

USSR

POKHURSKIY, V. I., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 6, 1973, pp 16-19

Cr and V in Fe is formed on the surface with disseminated carbides. From this study it was evident that the growth rate of the carbide phase, its depth, hardness and structure of the near-surface zones are affected by the carbon concentration and diffusion rate into alloys with a different chemical composition. Ine figure, one table, three bibliographic references.

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USSR

UDC 620.198:621.785.53

KALICHAK, T. N., POKHMURSKIY, V. I., POBEREZHNYI, Ya. L., ALEKSEYENKO, M. F., MEL'NIKOVA, N. N., Academy of Sciences Institute of Physics and Mechanics, L'vov; Moscow.

"Influence of Galvanic and Nonmetallic Coatings on Endurance of Martensitic Stainless Steel"

Kiev, Fiziko-khimicheskaya Mekhanika Materialov, Vol 8, No 4, 1972, pp 12-15.

Abstract: This work describes a study of the influence of galvanic (nickel-cadmium) and polymer coatings on the strength of type 1Kh12N2VMF stainless steel under cyclical loading at various temperatures and in the presence of corrosive media. Before the coatings were applied, the specimens were heat treated by hardening from 1,020°C and tempering at 660°C (3 hours), as well as low temperature annealing at 725°C (3 hours). Metallographic studies showed that application of the nickel-cadmium coating to the surface formed an even, thin layer with a total thickness of 9 to 15 μ , the cadmium layer being 2 to 3 μ thick. The nickel-cadmium coating has a negative influence on the endurance limit in air, but more than doubles the corrosion fatigue resistance in 3% NaCl. Nickel-cadmium coatings protect steel well from the effects of high temperatures. The polymer coating, about 0.1 mm thick, had 1/2

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UDC 620.198:621.785.53

KALICHAK, T. N., POKHMURSKIY, V. I., et. al., Kiev, Fiziko-khimicheskaya Mekhanika, Materialov, Vol 8, No 4, 1972, pp 12-15.

no influence on the endurance of the steel in air, but more than tripled the corrosion fatigue resistance in 3% NaCl. The effect was maximum with high loading amplitudes and fewer cycles (up to 10^7). Corrosive damage to the metal beneath the polymer coating was found to result primarily from damage to the polymer coating caused by the loading stress, allowing the corrosive medium to penetrate through the coating to the steel.

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USSR

UDC 620.198:621.793.3

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., RUSIN, S. I.,
ZAMIKHOVSKIY, V. S., and BRODYAK, YA. P., Academy of Sciences Ukrainian SSR,
Physicomechanical Institute

"Endurance of Chemically Nickel-Plated Aluminum Alloy D16"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

Abstract: The article describes results of a study of the effect of chemical nickel-plating on the fatigue and corrosion-fatigue strength of D16, an aluminum alloy widely used in industry (0.74 percent Mn, 4.6 percent Cu, 0.87 percent Si, 0.56 percent Fe, 1 percent Mg). Specimens were nickel-plated in an alkaline solution of the composition (g/l): NiCl_2 21, NaH_2PO_2 24, $\text{NaO}_2\text{C}(\text{CO}_2\text{H})_2(\text{OH})\text{C}_3\text{H}_4$ 45, NH_4OH 50, NH_4Cl 30 at a temperature of 75-80°.

Fatigue tests showed that the endurance of aluminum alloy D16 with a nickel layer of about 0.045 (nickel-plating for three hours without subsequent heat treatment) is no less than that of the alloy without a coating, despite the presence of residual tensile stresses. Heat treatment of chemically nickel-plated specimens at 240° for one hour significantly increased their fatigue

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KARPENKO, G. V., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

strength. The endurance limit of specimens with a coating about 0.008-0.010 mm thick (nickel-plating for 0.5 hour) increased 45 percent compared to uncoated specimens and specimens nickel-plated without subsequent heat treatment. An increase in the coating thickness to 0.040-0.045 mm led to a further rise in the endurance limit to almost 70 percent. The effect of a rise in endurance declines somewhat with a further increase in the coating thickness to 0.070-0.075 mm (nickel-plating for five hours). In the case of the simultaneous action of cyclic strains and a corrosive medium (3-percent aqueous solution of sodium chloride), chemically deposited nickel is not an effective means of protection against corrosion-fatigue failure of aluminum alloy D16.

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USSR

UDC: 620.178.38

KARPENKO, G. V., POKHILINSKIY, V. I., and KALICHAK, T. N., Physicomachanical Institute, Academy of Sciences, Ukrainian SSR

"A Procedure for Testing Materials for Strength at Elevated Temperatures and With Periodic Wetting by a Liquid Corrosive Medium"

Moscow, Zavodskaya Laboratoriya, No 10, 1971, pp 1243-1245

Abstract: For evaluating the fatigue strength of blade material of special power installations (boiler units), a new procedure has been developed for the fatigue testing of heated samples periodically wetting by sprinkling with a corrosive medium (water, sea water, etc.); the conditions of such tests are similar to those encountered in operation. The article describes a method and a machine for the fatigue testing of materials, with the simultaneous action of elevated temperatures (up to 400°C), variable stresses, and periodic wetting of the samples by a corrosive medium. The temperature fluctuations during these tests under conditions of elevated temperatures comprised + 5°C, the periodicity of the cycle was 1.5 minutes, the corrosive medium was distilled water. Tests results are presented for samples of steels 1KH12N2VMF and 1KH12N2MVFBA. 2 figures. 1 table. 8 references.

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USSR

UDC 620.198.539.431.621

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., and ZAMIKHOVSKIY, V. S.,
Institute of Physics and Mathematics, Academy of Sciences Ukrainian SSR

Vliyanie Diffuzionnykh Pokrytiy na Prochnost' Stal'nykh Izdeliy (The Effect
of Diffusion Coating on the Strength of Steel Parts), Kiev, "Naukova Dumka,"
1971, 166 pp

Translation of Annotation: This monograph studies the effect of electro-
plating and diffusion coating on the short-term static and fatigue strength
of steel articles in the air and in some working media. The role of residual
stresses is examined and a new classification is proposed for them. The
possibility of healing such defects as cracks through diffusion metallization
and the restoration of the continuity and strength of defective parts is shown.
Some methods of intensifying the processes of diffusion saturation are pre-
sented.

This monograph is intended for metal scientists, process engineers, and
designers in the machine building industry, and for instructors at higher
educational institutions.

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KARPENKO, G. V., et al., "Naukova Dumka," 1971, 166 pp

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KARPENKO, G. V., et al., "Naukova Dumka," 1971, 166 pp

Data on Methods of Intensifying the Processes of Diffusion Steel

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1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CHANGE IN THE FATIGUE STRENGTH OF STEEL UNDER FRICTION CONDITIONS
IN RELATION TO THE QUALITY OF THE LUBRICANT -U-
AUTHOR--(02)-LIZANETS, M.V., POKHMURSKY, V.I. P
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 99-100
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--FATIGUE STRENGTH, STRUCTURAL STEEL, METAL FRICTION,
LUBRICATING OIL, INTERNAL COMBUSTION ENGINE COMPONENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1831 STEP NO--UR/0369/70/006/002/0099/0100
CIRC ACCESSION NO--AP0129199

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 033

CIRC ACCESSION NO--A0129199

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FATIGUE STRENGTH OF STRUCTURAL STEEL SAMPLES SUBJECTED TO FATIGUE LOADING UNDER ORDINARY CONDITIONS AND ALSO UNDER CONDITIONS OF SEVERE FRICTION WAS STUDIED IN RELATION TO THE QUALITY OF THE LUBRICANT EMPLOYED. CONSIDERABLE DIFFERENCES IN FATIGUE STRENGTH AND ELECTRODE POTENTIAL WERE OBTAINED WITH PURE MOTOR OIL AND OIL WHICH HAD SPENT SOME TIME IN AN INTERNAL COMBUSTION ENGINE, RESP. THE PRACTICAL IMPORTANCE OF THESE DIFFERENCES IN RELATION TO THE LIFE OF MOVING ENGINE PARTS IS CONSIDERED.

