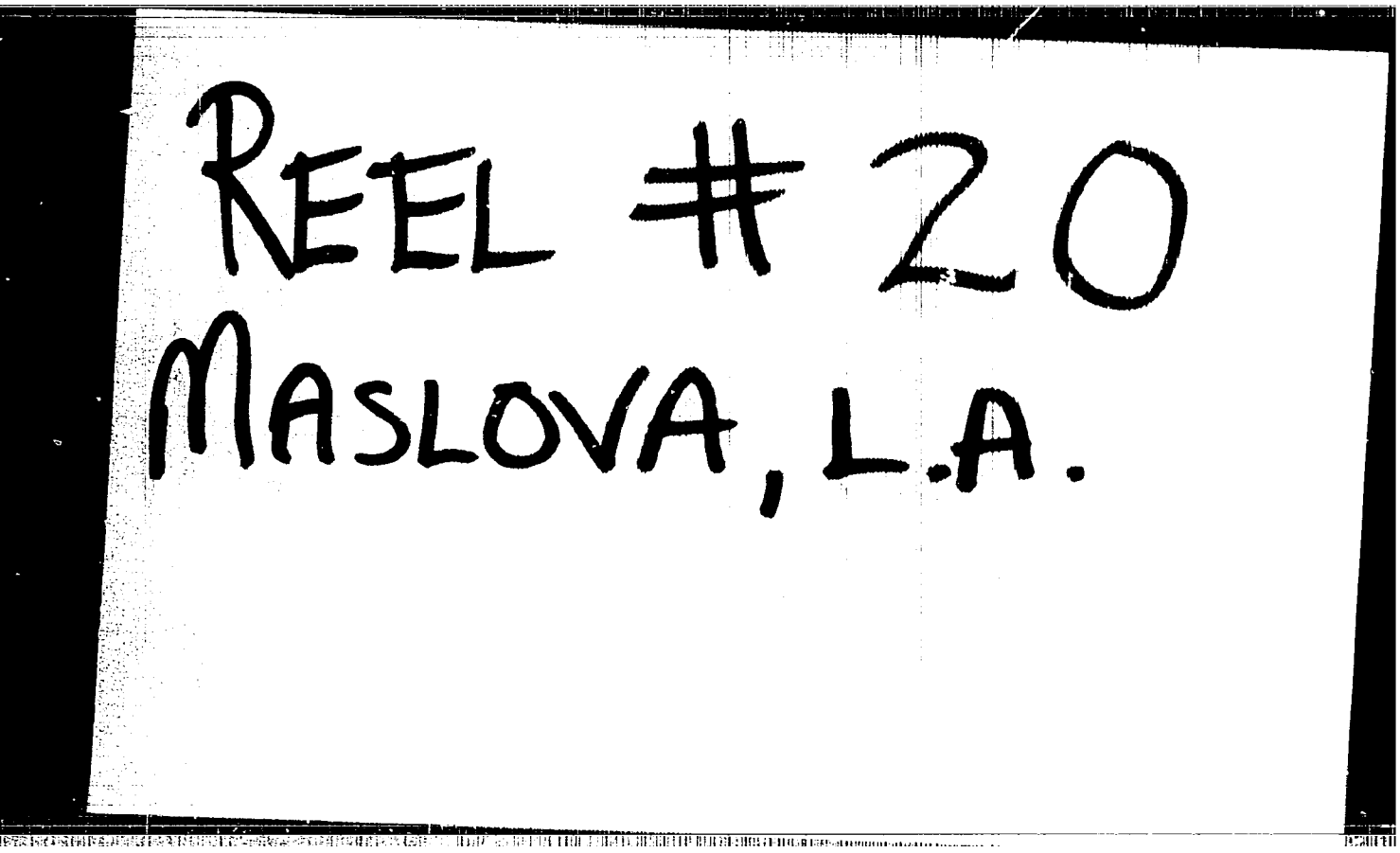

USSR

MASLOVA, L. A., TSIVINSKIY, S. V., Izvestiya Akademii Nauk SSSR: Ser. Fizicheskaya, Vol 37, No 11, Nov 73, pp 2353-2356

formation of dislocations and small-angle boundaries is thermal stresses. The observed agreement between the calculated and observed values of N and L shows that this assumption is valid as well as confirming the equations. Other mechanisms of formation of dislocations played no appreciable part in the experiments. The authors thank V. N. Startsev and D. N. Bol'shutkin for interest in the work and constructive criticism.

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USSR

MASLOVA, L. A., TSIVINSKIY, S. V., Izvestiya Akademii Nauk SSSR: Ser. Fizicheskaya, Vol 37, No 11, Nov 73, pp 2353-2356

they go out to the phase interface and grow along the direction of crystal growth for a distance comparable to the length of the crystal. As a result, large, strongly disoriented blocks are formed which have been given the name of macroblocks. The relation

$$L = \frac{4}{n \cos \varphi} \left(\frac{bD}{(a_1 - a_2) VT_n \cos \varphi} \right)^{1/3} \qquad (2)$$

has been proposed to evaluate the transverse dimension of macroblocks; where VT_n is the axial gradient of temperature in the crystal close to the crystallization front, n is the number of equally justified slip systems in the longitudinal cross section of the crystal, and φ is the angle of inclination of the slip plane to the plane perpendicular to the direction of growth. If there are several active disparate slip systems, the most active one should be considered. Equation (1) has been found to be valid for antimony and zinc, and relation (2) has been confirmed for metals. In this paper equations (1) and (2) are experimentally checked for KCl and KBr. The equations were derived on the assumption that the main cause of

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USSR

DMITROVSKAYA, T. I., MASLOVA, L. M., KARAL'NIK, B. V., and SHAMARDIN, V. A., Chair of Infectious Diseases, Alma Ata Medical Institute and Chair of Infectious Diseases, Alma-Ata Institute for the Advanced Training of Physicians, Department of Immunology, Kazakh Institute of Epidemiology and Microbiology

"The Indirect Hemagglutination Reaction in Diagnosing Protracted and Chronic Forms of Salmonellosis"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 11, 1971, pp 21-23

Abstract: Serological studies were made on 137 persons who presented pathological changes in internal organs following salmonellosis. The indirect hemagglutination reaction(IHR) was considered positive when total antibody activity was not lower than 1:200, and the 7S level was not lower than 1:40. Protracted infection was defined as that lasting up to 3 months; chronic, as that lasting over 3 months. The diagnosis for 30 persons was protracted salmonellosis (stomach disorders); 24 showed positive IHR. Chronic salmonellosis (digestive and hepatobiliary disorders) was diagnosed in 72 persons, 50 of whom showed positive IHR. A relationship was established between clinical manifestations of the disease and positive IHR, even in cases of subclinical or latent forms, where the symptoms were absent or vague. A relationship was also found between the severity of the disease in the acute period, severity of clinical manifestations, and degree of subsequent antibody activity. 1/1

USSR

MASLOVA, L. M. and FILIPPOVICH, S. M., Chair of Infectious Diseases, Alma-Ata Medical Institute and Laboratory for the Study of Foot and Mouth Disease, Kazakh Veterinary Institute

"Vaccinal Foot-and-Mouth Disease in Man"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 1, 1972, pp 69-70

Abstract: Three days after a healthy 32-year-old veterinarian had vaccinated cows with formaldehyde-killed vaccine from lapinized foot-and-mouth disease virus type O_1 (avirulent for animals), he developed blisters with serous contents (aphthae) in the right axillary region. A week later papular rashes appeared on both hands, face, and neck. The results of the complement-fixation test with material obtained from dead mice infected with lymph from the patient's aphthae confirmed that the virus was identical in antigenic properties to the O_1 virus from which the vaccine had been prepared. After 25 days of symptomatic treatment, the patient was discharged in satisfactory condition, but for a month afterwards he felt weak and dizzy, with occasional spells of dyspnea and tachycardia. Small papules erupted on his hands and neck for 7 months after excessive fatigue, chilling, or drinking alcohol. Specific complement-fixing antibodies appeared in his blood for 13 months.
1/1

USSR

UDC 591.88.086.3:611.813.1

MASLOVA, M. N., OZIRSKAYA, Ye. V. and REZNIK, L. V., Laboratory of Applied Biochemistry, Institute of Evolutionary Physiology and Biochemistry, Academy of Sciences USSR, Leningrad

"Changes in Rat Cerebral Cortex During Hyperoxia (Comparison of Functional Biochemical and Morphological Data)"

Leningrad, Tsitologiya, Vol 15, No 1, 1973, pp 16-21

Abstract: Wistar rats were exposed to pure oxygen at 3.5-6 atm for 30-40 min until the initial, compensated stage of O_2 toxicity developed in one group and the convulsive stage in another group. Their functional state was evaluated by the time it took them to climb a net inclined at 45° (orientation reaction). After immediate decapitation, acetylcholinesterase activity in brain tissue was determined, and slices of sensory and motor cortex and of liver tissue were examined electron microscopically. In the initial stage of O_2 toxicity, the orientation reaction was accelerated by 63% and acetylcholinesterase activity increased by 10%. No morphological alterations were observed in brain cells, but liver cell mitochondria were moderately enlarged. All the changes fall into the category of a nonspecific reaction to stress, such as may be induced by moderate hypoxia or intramuscular injection of 30 mcg of

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USSR

MASLOVA, M. N., et al., Tsitologiya, Vol 15, No 1, 1973, pp 16-21

adrenaline. In the clonic convulsive stage, the orientation reaction was absent and acetylcholinesterase activity significantly reduced. Although the structure of nerve processes was normal, many mitochondria in cell bodies were enlarged and deformed, while the optical density of the matrix was reduced. All the changes were reversible and associated with increased activity. In the tonic convulsive stage, irreversible pathology developed: almost all mitochondria in the bodies and processes of neurons and in liver cells were swollen and round, with just a few or no cristas remaining. Good correlation with acetylcholinesterase was observed in all cases. However, even in the most severe stage of O_2 toxicity, the reaction was nonspecific and identical with that induced by intraperitoneal injection of 6 mcg of picrotoxin.

2/2

UDC 612.126+546.32+546.33+612.014.426

USSR

MASLOVA, M. N., and GROMOV, A. YE., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Science USSR, Leningrad

"Changes in Erythrocyte Membrane Permeability Under the Effect of Hyperoxia"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 2, 1971, pp 465-468

Abstract: Potassium and sodium concentrations in erythrocytes were determined in blood samples obtained from rats before and after they were exposed to oxygen at 2.5-4.5 atm for 30 minutes and in blood samples obtained from rabbits before, during and after they were exposed to oxygen at 1, 2, 3, and 4 atm for 20 minutes at each stage. In rats (K^+) was decreased and (Na^+) was increased immediately after exposure to hyperoxia, and these shifts progressed with time so that 2 hours later the K/Na ratio, which normally is 10-15, was reduced to 1.5-3. Restoration was gradual, reaching the normal value only after 2-3 weeks. Similar changes were observed in rabbits, with greater hyperoxia causing a greater fall in the K/Na ratio. It is concluded that recovery is due to the entry of new erythrocytes into the circulation, while the change in the erythrocyte membrane permeability is irreversible, possibly due to damage to the ATP system.

