte during the formation of the electrode in lead batteries: the depth of the bottom space of the forming tank, the arched assembly of the electrode. In order to avoid a significant increase in the temperature of the electrolyte during the process of the formation of the electrode, for example, of the types 2STA, for D to a first approximation 0.8-2 amps/decimeter^2, it was necessary to use a tank having a deep bottom space, approximately 260 mm. The transfer to a double assembly for a balance of the amount of positive charge on the electrode in the formed grid was accompanied by an increase in both the temperature of the electrolyte and the voltage and by an extension of the process of formation. The application of the double assembly is necessary during the formation of thin electrodes and traps having an increased electrical conductivity.

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USSR

UDC: [621.436:656].001.8

BAYKOV, B. P., SOKOLOV, V. S., SAMSONOV, Ye. P., KOSYAN, A. F., and BORDUKOV, V. T.

"Promising Developments in Trunk Diesels for Railroad, Marine, and Heavy Truck Transportation"

Moscow, Izvestiya Akademii Nauk SSSR--Energetika i Transport, No. 4, 1971, pp 43-53

Abstract: In this qualitative analysis of improvements that could be made in diesels for transport, the authors point out that technical progress in this area requires improvement in aggregate power, economy, and reliability, with limited indices of weight and dimensions. The cylindrical power of diesels for a specified rpm is determined by the average effective pressure, the velocity of the piston, and the diameter of the cylinder. The need for improving the aggregate power has recently resulted in the appearance of V-shaped turbocharged models. For increased rpm, above 1500, a large number of V-shaped diesels of 6, 8, and 12 cylinders have been developed. The TsNIDI (Central Scientific Research Diesel

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USSR

UDC: [621.436:656].001.5

BAYKOV, V. P., et al, Izvestiya Akademii Nauk SSSR--Energetika i Transport, No. 4, 1971, pp 95-98

Institute) as well as several other organizations have conducted research in improving the pickup and adaptability of diesels, and work on the experimental 60ChN 15/18 engine with controllable turbocompression has yielded a torque reserve of more than 1.8. At the present time, an urgent need has arisen for the manufacture of new trunk diesels with an aggregate power of up to 2500 effective horsepower at 2000-2200 rpm for truck transportation, with an aggregate power of up to 6000 ehp at 1500 rpm for locomotive engines, and with an aggregate power of up to 25,000 to 30,000 ehp at 420-450 rpm for shipbuilding. This should be achieved in the next five-year plan, 1971-1975, for diesels. The diagram of projected diesel parameter values for the period of 1975-1980 is plotted.

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USSR

UDC 534.222.232:51

BORDYUGOV, G. T., PASTERNAK, V. B.

"Mathematical Modeling of the Electrical-Acoustical Circuit of an Ultrasonic Device"

Defektoskopiya, No 6, 1971, pp 26-37.

ABSTRACT: A mathematical model is developed for the electrical-acoustical circuit of an ultrasonic instrument for modeling by analog computer. The model is developed for a longitudinal-wave piezovibrator with an acoustical load consisting of a system of plane-parallel layers, an arbitrary electrical load, excited by a generator of arbitrary form. Examples of calculations using the model are presented. The model allows analysis and synthesis of the electrical-acoustical circuit as a whole and of the electrical and acoustical lengths separately when operated in the pulse and continuous modes in the time and frequency areas. The model allows engineering design and planning of the electrical-acoustical circuit (echo-pulse defectoscope, shadow pulse defectoscope, ultrasonic measuring devices operating in continuous or semi-continuous modes).

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Acc. Nr.: AP0100668 B Ref. Code: UR 0381

USSR UDC: 620.179.16

BORDYUGOV, G. T., IONCHAK, V. A., SHAPOVALOV, P. F., and BANKU, D. S.

"Improving the Noise Immunity of the Mirror-Shadow Ultrasonic Control Method"

Sverdlovsk, Defektoskopiya, No. 1, 1970, pp 11-13

Abstract: The mirror-shadow ultrasonic control method operates on the principle that the transmitter and receiver of the ultrasonic signal are mounted to one side of the product, with the received signal taken from the surface at the opposite side. A defect is indicted by a reduction in the signal amplitude below some predetermined threshold level. The effect of noise is to reduce the signal amplitude even though there is no defect, and the result is the unjustified discard of a normal product. This article describes an improved defectoscope using the mirror-shadow method designed for better noise immunity through the use of coded radiation of the ultrasonic signal. A block diagram of the new system is given together with a short explanation of how it works.

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Reel/Frame 19850137

EB 21

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--OLEFINS FROM N BUTANE BY CATALYTIC DEHYDROGENATION -U-

AUTHOR-(05)-STEPANOV, G.A., TSAILINGOLD, A.L., PILIPENKO, F.S., SOBOLEV, V.M., BORESKOV, G.K.

COUNTRY OF INFO--USSR

B

SOURCE--GER. OFFEN. 1,800,063

DATE PUBLISHED--16APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DEHYDROGENATION, BUTANE, CHEMICAL PATENT, METAL OXIDE, CATALYST ACTIVITY, BUTENE, BUTADIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1004 STEP NO--GY/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AA0119873

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT7C

CIRC ACCESSION NO--AA0119873

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CATALYTIC OXIDATIVE DEHYDROGENATION OF N BUTANE AT 550-650DEGREES OVER MO AND-OR W OXIDE CONTG. AT LEAST ONE OF THE OXIDES OF CR, MN, FE, NI, OR CO GAVE SIMILAR TO 5 WT. PERCNET N BUTENES AND 10-20 WT. PERCENT BUTADIENE. THUS, ADDN. OF NI(NO SUB3) SUB3 IN H SUB2 O TO (NH SUB4) SUB6 MO SUB7 O SUB24 IN H SUB2 O AND HEATING THE PPT. AT 400-500DEGREES GAVE A CATALYST WITH 1:2 MO-NI AT. RATIO. N BUTANE, O, AND H SUB2 O VAPOR AT A 1:0.25:10 MOLAR RATIO AND 590DEGREES REACTED IN THE PRESENCE OF 15 ML CATALYST TO GIVE 4.5 WT. PERCENT N BUTANES AND 21 WT. PERCENT BUTADIENE.