UNCLASSIFIED

I/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF COMPLEX SATURATION WITH BORON AND COPPER ON THE STRENGTH
CHARACTERISTICS AND WEAR RESISTANCE OF CARBON STEEL -U-
AUTHOR--(05)-POKHMURSKY, V.I., VAGULA, R.G., GRIBOVSKY, YA.S, ZAMIKHOVSKY,
V.S., TABINSKY, K.P.
COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKHAN. MAT., 1970, 6,(2), 18-21

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--WEAR RESISTANCE, COPPER ALLOY, BORIDE, CARBON STEEL, IMPACT
STRENGTH, FATIGUE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0213

STEP NO--UR/0369/70/006/002/0018/0021

CIRC ACCESSION NO--AP0129469

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129469

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF COMPLEX SURFACE SATURATION WITH B AND CU ON THE UTS, YS, IMPACT STRENGTH, FATIGUE RESISTANCE, DUCTILITY, AND WEAR RESISTANCE OF C STEELS WAS STUDIED. AFTER SATURATION WITH B AND CU THE DUCTILITY OF THE STEEL ROSE, THE FATIGUE STRENGTH REMAINED AT THE SAME LEVEL AS THAT OF UNTREATED SAMPLES, WHILE THE WEAR RESISTANCE EQUALLED THAT OF B SATURATED MATERIAL. THE EFFECT ON THE OTHER CHARACTERISTICS WAS LESS SPECIFIC.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--EFFECT OF DIFFUSE COATINGS ON CERTAIN PHYSICOMECHANICAL PROPERTIES
 OF METALS -U-
 AUTHOR--POKHMURSKIY, V.I. P
 COUNTRY OF INFO--USSR
 SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR, VISNIK, VOL. 34, MAR. 1970, P.
 57-62
 DATE PUBLISHED----MAR 70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
 TOPIC TAGS--STEEL CORROSION, CORROSION RESISTANCE, STEEL PROPERTY,
 MECHANICAL PROPERTY, CARBON STEEL, CARBIDE, METAL SURFACE, BORON
 CARBIDE, MANGANESE COMPOUND, CHROMIUM CARBIDE, VANADIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1995/0859

STEP NO--UR/0655/70/034/000/0057/0062

CIRC ACCESSION NO--AP0116369
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 030

CIRC ACCESSION NO--AP0116369
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY OF THE EFFECTS OF A GROUP OF DIFFUSE COATINGS ON THE STRENGTH CHARACTERISTICS AND CORROSION RESISTANCE OF STEELS. THE STRUCTURE, THICKNESS AND PURITY OF DIFFUSE LAYERS FORMED IN STEEL SURFACES WHEN THIS TECHNIQUE IS APPLIED ARE DISCUSSED AS FACTORS VARYING THE EFFECTS OF COATING. THE STUDY COVERS A TOTAL OF 60 MODIFICATIONS OF DIFFUSE SURFACE SATURATION WITH BORON, MANGANESE, CHROMIUM, VANADIUM AND CARBIDES IN 20 TYPES OF STEEL. IT IS POINTED OUT THAT DIFFUSE SURFACE SATURATION WITH ALUMINUM, ZINC, CHROMIUM, BORON AND SOME OTHER ELEMENTS CAN APPRECIABLY INCREASE THE CORROSION RESISTANCE OF CARBON STEELS IN VARIOUS ORGANIC AND INORGANIC AGGRESSIVE MEDIA.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

1/2- 034

TITLE--EFFECT OF SMALL QUANTITIES OF ALLOYING ELEMENTS ON THE STRUCTURE AND STRENGTH OF MEDIUM CARBON BORATED STEEL -U-

AUTHOR--PROTSIK, V.G., ZAMIKHOVSKIY, V.S., POKHMURSKIY, V.I.

P

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKH. MATER. 1970, 5(6) 661-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MEDIUM CARBON STEEL, CREEP, IMPACT STRENGTH, PLASTICITY, BORIDING, BORONIZING, NICKEL CONTAINING ALLOY, SILICON CONTAINING ALLOY, MANGANESE CONTAINING ALLOY, CHROMIUM CONTAINING ALLOY, CARBIDE CONTAINING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0626

STEP NO--UR/0369/70/005/006/0661/0665

CTRC ACCESSION NO--AP0105605

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105605

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE STUDY WAS CARRIED OUT WITH STEEL 45 TO WHICH ONE OF THE FOLLOWING ELEMENTS (1 AND 2 WT. PERCENT) WAS ADDED: SI, MN, NI, AND CR. THE BORONIZING WAS CARRIED OUT BY POWDER CONTACT METHOD IN A MIXT. OF B CARRIDE AND BORAX FOR 6 HR AT 950DEGREES. THE PRESENCE OF ALL ALLOYING INGREDIENTS DECREASED THE THICKNESS OF THE BORONIZED DIFFUSION LAYER, (WITH SI AND MN 20-30PERCENT AND WITH CR AND NI IS SIMILIAR TO 10PERCENT). MICROHARDNESS DID NOT CHANGE, AT 1PERCENT LEVEL, WHILE AT 2PERCENT THERE WAS SOME DECREASE (10-20PERCENT). TENSILE STRENGTH AND ULTIMATE CREEP POINT INCREASED 15-30PERCENT, WHILE PLASTICITY INDICES (INCLUDING IMPACT STRENGTH) DECREASED SHARPLY AND VARIDUSLY (10-50PERCENT). WITH NI THE IMPACT STRENGTH DECREASED TO ONE SEVEN. THE INCREASE OF ALLOYING LEVEL FROM 1 TO 2PERCENT ACCENTUATED THE DECREASE OF PLASTICITY INDICES..

UNCLASSIFIED

USSR

UDC 621.785.53:620.194.8

PROTSIK, V. G., ZAMIKHOVSKIY, V. S., and POKHMENSKIY, V. I.,
Institute of Physico Mechanics of the Ukrainian Academy of
Sciences, L'vov

"Effect of Alloying Elements on the Cyclical Durability of
Medium-Carbonized Steel After Boronizing"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 5,
1970, pp 18-21

Abstract: To obtain the proper steels for their experimental
research, the authors used each of the following elements:
silicon manganese, nickel, and chromium. These were added to
the extent of one or two percent to medium-carbonized steel
(type 45 alloy). The boron was diffused by the contact method
in a powdered mixture of boron carbide and borax for six hours
at a temperature of 950° C. The structure of the diffused
layers and the mechanical characteristics of the steels before
and after the boronization process as well as the method used
for investigating the cyclic durability of the steels in air
and in the corrosive medium were described in an earlier paper
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USSR

PROTSIK, V. G., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 5, 1970, pp 18-21

by the authors for this same journal (No 6, 1969). The results of the experiments showed that the alloying elements in the medium-carbonized steels in the one or two-percent concentration affected the durability of the steels in different ways, in air and in the corrosive medium, before as well as after boronizing. After boronization, the durability limit in all steels treated with the above-named elements increased. The greatest effect on the durability was observed for the steel to which silicon in the amount of 1% was added.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NMR STUDY OF THE ASSOCIATION OF ALCOHOLS AND PHENOLS -U-

AUTHOR-(03)-BRODSKIY, A.I., POKHODENKO, V.D., KUTS, V.S.

COUNTRY OF INFO--USSR

SOURCE--USP. KHIM. 1970, 39(5), 753-72

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NMR SPECTRUM, HYDROGEN BONDING, MOLECULAR STRUCTURE, ALCOHOL,
PHENOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605013/B11 STEP NO--UR/0074/70/039/005/0753/0772

CIRC ACCESSION NO--AP0140359

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140359

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 151 REFS. THROUGH PART OF 1969 COVERING THE BASIC PRINCIPLES USED IN THE STUDY OF HYDROGEN BONDING IN ALCS. AND PHENOLS BY NMR SPECTROSCOPY IN CASES OF FORMATION OF INTER OR INTRAMOL. BONDS AND THE EFFECTS OF STRUCTURAL FACTORS ON THESE. FACILITY: INST. FIZ. KHIM. IM. PISARZHEVSKOGO, KIEV, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SINGLE ELECTRON REDUCTION OF CYCLOHEXADIENONES AND PHENOXY RADICALS
BY AMINES -U-
AUTHOR-(02)-POKHODENKO, V.D., KALIBABCHUK, N.N. P
COUNTRY OF INFO--USSR
SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 124-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CYCLIC GROUP, AROMATIC KETONE, FREE RADICAL, AMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605013/B03 STEP NO--UR/0379/70/006/001/0124/0128
CIRC ACCESSION NO--AP0140344
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--040ECT9

CIRC ACCESSION NO--A0140344

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLID CYCLOHEXADIENONES (I, R
EQUALS ME, TERT BU; X EQUALS NO SUB2, BR), TREATED WITH EXCESS ET SUB3N,
PYRIDINE, OR PIPERIDINE IN VACUO, YIELDED PHENOXY RADICALS (II) VIA
FORMATION OF UNSTABLE CYCLOHEXADIENONE ANION RADICALS. II ARE REDUCED
BY THE SECOND MOL. OF AMINE OR PYRIDINE TO PHENOLS. RATE CONSTS. OF
BOTH SINGLE ELECTRON STEPS WERE MEASURED OVER 30-50DEGREES.
FACILITY: INST. FIZ. KHIM. IM. PISARZHEVSKOGO, KIEV, USSR.

UNCLASSIFIED

Acc. Nr:

AP0047224

P

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 83-86

N. N. ZHDANOVA, V. D. POKHODENKO

EPR SPECTRA AND RADIORESISTANCE OF SOME SPECIES
OF THE DEMATIACEAE FAMILI

D. K. Zabolotni Institute of Microbiology and Virology,
Academy of Sciences, UkrSSR

Analysis of EPR spectra in fungi of the Dematiaceae famili has shown that the concentration of paramagnetic particles in this case is at least by 3-4 orders higher than in the fungi lacking this pigment, this amounting to 10^{17} - 10^{18} pp/g. A simbatic dependance of radioresistance of 7 species (9 strains) of darkcoloured hyphomycetes on the concentration of pp was found. The radioresistance of the samples increased parallel to the increment of the amount of p. particles.

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USSR

UDC 621.791.03

POKHODNYA. I. K., et al.