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UDC 612.822.1+612.62

USSR

MASLOVA, N. N., and REZNIK, L. V., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad

"Functional and Biochemical Changes in the Rat Brain Immediately After Exposure to Hyperbaric Oxygen"

Moscow, Doklady Akademii Nauk SSSR, No 2, 1971, pp 494-496

Abstract: The orienting-search reaction and brain acetylcholinesterase activity were studied in rats immediately after exposure to oxygen under pressure (2.5 at m) for 30 to 40 minutes. The orienting-search reaction accelerated by 63% and acetylcholinesterase activity increased by 10%. On the assumption that these changes reflected not only adaptive but nonspecific reactions to stress, the animals were subjected to other comparable agents: adynamia, epinephrine, and amphetamine sulfate. All increased acetylcholinesterase activity in the brain (14, 18, and 17%, respectively, and amphetamine sulfate intensified motor activity appreciably. The effects of the stressors are related to excitation of the sympathoadrenal system.

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USSR

IBRAGIMOV, I. A., AND MASLOVA, N. B.

"Average Number of Real Roots of Random Polynomials. II. Coefficients With Nonzero Means"

Moscow, Teoriya Veroyatnostey i Yeye Primeneniya, Vol 16, No 3, Jul/Aug/Sep 71, pp 495-503

Abstract: Continuing an earlier article "Mean Number of Real Roots of Random Polynomials. I. Coefficients With Zero Mean," the following theorem is proven: "Let the Random variables ξ_j ($j = 0, 1, 2, \ldots, n, \ldots$) be independent, identically distributed, and belong to the domain of attraction of the normal law and let $E\xi_j = a \neq 0$; then

$$E\left\{N_n \mid Q_n(x) \not\equiv 0\right\} \sim \frac{1}{\pi} \ln n \quad \text{as } n \to \infty.$$

In proving the theorem, the mean number of positive zeros of the polynomial $Q_n(x)$ is $o(\ln n)$. In the proof it is shown that

$$E\left\{N_n(-\infty, 0) \mid Q_n(x) \not\equiv 0\right\} \sim \frac{1}{\pi} \ln n.$$

Here $Q_n(x) = \sum_{j=0}^{n} \xi_j x^j$ and N_n is the number of real roots of Q_n.

1/1

USSR UDC 621.791.754.053.001.5:621.3.014.3:539.4:669.14.018.44

SLAVIN, G. A., Candidate of Technical Sciences, MASLOVA, N. D., Engineer, and MOROZOVA, T. V., Engineer

"Study of the Relationship between Technological Strength and Crystallization during Pulsed Arc Welding of Heat-Resistant Alloys with Nonconsumable Electrode"

Moscow, Svarochnoye Proizvodstvo, No 6, 1971, pp 17-19

Abstract: Results are presented from an experimental study of the relationship of the welding mode to the nature of crystallization of the bath. The experiments were performed using specimens of heat-resistant austenitic steels and alloys, welded by pulsed arc welding with stepped movement of the electrode during pulse pauses. The relationship of the crystallization process to the structure and technological strength of the metal of the seam is demonstrated. A technological parameter--the radius of the tail portion of the initial crystallization front--is suggested, characterizing the relationship of the crystallization process to the structure and technological strength. The influence of welding conditions on the radius of this tail portion is studied. The technological possibilities for adjustment of the structure and properties of the seam during pulsed arc welding are demonstrated.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--AUTOMATIC CONTROL OF THE PREPARATION OF A CATALYST FOR PRODUCING SYNTHETIC FATTY ACIDS -U-

AUTHOR-(04)-BESITSKIY, R.M., MASLOVA, N.M., RUSINOV, I.YE., PLATUKHIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 38-40

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AUTOMATIC CHEMICAL PROCESS CONTROL, MANGANESE, CATALYST, HYDROGEN ION CONCENTRATION, FATTY ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0437 STEP NO--UR/0138/70/000/002/0038/0040

CIRC ACCESSION NO--AP0119373

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119373

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTOMATION IS BASED ON PH CONTROL IN THE REACTION MIXT. FOR PREPG. THE MN CATALYST. A PH METER WITH GLASS ELECTRODE IS USED TO CONTROL A CONCN. OF 0.1-0.5PERCENT NAOH IN THE MIXT., THE ABS. ERROR BEING 0.05PERCENT. EXPTL. RESULTS ARE PRESENTED. FACILITY: SHEBEKIN. KHIMKOMB., SHEBEKINO, USSR.

UNCLASSIFIED

Mechanical Properties

USSR

UDC 621.785.9

ASTAF'YEVA, YE. V., MASLOVA, N. S., and TSYPKINA, YE. D.

"Effect of a Post-Deformation Soak During High-Temperature Thermo-Mechanical Treatment on the Structure and Properties of 45KhNMFA Steel"

Moscow, Stal', No 10, Oct 73, pp 936-937

Abstract: The effect of recrystallization processes during high-temperature thermomechanical treatment was investigated in which a deformation roll (30% at 950° C) was performed and the structure and properties of medium--carbon, complexly alloyed, 45KhNMFA structural steel were determined. Individual samples were rehardened after deformation and other samples -- after soaking 1-15 minutes in the furnace at 880° C. The effect of soaking on tensile properties was insignificant, but after static torsion tests there were substantial effects. A favorable effect on the entire complex of mechanical properties was observed in the initial stage of recrystallization. It is recommended that the steel be hardened again after leaving the rolls and after a controlled soak. Three figures, two bibliographic references.

1/1

USSR

KRUSHCHEVA, Ye. A., Deceased, TITOVA, M. I., and NASLOVA, T. M., Burn Center, Clinic-Diagnostic Laboratory, Institute of Surgery imeni A. V. Vishnevskiy, Academy of Medical Sciences USSR, Moscow

"State of the Blood Coagulation System in Burn Sickness"

Moscow, Sovetskaya Meditsina, No 5, 1972, pp 110-114

Abstract: To study blood coagulation during burn sickness, the blood of 60 patients in varying stages of the illness was investigated. The toxemia phase was characterized by an isolated decline in fibrinolytic activity and a rise in coagulating fibrinogen B level. Normal activity of free heparin, prothrombin index and, in 50 percent of the cases, the Lorand fibrin stabilizing factor were noted. Patients in the septic-toxemic phase showed further depression of fibrinolysis and a higher quantity of fibrinogen B, again with normal levels of heparin, prothrombin index and blood fibrinase. The action in these phases may be considered a defense mechanism of the body to protect fibrinogen from the disintegration which all proteins are subject to in burn sickness. Six persons with thrombotic complications had hypercoagulation with a lowered level of fibrinolysis, raised level of coagulating fibrinogen B, lowering of heparin and activation of the fibrin stabilizing factor. Ten

USSR

KRUSHCHEVA, Ye. A., et al., Sovetskaya Meditsina, No 5 1972, pp 110-114

cases of burn exhaustion showed hypocoagulation with elevated levels of fibrinolysis, lowered fibrinogen, increased heparin and lessened blood fibrinase and prothrombin index. With convalescence, normalization of coagulation values occurs.

2/2

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--HEAT CAPACITY OF POLYVINYL CHLORIDE, DIOCTYL PHTHALATE AND POLYVINYL CHLORIDE, DIBUTYL PHTHALATE SYSTEMS --U--

AUTHOR-(04)-MARTYNENKO, L.YA., RABINOVICH, I.B., OVCHINNIKOV, YU.V., MASLOVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 841-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ENTROPY, THERMODYNAMICS, POLYVINYL CHLORIDE, PHTHALATE, HEAT CAPACITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1361 STOP NO--UR/0459/70/012/004/0841/0848

CIRC ACCESSION NO--AP0135055

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT CAPACITY MEASUREMENTS CONDUCTED WITH MIXES. OF POLYVINYL CHLORIDE) (I),DIOCTYL PHTHALATE (II) AND I,OI,EO PHTHALATE (III) AT 60-360DEGREESK INDICATED THAT THE SYSTEMS WERE MACROSCOPICALLY UNIPHASIAL. II AND III OCCURRED IN LIQ. AND VITREOUS STATES. AN EQUATION WAS DERIVED TO ACCOUNT FOR A DECLINE IN THE GLASS TRANSITION TEMP. AS A FUNCTION OF THE ESTER CONTENT. THE GLASS TRANSITION TEMP. AS A FUNCTION OF THE ESTER CONTENT. THE GLASS TRANSITION INTERVALS, HEAT CAPACITY, AND ENTROPY INCREMENTS (OF TRANSITION FROM THE LIQ. TO THE VITREOUS STATE) DEPENDED ON II AND III CONTENTS. THE BASIC THERMODYNAMIC FUNCTIONS WERE DETD. BY GRAPHICAL INTEGRATION. FACILITY: NAUCH.-ISSLED. INST. KHIM., GORK. GOS. UNIV. IM. LOBACHEVSKOGO, GORKI, USSR.

UNCLASSIFIED

USSR UDC 548.517

OVSIYENKO, D. YE, ALFINTSEV, G. A., and MASLOVA, V. V., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Effect of Silicon and Manganese on the Supercooling of Iron"

Kiev, Metallofizika, No 39, 1972, pp 102-105

Abstract: The effect of silicon and manganese on the supercooling of iron samples (almost 4 cm^3) melted under a slag and the supercooling of Fe-Si alloys in small volumes (10^{-5}-10^{-8} cm^3) was investigated. The supercooling of iron and Fe-Si and Fe-Mn alloys with different concentrations of silicon and manganese when melting under a slag was approximately 265°, from which the conclusion was made about the absence of an effect on the kinetics of iron crystallization from manganese and silicon. It was established that supercooling of iron in small volumes increases with increased silicon concentration in the alloy. This is explained by the action of silicon as a deoxidizer. It is assumed that the decrease in supercooling of iron, observed by a number of authors (or its complete removal), upon adding silicon, is associated with the effect of iron oxides. 6 figures, 10 bibliographic references.

1/1

MASLOVA, Yu.N.

metallurgy

INFLUENCE OF CHROMIUM, MANGANESE, AND COMBINATIONS OF HEAT TREATMENT ON THE COLD-SHORTNESS OF TYPE 30KhGNZ STEEL

[Article by Yu.N. Maslova, V.A. Pogodayev, T.A. [illegible], Novosibirsk, [illegible], Russian, signed to press 6 August 1970, pp 129-134]

The study of cold-shortness was done on medium-alloy cast steel type 30KhGNZ by the method of determining the magnitude of the impact strength on Menage-type test bars 10 X 10 X 55 mm in size at test temperatures of +20°, -20°, -40°, and -60° C and energy of static bending on the samples 10 X 10 X 55 mm in size with an angular notch (angle of opening, 60°, depth of notch 2 mm, r = 0.2 mm) at test temperatures of -20°, -40°, -60°, and -80° C.

The steel was smelted in a 75-ton basic open-hearth furnace.

The specific energy of deformation during static bending was determined by the method of planimetry of the areas of the diagrams obtained by testing samples on a 12-ton machine from the TsNIITMASh (Central Scientific Research Institute of Technology and Mechanical Engineering).

By analyzing the test results on static bending, we determined the magnitude of the specific energy of the individual segments of the bending diagram and the presence of a crystalline component in the fractures of the test bars.

1. Loading Velocity and Impact Strength

As we know, the reliability of a metal functioning at low temperatures or at high loading velocities (under impact) is characterized mainly by the tendency to brittle fracture.

-12-

UDC 669.046.5

USSR

KHARITONOV, A. S., ZGUR'EV, I. I., MASLOVA, Yu. N., NUKINA, A. F., and BARANOVA, V. G.