FACILITY: SCIENTIFIC RESEARCH INSTITUTE OF MONOMERS FOR SYNTHETIC RUBBER.

UNCLASSIFIED

Acc. Nr: AT0048316 Abstracting Service: CHEMICAL ABST. 5/70 B Ref. Code: 21R0026

104446c Isotopic exchange of oxygen on films of silver and gold alloys. Starostina, T. S.; Khasin, A. V.; Boreskov, G. K.; Plyasova, L. M. (Inst. Katal., Novosibirsk, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(2), 394–7 [Phys Chem] (Russ). In their relation to O, Ag and Au differ greatly. Whereas O is readily adsorbed on Ag at room temp. and at 200° there is perceptible reaction of homomolecular isotopic O exchange between the adsorbed and gaseous O, O is not adsorbed on Au at room temp. and no perceptible isotopic exchange occurs at 400°. Adsorption of O was studied on a series of Ag-Au alloys. On a Ag alloy with up to 50–60% Au, the rate of isotopic O exchange increases. Beyond this Au content, the rate starts to drop. The max. rate of exchange on the alloys is 5–6 times greater than on Ag alone. Inclusion of up to 60% Au in the alloy does not materially affect the activation energy of homomolecular O exchange and it remains the same as on pure Ag, 28–33 kcal/mole. In alloys with 60–80% Au, the activation drops to 16–17 kcal/mole. The quantity of O on alloys decreases with a decrease of Ag content. For pure Ag it is ~2.7 monolayers, whereas for alloys with 33, 63, and 89% Au, it is 1.9, 1.1, and 0.4 monolayers, resp.

M. Hoseh

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REEL/FRAME
19800018

18 nt

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PREPARATION OF A VANADIUM CATALYST FOR THE OXIDATION OF SULFUR DIOXIDE -U-

AUTHOR-(04)-BORESKOV, G.K., DZISKO, V.A., SAMAKHOV, A.A., YUDINA, T.D.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,737

REFERENCE--TOKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL CATALYST, CHEMICAL PATENT, CHEMICAL SYNTHESIS, VANADIUM, OXIDATION, SULFUR DIOXIDE, SILICA GEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1742 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132008

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0132008

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A V CATALYST FOR SO SUB2 OXION. WAS OBTAINED BY MIXING SILICA GEL WITH NA SUB2 SO SUB4, K SUB2 SO SUB4, AND V COMPDS. TO OBTAIN A CATALYST ACTIVE AT LOW TEMPS. AT TO PROTECT THE EQUIPMENT FROM PREPG. CATALYSTS FROM CORROSION, A GEL OF HYDRATED V SUB2 O SUB5 OBTAINED BY THE ADHESION OF DIL. H SUB2 SO SUB4 TO A SOLN. OF K VANADATE TO CONST. PH 4 PLUS OR MINUS 1 WAS FOR A V COMPD.

FACILITY: INSTITUTE OF CATALYSIS, ACADEMY OF SCIENCES, U.S.S.R.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ROLE OF PHASE MECHANISMS IN OXIDATION REACTIONS ON SOLID CATALYSTS -U-

AUTHOR--BORESKOV, G.K.

B

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(2), 374-82

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC OXIDATION, HYDROGEN, CARBON MONOXIDE, CATALYTIC DEHYDROGENATION, CHEMICAL REACTION MECHANISM, BUTENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0092 STEP NO--UR/0195/70/011/002/0374/0382

CIRC ACCESSION NO--AP0132385

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0132385
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PUBLISHED EXPTL. RESULTS ON HOMOMOLECULAR O EXCHANGE, OXION. OF H, CONVERSION OF CO, AND CATALYTIC DEHYDROGENATION OF BUTYLENE ARE EVALUATED. THE CONSECUTIVE STEP MECHANISM OF THESE REACTIONS IS DISCUSSED. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF THE THICKNESS OF A FILM OF ACTIVE COMPONENT ON THE ACTIVITY OF VANADIUM CATALYSTS IN THE OXIDATION OF SULFUR DIOXIDE -U-

AUTHOR-(04)-BORESKOV, G.K., DZISKO, V.A., TARASOVA, D.V., BALAGANSKAYA, G.P.

COUNTRY OF INFO--USSR

B

SOURCE--KINET. KATAL. 1970, 11(1), 181-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, SULFUR OXIDE, VANADIUM, CATALYTIC OXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1459 STEP NO--UR/0195/70/011/001/0181/0186

CIRC ACCESSION NO--AP0120246

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXION. OF SO SUB2 ON V CATALYSTS TAKES PLACE WITHIN THE FILM OF ACTIVE LIQ. CATALYST COMPONENT, CONTG. V SUB2 O SUB2 TIMES NK SUB2 O TIMES MSO SUB3 WHERE N EQUALS 2-4 AND M DEPENDS ON REACTION CONDITIONS AND ON THE N VALUE. THE THICKNESS OF THE ACTIVE CATALYST FILM AT WHICH THE OXION. GOES TO COMPLETION DEPENDS ON THE REACTION TEMP. AND THE COMPN. OF THE REACTION MIXT. AT LOWER TEMPS., THE CRIT. THICKNESS OF THE FILM DECREASES AND AT HIGHER TEMP. IT INCREASES. AT 420DEGREES, INCREASE OF CATALYTIC ACTIVITY WITH INCREASING K SUB2 O-V SUB2 O SUB5 MOLE RATIO OCCURS DUE TO AN INHIBITION OF SOLID PHASE CRYSTN. IN THE PRESENCE OF AN EXCESS OF K SUB2 O. IN ADDN. TO THIS, AT LOWER TEMP., REDN. OF V SUB2 O SUB5 TAKES PLACE TO A LESSER DEGREE. MAX. FILM THICKNESSES FOR REACTIONS AT 485 AND 420DEGREES ARE GIVEN. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC [537.226+537.311.33]:[537+535]

KOVACH, B. P., and BORETS, A. N.