"Welding With Powder Rod"

Svarka poroshkovoy provolokoy [Translation Above], "Naukova Dumka," Kiev, 1972, 221 pp

Translation of Foreword: Arc welding is a basic process in the production of metal structures. The mechanization of this process is one of the basic directions in the growth in the welding industry. In the post-war years in the Soviet Union, mechanized welding using a flux was rapidly expanded. The absolute increase in the number of applications of flux welding occurred at this point, and now this portion of the process of welding operations has, to a large extent, been stabilized. This is related to the rapid growth of welding using carbon dioxide. The high productivity, simplicity, and economics are the distinctive features of carbon dioxide welding. However, the increased splattering of the electrode metal, the inconvenient form of the junctions, and their unsatisfactory flakiness resulted in the necessity of developing new electrode materials. The application of powder rods was an effective solution.

Welding both using a flux and in protective environments is used now,

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USSR

POKHODNYA, I. K., et al., Svarka poroshkovoy provolokoy, "Naukova Dumka", 1972, 221 pp.

principally in working conditions. At the same time, millions of tons of welded structures are made and assembled in open areas and in field conditions. Here, however, manual welding is dominated by plated electrodes for the mechanization of the welding process. Self-protecting powder rods result in a great increase in welding productivity over welding using the plated electrodes and provide a high-quality joint. The volume of production of the powder rods has increased overall and the areas of its application have expanded. From 1965 to 1972 the output of powder rods in the USSR has increased 5 times. In the current five year plan, the development of the welding industry from 1971 to 1975 provides for a tripling of the output of the powder rods for different purposes.

Studies on the composition of powder rods used in the welding process and the development of industrial technology for their production have been studied by the authors in detail over the last 15 years at the Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences UkrSSR. These studies received recognition both at home and abroad. Firms in several capitalist countries acquired licenses for the powder rods developed at the Institute of Electric Welding and supervised their production. The United States, England,

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POKHODNYA, I. K., et al., Svarka poroshkovoy provolokoy, "Naukova Dumka", 1972, 221 pp.

Germany and France use these rods for welding critical structures.

Results of the study of the welding process using powder rods and experiments on its application occur in the periodical literature and in different books. The present monograph is the first attempt to generalize the results of the authors and other investigators. The first three chapters of the book acquaint the reader with the processes occurring during the heating and fusion of the powder rods. Based on experimental material, processes are considered for the reduction of the metal and also logical ways to construct reliable gas and slag protection providing the optimum welding technology characteristics. The content of the following chapters deals with applications. In these the characteristics of industrial brands of powder rods are given. The basic technological processes of welding are presented together with the technical-economic efficiency of the application of powder rods to different branches of industry.

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Preface

Chapter I. Processes Occurring During the Heating and Melting of Powder Rods

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USSR

POKHODNYA, I. K., Et al., Svarka poroshkovoy provolokoy, "Naukova Dumka", 1972, 221 pp

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POKHODNYA, I. K., et al., Svarka poroshkovoy provolokoy, "Naukova Dumka", 1972, 221 pp

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USSR

UDC: 621.791.042.4

POKHODNYA, I.K., Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Development of Research in the Metallurgy of Welding and the Technology of Electrode Production in the USSR"

Kiev, Avtomaticheskaya Svarka, No 5, May 70, pp 18-24

Abstract: A review is presented of literature on the development of research in welding metallurgy and the technology of electrode production in the USSR. The review comprises the theoretical fundamentals of electrode creation, investigations of electrode production procedures, designs and development of equipment, and structure of the production and basic characteristics of new electrodes. Electrodes with different types of coatings are discussed, and their characteristics are described. Results of the comprehensive investigation of problems of welding special steels and alloys have resulted in the development of new electrodes (the KTI-7, OZL-18, OZL-9A, IMET-10, NIAT-7, NIAT-8, TsT-22, TsT-28, and others) ensuring a built-up metal with high heat and oxidation resistance. For surfacing of the working parts of excavators, the OZH-1, VSN-6, and KBKh-45 electrodes developed. Service life of these machines has increased 6-8 times. Many machine-building plants are successfully using the EN-60M, OZI-2, and OZSh-1

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POKHODNYA, I.K., Avtomaticheskaya Svarka, No 5, May 70, pp 18-24

electrodes for due surfacing. For the welding of cast iron, MNCh-1, OZCh-1, and TsCh-3A electrodes, with cores of nonferrous metals and high-alloy steels, have been developed. The development of new electrodes for special steels has contributed to a substantial expansion of the areas of welding and surfacing application, and has resulted in the creation of unique welded structures for operation under extremely complex conditions. Greater service life and wear resistance of machines and mechanisms have also resulted. However, the absence of specialized production of certain brands of electrodes has seriously hampered their adoption. Further improvement in the technology of producing such electrodes is imperative.

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USSR

UDC 536.46 + 662.222.1

POKHIL, P. E., MAL'TSEV, V. M., LOGACHEV, V. S., SELEZNEV, V. A., Moscow

"Combustion of Aluminum Particles in the Flame of a Condensed System"

Fizika Goreniya i Vzryva, No 1, Mar 71, pp 51-57.

ABSTRACT: This work presents a study of the process of combustion of aluminum particles in a flame of type N ballistite powder and a model mixture of ammonium perchlorate with organic fuel. The study of the process of combustion of metal particles was performed in a constant pressure bomb with quartz windows, in which a vacuum or the necessary inert gas (nitrogen, argon) pressure was created. The metal particles were introduced to the composition of the fuels during the manufacturing process. A photographic method was used to study the processes occurring on the surface of combustion, and specimens were taken to study the dimensions of the metal particles through the height of the flame. It was established that as ballistite powder burns, the metal particles adhere to the thermostable decomposition products of the nitrocellulose, later merging near the surface of the charge. Increasing the percentage of metal in the fuel causes an increase in particle diameter. Aluminum particles accumulate and

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UDC 536.46 + 662.222.1

POKHIL, P. F., MAL'TSEV, V. M., LOGACHEV, V. S., SELEZNEV, V. A., Fizika
Goreniya i Vzryva, No 1, Mar 71, pp 51-57.

agglomerate on the surface of combustion of the charge. In the initial stage of combustion, oxidation of the metal occurs on its surface, with 4 to 6% of the heat realized due to combustion of the metal liberated in this manner in the reaction layer. Combustion of aluminum particles in the flame occurs through intermediate products with the formation of lower oxides. The temperature of the combustion zone of aluminum particles is 400-600° higher than the temperature of the remainder of the flame.

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UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--MASS SPECTROMETRIC INVESTIGATIONS OF IONIC AND NEUTRAL COMPOSITION OF THE UPPER ATMOSPHERE BY MEANS OF PR12 ROCKETS -U-

AUTHOR--ZHLUBKO, A.D., POLOSKEV, S.M., FOKHUNKOV, A.A., TESLENKO, V.P., SHIDLOVSKIY, A.A.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIIYA I GIDROLOGIIYA, 1970, NR 3, PP 72-82

DATE PUBLISHED-----70

28
5
33

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MISSILE TECHNOLOGY

TOPIC TAGS--MASS SPECTROMETER, UPPER ATMOSPHERE, METEOROLOGIC ROCKET, GAS COMPOSITION ANALYZER/(U)PR12 METEOROLOGIC ROCKET

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1977/0162

STEP NO--UR/C05C/7C/000/003/0072/0082

CIRC ACCESSION NO--APOC43756

UNCLASSIFIED

Acc. Nr: **AP0043756**

Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 3,
pp 77-81

MASS-SPECTROMETRIC INVESTIGATIONS OF IONIC AND NEUTRAL
COMPOSITION OF THE UPPER ATMOSPHERE BY MEANS OF MR-12 ROCKETS

A. D. Zhludko, S. M. Poloskov, A. A. Pokhunkov, V. P. Teslenko,
Shidlovskiy, A. A.; Ivanov, Yu. F.

Some research technique problems of gas composition of the Earth's upper atmosphere are considered, results of the investigation of the neutral and ionic composition at the heights of 100-180 km are given.

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REEL/F
19770162

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UDC 621.791.75

FROLOV, V. V., FLORINSKAYA, T. YA., ZHMURKIN, YU. A., and POKHVALENSKIY, D. YE., Moscow, Leningrad

"Hydrogen Distribution in the Heat-Affected Zone of an Alpha-Titanium Alloy with Consideration of the Thermal Diffusion Phenomenon"

Moscow, Fizika i Khimiya Obrabotka Materialov, No 4, Jul-Aug 73, pp 134-137

Abstract: The problem of the heterogeneous distribution of hydrogen in the weld joint of an alpha-titanium alloy was examined where the distribution was formed as a result of the phenomenon of thermal diffusion. The reason for the heterogeneity of hydrogen distribution was believed to be the establishment of isosteric pressure gradients due to the temperature relationship of the solubility coefficient k in the metal, which results in pressure drops and a new hydrogen distribution in the weld joint heat-affected zone. Pipe of the alpha-titanium alloy was welded to check the theoretical data with a hydrogen content in the alloy of 0.02% and in the welding rod -- 0.002%. After welding, the hydrogen content was determined and plotted against the distance from the end of the pipe. It was found that there are two sections with an increased content of hydrogen, above that of the initial pipe. The first section is found close to fusion line (2 mm from 1/2

USSR

FROLOV, V. V., et al., Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 73, pp 134-137

the center of the seam) and the second section -- in the heat-affected zone approximately 3 mm from the fusion line. The first section had a hydrogen content of just over 0.02 wt.% while the second section contained almost 0.03 wt.% hydrogen. Thus, the experimental data agree with the calculations and confirm the theoretical conclusions about the effect of thermal diffusion processes on hydrogen distribution in the heat-affected zone. Two figures, seven bibliographic references.