"Out-of-Furnace Liquid Steel Degassing by Powder-Like Materials"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works, Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 266-267

Translation of Abstract: Data are presented on liquid steel treatment by solid powder-like materials whose boiling temperature is lower than that of steel. Characteristics of the degassing agent (sodium chloride), of the treated 20L steel, melted in a basic 5-ton arc furnace, and of the pre-dried gas carrier (carbon dioxide) are presented. The degree of degassing (47%) with a 1.5 kg/ton sodium chloride consumption is indicated. Consideration is given to the reduction of nonmetallic inclusions and to the improvement of plastic properties in metal refining by sodium chloride. 4 tables.

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UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--CLINICC MCRPHOLCGICAL INVESTICATIONS IN ADENOVIRAL INFECTION OF THE EYE -U-

AUTHOR--MASLCVAKH-CRCSHILOVA, I.P.

CCUNTRY CF INFC--LSSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 1, PP 30-36

DATE PUBLISHED--------70

SUBJECT AREAS--BICLCGICAL AND MEDICAL SCIENCES

TCPIC TAGS--ACENCVIRUS, EYE DISEASE, LESICN, HISTOCHEMISTRY, DIAGNOSTIC MEDICINE

CCNTROL MARKING--NC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1981/1190 STEP NC--UR/C357/7C/000/001/0030/0036

CIRC ACCESSICN NC--APOC51147

UNCLASSIFIED

Acc. Nr: AP0051147 Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr 1, pp 30-36

CLINICO-MORPHOLOGICAL INVESTIGATIONS IN ADENOVIRAL INFECTION OF THE EYE

I. P. Maslova-Khoroshilova

Summary

Materials on cytological and histological investigations in adenoviral infection are reported. The author examined cytologically 500 patients with different affections of the conjunctiva, including 300 with adenoviral lesion. Histological analysis of bioptic material was made in 3 patients. In adenoviral infection cytological investigations revealed stamped vacuoles, disintegrated chromatin in the nuclei of the conjunctival epithelium, along with development of granular nuclei and nucleolic hypertrophy proceeding against the background of general hypochromia, while cytoplasm was found to be the scene of vacuolization and had basophil inclusions. Histocyte type of exudate was also characteristic of adenoviral infection. Three stages were set apart in studying

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the dynamics of cytological changes in adenoviral infection of the conjunctiva: I — initial dystrophic changes in the epithelium, histocyte exudate (1st week); II — marked dystrophic changes in the epithelial nuclei, mixed exudate (2nd week); III — regressive alterations (3—4th week). Some peculiarities in the cytological picture, depending upon complications in the course of the disease (involvement of the cornea, allergic component), were elicited. Certain morphological changes both in the epithelium and in the composition of exudate, uncovered in adenoviral infection, prompted the author to propose cytological investigation as one of the methods in the laboratory diagnosis of adenoviral conjunctival affections.

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19811191

UDC 541.183

USSR

MASLOVSKAYA, R. S., PAVLINOA, T. N., MIKHAYLOVSKIY, YU. N., and ZUBOV, P. I.,
Institute of Physical Chemistry, Acad. Sc. USSR, Moscow

"Adsorption Kinetics of Monomeric Molecules on Aluminum and the Study of the Properties of Chemosorption Layers Being Formed"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 5, May 72, pp 1139-1142

Abstract: Kinetics of the formation of adsorbed layers of organic molecules (acrylic acid, styrene, diethylamine, and propyl alcohol) on freshly formed and on oxidized aluminum plates was investigated. All materials reacted with aluminum forming stable chemosorbed layers. Chemosorption of diethylamine on the aluminum is accompanied by exchange of electrons, the organic molecule being the electron donor. Appearance of a new phase of acrylic acid during the adsorption is the result of its polymerization on the aluminum surface. The film formed by propanol appears to serve as a barrier excluding the possibility of the reaction of organic molecules with the metallic ions. It has been determined that a portion of the aluminum surface under the adsorbed layers may become oxidized indicating that some adsorption centers remain free to react with oxygen.

1/1

Acc. Nr. AP0048803 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code UR0077

91045u **Effect of the chemical structure of the thermoplastic binding layer on the nitrogen diffusion permeability of films.** Nagornyi, V. I.; Muslovskaya, R. S.; Uspenskii, V. I. (Vses. Gos. Nauch.-Issled. Proekt. Inst. Khim.-Fotogr. Prom., Moscow, USSR). *Zh. Nauch. Prikl. Fotogr. Kinematogr.* 1970, 15(1), 63-5 (Russ). The N diffusion and permeability coeffs. of CH_2:CHCN (I)-Me methacrylate (II)-CH_2:CCl_2 (III) terpolymer (IV) films contg. different ratios of monomers were detd. and their dependence on temp. and phys. state investigated. IV films contg. the following I-II-III ratios (wt. %) were studied: 20:0:80; 19:10:71; 15:16:69; 14:25:61; 13:35:51. Samples with approx. the same mol. wt. were chosen. Increasing the amt. of II in the IV chains raised the glass temp. (T_g), and increased the permeability coeff. (P), apparently because N penetration in IV depends on structure (form and special orientation of the mols., size of the side chains, and interactions of the IV mols.). Introduction of even 10% II increased the N diffusion coeff. (D) by a factor of 3, while addn. of 35% II raised D by a factor of 7. The rates of diffusion and permeability of all films increased with temp., and discontinuities were obsd. at T_g. Thus, above and below T_g, the curves $\log P = f(T)$ and $\log D = f(T)$ were linear. The change in photographic characteristics of the vesicular layers derived from IV is detd. chiefly by the change in the diffusion properties of the binder. DBJB

REEL/FRAME
19800566

USSR

UDC 616-057-084:629.113

MAL'KOVETS, M. V., SHAPIRO, I. P., and MASLOVSKAYA, V. P.

"Prophylaxis of Occupational Diseases at the Minsk Automobile Plant"

Minsk, Zdravookhraneniye Belorussii, Vol 17, No 5, May 71, pp 48-51

Abstract: Occupational diseases at the Minsk Automobile Plant during 1964-1969 were studied. The incidence of these diseases decreased from 1964 to 1966 and then apparently increased from 1967 to 1969. The apparent increase was due to a more thorough medical examination of the employees. In 1969 a renewed downward trend was observed. In 1964 there was a high incidence of pneumoconiosis (silicosis), a condition which was not adequately diagnosed prior to 1964. The frequency of occurrence of pneumoconiosis decreased in 1964-1968. The rise in the curve of occupational disease incidence during 1967-68 was due to an increasing number of detected cases of neuritis of auditory nerves and vibration sickness that were caused by extensive use of pneumatic equipment. Other occupational diseases including industrial dermatitis, bronchial asthma, and neuromyositis were encountered rarely. Occupational diseases occurred most frequently among workers at the foundry shops. Because of improved working conditions at these shops, the mean length of time after the start of employment within which vibration sickness and neuritis of auditory nerves

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USSR

MAL'KOVETS, M. V., et al., Zdravookhraneniya Belorussii, Vol 17, No 5, May 71, pp 48-51

developed increased from 8.8 to 11.6 and 11.2 to 14.6 yrs, respectively, from 1964-1966 to 1967-1969. In 1968-1969 measures to reduce the incidence of these two diseases were taken which included replacement of pneumatic with electrically driven and hydraulic tools in the section of chassis assembling and on the main assembly line. Work is being done on the installation of noisy equipment on springs supported on foundations that compensate for vibrations and on the replacement of such equipment with noiseless tools and machines.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--QUALITATIVE STUDY OF SOLID PHASE MIXING IN A FLUIDIZED BED BY A FREEZING METHOD -U-

AUTHOR-(03)-BUDKOV, V.A., MASLOVSKIY, M.F., PROZOROV, YE.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(3), 216-17

DATE PUBLISHED-------70

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

TOPIC TAGS--FLUIDIZED BED, SINTERING FURNACE, SAND, QUARTZ, RESIN, CHEMICAL DEPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0342 STEP NO--UR/0064/70/046/003/0216/0217

CIRC ACCESSION NO--AP0137646

UNCLASSIFIED

CIRC ACCESSION NO--AP0137446

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. IN THE "FREEZING" METHOD, A LAYER OF QUARTZ SAND PARTICLES COATED WITH THERMOSETTING RESINS WITH VARIOUS COLORS IS FLUIDIZED FOR 1-2 SEC., THE FLUIDIZED BED COLUMN IS THEN HEATED FOR 30-40 MIN. AT 130DEGREES SO THAT THE PARTICLES ARE "SINTERED" IN A COMPACT MASS, WHICH IS THEN CUT TO EXAM. THE REDESTRIBUTION OF VARIOUS COLORS AS A RESULT OF MIXING DURING THE FLUIDIZATION. EXPTS. WITH 220 MU PARTICLES IN A COLUMN 50 MM IN DIAM. SHOWED THE CURRENTS IN THE CENTER OF THE FLUIDIZED BED EXPAND TO THE ENTIRE LAYER, THE CURRENTS ARE RATHER UNSTABLE, AND THE MOTION IN THE UPPER PART IS THE MORE INTENSIVE; A DOWNWARD MOTION TAKES PLACE NEAR THE WALS, AND "STAGNANT" REGIONS EXIST NEAR THE PERFORATED GRID. THERE ARE TYPICAL MAX. IN FLOW RATE AND EDDIES AT THE BOUNDARIES BETWEEN UPWARD AND DOWNWARD CURRENTS.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010001-3"

Instruments and Equipment

USSR UDC 614.73-07

MASLOVSKIY, R. YA., Candidate of Medical Sciences

"A Highly Efficient Aspirator for Collecting Samples of Radioactive Aerosols from the Air"

Moscow, Gigiyena i Sanitariya, No 2, 1971, pp 63-64

Translation: A high degree of efficienty is one of the basic requirements for apparatus designed to collect the maximum number of single samples of radioactive aerosols from the air. According to the literature (R. Ya. Maslovskiy et al., Yu. V. Novikov), the air blowers used for field work pump about 300 m^3 of air an hour through FPP-15 fabric filters. In view of the short amount of time in which the apparatus can collect single samples, it can coDect single samples, it cannot always put enough of the radioactive substance on the filter to provide for several analyses.

An SD-4 fan is recommended as a powerful blower for obtaining the maximum number of single samples. For this purpose the fan is disconnected from the electric motor. The turbine hub in fastened to a grooved shaft on which are fitted 2 ball bearings contained in protective iron rings. Pressure lubricators are inserted into openings made in the side covers of the rings.

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MASLOVSKIY, R. YA., Gigiyena i Sanitariya, No 2, 1971, pp 63-64

The rings are welded onto trapeziform supports bolted to the stand of the fan. A pulley is attached to the free end of the fan turbine shaft. A revolving screen (filter ring for the fabric of the FPP-15) is joined to the intake of the fan.

The motor of an L-3 water pump is used to activate the fan. (Other internal-combustion motors of 2 to 5 hp capacity can also be used). For this purpose the motor together with the clutch coupling is disconnected from the pump. A pulley similar to the one used for the turbine shaft is placed on the free end of the clutch coupling shaft. The fan and motor are placed on a common chassis with allowance made for the directions in which the shafts rotate. A V-belt to which the necessary degree of tension can be applied by means of a special eccentric is slipped on the pulley. The assembled unit is placed on the body of an automobile trailer and secured by bolts passed through thick rubber strips.