"Direct 'Forbidden' Transitions in $C_{2v}1$-$C_{2v}10$ Crystals"

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 28-32 (from RZh-Fizika, No 10, Oct 71, Abstract No 10YE825 by YU. M. GAL'PERIN)

Translation: A theoretical investigation was made of the light absorption coefficient for direct "forbidden" transitions in crystals with the following variance law of the conduction band

$$E_j(k) = ak_x^2 + bk_y^2 + ck_z^2 \pm (\alpha k_x^2 + \beta k_y^2)^{1/2}$$

Such a variance law must be expected at most points of high symmetry of $C_{2v}1$-$C_{2v}10$ crystals. Since according to RZh-Fizika, 1966, Abstract No 9YE413, no exciton ground state is formed in direct "forbidden" transitions, an investigation of such transitions makes it possible to discover "loop effect" and "effect of paired extrema" more reliably than in the investigation of allowed transitions. The authors calculated the light absorption coefficient, for which they obtained a general expression and at the same time analyzed a

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USSR

KOVACH, B. P. and BORETS, A. N., Poluprovodn. elektronika, 1971, pp 28-32

number of particular cases. For these cases the frequency dependence of the absorption coefficient was constructed. The method of finding the "loop effect" and the "effect of paired extrema" was pointed out.

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/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TI--PREPN. OF BISMUTH TELLURIDE IODIDE, AND SOME OF ITS OPTICAL PROPERTIES -U-
AUTHOR-(05)-CHEPUR, D.V., GORAK, YA.A., KOVACH, D.SH., TURYANITSA, I.O., BORETS, A.N.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 385-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--BISMUTH, TELLURIDE, IODIDE, OPTIC PROPERTY, CHEMICAL PURITY, CHEMICAL SYNTHESIS, SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1345 STEP NO--UR/0363/70/006/002/0385/0386

CIRC ACCESSION NO--AP0121838
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
IRC ACCESSION NO--AP0121938
BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BITEI SINGLE CRYSTALS WERE PREPD. AND THE CHARACTERISTIC ABSORPTION IN THE EDGE REGION WAS STUDIED. HIGH PURITY STARTING MATERIALS WERE USED FOR THE SYNTHESIS. BITEI WAS SYNTHESIZED FROM THE ELEMENTS TAKEN IN THE STOICHIOMETRIC RATIO AT 480DEGREES. THE SYNTHESIS IN EVACUATED QUARTZ AMPULS TOOK SEVERAL DAYS. THE SINGLE CRYSTALS WERE IN THE FORM OF EASILY CLEAVING PLATELETS. X RAY ANAL. CONFIRMED THAT THEY BELONG TO HEXAGONAL SYSTEM WITH A EQUALS 4.29 ANGSTROM; C EQUALS 6.75 ANGSTROM. PRELIMINARY STUDY OF THE ABSORPTION OF NONPOLARIZED IR SHOWED THAT CRYSTALS SIMILAR TO 10 MU THICK TRANSMIT SMALLER THAN OR EQUAL TO 10PERCENT. BECAUSE ABSORPTION INCREASES TOWARDS THE LONGER WAVELENGTHS, IT MAY BE CAUSED BY HIGH CONCN. OF FREE CARRIERS. THE DEPENDENCE OF THE ABSORPTION COEFF. ON THE SQUARE OF THE WAVELENGTH SEEMS TO CONFIRM THIS SUGGESTION. THE OBSD. ABSORPTION EDGE COULD BE CAUSED BY SIMPLE ALLOWABLE TRANSITIONS BETWEEN THE BANDS. FACILITY: UZHGOROD. GOS. UNIV., UZHGOROD, USSR.

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DETERMINANTS AND MATRICES -U-

AUTHOR--BOREVICH, Z.I.

B

COUNTRY OF INFO--USSR

SOURCE--(OPREDELITELI I MATRITSY) 2ND ED. MOSCOW, NAUKA, 1970, 198 PP

DATE PUBLISHED-------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--ALGEBRA, HANDBOOK, TRAINING MANUAL, LINEAR EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1321 STEP NO--UR/0000/70/000/000/0001/0198

CIRC ACCESSION NO--AM0112358

UNCLASSIFIED

2/2 010 UNCLASSIFIED

CIRC ACCESSION NO--AM0112358 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 4. CHAPTER I THEORY OF DETERMINANTS 5. II SYSTEMS OF LINEAR EQUATIONS 66. III ACTIONS OVER MATRICES 102. IV QUADRATIC FORMS 153. THE BOOK DEALS WITH AN INTRODUCTION INTO LINEAR ALGEBRA WHICH REPRESENTS A PART OF THE UNIVERSITY COURSE OF HIGHER ALGEBRA. THE TEXTBOOK WAS WRITTEN FOR STUDENTS OF UNIVERSITIES, PEDAGOGICAL INSTITUTES AND ENGINEERING COLLEGES, AS WELL AS PEOPLE READY FOR INDEPENDENT STUDY OF HIGHER ALGEBRA.

UNCLASSIFIED

Acc. Nr: AP0042122 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code: UR0096

B

80830v Determination of the efficiency of a feed pump using entropy diagrams for water. Borevskii, E. I. (Vses. Teplotekh. Inst., Moscow, USSR). *Teploenergetika* 1970, 17(2), 90–2 (Russ). Literature themodynamic data were used to prep., by graphical interpolation, a series of enthalpy (i) and entropy (s) diagrams with 1° isotherms and 10 atm. isobars for temps. 155–180° and pressures to 450 atm. These auxiliary i, s curves were used in the construction of an i–s diagram useful in detg. internal efficiencies of pumps that are not attainable by direct measurements. Superheated-steam feed-pump efficiencies calcd. rapidly by the use of enthalpy data of the i–s diagram compared well with results detd. by other techniques. DPJR

TMT

1/1

REEL/FRAME 19760022

18

Measuring, Testing, Calibrating

USSR UDC: 535.34

BOREYKO, V. M., KARPOV, V. I., FEDOROVA, T. N.

"Installation for Studying Gasses in the Vacuum Area of the Spectrum by Impulse Photolysis"

Leningrad, Optiko-mekhanicheskaya Promyshlennost', No 8, Aug 72, pp 36-39.

Abstract: An impulse photolysis device is described. Vacuum absorption spectra in the UV area are recorded using a transmission tube consisting of a capillary source producing a continuum to 120 mμ. The design peculiarities of the source are studied. Oscillograms and radiation spectra are presented. The device is made in two versions, with photographic and photoelectric recording. Power supply is through six high-voltage coaxial cables located concentrically around the quartz discharge capillary, in order to assure a short pulse. The device can measure the absorption spectra of particles with lifetimes of over 10 μsec in the vacuum ultraviolet area.