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USSR

UDC 533.652/.661.013

MIKHAYLOV, F. A., VIKTOROV, B. V., POKHVALENSKIY, V. L.

"Invariant Adaptive System for Longitudinal Stabilization of Aircraft"

V sb. Teoriya invariantn. i teoriya chuvsvit. avtomat. sistem. Ch. 1 (The Theory of Invariance and the Theory of the Sensitivity of Automatic Systems. Part 1 -- Collection of Works), Kiev, 1971, pp 320-335 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9B279)

Translation: The possibility of constructing an autopilot on the principle of compensation of perturbing effects which would maintain with high accuracy a constant angle of pitch of the aircraft under the action of vertical gusts of wind is discussed. Since an aircraft statistically neutral with respect to the angle of attack cannot undergo angular accelerations with changes in the angle of attack under the action of gusts, this problem is solved by imitation of such neutrality through the control system. It is assumed that a signal is supplied to the input of the autopilot drive, the components of which are proportional to the angle of pitch, the angular rate of pitch and acceleration with respect to the vertical axis of the aircraft. In total the system takes on invariance with respect to the angle of pitch to the action of a vertical wind under the condition

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USSR

MIKHAYLOV, F. A., et al, Teoriya invariantn. i teoriya chuvsvit. avtomat. sistem.
Ch.1, Kiev, 1971, pp 320-335

of continuous tuning of the coefficient for a vertical acceleration signal which must be achieved with adaption chains. Two possible designs of the adaption chain are discussed and the effect of a continuous change of the parameters of this chain on the accuracy of maintaining the angle of pitch is evaluated. Also evaluated are the effects of the drive parameters and the presence of additional components in the structure of the accelerometer signal when it is not installed at the center of gravity of the aircraft. Modeling of both adaption designs showed their suitability for application. However, in those cases when the dynamics of the adaption chain were insufficiently "slow" as compared with the dynamics of the basic circuit, autooscillations were observed in the modeling. G. S. Aronin.

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USSR

UDC 536.24:532.54

KRONIN, I. V., POKIVALOV, YU. YE. VOSKRESENSKIY, K. D.

"Problem of Studying Critical Thermal Fluxes in the Case of Forced Movement of Water"

V sb. Vopr. teplofiz. yadern. reaktorov. Vyp. 3 (Problems of Thermophysical Nuclear Reactors. vyp. 3--collection of works), Moscow, Atomizdat Press, 1971, pp 32-38 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B668)

Translation: Distilled water was boiled in a copper tube with an inside diameter of 5 mm and 80 mm long. The experiments were performed at pressures of 1.5 and 30 bars with underheating of the liquid close to zero in the range of mass velocities W_0 from 40 to 20,000 kg/m²-sec. A low-inertia oscillograph was used in the experiments to measure the flow rate through the operating channel, the vapor content at its exit, and the wall temperature of the channel.

It was established that in thermal fluxes close to critical, high frequency (~10 hertz) pulsations of the vapor content develop in the channel at the exit and corresponding pulsations develop in the water flow rate through the channel. At $W_0 < 2 \cdot 10^3$ kg/m²-sec, the mass flow rate during the pulsations reaches practically zero values. Choking the flow before the working channel reached 5-7 absolute atmospheres, and the ordinarily used electron devices of

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KRONIN, I. V., et al., Vopr. teplofiz. yadern. reaktorov. vyp. 3, Moscow, Atomizdat Press, 1971, pp 32-38

the EPID type with DM-6 and the standard manometers failed to record any pulsations. The noted phenomenon is most clearly exhibited at low pressures and low velocities. The dependence of q_{cr} on W_{ρ} turned out to be nonmonotonic. In the range of low velocities $q_{cr} \sim W_{\rho}^{0.5}$ and q_{cr} can be appreciably smaller than in a large volume. In the medium velocity range the dependence on the velocity is strongest $q_{cr} \sim W_{\rho}^{1.2}$, and at high velocities (a pressure of 30 bars) a region is observed where the increase in velocity by more than an order either has no effect or weakly reduces q_{cr} . The nature of the oscillograms obtained permits the conclusion that in these three regions the mechanism of occurrence of the crises differs qualitatively. The bibliography has 14 entries.

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1/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--BEHAVIOR OF IRON ORE MATERIALS DURING REDUCTION -U-

AUTHOR--(051)-ROKHVILSNEV, A.N., SPEKTOR, A.N., YUSFIN, YU.S., BAZILEVICH,
T.N., PYRIKOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 97-105

DATE PUBLISHED--70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND
MARINE ENGR

TOPIC TAGS--IRON ORE, CHEMICAL REACTION MACHANISM, THERMAL EFFECT,
CHEMICAL REDUCTION, SINTERING FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1994/1951

STEP NO--UR/0133/70/030/002/0097/0105

CIRC ACCESSION NO--AP0115759

UNCLASSIFIED

272 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115759
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLUXED AND NONFLUXED PLAIN AND
 DOUBLE LAYER PELLETS AND SAMPLES OF SINTER, BOTH EXPTL. AND COM., FROM
 MANY SOVIET, JAPANESE, AND AUSTRIAN SOURCES, WERE HEATED ISOTHERMALLY AT
 600-1200DEGREES IN H, CO, AND CO-CO SUB2-N MIXT., OR WERE HEATED BY
 GRADUALLY INCREASING THE TEMP. FROM 300 TO 1200DEGREES IN 4 HR AND
 PERIODICALLY CHANGING THE GAS COMPN. TREATED SAMPLES WERE TESTED FOR
 VOL. AND STRENGTH CHANGES, MICRO AND MACROSTRUCTURE VARIATIONS, AND FOR
 POROSITY. THE RESULTS ARE DESCRIBED AND PRESENTED IN DIAGRAMS. REDN.
 WITH H AND CO LOWERS THE STRENGTH OF ALL MATERIALS TESTED. THE CRUSHING
 STRENGTH AND ABRASION RESISTANCE OF PELLETS ARE, HOWEVER, LOWER THAN
 THOSE OF SINTER, WHILE THE VOL. OF PELLETS SHOWS A GREATER INCREASE. A
 MAX. VOL. INCREASE AND STRENGTH DROP OCCUR WHEN HEMATITE BEGINS TO
 TRANSFORM INTO MAGNETITE. THE VOL. INCREASE OBSD. DEPENDS LARGELY ON
 THE STRUCTURE AND STRESS OF SAMPLES, RATHER THAN ON C PPTN. A 1.5 FOLD
 LOWER SWELLING ON H REDN. IS CAUSED BY THE DIFFERENT REDN. MECHANISM
 INVOLVED.
 FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr.: **AP0029499**

Ref. Code: UR 0297 *4*

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 25-28

P
A STUDY OF THE CHEMICAL COMPOSITION AND ANTITUMOR ACTIVITY
OF PROTAMINES, ISOLATED FROM STURGEON MILT

Yermol'yeva, Z.V.; Silayev, A.B.; Yulikova, Ye.P.;

Pokidova, N.V.; Pasternak, N.A.; Kolosova, I.V.;

Yevseyenko, L.K.; Shenderovich, V.A.

Central Post Graduate Medical Institute, Moscow State University

Tripotamines in the form of sulfates were isolated from the milt of individual sturgeon stocks. The amino acid composition of tripotamines was determined and their antitumor activity was studied. It was shown that protamine from *Ac. guldenstadti* and *Ac. stellatus* inhibited tumor growth by 60-80 per cent, while protamine from *Ac. nudiventris* was practically inactive.

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REEL/FRAME

19681100
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USSR

UDC 576.858.73.095.383:576.858.097.5]:616.155.3-008.13

MARCHENKO, V. I., and POKIDYSHEVA, L. N., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, USSR Academy of Medical Sciences, Moscow

"Investigation of Interaction Between Interferon, Antibodies, and Leukocytes in In-Vitro Experiments"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, pp 456-459

Abstract: Mutual effects of the presence of interferon and antibodies in plasma on the production of antibodies or interferon by immune and nonimmune leukocytes and on the total immunological titers against a number of viruses grown in chick fibroblasts were studied using chicken, mouse, and rabbit antisera and human and chicken leukocytes. Newcastle disease virus (NDV) antibodies present in homologous (chicken) antiserum in a concentration 20 times smaller than that in heterologous (rabbit) antiserum completely inhibited interferon production in chicken leukocyte suspensions. Mutually enhancing antiviral effects of interferon and antibodies against NDV and influenza A/WSN virus were regularly observed only when the antisera were homologous to the tissue cultures in which the total antiviral effect was being determined. Chicken leukocytes washed from antiserum and immune to NDV and Chikungunya virus produced as much interferon as nonimmune white blood cells. NDV-immune leukocytes added to a culture of infected chick fibroblasts partly inhibited
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MARCHENKO, V. I., et al, Voprosy Virusologii, No 4, Jul/Aug 71, pp 456-459

the development of the disease, while nonimmune leukocytes exerted no inhibitory action. In all probability, immune leukocytes, in contrast to non-immune leukocytes, block the infected cells and thus prevent the spread of the virus infection throughout the tissue.