The apparatus can pump about 3,000 m^3 of air an hour through a FPP-15 fabric filter, i.e., 10 times more than the air blowers mentioned above. In working version of the apparatus the rate of filtration of air through 1 cm^2 of FPP-15 is 5 liters a minute. At this rate of pumping no more than 8

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to 10% of an aersol will get through FPP-15 cloth, judging by the results of the experimental studies of I. I. Gusarov and V. K. Lyapidevskiy.

Experience in operating the unit in 1968-1969 showed it to be highly reliable. It made possible a substantial increase in the number of investigations and noticeably enhanced the significance of the results of the analyses. The unit can be easily built if a fan frame and turbine and a 2 to 5 hp motor are avialable. (One photo of apparatus).

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USSR

UDC 615.471:614.71-074

MASLOVSKIY, R. Ya., Candidate of Medical Sciences, and SHUSTOV, A. I., Institute of Biophysics, Ministry of Health USSR, Moscow

"An Automatic Vane With a Wind Switching Device Attached to a Stationary Device for Collecting Maximum One-Time Air Samples"

Moscow, Gigiyena i Sanitariya, No 6, 1970, pp 47-50

Abstract: The proposed wind-vane with switching device consists of a standard vane, tripod, and electric circuit to start the clock and motor of an aspirator. The vane is welded to a rotating rod to which is fastened an arm that makes contact with a revolving wheel set on its free end. The vane pushed by the wind rotates around its axis as does the wheel. The movement of the wheel opens the circuit connecting the vane to the clock and motor of the aspirator. The latter does not function until the wheel makes contact with an arc, (i.e., upon the wind moving from the source of atmospheric pollution under study to the observation point), at which time the circuit of the vane-clock-motor is closed and the aspirator apparatus begins to work. By knowing the efficiency of the apparatus and duration of its operation one can calculate the volume of air pumped through the filter.

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USSR

UDC 621.791.001.5:533.5:669.14+669.295

LAYNER, D. I., Doctor of Technical Sciences, KHARITONOVA, L. D., Candidate of Technical Sciences, and MASLOVSKIY, V. A., Engineer

"Investigation of Bonding Layer Strength in Titanium-Steel Bimetal Produced by Vacuum Condensation of Titanium"

Moscow, Svarochnoye Proizvodstvo, No 9, 1973, pp 26-27

Abstract: The change of bonding strength of titanium and steel in relation to the nature of surface purity of the steel base and the temperature of its heating at the time of titanium condensation was examined and results from structural studies of the titanium contact regions are presented. Steel 08kp, 0.1 mm thick, was used as the base metal which was washed in organic solvents prior to placement in a UNV-2M-1 vacuum unit. The titanium was vaporized with the aid of an electron-beam vaporizer from water-cooled copper crucible. Bonding strength was determined by the method of normal tear. Bonding strengths were found to be, for an unannealed base metal, 0.1 kgf/mm^2 with the base metal temperature at 50 and 90°C, 1.4, 1.6, 2.1, and 2.3 kgf/mm^2 at base metal temperatures of 120, 200, 300, and 370°C respectively, and greater than 18 kgf/mm^2 in the 400-800°C interval. In all cases in the 400-800°C interval, tear occurred

USSR

LAYNER, D. I., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 26-27

along the braze joint at stresses higher than 18 kgf/mm^2 which shows that the bonding strength of titanium depends on the temperature at which the titanium was applied. TiCl and FeTi are formed in the intermediate layer as a result of reactive diffusion. 2 tables, 5 bibliographic references.

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USSR

UDC 621.514.58(088.8)

BANANOV, I.V., YERMOLIN, YU.A., KOZLOV, L.G., MASLYUKOV, O.A., SAVUSHKIN, A.K.
[Mosk. in-t inzh. zh.-d. transp.--Moscow Institute of Railroad Transportation Engineers

"Device For Control Of Frequency Converter"

USSR Author's Certificate No 251670, filed 23 May 68, published 30 Jan 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B524P)

Translation: The device proposed for control of a frequency converter contains a master unit with a multicell shift register and triggers. In order to simplify the device and to obtain optimum power, the output of one of the cells of the shift register is connected to one of the inputs of each trigger and the other input of each trigger is connected to the output of one of the next cells with respect to the performance of the shift register. 1 ill.

Coatings

USSR

LAYNER, D. I., KHARITONOVA, L. D., and MASLOVSKIY, V. A., State Scientific Research and Planning Institute for Processing Non-Ferrous Metals

"ON the Method of Determining the Adhesion of Titanium Coatings to Steel"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 2, 1973, pp 188-189

Abstract: The usual break-off method used for determining the force required to separate a metal coating from a metal base is not applicable for the determination of the bonding strength of titanium coatings with the base because the oxide film inhibits the soldering of titanium with the investigation pins. This is avoided in the described method by applying an additional 1-2 μ thick layer of copper on the titanium coatings. The process of titanium and copper condensation in a vacuum of $1 \cdot 10^{-5}$-$5 \cdot 10^{-6}$ mm Hg on 10 x 10 mm bimetal samples is discussed. Characteristics of solders and strength properties of soldered joints are presented. One figure, one table.

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UNCLASSIFIED

1/2 013 PROCESSING DATE--02OCT70

TITLE--OXIDATIVE REGENERATION OF A PLATINUM REFORMING CATALYST -U-

AUTHOR-(05)-NASLYANSKIY, G.N., IVANYUKOV, D.V., KANINSKIY, E.F., FEDOROV, A.P., SHIPIKIN, V.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3) 5-8

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST REGENERATION, PLATINUM, HYDROCARBON COMBUSTION/(U)AP64 CATALYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1492 STEP NO--UR/0065/70/015/003/0005/0008

CIRC ACCESSION NO--AP0112480

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112486

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO MINIMIZE THE LOSS OF CL IN PT-AL SUB2 O SUB3 CATALYST AP64 PROMOTED WITH CL, THE SYSTEM WAS EVACUATED TO 50-60 MM BEFORE REGENERATION. DURING REGENERATION, H SUB2 O FORMED WAS REMOVED FROM THE CIRCULATING GASES. THE DURATION OF THE 1ST REGENERATION STEP OF HYDROCARBON COMBUSTION WAS GREATLY REDUCED. THE AMT. OF H SUB2 O FORMED DURING REGENERATION WAS THUS DECREASED.

UNCLASSIFIED

1/2 041 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--PREPARATION OF GASOLINE WITH AN OCTANE NUMBER OF 95 IN AN INDUSTRIAL CATALYTIC REFORMING PLANT -U-

AUTHOR--IVANYUKOV, D.V., KAMINSKIY, E.F., MASLYANSKIY, G.N., FEDOROV, A.P., SHAPIRO, R.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3), 1-5

DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--GASOLINE, FUEL OCTANE RATING, CATALYTIC CRACKING, ALUMINUM OXIDE, OXIDE CATALYST, PLATINUM CATALYST, HIGH PRESSURE EFFECT, CHEMICAL REACTION RATE, CHLORINE, PETROLEUM CATALYTIC REFORMING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/2042 STEP NO--UR/0065/70/015/003/0001/0005

CIRC ACCESSION NO--AP0109974

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 041

CIRC ACCESSION NO--AP0109974

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS AND THE PLANT WERE MODERNIZED BY USING PT-AL SUB2 O SUB3 CATALYST PROMOTED WITH CL INSTEAD OF F, WHOSE ACTIVITY WAS MAINTAINED BY ADDN. OF ORG. CL COMPDS. IN THE REACTION ZONE. A GREATER AROMATIZATION OF THE PARAFFINIC STOCK WAS REACHED AS THE AMT. OF H SUB2 O IN THE REACTION ZONE WAS REDUCED BY EVAPG. THE WATER FROM THE HYDROFINED GASOLINE STOCK AND DRYING THE RECYCLE GASES WITH MOL. SIEVES. A PRESSURE DECREASE TO 20 ATM INCREASED THE YIELD OF GASOLINE WITH RESEARCH OCTANE NO. 95. A 3RD STAGE REACTOR WAS ADDED, DISTRIBUTING THE CATALYST IN THE QUANT. RATIO 1:2:4 IN THE 3 REACTORS, RESP.

UNCLASSIFIED

Acc. Nr.: AP0046786 Ref. Code: UR0113

USSR UDC 621.922

MASLOVSKIY, V. Y., Khar'kov Institute of Radicelectronics

"Development and Use of Abrasive Finishing Materials"

Moscow, Avtomobil'naya Promyshlennost' (Motor Vehicle Industry), No 1, 197[illegible], pp 33-34

Translation: Some aspects are considered of the selection of the amount and quality of micropowders for preparation of abrasive finishing materials for machining of steel items with 25-70 HRC hardness. (1 table, 3 illustrations, 3 biblio. ref.)

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18 87

Reel/Frame
19790090

Mining, Petroleum, Geological

USSR

UDC 621.43.011:533;621.5:533

BOGDANOV, G. G., MASLYAYEV, A. Ye., LI KHI UN

"Determining the Aerodynamic Parameters for Electrical Modeling of the Resistance of Soils in a Collapsed Space"

Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti (Works of the Eastern Scientific Research Institute on Operational Safety in the Mining Industry), 1972, Vol. 12, pp 144-149 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B412)

Translation: The movement of air in collapsed soils in the development of a sluice system and the intermediate law governing motion which was established as a result of the study are discussed. The aerodynamic parameters were found by mathematical means: the permeability coefficients and the macroroughness which enter into the equation for the intermediate law of motion for the air. The quantitative values of these parameters obtained for different motions of the air were determined experimentally under mining conditions. It was also established that the permeability coefficient varies in inverse proportion to the change in the linear aerodynamic resistance and that the roughness is inversely proportional to the change in the square of the aerodynamic resistance.

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USSR

BOGDANOV, G. G., et al, Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti, 1972, Vol. 12, pp 144-149

In absolute value the macroroughness is approximately equal to the roughness of concrete. A method for determining the aerodynamic parameters necessary for electrical modeling of the collapsed space and a graph of the dependence of the index of the air motion regime and the ratio of the pressure drops through the layer of collapsed soil before and after the change in the quantity of air entering the segment are given; the correlation coefficient between the above parameters was determined. Authors' abstract.

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AA0052572

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 3-70

243542 ELECTRIC ROCK DRILL uses an intermediate shaft (14) with sprung jaw clutches (15) which is placed between the spindle and nut gearing (12,4). In drilling, once the tool (13) bears on the bottom of the hole, friction between the nut and spindle causes the nut to ride along with the spindle and rotate the rotor (10) at above-synchronism speed. The rotor operates as a generator at this speed and gives off power to the stator flux (11) so as to limit the rate of the nut; this necessarily reduces the feed rate in proportion to the increasing axial load. The return travel of the spindle is effected by engaging the nut via the shaft (14) and clutch (15) with the spindle gearing and in this way the nut forming gear (7) rides along its thread and disconnects the generator rotor (10). The nut is now turning faster than the spindle.