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USSR

UDC: 621.327.534.2.032.927

SULATSKOV, V. G., BORICHEV, M. A.

"A Method of Assembling the Electrodes for Gas-Discharge Tubes of High and Superhigh Pressure"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329593, Division G, filed 22 Jul 70, published 9 Feb 72, p 208

Translation: This Author's Certificate introduces a method of assembling electrodes for high-pressure and superhigh-pressure gas-discharge tubes. The electrodes consist of a core wound with a helix. As a distinguishing feature of the patent, the assembly operation is simplified by placing the helix loosely over the core in such a way that a gap remains between the core and the inner surface of the helix, and the helix is fastened to the core by welding its first turn to the end face of the core in a shielding gas atmosphere.

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USSR

UDC 669.24:548/53:620.193.91

LARIKOV, L. N., and BORINSKAYA, S. T., Institute of Metal Physics of the Academy of Sciences UkrSSR

"Change in the Texture of Nickel-Beryllium Alloys During Deformation, Recrystallization, and Aging"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 4, Apr 72, pp 849-851

Abstract: Crystallographic correlations during recrystallization and aging of nickel-beryllium alloys are discussed on the basis of experiments with electrolytic nickel (99.99%) and nickel-base alloys containing 2, 20.5, 12.5, and 15 at. % Be. The texture deformations of all alloys were investigated after rolling (90%) in one direction. The recrystallization and aging processes were checked roentgenographically and microscopically. The results are discussed by reference to polar figures of differently processed Ni-Be specimens. The textures of collective recrystallization of all alloys, except the low-alloyed, are characterized by chaotic a distribution of orientations. The analysis of many experimental data of other authors revealed that specimens with multicomponent deformation textures after recrystallization are often taken as oriented in a disorderly manner. Therefore, the absence of a specific texture after collective recrystallization can have

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USSR

LARIKOV, L. N., and BORIMSKAYA, S. T., Fizika Metallov i Metallovedeniye, Vol 33, No 4, Apr 72, pp 849-851

another physical meaning than that by decomposition of supersaturated solid solutions according to the heterogeneous mechanism when disorderly orientations of nuclei develop in every grain. One illustration, ten bibliographic references.

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USSR

UDC 614.715.(477-25)1965-1970

BORIMSKIY, V. K., GRIDCHINA, M. A., and TIMOSHENKO, L. S., Kiev Municipal Sanitary-Epidemiological Station, Kiev

"Characteristics of the Pollution of Atmospheric Air With Dust"

Moscow, Gigiyena i Sanitariya, No 1, 1973, p 108

Abstract: In the City of Kiev, the average yearly concentration of dust in the air was determined in eight locations: Pioneer Park in a mountainous area above the Dnepr (location I); Goloseyevskiy Forest in the forest-part zone (II); Kalinin Sq. in the center of the city at an air elevation of 1.5 m (III); ditto, at an elevation of 20 m (IV); No 8 Nekrasovskaya St., in a residential section with plentiful greenery, situated in the vicinity of an automobile garage (V); No 19 Voloshskaya St., in the old industrial district of Podol with heavy city traffic (VI); No 7 Brest-Litovsk Highway, in the vicinity of large industrial enterprises and in an area in which traffic is heavy (VII): Privokzal'naya Sq., next to a railroad station and to a thermoelectric power plant (VIII). The average yearly dust concentration was 0.21, 0.16, 0.23, 0.14, 0.23, 0.43, 0.35, and 0.40 mg/m^3 at I, II, III, IV, V, VI, VII, and VIII, respectively. The lowest fluctuations during the year (0.1-0.2 mg/m^3) were observed at I. The lowest concentrations there (0.1-0.2 mg/m^3) were recorded in Jan-Feb, when the ground was covered with snow, and the highest (0.3-0.4 mg/m^3) in the

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USSR

BORISKIY, V. K., et al., Gigiyena i Sanitariya, No 1, 1973, p 108

summer during dry spells and in the late fall on foggy days with high humidity. The average yearly concentrations varied from year to year in the 0.14-0.19, 0.19-0.28, 0.13-0.24, and 0.29-0.5 mg/m^3 range in the forest-park zone, in the center of the city (Kalinin Sq.), in the residential zone, and in the railroad station and industrial zone, respectively. The maximum permissible concentration of dust in the air is 0.5 mg/m^3.

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USSR

TSAREGRADSKIY, L. YE. and BORIMSKIY, YU. S.

"Method of Synthesis of Binary Codes Correcting Individual Asymmetrical Errors"

Avtomatiz. Upr. Prom. Predpriyatiyami [Automation of Control of Industrial Enterprises], Kiev, Tekhnika Press, 1973, pp 66-68 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V422)

Translation: A new procedure is suggested for coding in the synthesis of a nonlinear code correcting individual asymmetrical errors, allowing the volume of memory necessary for storage of the code to be reduced. An example is presented of the performance of the coding procedure suggested.

Author's view

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USSR

UDC 77

BORIN, A. V., SLESAREVA, V. I., MOROZOVA, G. G., OLEYNIKOVA, V. I.

"The Effect of Sodium Thiosulfate on Photographic Properties and Storage Life of Optically Sensitized Emulsion Layers"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 116-123 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1337)

Translation: The effect of different amounts of sodium thiosulfate (I) introduced into optically sensitized emulsions on the change in their properties and additional light sensitivity at the time of introduction when the emulsions stand in a melted state or when dry layers are kept for an extended period is investigated. The introduction of I before the dyes only slightly effects the sensitivity properties but considerably lowers the additional sensitivity under subsequent optical sensitization (it drops more for more sodium thiosulfate). The effect of I as the melted emulsion stands is the same and depends on its quantity and on the dye: a retardation of the drop in the additional sensitivity and its

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USSR

BORIN, A. V., et al., Uspekhi nauchn. fotogr., 1970, Vol. 14, ...

acceleration or transition from acceleration to retardation are encountered. Similar phenomena were observed under extended storage of dry layers: as in the melted state sodium thiosulfate may also cause a rise in fogging; it is especially considerable in those cases when the emulsion layers contain polyethylene glycol. The different effects of I under different conditions are primarily associated with its two functions: etching of the AgHal surface, by which the bond of the sensitivity centers with the surface is weakened, and the effect of dyes on the rate of discoloration, the products of which can desensitize or fog the emulsion. Displacement of the dye from the AgHal is also possible due to I, and in the presence of polyethylene glycol there is also slow oxidation of I and an intensification of electron-acceptor properties of sensitivity centers. 16 references. Authors abstract.