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
 TITLE--STIMULATION OF INTERFEROGENESIS IN PRODUCING CELLS BY THEIR
 PRETREATMENT WITH INTERFERON -U-
 AUTHOR--(05)--SOLOVYEV, V.D., MARCHENKO, V.I., DYUYSALIYEVA, R.G.,
 BABAYANIS, A.A., POKIDYSHEVA, L.N.
 COUNTRY OF INFO--USSR

P

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 150-155
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--INTERFERON, LEUKOCYTE, MUSCLE TISSUE, NEWCASTLE DISEASE VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1990/0745 STEP NO--UR/0402/70/000/002/0150/0155

CIRC ACCESSION NO--AP0108951
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 021

CIRC ACCESSION NO--AP0108951

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

ABSTRACT. PRETREATMENT WITH INTERFERON OF HUMAN AND CHICKEN LEUKOCYTES, FIBROBLASTS OF SKIN MUSCLE TISSUE OF HUMAN AND CHICK EMBRYO, HUMAN AMNION AND CHORIO ALLANTOIC MEMBRANE OF CHICK EMBRYO RESULTS IN STIMULATION AND EARLIER START OF SUBSEQUENT INTERFERON PRODUCTION IN THESE TISSUES. TREATMENT OF TISSUES SUPPORTING MULTIPLICATION OF THE VIRUS INDUCER (NEWCASTLE DISEASE VIRUS) WITH LARGE DOSES OF INTERFERON CAUSED INHIBITION OF INTERFEROGENESIS IN THEM, WHILE SMALL DOSES RESULTED IN STIMULATION OF INTERFEROGENESIS. CELLS NOT SUPPORTING VIRUS MULTIPLICATION RESPONDED BY STIMULATION OF INTERFERON PRODUCTION TO TREATMENT WITH BOTH LARGE AND SMALL DOSES OF INTERFERON. THE STIMULATING EFFECT REACHED MAXIMUM AT 2 HOURS AND DISAPPEARED AT 24 HOURS. THE PROCESS OF STIMULATION AND INHIBITION OF INTERFERON AND PRODUCTION IS SPECIES SPECIFIC. ENHANCEMENT OF INTERFEROGENESIS WAS ALSO OBSERVED AFTER PRETREATMENT OF THE TISSUES WITH SMALL DOSES OF THE VIRUS INDUCER.

UNCLASSIFIED

P B

UDC 576.858.095.383

USSR

SOLOV'YEV, V. D., MARCHENKO, V. I., DYUYSALIYEVA, R. G., BABAYANTS, A. A., and
POKIDYSHEVA, I. N., Institute of Epidemiology and Microbiology imeni N. P.
Gamaleya, Academy of Medical Sciences USSR, Moscow

"Stimulation of Interferon Formation in Producing Cells by Pretreating them with
Interferon"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 70, pp 150-155

Abstract: Pretreating human and chicken leukocytes, fibroblasts of skin muscle
tissue of human and chick embryos, human amnion and chorioallantoic membrane of
chick embryo with interferon results in stimulation of subsequent interferon pro-
duction in these tissues. Tissues supporting multiplication of the virus-
inducer (Newcastle disease virus) treated with large doses of interferon showed
inhibited interferon formation while those treated with small doses exhibited
stimulated interferon formation. Either large or small doses of interferon
stimulated interferon production of cells not supporting virus multiplication.
The stimulating effect reached a maximum after 2 hours, and disappeared after 24
hours. The stimulation and inhibition process of interferon production is
species-specific. Stimulation of interferon formation was also observed after
pretreatment of the tissues with small doses of the virus inducer.

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UDC 513.88

USSR

POKORNYI, YU. V.

"Evaluation of the Second Eigenvalues for Several Classes of Positive Operators"

Moscow, Matematicheskiye Zametki, Vol 9, No 1, Jan 71, pp 27-33

Abstract: The uniform additive operator A, which is positive for K, is investigated in Banach space E, which is partially ordered with the aid of the cone K. It is suggested that the cone K is reproducible in E and that the operator A has in K an eigenvector u_0 : $Au_0 = \lambda_0 u_0$. The following theorem is proved.

Theorem. Let the uniform additive operator A have a non-zero eigenvector $u_0 \in K$: $Au_0 = \lambda_0 u_0$ and for a certain $\rho > 1$

$$AK \subset K_{u_0, \rho}$$

Then any other eigenvalue of λ of the operator A will satisfy the inequality $1/2$

USSR

POKORNYI, YU. V., Matematicheskiye Zametki, Vol 9, No 1, Jan 71,
pp 27-33

$$|\lambda| < \frac{p-1}{p+1} \lambda_0. \quad (2)$$

Lemma 1. Any vector $g_0 \in K$, characteristic for the operator A and non-collinear to u_0 , represents a zero eigenvalue.

Lemma 2. For any $x \in E_{u_0}$ and any numbers t_1, t_2 $f(t_1 u_0 + t_2 x) = -t_1 + |t_2| f(\text{sign } t_2) x$.

Proofs are given and it is found that these evaluations are unimprovable in the class of operators described. The article contains 4 bibliographic citations.

2/2

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXPERIMENTAL DETERMINATION OF (MU PRIME NEGATIVE, NU) REACTION
PROBABILITY ON ALUMINUM 27, SILICON 28, AND VANADIUM 51 NUCLEI -U-
AUTHOR--(05)-BUNATYAN, G.G., YEVSEYEV, V.S., NIKITYUK, L.N., POKORVSKIY,
V.N., RYBAKOV, V.N. P
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(4), 795-9
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS
TOPIC TAGS--PROBABILITY, ALUMINUM ISOTOPE, SILICON ISOTOPE, VANADIUM
ISOTOPE, NUCLEUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1027 STEP NO--UR/0367/70/011/004/0795/0799
CIRC ACCESSION NO--AP0124686
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124686

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVATION METHOD WAS USED TO MEASURE RELATIVE PROBABILITIES OF THE MU PRIME NEGATIVE, NU) REACTION ON PRIME27 AL, PRIME28 SI, AND PRIME51 V NUCLEI. THE PROBABILITY W OF THE PROCESS (MU PRIME NEGATIVE, NU) WAS CALCD. THE RESP. RESULTS WERE 10 PLUS OR MINUS 1, 28 PLUS OR MINUS 4, AND 10 PLUS OR MINUS 1PERCENT. EXPTL. DATA WERE COMPARED TO THEORETICAL VALUES WHICH WERE CALCD. ON THE BASIS OF THE THEORY OF FINITE FERMI SYSTEMS. DISCREPANCIES BETWEEN THE EXPTL. AND THEORETICAL VALUES ARE DISCUSSED. THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU) ARE DETD. BY THE CAPTURE FROM A SMALL NO. OF ENERGY LEVELS OF THE PRODUCT NUCLEUS DISCRETE SPECTRUM. THUS, SMALL ERRORS IN THE DETN. OF TRANSFER PROBABILITY AS WELL AS THE POSITION OF THE NUCLEUS SIGNIFICANTLY AFFECT THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU). FACILITY: DB'EDIN. INST. YAD. ISSLED., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.677.7:536.231.16

BANDUKOV, V. P. and POKRAS, A. M.

"Highly Efficient Radiation System for a Two-Reflector Antenna"

Tr. NII radio (Transactions of the Scientific Research Institute of Radio) 1970, No. 2, pp 87-95 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B58)

Translation: The peculiarities of designing reflector profiles for a specified directional diagram of the radiator and for uniform field distribution in the fundamental reflector aperture are considered.

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USSR

UDC 629.78:621.398

KHODAREV, Yu. K., YEVDOKIMOV, V. P., POKRAS, V. M.

"Statistical Analysis of Information from Long Range Space Vehicles"

Apparatura dlya Kosmich. Issled. [Equipment for Space Studies -- Collection of Works], Moscow, Nauka Press, 1972, pp 239-245, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 9, 1972, Abstract No 9.41.227, from the Resume).

Translation: The statistical characteristics of telemetry information from the "Zond-1" and "Venera-4" space probes are analyzed. The distribution of the number of active channels is calculated using an excess of the channel value above a certain threshold generated by a zero-order predictor as a criterion for channel activity. The distributions are calculated for various values of predictor threshold and for several periods of interrogation of the spacecraft sensors. Data are produced on slight changes in the mean number of active channels during communications sessions at widely differing flight times. The distribution of relative activity of channel groups is calculated. The statistical characteristics studied are used to determine the compression factor for two possible data compression systems. 6 Figures; 2 Tables; 2 Biblio. Refs.

1/1

USSR

UDC: 002.513.5

POKRAS, Yu. I.