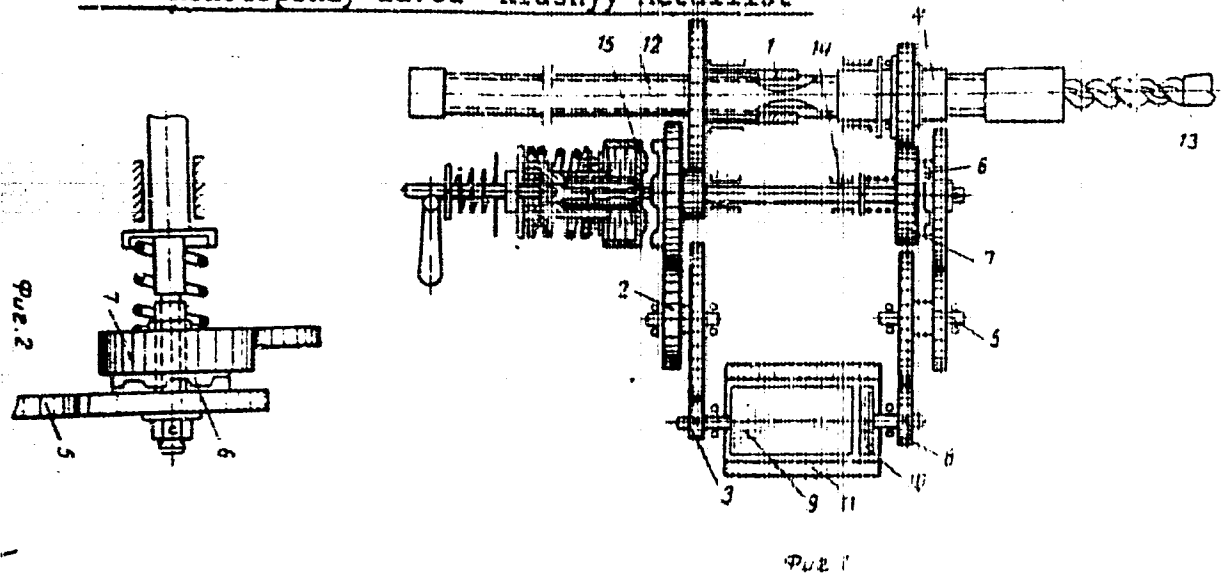
23.12.67. as 1205212/22-3, MASLYUK, G.M. et al. Donetsk Mining Res. Inst. and "Kombayn" "Krasniy Metallist" Works. (24.9.69) Bul. 17/14.5.69. Class 5b, Int. Cl. E 21c.

1/2

19821260

AA0052572

Maslyuk, G M.; Proyavkin, Ye. T.; Pustovoyt, A. I.; Zaytsev, V. I.; Mikhaylyuk, N. T.; Chibalin, A. I.
Donetskiy Nauchno-Issledovatel'skiy Ugol'nyy Institut i Konotopskiy Zavod "Krasnyy Metallist"



Фиг 2

Фиг 1

19821261

USSR

UDC 621.762.01(088.8)

BRONDZYA, YE. V., KLIMENKO, V. N., MASLYUK, V. A., Rudomysol'SKIY, I. D.,
Institute of Problems in Materials Science, Academy of Sciences Ukrainian SSR

"P/M Alloy"

USSR Authors' Certificate No 273437, Cl. 40b, 29/00; 40b, 1/04; 40b, 1/04
(C 04b 35/56, C 22c 1/04, C22c 29/00), filed 24 Mar 69, published 21 Sep 70
(from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G402P)

Translation: A chromium carbide-base, nickel-containing P/M alloy is suggested. In order to lower sintering temperature, P is put into it, and components are taken in the following ratio (in wt.%): Ni 5-40, P 0.2-1.5, Cr carbide the rest.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--USING CARBIDECHROMIUM ALLOYS FOR MAKING DIE CASTING MOLDS IN THE PRODUCTION OF BARIUM FERRITES -U-

AUTHOR-(04)-BELIK, I.T., KLIMENKO, V.N., MASLYUK, V.A., RADOMYSELSKIY, I.D.

COUNTRY OF INFO--USSR

SOURCE--KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP 86-87

DATE PUBLISHED-------70

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

TOPIC TAGS--DIE CASTING, BARIUM FERRITE, ANISTROPY, CHROMIUM ALLOY, CARBIDE, MOLD MATERIAL, FOUNDRY CORE/(U)KKHN15 CHROMIUM CARBIDE ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1339 STEP NO--UR/0418/70/000/001/0086/0087

CIRC ACCESSION NO--AP0123297

UNCLASSIFIED

2/2 C27 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TECHNOLOGICAL REGIMES ARE DEVELOPED FOR SINTERING AND MOLDING LARGE DIES AND CORES OF DIE CASTING MOLDS MADE FROM KKHN-15 ALLOY FOR MAKING ANISOTROPIC BARIUM FERRITES. THE STABILITY OF DIE CASTING MOLDS EQUIPPED WITH FEMALE DIES MADE FROM KKHN-15 CARBIDECHROMIUM ALLOY IS 40-50 TIMES HIGHER THAN FOR MOLDS MADE FROM STEEL.

USSR UDC 621.318 571

SAVUSHKIN, A. K., ZHUKOV, V. I., and MASLYUKOV, O. A.

"A Ferrite-Transistor Cell in the Control Circuits of Non-Contact Relays"

Tr. Mosk. in-ta inzh. zh.-d transp. (Proceedings of the Moscow Institute of Railroad Transportation Engineering), No 442, 1973, pp 139 - 145 (RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, abstract No 11 A410)

Translation: A non-contact relay with a ferrite-transistor cell in the control circuits is considered. In the proposed relay circuit the ability of the ferrite-transistor cell to give an output signal only when the magnetism of the core is rapidly reversed and to give no signal when the core magnetization is slowly reversed is used. Circuits are shown and the theoretical basis of the relationship between the V_{out} of the cell and the length of the magnetization reversal pulse front is given. Four illustrations, two bibliographic citations.

Abstract by the authors.

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AA0052392 MASLYUKOV O.A.

UR 0482

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

240735 DIGITAL CODE TRACK CIRCUIT includes circuits 1 & 2 fed by generator 2, pulse relay 3, synchronising unit 5, delay circuit 6, pulse control unit 7 for the generator, decoder 8, filter 9, transmitter 10 and signal relays 11 & 12. The track circuit is fed with contacts of relays 4 and 6 closed Commutator 7 is operating when the track circuit carries current, and breaks the supply of relays 4 & 6. The delay circuit permits the required pulse duration in circuit 1 to be maintained.

8.12.67 as 1202177/18-24. A.M. BRYLEEV et alia. MOSCOW INST. OF RAILWAY ENGINEERS (14.8.69) Bul 13/1.4.69. Class 20i. Int.Cl. B 61l.

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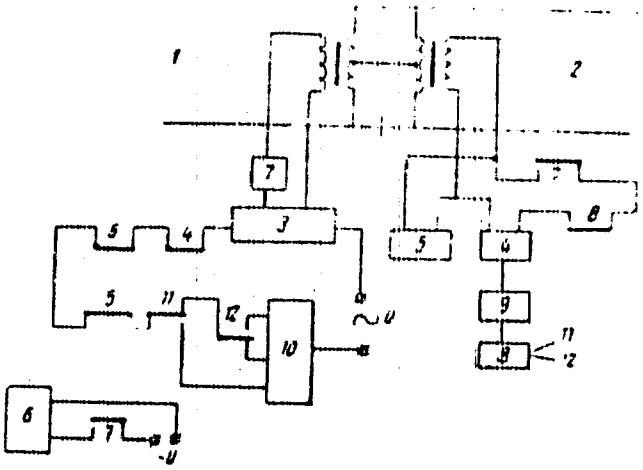
19820995

AA0052392



Bryleyev, A. M.; Maslyukov, O. A.; Dmitrenko, I. Ye.; Stepenskiy, B.M.
Moskovskiy Institut Inzhenerov Zheleznodorozhnogo Transporta

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19820996

USSR

UDC 541.651+621.375.9

ARISTOV, A. V., VIKTOROVA, YE. N., MASLYUKOV, YU. S., REZNIKOVA, I. I., and CHERKASOV, A. S.

"Effect of Structure and Degree of Purity of Rhodamines on Their Oscillation Characteristics for Laser Pumping"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 19, No 2, 1973, pp 250-253

Abstract: The authors find that there has been no investigation of the relative oscillation efficiency of the different rhodamines or of the effect of the degree of purity of the rhodamine on its oscillation efficiency. The present paper therefore presents the results obtained in oscillation tests, under identical conditions, of eleven rhodamines of different structures. Part of these specimens are commerical products, the remainder were specially synthesized by known methods. A listing of the nomenclature of the various specimens and a table of their relative oscillation characteristics are given. The latter shows that the rhodamine's oscillation ability is a function of the purity of the material. Also shown is a curve for the oscillation energy as a function of the optical density of the rhodamine solutions. The testing method is explained.

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USSR

UDC: 621.373:535+535.373.2

ARISTOV, A. V., MASLYUKOV, Yu. S.

"Effect of Triplet-Triplet Transfer on the Emission Threshold for Organophosphor Radiation"

Leningrad, Optika i Spektroskopiya, Vol 32, No 2, Feb 72, pp 342-345

Abstract: The authors investigate the effect which anthracene additives in ethanol solutions of uranin, unsubstituted rhodamine, and rhodol have on the reduction of induced losses in these solutions in the case of pumping by means of flash tubes. This effect is interpreted as a reduction of triplet ($T \rightarrow T'$) losses resulting from triplet-triplet transfer of energy to the anthracene molecules. When anthracene is introduced in a concentration of 10^{-3} mol/liter into ethanol solutions of unsubstituted rhodamine, an emission threshold is reached which is close to the minimum computed on the assumption of total elimination of $T \rightarrow T'$ losses. Two figures, bibliography of six titles.

1/1

USSR

UDC 621.373:530.145.6

ARISTOV, A. V., and MASLYUKOV, Yu. S.

"Analysis of Induced Forced Radiation Generation Losses in Rhodamine Solutions"

Zh. prikl. spektroskopii (Journal of Applied Spectroscopy), Vol 13, No 6, 1970, pp 1002-1005 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D200)

Translation: The basic components of harmful generation losses of forced radiation arising on excitation of liquid solutions of organic luminophors by flash bulbs are investigated. Alcohol and heavy water solutions of rhodamine were investigated in a broad range of excitation energies. It is demonstrated that the basic causes of induced losses in unpumped alcohol and heavy water solutions of rhodamine 6Zh consist in optical distortion of the resonator and photochemical changes in the solutions. There are 2 illustrations, 1 table and a 5-entry bibliography.