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1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SOME PROBLEMS OF COMPLEX TREATMENT OF PATIENTS WITH ULCER DISEASE AT THE MORSHIN HEALTH RESORT -U-

AUTHOR--BORIN, YA.V., DENISYUK, V.G., SEREDYUK, N.N.

COUNTRY OF INFO--USSR

B

SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 39-41

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GASTROINTESTINAL SYSTEM, DIGESTIVE DISEASE, DUODENUM, LESION, MINERAL, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0951 STEP NO--UR/0475/70/000/003/0039/0041

CIRC ACCESSION NO--AP0102890

UNCLASSIFIED

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0102890 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MORSHIN MINERAL WATER COMPLEXLY USED WITH OTHER HEALTH RESORT FACTORS HAD A FAVOURABLE EFFECT ON THE COURSE OF GASTRIC AND DUODENAL ULCER IN THE MAJORITY OF PATIENTS. HYPOTONIC SOLUTIONS OF THIS MINERAL WATER EXERT AN INHIBITORY EFFECT ON GASTRIC SECRETION. MORSHIN MINERAL WATER IS CONTRAINDICTED DURING EXACERBATIONS OF ULCER DISEASE, SHARP STIMULATIONS OF GASTRIC SECRETORY ACTIVITY AND DISORDERS OF THE MOTOR EMPTYING ACTIVITY (PYLOROSPASM, PYLOROSTENOSIS.

UNCLASSIFIED

USSR

UDC 547.26'118

FOSS, V. L., VEYTS, YU. A., KUDINOVA, V. V., BORISENKO, A. A., and LUTSENKO, I. F., Moscow State University Imeni M. V. Lomonosov

"Synthesis of Alkylalkoxydiphosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1000-1006

Abstract: The synthesis of a new type of unsymmetric diphosphines containing alkyl(aryl) and alkoxy(aryloxy) groups was developed. The first method is based on the reaction of dialkoxyphosphines with dialkylchlorophosphines in organic solvents (petroleum ether, benzene, diethyl ether, dimethoxyethane) and in presence of tertiary amines. This is an exothermic reaction, completed in 2-3 hrs. The second method is much slower, requiring several days for completion. It is based on the reaction of dialkyl(aryl)phosphines with dialkyl-(aryl) chlorophosphites under similar reaction conditions. Raising the reaction temperature does not help, since it leads to the formation of high-boiling by-products.

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USSR

UDC 547.245

BUGERENKO, YE. F., PETUKHOVA, A. S., BORISENKO, A. A., CHERNYSHEV, YE. A.

"Problem of the Structure of the Products of Interaction of Alkyl Silane Halides with Sodium Dialkyl Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, p 216

Abstract: For the products of the interaction of $(CH_3)_3SiCl$, $(CH_3)_2SiCl_2$, CH_3SiCl_3 and $SiCl_4$ with doium diethyl phosphite, in the ^{31}P nuclear magnetic resonance spectra, signals are observed which are split into a quintet as a result of the interaction of the phosphorus nuclei with the four CH_2-protons of the ethoxyl groups (J ~ 8 hertz). The chemical shifts of the observed signals with respect to 85% of the orthophosphoric acid δ_P lie within the limits of -123 to -128, that is, in the range characteristic of trialkyl phosphites [J. R. Van Weser, et al., J. Am. Chem. Soc., No 78, 5715, 1956] and organylsilyl phosphinates [K. Issleib, et al., Angew. Chem., No 79, 59, 1967] and not the derivatives of the four-coordination atom of phosphorous. Thus, the ^{31}P nuclear magnetic resonsnace spectra confirm the structure of the products of interaction of trialkyl silane halides with sodium dialkyl phosphites, just as the derivatives of trivalent phosphorus containing the SiOP fragment. 1/1

USSR

UDC 547.26'118

VEYTS, Yu. A., BORISENKO, A. A., FOSS, V. L., and LUTSENKO, I. F., Moscow State University Imeni M. V. Lomonosov

"A New Rearrangement Among Organophosphorus Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 440-441

Abstract: Oxidation of 1,1-diisopropyl-2,2-dibutoxydiphosphine with HgO gives a single product 1,1-diisopropyl-2,2-dibutoxydiphosphine, whose structure was confirmed by NMR ^{31}P analysis. The assumption was made that this unexpected result -- oxidation of the less basic "phosphite" center of the diphosphine may be a result of a rearrangement of an intermediate, direct oxidation product:

$$R_2\overset{O}{\overset{\|}{P}}-P(OR)_2 \longrightarrow R_2P-O-P(OR)_2 \longrightarrow R_2P-P(:O)(OR)_2.$$

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USSR

UDC 547.26'118

NIFANTIYEV, E. Ye., NASONOVSKIY, I. S., and BORISENKO, A. A., Moscow State University imeni M. V. Lomonosov

"Synthesis of Hydrogen 1,3-Alkylene Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,368-2,371

Abstract: Study of the stereochemistry and reactivity of the acid 1,3-alkylene phosphites revealed a general lack of published data and a number of contradictions in data published. The authors synthesized and studied the following: 1) diethylamide of 2-methylamylene-2,4-phosphorous acid; 2) diethylamide of 2,4-dimethylamylene-2,4-phosphorous acid; 3) methylamylene-2,4 phosphite; 4) 2,4-dimethylamylene-2,4 phosphite; and 5) 1,3-propylene phosphite and 2,2-dimethyl-1,3-propylene phosphite. The possibility of synthesizing the stereoisomeric acid phosphites from acid 1,3-alkylene phosphites was demonstrated. Tables of physical constants found, paramagnetic resonance curves, and structural formulas are included.