"One Method of Establishing Paradigmatic Relationships in the Construction of Information Retrieval Thesauri (Preliminary Report)"

Moscow, Nauchno-Tekhnicheskaya Informatsiya, Seriya 2, No. 3, 1971, pp 30-32

Abstract: In the construction of an information retrieval thesaurus it is necessary to determine specifically which words in natural language should be associated with each other. Various methods, including psychological methods, exist for this work, but all the more effective methods are extremely cumbersome if all of natural language is used as the field from which descriptors and synonyms are selected. The experiments of the author indicate that a simpler approach can be taken. A number of words selected at random from bibliographic descriptions of technical words on metallurgy were looked up in a large number of technical dictionaries, encyclopedias, etc., and only those words which occurred in the definitions in these various sources were accepted as the word field to which the more precise methods of thesaurus construction were applied. The author states that this method results in a significant decrease in labor expenditures without reducing quality of construction of a thesaurus.

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UDC 629.7.036.3-752

USSR

GLEYZER, A. I., ~~POKRASS~~ L. P.

"Design and Calculation of a Corrugated Damper for Quenching Rotor Vibrations"

Tr. Kuybyshev aviats. in-t (Works of Kuybyshev Aviation Institute), 1970,
No. 45, pp 313-320 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 4,
Apr 72, Abstract No 4.34.70)

Translation: A corrugated damper for quenching rotor vibrations is a further development of laminated dampers of smooth strips and is distinguished from the latter by a considerably higher bearing capacity, stability in characteristics and use for directed change over wide limits. The higher effectiveness of corrugated dampers as compared with ordinary dampers is supported by the results of comparative tests where with a corrugated damper one could achieve a reduction in rotor vibrations of more than a factor of 1.5. A computational method is proposed for determining the rigidity and the damping force of a corrugated damper, i.e., the basic parameters necessary for calculating rotor vibrations. 6 ill., 3 ref. Resume.

1/1

- 132 -

1/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--ADIPALDEHYDE -U-

AUTHOR--(04)--POKROVSKAYA, I.YE., MENYAYLO, A.T., RYZHANKOVA, A.K., MISHINA,
L.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,761

REFERENCE--(TKRYTIYA, IZBRET., PROM. OBRATSY, TUVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, CYCLOHEXENE, OXIDATION,
DICARBOXYLIC ACID, ALDEHYDE, TERTIARY AMINE, ALIPHATIC AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1739

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132005

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132005

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ADIPALDEHYDE WAS PREPD. BY
TREATING CYCLOHEXENE WITH O SUB3 IN AN ORG. SOLVENT IN THE PRESENCE OF
AN ALIPHATIC TERTIARY AMINE.

UNCLASSIFIED

1/2 007 UNCLASSIFIED
TITLE--CATALYTIC PURIFICATION OF PHENOL -U-

PROCESSING DATE--23OCT70

AUTHOR--(05)-MENYAYLO, A.T., POKROVSKAYA, I.YE., AEROV, M.E., GUROVICH,
R.E., VOLKOYA, T.S.
COUNTRY OF INFO--USSR

SOURCE--KHM. PROM. (MOSCOW) 1970, 46(2), 92-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CHEMICAL PURIFICATION, ION EXCHANGE RESIN/(U)KUZ ION
EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0737

STEP NO--UR/0064/70/046/002/0092/0094

CIRC ACCESSION NO--AP0119644

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 007

CIRC ACCESSION NO--AP0119644
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PHENOL (AFTER DISTN. AND DRYING) WAS PURIFIED BY CONTACT WITH THE KU 2 RESIN (ACTIVATED BY CONTACT WITH 10PERCENT HCL, AND DRIED), AT 75-100DEGREES AND FLOW RATE 1 VOL.-HR TO QUANT. REMOVE MESITYL OXIDE, ALPHA METHYLSTYRENE, AND ME SUB2 PHCOH (INITIAL CONCNS. WERE 0.083, 0.0045, AND 0.063 WT. PERCENT, RESP.), WHILE THE CONCNS. OF BZME REMAINED CONST. (0.9 WT. PERCENT). PURIFICATION BY CONTACT WITH AN ALUMINOSILICATE CATALYST WAS LESS EFFECTIVE.

UNCLASSIFIED

1/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--PHENOL PURIFICATION -U-

AUTHOR--(05)-MENYAYLO, A.T., GURDVICH, R.E., VOLKOVA, T.S., YAKOVLEVA,
A.K., POKROVSKAYA, I.YE.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,104
REFERENCE--OTKRYTIYA, IZBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CHEMICAL PATENT, ION EXCHANGE RESIN, CHEMICAL
PURIFICATION/(U)KUZ ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1758

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136998

UNCLASSIFIED

2/2- 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136998

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENOL PURIFICATION IS CARRIED OUT
OVER ION EXCHANGE RESIN KU2, AT 90-100DEGREES, PH 6-7, AND VOL. RATE
1.5-2.5 HR PRIME NEGATIVE1.

USSR

UDC 576.851.48.095.38:576.851.315

POKROVSKAYA, M. P., EPSHTEYN-LITVAK, R. V., VIL'SHANSKAYA, F. L., RAKHIMOVA, N.G. POSPELOVA, V. V.; KUDRYAVTSEV, N. G., SIL'VESTOVA, T. N., KALININA, A. M., and SYADUK, V. F., Moscow Institute of Epidemiology and Moscow Municipal Sanitary Epidemiological Station

"In vitro Antagonistic Activity of E. coli (Strain M-17) and B. bifidum (Strain 1) Against El Tor Cholera Vibrios"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Imunobiologii, No 10, 1972, pp 54-59

Abstract: The antagonistic activity of E. coli (strain M-17) and B. bifidum (strain 1) against 11 El Tor cholera vibrio strains (Inaba serotype 6 and Ogawa serotype 5) was studied in mixed cultures in vitro. During the first 6 hours of combined cultivation of E. coli and a cholera vibrio strain both microbial species grew, but the number of live vibrios began to decrease after 24 hours and after 48 hours almost all were dead. B bifidum had a similar inhibiting effect on vibrio growth. In the presence of both antagonistic strains, all the vibrios died within 48 hours without reproducing in the initial period of cultivation. It is suggested that the antagonistic activity of the two strains under study might be duplicated in an intestinal biocenosis and that a preparation made from these microorganisms (a combination of colibacterin and 1/2

USSR

POKROVSKAYA, M. P., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 10, 1972, pp 54-59

bifidumbacterin) should, in principle, be an effective means of treating
vibrio carriers and correcting the change in intestinal microflora observed in
cholera.

2/2

- 30 -

USSR

UDC 911.3:616.34(575.1)

SHATROV, I. I., ~~POKROVSKAYA, M. P.~~, KRASKINA, N. A., BRAYNINA, R. A.,
ELKIN, I. I., SKVORTSOV, V. V., KILESSO, V. A., BUNIN, K. V., NIKIFOROV,
V. N., POKROVSKIY, V. I., and STARSHINOVA, V. S.

"Current Status of Typhoid"

V sb. Materialy XV Vses. syezda epidemiologiv, mikrobiologov i infektsion-
istov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference
of Epidemiologists, Microbiologists, and Infectious Disease Specialists,
Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269
(from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)


Translation: During the last seven years, the incidence of typhoid has
decreased each year by 6-7% on the average in this country. Maximum drops
were observed in the Belorussian SSR, Kazakh SSR, Lithuanian SSR, Latvian
SSR, Armenian SSR, and Estonian SSR; minimum drops were found in the Uzbek
SSR and Kirghiz SSR. During the last two years, the incidence of typhoid
was 10% higher among rural residents than among urban residents. In com-
parison with 1964, a drop in incidence of approximately 40% was observed;
in rural locations, the drop was 23%. The leading significance of the
water factor in transfer and distribution of the agent of typhoid is
1/2

USSR

SHATROV, I. I., et al., Materialy XV Vses. syezda epidemiologiv, mikrobiologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of works), Moscow, 1970, pp 262-269 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.258)

confirmed. Of decisive importance, particularly in recent years, is the nutritional (milk) factor of typhoid transfer and distribution.

2/2

1/2 030 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--METHICILLIN PENETRATION THROUGH HEMATO ENCEPHALIC BARRIER -U-
AUTHOR--(02)-POKROVSKAYA, N.YA., KUTERNITSKAYA, M.F. 
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VAL 15, NR 4, PP 351-55
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANTIBIOTIC, BLOOD CHEMISTRY, PEDIATRICS, STAPHYLOCOCCUS,
CEREBROSPINAL FLUID, MENINGITIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1981/0751 STEP NO--UR/0297/70/015/004/0351/0355
CIRC ACCESSION NO--AP0052197
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--APO052197

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHICILLIN ADMINISTERED INTRAMUSCULARLY IN A DOSE OF 200 TO 300 MG-KG A DAY PROVIDED THE DRUG BLOOD LEVELS MUCH HIGHER THAN THE THERAPEUTIC ONES. THE ANTIBIOTIC BLOOD LEVELS WERE DIRECTLY PROPORTIONAL TO THE DOSE AND THE RATE OF THE DRUG ADMINISTRATION. THE HIGHEST LEVELS WERE REGISTERED IN 2 HOURS. METHICILLIN WAS PRESENT IN THE SPINAL FLUID OF MOST CHILDREN TREATED WITH THE ANTIBIOTIC ONLY AFTER REPEATED ADMINISTRATIONS. ITS NECESSARY CONCENTRATION GRADUALLY DECREASED, BUT RETAINED FOR 3 HOURS. THE HIGHER WERE THE ANTIBIOTIC BLOOD LEVELS, THE HIGHER WAS THE CONCENTRATION IN THE SPINAL FLUID. METHICILLIN MAY BE RECOMMENDED FOR THE TREATMENT OF PURULENT MENINGITIS CAUSED BY PENICILLINASE PRODUCING STRAINS OF STAPHYLOCOCCI IN DOSES OF 200 TO 300 MG-KG A DAY. THE INTERVAL BETWEEN THE ADMINISTRATIONS SHOULD NOT EXCEED 3 TO 4 HOURS.