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1/2 045 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STRUCTURE OF EUROPIUM TETRAKIS BENZOYLACETONATE USABLE FOR OBTAINING A LASER EFFECT -U-
AUTHOR-(05)-ARISTOV, A.V., MASLYUKOV, YU.S., GRYAZNOVA, M.I., OOMRACHEV, G.A., ASLANOV, L.A.
COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 61-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--EUROPIUM COMPOUND, LUMINESCENCE SPECTRUM, X RAY STUDY, COMPLEX COMPOUND, LASER EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1176 STEP NO--UR/0379/70/006/001/0061/0065

CIRC ACCESSION NO--AP0128598

UNCLASSIFIED

2/2 045 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ET SUB2 NH SUB2 (EU(BZAC) SUB4) AND C SUB5 H SUB11 NH(EU(BZAC) SUB4), WHERE HBZAC EQUALS BENZOYLACETONE AND C SUB5 H SUB11 NH PRIME POSITIVE EQUALS PIPERIDINIUM, WERE SYNTHESIZED BY THE METHOD OF BHAUMIK (1964) AND THEIR LUMINESCENCE SPECTRA WERE TAKEN AT 77DEGREESK. STRUCTURES OF THE COMPDS. AND OF THE (EU(BZAC) SUB4) PRIME NEGATIVE ION WERE DETD. BY X RAY STRUCTURAL ANAL. SPLITTING OF THE GROUND STATE LEVEL FOR THE EU ION CORRESPONDS TO A C SUB2 SYMMETRY BUT IT MAY ALSO BE DUE TO THE C SUB4 SYMMETRY OF THE CUB SUB8 GROUP. BOTH COMPLEXES GIVE A STABLE LASER EFFECT AT 613 NM WHICH CORRESPONDS TO A TRANSFER FROM THE PRIME5 D SUB0 LEVEL TO THE X OR Y COMPONENT OF THE PRIME7 F SUB2 LEVEL SPLIT BY THE CRYST. FIELD OF C SUB2 OR C SUB4 SYMMETRY. FACILITY: MOSK. GOSUNIV., MOSCOW, USSR.

USSR UDC 519.21

MASLYUKOVA, N. A.

"Structure of Regular Random Fields"

Uch. Zap. Kazan. Gos. Ped. In-t. [Scientific Writings of Kazan' State Pedagogics Institute] No. 83, 1970, pp 194-204 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V108 by M. Yudrenko).

Translation: For a regular random field (see Abstract 4V107 for a definition of regularity), an expansion is produced, similar to the Kramer expansion of a random process (RZHMat, 1962, 5V20).

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USSR UDC 519.21

MASLYUKOVA, N. A.

"Wold Expansion of Homogeneous Random Fields"

Uch. Zap. Kazan. Gos. Ped. In-t. [Scientific Writings of Kazan' State Pedagogics Institute] No. 83, 1970, pp 188-193 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V107 by M. Yadrenko).

Translation: Suppose $x(t_1, t_2)$ is a random field of a discrete argument, homogeneous in the broad sense, $H_x(t_1, t_2)$ is a linear manifold, closed in the sense of mean square convergence, generated by random quantities $x(\tau_1, \tau_2), \tau_1 \leq t_1, \tau_2 \leq t_2$ $P_{t_1 t_2}$, is the operator of projection in $H_x(t_1, t_2)$ in space $H_x = H_x(+\infty, +\infty)$. The author calls a random field regular if:

$$1) \bigcap_{t_1} H_x(t_1, +\infty) = \bigcap_{t_1} H_x(+\infty, t_1) = [0].$$

$$2) P_{t_1 t_2} = P_{t_1 \infty} P_{\infty t_2}.$$

An expansion of one-sided slipping addition (Wold expansion) is produced for a regular random field, necessary and sufficient conditions for field regularity are presented. Also, the conditions of regularity of random fields of a continuous argument are studied.

1/1

MASNAYA, L. N.

JPRS 56283

16 June 1972

UDC: 621.1 8.:52

PURIFICATION OF CONDENSATE WITH SEPARATELY FUNCTIONING ION-EXCHANGER FILTERS AT THE VK-50 ATOMIC ELECTRIC POWER PLANT

[Article by Candidates of Technical Sciences A.M. Kedel', M.P. [illegible], and Yu. V. Chechetkin, Engineer L.P. Sachine, Candidate of Chemical Sciences A.I. Zabelin, and engineers Yu. F. Baronkin, L.N. Rozhdestvenskaya, and L.N. Masnaya; Moscow, Teploenergetika, Russian, No 5, May 1972, pp 13-15]

Experience in the operation of thermal and atomic electric power plants has shown that purification of the entire stream of condensate of dissolved and mechanical impurities is a necessary condition for reliable functioning of the plant [1,2].

To investigate the functioning of ion-exchange resins in the purification of the condensate of an atomic electric power plant from dissolved and suspended impurities, and also to verify the design of individual elements of an ion-exchanger filter, a semi-works installation with separately functioning ion-exchanger filters (two meters in diameter), with H-cation-exchanger and OH-anion-exchanger resins, connected in series, was installed and tested on the bypass of the condensate loop of the VK-50 Atomic Electric Power Plant.

The filters were identical in their design. The drainage and distribution systems of the filters were of the slit-tube type. The slits on the radii of the system were formed of a coil of circular wire with a diameter of 0.8 mm. The coil was so made that the width of the gap was 0.1 mm on the radii of the lower system and 0.4 mm on those of the upper system.

During the time the filters functioned the following thermodynamic indicators were monitored (the flow rate of the condensate, the total resistance of the filters, and the resistance of the drainage systems) and also the physicochemical composition of the condensate (the pH value, electrical conductivity, hardness, the content of elements of corrosion products and the total beta-activity). The chemical composition of the condensate was stable during the entire course of functioning of the filters, except during the start-up period of the reactor (0.02-0.04 mg/liter of Fe (total),

[I - USSR - K]

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DIFFERENCES IN SOME BIOCHEMICAL INDEXES IN DI AND TETRAPLOID SUGAR BEETS -U-

AUTHOR-(03)-VECHER, A.S., TROITSKAYA, T.M., MASNYY, M.N.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. BIYAL. ANVUK 1970, (1), 24-9

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AGRICULTURE CROP, SUCRSOE, PLANT GENETICS, CHLOROPLAST, CELL PHYSIOLOGY, TRACE ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1150 STEP NO--UR/0440/70/000/001/0024/0029

CIRC ACCESSION NO--AP0130178

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0130178
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHLORDPLL A ANB B CONTENT OF LEAVES OF YOUNG TETRAPLOID SUGAR BEETS WAS LESS THAN THAT OF DIPLOID PLANTS BUT IT INCREASED WITH AGE AND FINALLY EXCEEDED THE LATTER. THE CHLOROPHYLL CONTENT PER UNIT WT. OF CHLOROPLASTS WAS HIGHER IN THE FORMER THAN IN THE LATTER. DIFFERENCES WERE ALSO FOUND IN FIXATION OF MANY MINERAL ELEMENTS (FE, MN, CU, ZN, NI, MO). FACILITY: INST. EKSP. BOT., MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 519.2

MASOL, V. I., SIL'VESTROV, D. S.

"Record Values of Dwell Time of a Semi-Markov Process"

Visnyk Kiyiv. un-tu. Ser. mat. ta mekh. (Kiev University Herald. Mathematics and Mechanics Series), 1972, No 14, pp 81-89 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V76 [authors' abstract])

Translation: Let $\eta(t)$, $t \geq 0$ be a semi-Markov process with a finite number of states, and let $\kappa(t)$ be the elapsed time since the last instant before t of a change in the state of the process $\eta(t)$, $t \geq 0$. This paper investigates the limiting distributions for the time required for random process $\kappa(t)$, $t \geq 0$ to reach a receding level.

1/1

USSR

UDC 669.017:539.67

VIYK, U. I., SHCHEGLOV, N. N., and MASS, V. G.

"A System for Internal Friction Measurements"

Tr. Tallin. ploitekhn. in-ta (Works of Tallin Polytechnic Institute), 1970, A, No 294, pp 99-102 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31895 by authors)

Translation: A system is described for measuring the logarithmic decrement of vibrations (internal friction) in free torsional vibrations of a steel specimen. The system is used to study plastic deformations which occur in the fatigue testing of steel specimens. Three illustrations. Bibliography with one title.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AXISYMMETRIC LOADING OF A SPACE WITH A SPHERICAL CUT -U-

AUTHOR-(02)-ZYUZIN, V.A., MASSAKOVSKIY, V.I.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MATEMATIKA I MEKHANIKA, VO. 34, JAN.-FEB. 1970, P. 179-183
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELASTICITY THEORY, STRESS LOAD, CALCULATION, INTEGRAL EQUATION, MATHEMATIC TRANSFORMATION, SPHERIC GEOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1445 STEP NO--UR/0040/70/034/000/0179/0183

CIRC ACCESSION NO--AP0106201
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0106201

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLUTION OF THE FIRST MAIN PROBLEM OF THE THEORY OF ELASTICITY FOR A SPACE WITH A SPHERICAL CUT, USING AS THE INITIAL DEPENDANCES CERTAIN INTEGRAL RELATIONS OBTAINED WITH THE AID OF A TRANSFORMATION DEVELOPED BY POLOZHII AND ALEKSANDROV (1961, 1962, 1965). A SPECIFIC EXAMPLE IS GIVEN, INVOLVING A SPHERICAL CUT UNDER THE ACTION OF SYMMETRICAL AND ANTISYMMETRICAL UNIFORM LOADS APPLIED AT THE EDGES. CLOSED FORM EQUATIONS ARE DERIVED FOR DETERMING THE NORMAL AND TANGENTIAL STRESSES.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DIAMIDE BASED COMPLEX SALT -U-

AUTHOR-(05)-GORBONS, YE.P., YEGOROV, V.P., SMALIY, N.I., GALUSHKA, V.P., MASTEROV, A.P.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,377

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, NITRATE, NITRITE, UREA, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1448 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126979

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010001-3"

2/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0126979
ABSTRACT/EXTRACT--(U) GP-0- E.G. CA NITRITE, AND UREA. CA NITRITE IS 4-1:1.

ABSTRACT. COMPLEX SALTS BASED ON A DIAMIDE, THE MOLAR RATIO OF UREA TO CA NITRATE PLUS

UNCLASSIFIED

USSR

UDC 621.7.011

MASTEROV, V. A., PRILEPSKAYA, I. V., and KUZNETSOV, G. M., All-Union Correspondence Polytechnical Institute; Moscow Institute of Steels and Alloys

"Effect of Diffusion Due to Heating on the Strength of Joints Between Layers of Bimetals"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 1, 1971, pp 101-105

Abstract: The primary difficulty in producing and working with steel+aluminum, steel+titanium, aluminum+copper, and other bimetals is a decrease in tensile strength and a greater scatter in tensile strength data following the heating of these bimetals or their exposure to a higher temperature on welding the layers. Described here is a model based on the coagulation of excess vacancies in the weld-metal zone. The model is designed to explain the above changes. Use is made of a relationship between relative strength ($0<\beta>1$) and temperature and heating duration. The results of a microfractographic study conducted in parallel are in agreement with the model for measuring the strength of the bimetal. It is suggested that the reduction in strength and the lamination of the dissimilar metals is due to supersaturation with diffusible vacancies in the contact area.

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USSR

UDC 621.771.8

CHARUKHINA, K. Ye., GOLOVANENKO, S. A., MASTEROV, V. A., and KAZAKOV, N. F.

"Bimetallic Joints"

Bimetallicheskiye Soyedineniya [English Version Above], Moscow, Metallurgiya Press, 1970, 280 pp

Translation of Annotation: An analysis is made of the processes of formation of bonds, and the structure and properties of bimetallic joints produced by combined rolling, pressing, diffusion welding in a vacuum, and other methods of joining metals in the solid phase. The structural state of many bimetallic joints widely used in industry and promising for new branches of technology is analyzed.

The book is intended for engineering and technical workers in metallurgy, machine building, electronics, electrical engineering, and other branches of industry. It may also be useful to university students. 113 figures; 48 tables; 254 bibliographic references.