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USSR

UDC 547.26'118

NIFANT'YEV, E. YE., NASONOVSKIY, I. S., and BORISENKO, A. A., Moscow State University imeni M. V. Lomonosov

"Stereoisomerism of 1.2-Propylene Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, p 1876

Abstract: The authors found the phenomenon of stereoisomerism among acid five-membered alkylene phosphites. 1,2-Propylene phosphite, obtained in various ways, represents an approximately equal mixture of two stereoisomers alkylene phosphites, stereoisomeric five-membered phosphites possess very similar stability and do not interconvert under the action of acids, bases, or moderate heating. A study shows that stable 1,2-propylene phosphite is readily formed by hydrolysis of 1,2-propylene chlorophosphite with water.

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USSR UDC 547.26'118

BORISENKO, A. A., and NIFANT'YEV, E. Ye., Moscow State University

"The Steric Effect in the Thermolysis of Alkyl 1,3-Alkylene Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol XL, No 12, Dec 70, pp 2765-2766

Abstract: Among a series of neutral cyclic phosphites was observed the first example of a dependence of thermal stability of geometric isomers on stereochemistry. Specifically, two stereoisomeric esters of 1,3-butylene-phosphorous acid were found to differ in thermal stability, one remaining stable at 140°C, the other energetically eliminating isbutylene to form 1,3-butylene phosphite.

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USSR

UDC 547.23

LUTSENKO, I. F., PROSKURNINA, M. V., BORISENKO, A. A., Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Dialkoxyphosphines -- Complete Esters of the Active Form of Hypophosphoric Acid"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 4, Aug 70, pp 828-830

Abstract: The reaction of dialkyl chlorophosphites with trialkylstannanes yields dialkoxyphosphines. The reaction rate depends to a large degree on the alkyl group contained in the chlorophosphite molecule. Synthesized were di-isobutoxyphosphine, di-n-amyloxyphosphine, and di-n-butoxyphosphine, and their IR and NMR spectra were studied.

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USSR

UDC 538.27:547.26'118

NIFANT'EV, E. E., IVANOVA, N. L., BORISENKO, A. A. Moscow State University imeni M. V. Lomonosov

"Application of NMR Spectroscopy to the Study of Alcoholysis of the Amides of Trivalent Phosphorus Acids"

Leningrad, Zhurnal Obschei Khimii, Vol 40, No 6, Jun 70, pp 1420

Abstract: NMR spectroscopy was applied to the P^{31} nucleus in a study of the alconolysis of phosphoamides. It was established that triamides of phosphorous acid are more readily alcoholyzed than the amidoesters. The catalytic effect of amine hydrochlorides on the rate of substitution reactions could be confirmed by NMR. In the case of the alcoholysis of the dimethylamide of 1,3-butylenephosphorous acid, stereospeciticity of the substitution reaction the ring phosphorus atom was observed.

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USSR

UDC 547.26'118

NIFANT'EV, E. E., NASONOVSKII, I. S., BORISENKO, A. A. Moscow State University imeni M. V. Lomonosov

"Stereoisomerism of Cyclic Acid Phosphites"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, pp 1248-1251

Abstract: Pare crystalline 1,3-propylene phosphite is transformed into two phosphites with different NMR spectra, when heated to 140°. This phenomenon cannot be explained by destructional or skeletal isomerization of the original compound since after distillation of the mixture, 1,3-propylene phosphite is uncovered in high yield. Likewise, no boat-chair conformational change can be assumed, since the emergence of the two different forms is not observed in solution of the phosphite in organic solvents or on mild warming. Consequently, the formation of the two phosphites can be attributed only to a conformational change at the phosphorus atom. A similar transformation was observed also with 1,3-butylene phosphite. A tertiary amine addition facilitated the transformation in this case, which is an indication of the prototropic character of the transformation.

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USSR

UDC 547.26'118

NIFANT'YEV, E. Ye., BORISENKO, A. A., NASONOVSKIY, I. S., and MATROSOV, Ye. I., Moscow State University imeni M. V. Lomonsov

"Stereochemistry of 1,3-Butylenephosphites"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 1, Jan-Feb 71, pp 121-123

Abstract: Stereochemical relationships between the isomers of 1,3-butylenephosphite were studied. One isomer -- the more stable -- was obtained by reacting 27.5 g dimethylphosphite, 22.5 g 1,3-butandiol and a small piece of sodium at 130°. When methanol stopped evolving, the product consisting of two isomers, was distilled at 110-130° in a 10^{-3} mm vacuum. After standing this material crystallized with a m.p. 52-52.5°. The labile isomer was obtained by reacting 16.4 g of the dimethylamide of 1,3-butylenephosphorous acid with acetic acid in absolute ether at 35°. Distillation of the material obtained gives a product with b.p. 97-97.5°/1 mm, n_D^{20} 1.4550, d_4^{20} 1.2600. The stable isomer is less soluble in organic solvents and has a lower R_F in thin layer chromatography on alumina. This more stable isomer is evidently associated to a larger extent than the labile material. Conversion of the

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USSR

NIFANT'YEV, E. Ye., et al, Doklady Akademii Nauk SSR, Vol 196, No 1, Jan-Feb 71, pp 121-123

labile isomer to the stable one is not a phenomenon of boat-chair interconversions; these isomers differ by the orientation of their substituents in relationship to the chair skeleton.

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USSR

UDC 547.26'118

AKSENOV, V. I., CHERNYSHEV, Ye. A., BUGERENKO, Ye. F., and BORISENKO, A. A.