UNCLASSIFIED

POKROVSKAYA, Ye. I.

Chemistry

UDC 612.015.31:571.17.049/-047.4+613.27:577.17.049/-074
DETERMINING MICROELEMENTS IN HUMAN FOOD PORTIONS AND EXCRETA USING THE EXTRACTION METHOD

METHODS

SO: JPRS 54396
05 NOV 71

Article by Ye. I. Pokrovskaya, O. S. Putanov, and A. V. Zaremchinskaya, Moscow, KomiChernaya Biologiya i Meditsina, Novosibirsk, Vol 5, no 4, pp 66-69, 1971, submitting for publication 25 January, 1971.

Existing methods for the direct spectrographic and atomic-absorption determination of microelements in biological objects are not always satisfactory. In particular, the content of many microelements (nickel, vanadium, molybdenum, cobalt, tin) in the human ration and excreta is at the limit of sensitivity of these methods. A preliminary concentration of the sample leads to a simultaneous increase in the interfering effect from other substances. The latter makes it necessary to isolate traces of elements in an analysis of different biological samples.

Applicable to spectral methods, it is best to have a group isolation of the traces of elements. This can be done successfully using the reagent hexamethylenedichloroantimonate of hexamethylsulfonium ammonium (HMA) (R. N. Novikova, et al.). In contrast to the extensively used sodium diethyl dichloroantimonate this complex former is quite stable in acidic media (A. I. Burev, et al.). Mixtures of different reagents (A. E. Buzko, et al.) are used in the total isolation and concentration of metals in a number of cases.

In order to increase the effectiveness of extraction one can also use a mixture of organic diluents having a different nature (R. N. Tulupova, et al.) as well as a mixture of solvents, chloroform and isomyl (isobutyl) alcohol.

In perfecting the method we studied the effect of the ratios of reagents, temperature, and inorganic base on the degree of extraction of microelements as a function of medium pH. The initial working medium was an artificial solution simulating the approximate composition of mineralized urine. We used mixtures of chloroform and isomyl alcohol in the ratios 1:0, 1:1, 1:3, 3:1, as well as chloroform and isomyl alcohol in the ratio 3:1. The

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--A VACUUM ARC DISCHARGE WITH A HIGH COMBUSTION VOLTAGE -U-

AUTHOR--(02)-KLYARFELD, B.N., POKROVSKAYASOBOLEVA, A.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEHNICHESKOI FIZIKI, VOL. 40, JAN. 1970, P. 206-210 *6006067 under*
to B. 10/16
A.S.

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--VACUUM ARC, ARC DISCHARGE, LUMINESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1979/1615

STEP NO--UR/0057/70/040/000/0206/0210

CIRC ACCESSION NO--AP0047937

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0047937

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE DISCHARGE STAGES PRECEDING TOTAL BREAKDOWN OF A VACUUM DISCHARGE GAP IN THE PRESENCE OF LARGE ADDITIONAL RESISTANCES IN THE CURRENT CIRCUIT (FROM 1000 TO 1,000,000 OHMS). CURRENT AND VOLTAGE OSCILLOGRAMS SHOWED THE EXISTENCE OF A SHORT TERM ARC DISCHARGE WITH A COMBUSTION VOLTAGE OF SEVERAL KILOVOLTS AT A CURRENT INTENSITY OF 1.3 ANGSTROMS. BY PHOTOGRAPHING THE LUMINESCENCE IN THE DISCHARGE GAP, IT WAS REVEALED THAT A SPOT CHARACTERISTIC OF THE ARC AND SURROUNDED BY A LESS BRIGHT LUMINESCENCE IS PRESENT AT THE CATHODE, WHILE A LUMINESCENT REGION FILLING A CONSIDERABLE PORTION OF THE GAP IS PRESENT AT THE ANODE. BETWEEN THE LUMINESCENCES AT THE CATHODE AND THE ANODE IS A DARKER SPACE IN WHICH THE GAS AND VAPOR DENSITY IS EXTREMELY LOW. AN APPROXIMATE CALCULATION OF THE THICKNESS OF THE DOUBLE LAYER BETWEEN THE PLASMAS AT THE CATHODE AND THE ANODE GIVES VALUES CLOSE TO THE THICKNESS OF THE DARK SPACE. THIS GIVES RISE TO THE ASSUMPTION THAT THE HIGH VALUE OF THE COMBUSTION VOLTAGE OF AN ARC DISCHARGE IS CAUSED BY A LARGE POTENTIAL DIFFERENCE OCCURRING ON THE DOUBLE LAYER.

POKROVSKIYA, A. A.

JPRS 54707
22 DEC 1971

UDC: 617-001.17+616-001.36-036.3]-
07:1616-008.931

DATA PERTAINING TO THE ISOENZYMIC CHARACTERISTICS OF BURN SICKNESS AND ANAPHYLACTIC SHOCK

[Article by A.A. Pokrovskiy, K.A. Korovnikov, Institute of Nutrition, USSR Academy of Medical Sciences, Moscow; Vostok, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 11, 1971, pp 51-58]

To date the biochemical mechanisms of onset of shock states have not been investigated enough. Most investigations published on this subject deal with processes of energy metabolism, including assay of a number of metabolites in the blood and tissues in the presence of different types of shock. Considerably less attention is given to the characteristics of different enzymatic systems (I.R. Petrov; F.A. Tigrunyan; Yu.Yu. Keyerik et al.; Migona et al.; Brom; A.A. Pokrovskiy et al., 1969a, b).

To date there has been no comprehensive information in the literature about the change in isoenzyme spectra in the presence of different types of shock. Yet it can be assumed that enzymological investigations, especially dealing with tissular isoenzyme systems, will be significant in gaining understanding about the mechanism of onset of metabolic changes typically associated with shock.

According to the conceptions we are developing, the presence of genetically determined sets of isoenzymes in the organism is believed to be the result of prolonged molecular evolution of proteins directed toward functional differentiation of enzymatic systems existing in the organism which are isogenous with regard to substrate specificity (A.A. Pokrovskiy and K.A. Korovnikov, 1969-1971). At present, functionally different isoenzymes have been found in lactate dehydrogenase, malate dehydrogenase, hexokinase, creatine phosphokinase, and others (Dawson et al.; Swanson; Kaplan; Katzen et al.; A.A. Pokrovskiy and K.A. Korovnikov, 1969, and others). For this reason it is logical to assume that in the presence of different stress statuses associated with stress reactions and severe changes in organ and system functions, there may be selective changes in activity of different isoenzymes, indicative of their metabolic dissimilarity. Evidently, it would be particularly promising to investigate the adrenals in this light; their functional activity should increase markedly in the presence of stress (V.K. Kulagin; Weichselbaum et al.; Timmer; G.L. Shryberg; R.I. Aleksyeva et al., and others).

POKROVSKIY, A. A.

JPRS 58569
29 Mar 72

ABSTRACTS OF ARTICLES PUBLISHED IN THIS ISSUE

[Abstracts; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 2, 1972, p 96]

"Medicobiological Investigations Dealing with the Use of Estrogens as Growth Stimulating Agents," by A.A. Pokrovskiy, M.F. Nestarin, G.P. Vavilina, Ye.Ye. Ryzantsaev, L.Ya. Solov'yeva, p. 96.

As a result of medicobiological examination of meat products obtained from bull calves stimulated with diethylstilbestrol, it was shown that the recommended method of using this hormone does not rule out the possibility of retention in subproducts of meat of residual quantities of this agent. When feeding laboratory animals on experimental meat there was manifestation of some adverse effects on their development and change in sex gland function. On the basis of the data obtained and the literature, with due consideration of worldwide experience in using diethylstilbestrol to fatten various species of animals, the authors conclude that it is impossible to use this preparation in animal breeding.

There are eight tables, one illustration; bibliography lists 118 items.

"Experience with Vitamin E Supplement for Bicycle Racers and Skiers," by Ye.A. Sakayeva, V.V. Yefremov, p 52.

A study was made of the effect of different intensities of physical stress on vitamin E availability in the organism of cyclists and skiers during winter sport meets. As a result of the study it was found that 1.5-2 and especially 3-6-hour training induces a considerable decline in vitamin E content in the blood serum of the athletes. Additional intake of this vitamin in doses of 50-150 mg for cyclists who trained for 1.5-2 hours and 200-300 mg for skiers who trained for 3-4 hours raised the blood serum vitamin E level and results in greater efficiency of the athletes.

Two illustrations; bibliography lists nine items.

(DUV)

"A True Antrumectomy Technique in Surgery for Peptic Ulcers," by M.M. Pantevrev, A.A. Grinberg, I.I. Laktionova, p 72.