Table of Contents

USSR

CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metallurgiya Press, 1970, 280 pp

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CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metallurgiya Press, 1970, 280 pp

3/4

USSR

CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metallurgiya Press, 1970, 280 pp

4/4

USSR

UDC 621.791.14:669.715+669.14

POLUKHIN, P. I., Doctor of Technical Sciences, MUKHIN, S. V., Engineer (Moscow Institute of Steels and Alloys), and MASTEROV, V. A., Candidate of Technical Sciences (All-Union Correspondence Polytechnical Institute)

"Press Welding of Steel-Aluminum Adapters"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 19-20

Abstract: A study was made of the possibility of direct press welding of tubular parts of Kh18N10T steel and AMg6 aluminum alloy to produce adapters with wall thicknesses of 6-8 mm, to withstand heating of 450-480°C and cooling in liquid nitrogen. Study of the flow of the metal and welding during joint deformation of the steel and aluminum showed that the principal parameters of welding are the increase in the end area during upsetting of the steel or alloy, the relative overhang of the steel or alloy, and the force of the press. With constant wall thickness of the adapter, these parameters are independent of diameter, since the metal flows only in the radial direction. The properties and structures of a butt joint and bimetallic sheet are similar. Circular adapters retain vacuum tightness and strength in liquid nitrogen after welding of their ends to steel and AMg6 alloy.

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USSR

UDC: 539.4

MASTEROV, V. A., All-Union Correspondence Polytechnical Institute, Moscow

"Some Regularities Associated With the Brittle Fracture of Bimetallic Joints"

Kiev, Problemy Prochnosti, No 6, Jun 70, pp 77-79

Abstract: The author proposes a hypothesis and presents a mathematical model based on the hypothesis for decreased mean strength of bimetallic joints under the effect of heating. The model refers to the joining of metals with sharply differing partial coefficients of interdiffusion. The relationship of post annealing strength to original strength is expressed by:

$$\beta = \exp\left(-\right)^{\sqrt{\frac{\tau}{\tau'}}} = \exp\left(-\right)^{\sqrt{\frac{h}{h'}}}$$

where τ and τ' respectively are duration of annealing and thickness of the diffusion layer under which conditions strength decreases $e = 2,1718$ times. The value of τ' decreases exponentially as annealing temperature increases. The results show that diffusion source spill may form during annealing of joints consisting of diverse metals. The spill occurs from the side where the metal has a large partial coefficient of diffusion. This is accompanied by decreased mean strength and increased dispersal of strength. The proposed model satisfies obtained strength measurement results and microfractographic data for (sheet bimetallic) Kh18N10T+AD1+AMg6 joints

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USSR

MASTEROV, V. A., Problemy Prochnosti, No 6, Jun 70, pp 77-79

and copper-aluminum (butt joints).

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1/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DIFFERENCES IN THE THICKNESS OF THIN CLADDING DURING THE PRODUCTION OF A CLAD WIRE -U-

AUTHOR-(05)-NASTEEOV, V.A., ANDRYUSHCHENKO, T.A., SUVOROV, I.K., YUROPAYEV, YU.A., YEFREMOVA, P.M.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(2), 52-4

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL DRAWING, CLAD METAL, COPPER WIRE, SILVER, DEFORMATION RESISTANCE, THICKNESS GAGE, METAL CLADDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1922 STEP NO--UR/0136/70/043/002/0052/0054

CIRC ACCESSION NO--AP0108251

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108251

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS AND THE POSSIBILITY OF DECREASING THE THICKNESS DIFFERENCES OF THIN CLADDINGS WERE INVESTIGATED FOR THE CU PLUS AG PAIR DURING THE PRESSING OF RODS AND DURING THE DRAWING FROM THEM OF WIRES SMALLER THAN OR EQUAL TO 150 MU IN DIAM. AND HAVING A COATING THICKNESS OF SIMILAR TO 7 MU. DURING THE PRESSING ON A VERTICAL 600 TON PRESS, THE ROLE OF PRIOR WELDING OF THE BAR, THE TOOL LUBRICANT, THE SHAPE OF THE DIE, AND THE HEATING AND DRAWING TEMPS., WAS INVESTIGATED. FOR THE SELECTION OF THE PROPER TEMP., THE RESISTANCE TO DEFORMATION OF CU AND OF AG WAS STUDIED. IN ORDER TO DET. THE MIN. THCIKNESS OF THE COATING, STATISTICAL METHODS MUST BE USED WHICH MEANS THAT A LARGE NO. OF MEASUREMENTS MUST BE TAKEN, WHICH IS OF SOME DIFFICULTY BECAUSE OF THE THINNESS OF THE COATINGS.

UNCLASSIFIED

USSR

UDC 534.883

MASTEROV, Ye. P., and SHOROKHOVA, S. P., Acoustic Institute, Academy of Sciences, USSR, Sukhumi Branch

"Some Results of an Experimental Study of the Spectral-Energy Characteristics of Sea Noise"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 2, Mar-Apr 73, pp 207-211

Abstract: A study is made of the spectral-energy characteristics of sea noise within the spectral range of 2-2000Hz for various hydrometeorological conditions. The measurements were conducted by means of a bottom hydrophone, placed at a depth of 200 m. The results are compared with those of other researchers. 5 figures. 6 references.

1/1

UDC 541.15'+541.183.03

USSR

GOLUBEV, V. B., KOLBANOVSKIY, YU. A., LEBEDEV, S. N., MASTEROVA, M. N., POLAK, L. S., Institute of Petrochemical Synthesis imeni A. V. Topchiyev, Moscow, Academy of Sciences USSR

"Process Kinetics of the Annealing of Adsorption and Paramagnetic Centers Generated by Radiation on the Surface of γ-Al_2O_3, as Studied by the Monte Carlo Method"

Moscow, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 439-442

Abstract: The Monte Carlo method was used for a kinetic study of the annealing of the adsorption and paramagnetic centers formed by gamma radiation on the surface of γ-Al_2O_3. The following initial data were used for computer-aided analysis of the experimental data by the Monte Carlo method: 1) kinetic curves for the thermal annealing of the adsorption and paramagnetic centers; 2) dependence of the number of radiation-induced defects on annealing temperature for the paramagnetic and adsorption centers. The trap depth distribution was assumed to be exponential. It was

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GOLUBEV, V. B., et al, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 439-442

found that the minimum trap depth does not exceed 4 kcal. The total kinetic annealing curve is the result of the superimposition of a large number of exponents on each other, each corresponding to traps with a different depth in the forbidden gap. The annealing kinetics of the adsorption and paramagnetic centers were found to be the same, which argues in favor of the authors' theory that the centers are identical.

2/2

USSR UDC 541.15'+541.183.03

GOLUBEV, V. B., KOLBANOVSKIY, YU. A., LEBEDEV, S. N., MASTEROVA, M. N., POLAK, L. S., Institute of Petrochemical Synthesis Imeni A. V. Topchiyev, Moscow, Academy of Sciences USSR

"Process Kinetics of the Annealing of Adsorption and Paramagnetic Centers Generated by Radiation on the Surface of γ-Al_2O_3, as Studied by the Monte Carlo Method"

Moscow, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 439-442

Abstract: The Monte Carlo method was used for a kinetic study of the annealing of the adsorption and paramagnetic centers formed by gamma radiation on the surface of γ-Al_2O_3. The following initial data were used for computer-aided analysis of the experimental data by the Monte Carlo method: 1) kinetic curves for the thermal annealing of the adsorption and paramagnetic centers; 2) dependence of the number of radiation-induced defects on annealing temperature for the paramagnetic and adsorption centers. The trap depth distribution was assumed to be exponential. It was

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010001-3"

USSR

GOLUBEV, V. B., et al, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 439-442

found that the minimum trap depth does not exceed 4 kT. The total kinetic annealing curve is the result of the superimposition of a large number of exponents on each other, each corresponding to traps with a different depth in the forbidden gap. The annealing kinetics of the adsorption and paramagnetic centers were found to be the same, which argues in favor of the authors' theory that the centers are identical.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF HYDROGEN, DISSOLVED IN THE METAL OF A HYDROGENATION CATALYST, ON THE TRANSESTERIFICATION OF GLYCERIDES --U-

AUTHOR-(02)-TYUTYUNNIKOV, B.N., MASTRUK, M.SH.

COUNTRY OF INFO--USSR

SOURCE--MASLO-ZHIR. PROM. 1970, 36(2), 18-20

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--HYDROGEN, ESTERIFICATION, GLYCERIDE, HYDROGENATION, CATALYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0548 STEP NO--UR/9085/70/036/002/0018/0020

CIRC ACCESSION NO--AP0119467

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT7C

CIRC ACCESSION NO--AP0119467

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENCE OF H IN NI OR PD CATALYST DID NOT HAVE ANY SIGNIFICANT INFLUENCE ON THE INTENSITY OF TRANSESTERIFICATION OF GLYCERIDES. FACILITY: POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

USSR

ZUBOV, V. V., KRIVANDIN, V. A., MASTRYUKOV, B. S.

"Study of Spectral Radiation Characteristics of Heat-resistant Materials"

Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Chernaya Metallurgiya, No 9, 1972, pp 155-157.

Abstract: Calculation of spectral characteristics is hindered by the absence of sufficiently reliable data on the degree of blackness for most materials used at high temperatures, particularly alloys used to manufacture electric resistance furnace heaters. In this work, alloys Kh20N80, OKh27Yu5A and Kh18N25S2 were studied, using specimens 8 × 30 × 2 mm preliminarily ground, then oxidized in air at 1,000°C for 6 hours. The spectral degree of blackness was measured using the direct radiation method. Analysis of the results produced shows that the spectral degree of blackness and function $\varepsilon_\lambda = f(\lambda)$ differ significantly for the three alloys, due to the differences in chemical composition and thickness of oxide films formed. The work indicates that the radiation properties of oxidized heat-resistant alloys are determined to a significant extent by the chemical composition and thickness of oxide films formed on their surfaces. The influence of these factors on the spectral function will be studied in later works.

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1/2 007 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ELECTRON DIFFRACTION STUDY OF THE STRUCTURE OF MOLECULES OF ORGANOGERMANIUM COMPOUNDS WITH EMPIRICAL FORMULA C SUB2 H SUB2 GE X SUB2

AUTHOR--VILKOV, L.V., MASTRYUKOV, V.S., SHCHERBIK, L.K., OVLOVA, V.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1) 3-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRON DIFFRACTION ANALYSIS, MOLECULAR STRUCTURE, ORGANOGERMANIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0312 STEP NO--UR/0192/70/011/001/0003/0007

CIRC ACCESSION NO--AP0103967

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103967

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON DIFFRACTION STUDY OF (C SUB2 H SUB2 GEX SUB2) SUBN (I), WHERE X EQUALS ME, CL, AND I, IN VAPOR PHASE, SHOWED THAT WHEN X EQUALS ME, N EQUALS 1 AND WHEN X EQUALS CL, N EQUALS 2. FOR X EQUALS IODINE TWO SETS OF DIFFRACTION DATA WERE OBTAINED, DEPENDING ON THE VAPORIZATION TEMP. OF THE SAMPLE, CORRESPONDING TO ELECTRON DIFFRACTION CURVES CALCD. FOR N EQUALS 1 AND N EQUALS 2, RESP. A 3 MEMBERED RING STRUCTURE II IS FOUND FOR I, N EQUALS 1 AND A 6 MEMBERED RING STRUCTURE III IS FOUND FOR I, N EQUALS 2. THE PARAMETERS DETD. BY ASSUMING RING MODELS II OR III ARE GIVEN. THE CONTROVERSY CONCERNING THE STRUCTURE OF I IS NOT FULLY SOLVED AND NEEDS FURTHER INVESTIGATION.