"Thione-Thiol Isomerization of o-Phenyl Dichlorothiophosphate in the Gas Phase"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, pp 484-485

Abstract: In an investigation of thione-thiol isomerization, o-phenyl dichlorothiophosphate (I) was passed through a quartz tube at 550° at a rate assuring the passage of the vapor through the tube within 40 sec. from the condensed product obtained the following compounds were isolated: PCl_3, $POCl_3$, $PSCl_3$, phenyl dichlorophosphate, starting material, S-phenyl dichlorothiophosphate, and additional six nigh-boiling compounds which were not identified. Thus the thionethiol isomerization was shown to take place; due to highly labile S-P bond, however, many side reactions accompany the isomerization.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTIVITY OF AN ACTIVATED METHYL GROUP IN NITRO COMPOUNDS. II. AROMATIC NITRO COMPOUNDS IN THE VILSMEIER HAACK REACTION -U-

AUTHOR-(03)-ZBARSKIY, V.L., BORISENKO, A.A., ORLOVA, YE.YU.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 520-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AROMATIC-NITRO COMPOUND, XYLENE, PERCHLORATE, ORGANIC AZO COMPOUND, ACROLEIN, TOLUENE, BENZENE DERIVATIVE, ESTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1685 STEP NO--UR/0366/70/006/003/0520/0525

CIRC ACCESSION NO--AP0112679

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0112679
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VILSMEIER HAACK REACTION OF 2,4,6,TRINITROXYLENE WITH HCONME SUB2 GAVE 1,3,BIS(2,(DIMETHYLAMINO),1,FORMYLVINYL),2,4,6,TRINITROBENZENE. THE REACTION OF 2,4,6,TRINITROCRESOL WITH HCONME SUB2 IN THE PRESENCE OF POCL SUB3 FOLLOWED BY THE TREATMENT WITH HCLO SUB4 GAVE A MIXT. OF 4,(2,4,6,TRINITRO,3,CHLOROPHENYL),2,6,DIMETHYL,2,AZA,6,AZONIA,3,5,HEPTADIENE PERCHLORATE AND 4,(2,3,DICHLORO,4,6,DINITROPHENYL),2,6,DIMETHYL,2,AZA,6,AZONIA,3,5,HEPTADIENE PERCHLORATE. IN THE CASE OF 2,6,DINITRO,P,TOLUIC ACID (I) THE ONLY ISOLATED PRODUCT WAS 2,(2,6,DINITRO,4,CARBOXYPHENYL),3,DIMETHYL,AMINOACROLEIN. THE ATTEMPTS TO SUBJECT 2,4,DINITROTOLUENE, 4,CHLORO,2,4,DINITROTOLUENE, 2,CHLORO,4,6,DINITROTOLUENE, I ET ESTER, OR 2,4,6,TRINITROETHYLBENZENE TO VILSMEIER HAACK REACTION WERE NOT SUCCESSFUL. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

BORISENKO, A. G., and KIRICHENKO, G. S., Institute of Nuclear Research, Ukrainian SSR Academy of Sciences

"Experimental Study of Efficient Retardation of an Ion Beam in Plasma During Ion-Acoustic Instability"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 1, 1971, pp 384-388

Abstract: A test was made of the theoretical finding that noncollisional thermalization of an ion beam in a plasma can be obtained when the beam is excited by ion-acoustic instability. These conditions are realized at beam velocities that do not exceed, in order of magnitude, the velocity of the nonisothermal ion beam $c_s \sim (T_e/M)^{1/2}$: i.e., for beam energies ε that are comparable with the thermal energy of electrons (T_e = temperature of plasma electrons and M = mass of ion). In the experiment a low-pressure gas discharge plasma in which a monoenergetic beam of alkali ions was injected was used to satisfy this ratio between the parameters ε and T_e. The plasma was produced in a copper vacuum chamber 5 cm in diameter and 20 cm long by means of a discharge between a heated cathode and a main and an auxiliary anode.
1/2

USSR

BORISENKO, A. G., and KIRICHENKO, G. S., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 1, 1971, pp 384-388

The discharge current was adjustable within the limits 0-3 amp. By reducing the pressure of the working gas (argon) within the range 10^{-3} - 10^{-4} mm Hg, the authors varied the temperature of the plasma electrons from 4 to about 14 ev at a plasma electron concentration $n_e \lesssim 2 \cdot 10^{10}$ cm^{-3}. The source of the potassium ion beam was a heated porous constant emitter (8 mm in diameter), a steam line, and a molten potassium unit. The energy of the ion beam injected into the plasma was regulated within the limits 10-100 ev by varying the potential of the emitter with respect to that of the base anode of the discharge close to the space charge. Beam current was varied within the limits 0-2 mamp, and the initial angular dispersion was $\alpha/2 \approx 7°$. The passage of the ion beam through the plasma is accompanied by the excitation of low-frequency oscillations. Interaction of the beam with the excited ion-acoustic oscillations leads to the retardation of the beam. As the distance traveled by the beam in the plasma is increased, the distribution function of the beam ion velocities shifts toward the appearance of slower particles. At a fairly large distance from the source the velocity distribution function becomes plateau-like. This corresponds to the efficient transfer of ion beam energy to the plasma.

2/2

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN IN PATIENTS WITH SYPHILIS AND GONORRHEA -U-

AUTHOR-(03)-TUMASHEVA, N.I., BORISENKO, A.M., BORISENKO, B.A.

B

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 6, PP 53-55

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD PLASMA, TRANSFERRIN, VENEREAL DISEASE, VITAMIN, COBALT COMPOUND, ASCORBIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1385 STEP NO--UR/0206/70/000/006/0053/0055

CIRC ACCESSION NO--AP0133337

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2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0133337
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN WAS DETERMINED ACCORDING TO G. A. BABENKO'S METHOD IN EXAMINATION OF 113 PATIENTS WITH DIFFERENT MANIFESTATIONS OF SYPHILIS AND 102 PATIENTS WITH GONORRHEA. MARKED CHANGES WERE FOUND IN CASES WITH SEVERE AND PROLONGED COURSE OF THE PATHOLOGICAL PROCESS. IN SEVERE CASES OF SYPHILIS HIGH INDICES OF SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN WERE OBSERVED, WHEREAS IN THE PATIETNS WITH GONORRHEA THE OPPOSITE TENDENCY WAS FOUND. SEARCH FOR MEANS OF ELIMINATION OF SUCH CHANGES IN THE PATIENTS UNDER STUDY WOULD FACILITATE RESTORATIVE THERAPY. IN THIS CONNECTION, A FAVOURABLE EFFECT OF ASCORBIC ACID AND VIATMIN B SUB12 AS NON SPECIFIC THERAPY WAS NOTED. FACILITY: VINNITSKIY MEDITSINSKIY INSTITUT IM. N. I. PIROGOVA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN IN PATIENTS WITH SYPHILIS AND GONORRHEA -U-