UNCLASSIFIED

USSR

UDC 547.241

MASTRYUKOVA, T. A., SUYERBAYEV, Kh. A., MATROSOV, Ye. I., PETROVSKIY, P. V., and KABACHNIK, M. I., Institute of Metal Organic Compounds, Academy of Sciences USSR

"Acidity and Tautomerism of β-Ketophosphonium Salts. Salts of 3,3,5,5-Tetraphenyl-3,5-diphosphacyclohexenone"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2613-2619

Abstract: Deprotonation of the salts of 3,3,5,5-tetraphenyl-3,5-diphosphonia-cyclohexanone leading to the formation of respective 3,5-diphosphacyclohexenone salts was studied. On the basis of IR and NMR spectral analysis it was shown that in crystalline state the monochloride of 3,3,5,5-tetraphenyl-3,5-diphosphacyclohexenone contains an acylphosphinemethylene system of bonds. Tetraphenyl borate however shows a phosphoniamethylenephosphorane system with a ketone group. In solutions a prototropic tautomerism is observed of the type CH_2-P:CH$\rightleftarrows$CH:P-CH_2 which is similar to the tricarbon tautomerism.

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USSR

UDC 547.26'118

MASTRYUKOVA, T. A., BUTORINA, L. S., and KABACHNIK, M. I., Institute of Metal Organic Compounds, Academy of Sciences USSR

"Reactions of Phosphorus Monothioacids With Diazoacetone"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 2083-2084

Abstract: It was established that diazoacetone reacts with phosphorus monothioacids at room temperature in benzene solution much slower than the diazomethane, forming exclusively the thio derivatives. No effect was noted on this reaction by changing the polarity of the solvent or the substituents on the monothio acids.

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USSR

UDC 542.91:547.1'118

LAZAREVA, M. V., PEREKALIN, V. V., and MASTRYUKOVA, T. A., Institute of Metal Organic Compounds, Academy of Sciences, USSR, and Leningrad State Pedagogical Institute Imeni A. I. Gertsen

"Synthesis of 2-Aminoethylphosphonic Acid Homologs"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 73, pp 1382-1385

Abstract: Homologs of 2-aminoethylphosphonic acid were synthesized by addition of dialkyl phosphites to nitroolefines, followed by the reduction of 2-nitroethylphosphonic acid esters formed to aminoesters. Hydrolysis of the latter gave free acids.

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UDC 547.558.1

USSR

NASTRYUKOVA, T. A., ALADZHEVA, I. M., MATROSOV, YE. I., KABACHNIK, M. I.,
Institute of Organoelemental Compounds, Academy of Sciences of the USSR

"Acidity and Tautomerism of β-Ketophosphonium Salts. Synthesis and Acid-Base Properties of Triphenyl(Diacylmethyl)phosphonium Salts"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, pp 1470-1473

Abstract: Diacylphosphinomethylenes (I) and the corresponding phosphonium salts (II) were synthesized, and their acid-base properties were studied. Compounds (I) have been previously described, and the first representative of (II) was reported in Zhurnal Obshchey Khimii in 1971 (Vol 41, p 2336), triphenyl(acetylbenzoylmethyl)-phosphonium chloride. New members of the series were synthesized by reacting hydrogen halides or trifluoroacetic acid with the corresponding phosphinomethylenes (I). The resultant salts are completely stable with the exception of triphenyl(diacetylmethyl)phosphonium chloride. The acid-base properties of the compounds were studied by a potentiometric method in water-ethanol solutions and in nitromethane. It was found that phosphinomethylenes are weak bases, and the corresponding phosphonium salts are fairly strong acids.

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USSR

UDC 543.422.4:547.1'118

MATROSOV, YE. I., BARANOV, G. M., PEREKALIN, V. V., KABACHNIK, M. I., and MASTRYUKOVA, T. A., Institute of Heteroorganic Compounds, Academy of Sciences USSR, and Leningrad State Pedagogical Institute imeni A. I. Gertsen

"IR Spectra and Hydrogen Bonds in Some Organophosphorus Derivatives of Nitro Alcohols"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 71, pp 2572-2575

Abstract: The article describes results of a spectral study of organophosphorus derivatives of nitro alcohols -- O,O-dialkyl- α -hydroxy- β -nitroalkyl phosphonates of the type: $(RO)_2P(O)-C(OH)CH_3-CHR'NO_2$; R=$C_2H_5$ (I), i-C_3H_7 (II); R'-H (a), CH_3 (b), C_6H_5 (c). The results indicate the formation in the solid state of intermolecular H bonds formed by OH and P=O groups. There is equilibrium of free and associated molecules in solutions of the phosphonates.

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USSR

UDC 547.461

MASTRYUKOVA, T. A., SHIPOV, A. E., SUYERBAYEV, Kh. A., and KABACHNIK, M. I., Institute of Metal Organic Compounds, Acad. Sc. USSR

"Synthesis of Some New Potential Myorelaxants"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 8, No 4, Apr 72, pp 681-682

Abstract: Reaction of succinyl dichloride with glycine or sarcosine ethyl ester yields diethyl esters of succinyldiglycine or succinyldisarcosine, which can be transesterified to 2-dimethylaminoethyl esters using 2-dimethylaminoethanol, and finally after a treatment with dimethyl sulfate or methyl bromide, they yield cholinec esters. Reaction of N,N'-disuccinylethylenediamine with ethylene bromohydrin in presence of dicyclohexylcarbodiimide yields its di-(2-bromoethyl) ester which, after treatment with trimethylamine, gives the dicholine ester of N,N'-disuccinylethylenediamine. All compounds are weak myorelaxants.

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USSR UDC 547.241

MASTRYUKOVA, T. A., SUYERBAYEV, KH. A., PETROVSKIY, P. V. MATROSOV, YE. I., Academician KABACHNIK, M. I.

"Acidity and Tautomerism of Some β-Ketophosphonium Salts"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 2, 1972, pp 354-357

Abstract: A study of diphenylphosphinyl-substituted β-ketophosphonium salts of the following structure:

$$\left[(C_6H_5)_2\overset{+}{P}-CH_2-\underset{\underset{O}{\|}}{C}-CH_2-\underset{\underset{O}{\|}}{P}(C_6H_5)_2\right]X^-,$$

where X = Cl^-, ClO_4^-, BF_4^-, BPh_4^- and CF_3COO^- are anions was made to consider the problem of whether introduction of radicals increasing the CH-acidity but capable of the formation of hydrogen bonds with OH-radicals of enol forms into a molecule of acylphosphonium salt must lead to enolization. Paramagnetic resonance spectra and intrared spectra of the investigated salts are presented and analyzed. In contrast to simple β-ketophosphonium salts, their

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MASTRYUKOVA, T. A., et al., Doklady Akademii Nauk SSSR, Vol 202, No 2, 1972, pp 354-357

diphenylphosphinyl-substituted derivatives are capable of enolization in solutions. This property cannot be explained only by the increase in CH-acidity as a result of introducing the diphenylphosphinyl radical. The cause of the enolizability lies in stabilization of the enol form under the effect of the diphenylphosphinyl group. In the case of complex anions enolization does not occur. Thus, for enolization both the P(O)-radical and CF_3COO^- or Cl^- anions must be present.

USSR UDC 541.69:661.718.1

MASTRYUKOVA, T. A., SHIPOV, A. E., GORBENKO, E. B., KABACHNIK, M. I., KACAN, YU. S., YERSHOVA, YE. A., SHABANOVA, M. P., and SAVCHENKO, K. N., Institute of Heterorganic Compounds, Academy of Sciences USSR

"A New Type of Selective Organophosphorus Insecticides and Acaricides. 2. Methyldithiophosphonic Acid Derivatives"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 9, Sep 71, pp 2003-2005

Abstract: In an earlier article the authors examined a new type of selective insecticides and acaricides, viz. derivatives of mono- and dithiophosphoric acids containing amino acid residues, their esters and methylamides. The present article deals with an analogous series of methyl dithiophosphonates, obtained by the reaction of the corresponding chloroacetyl derivatives of amino acids or their esters with ammonium O-ethyl methyldithiophosphonate. It was found that compounds of this series are more toxic for arthoropods and warm-blooded animals than the corresponding dithiophosphates. Substances containing a free carboxyl group are the least toxic. A study of the insecticidal and acaricidal activity of the resultant compounds shows that they are more characterized by acaricidal activity and that they are more 1/2

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MASTRYUKOVA, T. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 9, Sep 71, pp 2003-2005

active insecticides and acaricides than the corresponding phosphates, but the selectivity of their effect on arthropods is weaker than in the case of dithiophosphates. A comparison of the effect of these two groups on arthropods and warm-blooded animals shows greater selectivity in the case of methyl dithiophosphonates.

USSR UDC 541.632+538.113:661.718.1

MASTRYUKOVA, T. A., SHIPOV, A. E., VAYSBERG, M. S., PETROVSKIY, P. V., and KABACHNIK, M. I., Institute of Heteroorganic Compounds, Academy of Sciences USSR

"PMR Study of Diastereoisomerism of Substituted O-Ethyl Methyldithiophosphonates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 8, Aug 71, p 1841

Abstract: In compounds of the general formula $CH_3(C_2H_5O)(P(S)SCH_2C(O)NHCH(R)-COOH$ [R = H (I), CH_3 (II) and i-C_3H_7 (III)], (II) and (III) contain two asymmetric centers separated by five single bonds. Nevertheless, the PMR spectra of the resultant mixture of diastereomers clearly shows two doublet signals for the methyl protons corresponding to the two diastereomers. The difference in chemical shifts varies according to compound and solvent from 0.06 to 0.1 p.p.m., with the maximum for compound (III) in benzene. This difference is great for substances in which the asymmetric centers are far removed from each other. Thus, it is shown that diastereomerism can be found in the PMR spectra for molecules with separated asymmetric centers.

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MASTRYUKOVA, T. A., SPIVAK, L. L., GRIGOR'YEVA, A. A., URZHUMTSEVA, Ye. K., and KABACHNIK, M. I., Institute of Organoelemental Compounds, Academy of Sciences USSR, Khar'kov State University

"Ionization Constants of Dithiophosphoric Acids in Absolute Ethanol"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1938-1941

Abstract: Measurements were made of the ionization constants of organic dithiophosphoric acids in absolute ethanol. There exists a linear relationship between the ionization constant values of acids and $\Sigma\sigma_\phi$ of the substituents at the phosphorus atom. It is shown that the conditions for the solvation of molecules and anions of dithiophosphoric acids in 100% ethanol markedly differ from those in 7 and 80% aqueous ethanol. In switching from 7 to 80% ethanol, ΔpK_a remains constant for all acids under study. In 80 to 100% ethanol, ΔpK_a changes and increases from dialkyldithiophosphoric to dithiophosphonic and dithiophosphinic acids. In the former case, ΔpK_a depends largely on changes in the solvation energy of molecules while in the latter case, it depends on that of ions. The difference in the change of the solvation energy of ions and molecules results from the differentiating action of the solvent on the strength of

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