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2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0133337
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN WAS DETERMINED ACCORDING TO G. A. BABENKO'S METHOD IN EXAMINATION OF 113 PATIENTS WITH DIFFERENT MANIFESTATIONS OF SYPHILIS AND 102 PATIENTS WITH GONORRHEA. MARKED CHANGES WERE FOUND IN CASES WITH SEVERE AND PROLONGED COURSE OF THE PATHOLOGICAL PROCESS. IN SEVERE CASES OF SYPHILIS HIGH INDICES OF SATURATION WITH IRON OF THE BLOOD PLASMA TRANSFERRIN WERE OBSERVED, WHEREAS IN THE PATIETNS WITH GONORRHEA THE OPPOSITE TENDENCY WAS FOUND. SEARCH FOR MEANS OF ELIMINATION OF SUCH CHANGES IN THE PATIENTS UNDER STUDY WOULD FACILITATE RESTORATIVE THERAPY. IN THIS CONNECTION, A FAVOURABLE EFFECT OF ASCORBIC ACID AND VIATMIN B SUB12 AS NON SPECIFIC THERAPY WAS NOTED. FACILITY: VINNITSKIY MEDITSINSKIY INSTITUT IM. N. I. PIROGOVA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STABILIZATION OF ELECTRONS AND IONIC REACTIONS IN IRRADIATED KETONES -U-

AUTHOR-(04)-REVINA, A.A., BORISENKO, G.L., BAKH, N.A., KOSTIN, A.K.

COUNTRY OF INFO--USSR

B

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 845-8 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--GAMMA RADIATION, ALIPHATIC KETONE, EPR SPECTRUM, ALCOHOL, ELECTRON INTERACTION, ELECTRON RADIATION, ION INTERACTION, COBALT ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1216 STEP NO--UR/0020/70/191/004/0845/0848

CIRC ACCESSION NO--AT0134890

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AT0134890
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPR SPECTRA ARE REPORTED FOR ALIPHATIC KETONES WHICH HAD BEEN IRRADIATED (GAMMA PRIME60 CO) IN THE DARK AT 77DEGREESK. ALL PRODUCED A SHARP SINGLET LINE TYPICAL OF STABILIZED ELECTRONS IN POLAR MEDIA. THE TOTAL CONCN. OF THE RADICALS IN O SUB2 IS LOWER THAN IN VACUO; THE RELATIVE INTENSITY OF THE BROAD SIGNAL IS ALSO LOWER. EVIDENTLY THE ORIGINAL CATION RADICAL RESULTS FROM THE LOSS OF AN ELECTRON FROM THE O OF THE CO GROUP AND THESE ELECTRONS ARE CAPTURED BY THE MEDIUM. H TRANSFER TO THIS O ATOM RESULTS IN CATIONS SUCH AS RC PRIMEPOSITIVE MEOH OR CATION RADICALS SUCH AS RC PRIMEPOSITIVE (OH)CH SUB2., WHICH UNDERGO THE USUAL EXPECTED CHANGES. A PULSE TECHNIQUE WAS USED FOR ELECTRON IRRADN. AND OPTICAL SPECTRA OF TYPICAL IRRADIATED KETONES ARE SHOWN. ALL GAVE MAX. IN THE 330-40 NM REGION 50 MUSEC AFTER PULSING. THE YIELDS OF ALCS. AT 77-360DEGREESK ARE TABULATED FOR THE ME-PR, ME-BU, DI-ET, AND DI-BU KETONES. G VALUES ARE 0.3-0.8. FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF PYROMELLITIC ACID -U-

AUTHOR-(03)-VAYL, YE.I., BORISENKO, L.A., LEYBA, V.S.

COUNTRY OF INFO--USSR

B

SOURCE--U.S.S.R. 264,758
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PYROMELLITIC ACID, CHEMICAL PATENT, POTENTIOMETRIC TITRATION, MERCURY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0852 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136286
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136286
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PYROMELLITIC ACID IS DETD. BY POTENTIOMETRIC TITRN. WITH A SOLN. OF HGNO SUB3 OR HY(NO SUB3) SUB2.
FACILITY: UKRAINSKIY NAUCHNO, ISSLEDOVATEL'SKIY UGLEKHIMICHESKIY INSTITUT.

UNCLASSIFIED

USSR UDC 550.42

BORISENKO, L. F., MILLER, A. D., and FISHER, E. I., Institute of Mineralogy, Geochemistry and Crystallochemistry of the Rare Elements, Moscow

"Abundance of Gold in Ultrabasites"

Moscow, Geokhimiya, Akad. Nauk SSSR, No 2, Feb 72, pp 188-195

Abstract: A relatively high gold content for various igneous rocks has been suggested during the past decade.

In the present study, 79 samples of ultrabasites, pyroxenites, hornblendes, peridotites, dunites, olivinites and serpentinites were taken in the Urals, and 7 similar samples in Armenia. These showed a gold content varying from 0.005 to 0.300 g/t. In general, the content was higher than normally expected for this class of minerals, especially in the case of many gabbro-pyroxenite-dunite, and hyperbasite, formations in certain districts of the Urals.

The gold was mainly in the form of small nuggets of native Au or electrum, reaching 1-2 mm in diameter; it exhibited siderophile and chalcophile properties, as well as higher content in sulfide-rich rocks. The gold was both primary in character and also secondary, as introduced during hydrothermal-metasomatic processes. The presence of sulfur was an important factor in the transport and local concentration of gold in most of the minerals studied.

1/1

USSR UDC: 8.74

BORISENKO, L. G., LAVRISHCHEVA, Ye. M.

"Dialogue Semantic Debugging of Initial Programs on the Dnepr-2 Machine"

Teoriya Yazykov i Metody Postroyeniya Sistem Programmir. [Theory of Languages and Methods of Construction of Programming Systems--Collection of Works], Kiev-Alushta, 1972, pp 295-308 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V569, by V. Mikheyev)

Translation: The primary problems involved in dialogue semantic debugging of programs are studied. Dialogue semantic debugging refers to the process of initial program debugging in a time-sharing mode up to the point of production of check printouts for the working program. The effectiveness of the dialogue semantic debugging using the Dnepr-2 machine (OPAL system) is evaluated. Examples of two debugging sequences for one initial program written in D-ALGAMS are presented.

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