A method is described for pinpointing the boundaries of the antral portion of the stomach during surgical interventions using 2% solution of Congo red dye as an indicator on the gastric mucosa. The method has been developed experimentally and used in clinical practice on 30 patients with duodenal and gastric ulcers; this revealed that it is simple, safe, and permits performance of a true antrumectomy, in other words, it permits the performance of a functionally substantiated sparing operation on the stomach. The precision of the method was confirmed by histological examinations.

Two illustrations; one table; bibliography lists 24 items.

10,657
CSO: 1847-W

POKROVSKIY, A. A.

MEDICINOLOGICAL INVESTIGATIONS DEALING WITH THE USE OF ESTROGENS AS GROWTH STIMULATING AGENTS

UDC: 613.281:630.084.52:615.357.651

SPRS 55569
29 MAR 72

Article by A.A. Pokrovskiy, M.F. Nezerina, G.P. Yavilina, Ye.Ye. Kyzantseva, L.Ya. Solov'eva, Institute of Heritism, USSR Academy of Medical Sciences, Moscow; Moscow, Vostochny Akademicheskii Nauch SSSR, Kazanstan, No 2, 1972, pp 3-13

In the last few years there has been intensive discussion in the special literature of the desirability of using various growth stimulants on farm animals (S.I. Nurulin and Yu.N. Shamberov, 1966; Yu.P. Fomichev, 1967; Yu.N. Shamberov, 1970).

Among such biostimulants, some attention is being given to sex hormones and especially the synthetic analogues of estrogens. Proposals made in this area are based on experimental investigations conducted in the 1940s which revealed that androgens and estrogens (Kochakian, 1935, 1946; Albrigh, 1942; Kruksopur, 1953) have a definite anabolic effect.

It was shown that when using the same number of fodder units, administration of androgens and estrogens leads to a reliable increase in weight increment related mainly to accumulation of protein substances for androgens and with increased moisture and fat content in tissues. In addition, for estrogen the nature of stimulation of biosynthetic processes in this case is determined by species-related distinctions.

In the early 1950s, the research foundation of Iowa College received a patent for using diethylstilbestrol, a synthetic estrogen analogue, to fatten bull calves, and soon after this their suggestion was sanctioned by the Food and Drug Administration. This method consisted of adding 10 mg diethylstilbestrol daily to the animal's fodder. In 1955, the practice was also adopted of subcutaneous implantation of a diethylstilbestrol pill.

It must be noted that an increased weight gain is obtained when using this hormone only if a specific fodder composition is used. In particular, a specific protein level, as well as proportion of protein to other components. Thus, it was noted that with an 11 percent protein content in the diet there was a marked anabolic effect, with 8 percent and more (22) diethylstilbestrol did not have a beneficial effect on weight gain (Snapp and Reman, 1962). The

POKROVSKIY, A. A.

JPRS 55320
1 MAR 72

UDC: 616.36-089.873-071616.36-003.
93-02:615.277.4:582.825.123

MECHANISM OF ACTION OF AFLATOXIN ON REGENERATED HYPERTROPHIC LIVER FOLLOWING
PARTIAL HEPATECTOMY

[Article by A.A. Pokrovskiy, M.Ya. Nikolayeva, N.V. Lomnava, M.M. Gapanov,
A.I. Shcherbakova, V.A. Kopylov, S.N. Abramov, Institute of Nutrition, USSR
Academy of Medical Sciences, Moscow; Zhurnal Akademi Meditsinskikh
Nauk SSSR, Biokhimiya, No 1, 1972, pp 45-56]

Present conceptions about the mechanism of action of aflatoxins (a group of highly toxic hepatocarcinogenic metabolites of some species of mold fungus) are reflected in several surveys (Wogan, 1968; Ross; A.A. Pokrovskiy; N.V. Lomnava et al., 1972) and experimental articles (Clifford and Rees, 1967; King and Nicholson). To date extensive factual material has been accumulated which suggests that one of the mechanisms of toxic action of aflatoxins (necrogenic lesion to the liver, on the one hand, and marked hepatocarcinogenic effect, on the other) consists of interaction between aflatoxins and liver cell RNA (Clifford and Rees, 1969). It was shown that aflatoxin, like actinomycin D, forms complexes with the DNA molecule through attachment to adenine and guanine amino groups, so that the pentose-phosphate groups remain unaffected. Such interaction leads to impairment of the transcription process (Lefargy and Prayssinet), i.e. to impairment of RNA-dependent RNA synthesis. The consequence of this disturbance is inhibition of RNA- and RNA-polymerase synthesis which, in turn, is associated with rapid and visible suppression of hepatic RNA and DNA synthesis. The latter is demonstrable in particular in the case of a regenerated hypertrophic liver (Dobricic et al., 1965, 1966).

Some authors observed injury to the ribosomal system, consisting of breakdown of polyacemes and change in their profile (Pong and Wogan, 1968). For this reason one would have expected aflatoxin to suppress protein synthesis. This was confirmed in *in vitro* experiments (Smith; Clifford and Rees, 1967). Yet *in vivo* experiments failed to demonstrate distinct changes in incorporation of labeled precursors in the rat's liver proteins following administration of aflatoxin (Shank and Wogan). In addition, it was possible to demonstrate aflatoxin induced blocking of hormonal and substrate induction of some enzymes (Wogan and Friedman; Pong and Wogan, 1966).

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DETERMINATION OF THE ACTIVITY OF PHENYLALANINE HYDROXYLASE IN THE
HEPATIC TISSUE -U-
AUTHOR--(05)-~~POKROVSKIY, A.A.~~, USACHEVA, N.T., MILOVA, G.N., YERMOLAYEV,
M.V., YERMOLOV, A.S.
COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 122-124
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, ENZYME ACTIVITY, BIOPSY, PHENYLALANINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0207

STEP NO--UR/0219/70/069/005/0122/0124

CIRC ACCESSION NO--AP0120905

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120905

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

ABSTRACT. THE AUTHORS HAVE ELABORATED A MICROMETHOD OF DETERMINING THE ACTIVITY OF PHENYLALANINE,4, HYDROXYLASE OF THE LIVER WHICH ENABLES TO EVALUATE THE ENZYMATIC ACTIVITY IN SEVERAL MILLIGRAMS OF TISSUE OBTAINED DURING BIOPSY. THE ENZYMATIC ACTIVITY WAS DETERMINED IN THE HEPATIC TISSUE OF DIFFERENT ANIMALS, ADULT PERSONS AND CHILDREN SUFFERING FROM PHENYLPYRUVIC OLIGOPHRENIA. FACILITY: INSTITUTE OF NUTRITION OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CHANGES IN THE ISOENZYME SPECTRA OF ORGANS DURING STARVATION -U-
AUTHOR--(02)-POKROVSKIY, A.A., KOROVNIKOV, K.A. P
COUNTRY OF INFO--USSR
SOURCE--BIOKHIMIYA 1970, 35(1), 159-66
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MALNUTRITION, LIVER, KIDNEY, ADRENAL GLAND, BRAIN, HEART,
ENZYME ACTIVITY, DEHYDROGENASE, ELECTROPHORESIS, ISOENZYME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1996/0635 STEP NO--UR/0218/70/035/001/0159/0166
CIRC ACCESSION NO--AP0117861
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117861

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIVER, KIDNEY, ADRENALS, BRAIN, HEART, AND OTHER TISSUES WERE ANALYZED FOR GLUCOSE-6-PHOSPHATE DEHYDROGENASE (I) AND 6-PHOSPHOGLUCONATE DEHYDROGENASE (II) ACTIVITIES AFTER MALE RATS WERE STARVED FOR 44-8 AND 92-120 HR. I ELECTROPHORETIC PATTERNS WERE MORE HETEROGENEOUS AND SPECIFIC FOR TISSUES THAN II. STARVATION DECREASED BOTH I AND II TOTAL ACTIVITIES AS WELL AS ACTIVITIES OF ALL ISOENZYMES, BUT IN THE ADRENALS ENZYMIC ACTIVITIES INCREASED. IN INTACT ADRENALS 5 I ISOENZYMES OCCURRED AS A RULE, BUT AFTER STARVATION FOR 44-8 AND 92-120 HR NEW I AND 2 NEW II ISOENZYMES APPEARED.

FACILITY: INST. FOOD, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 577.174.5

POKROVSKIY, A. A., KUSHMANOVA, O. D., SHATERNIKOVA, I. S., MIRZOYEV, B. M. and LASHNEVA, N. V., Chair of Biochemistry, Second Moscow Medical Institute imeni N. I. Pirogov, and Scientific Research Institute of Civil Aviation

"Data on the Functional State of the Adrenal Cortex during Experimental Insomnia in Rats"

Kiev, Ukrainskiy Biokhimicheskiy Zhurnal, Vol 42, No 3, 1970, pp 353-356

Abstract: Experimental insomnia was evoked in rats by placing them in a slowly rotating drum. During the first day, more than a threefold increase in 11-hydroxycorticosteroid content was observed in blood plasma and cholesterol in the adrenals was lowered by 50% and total lipids by 20%. On the fourth day the content of 11-hydroxycorticosteroids dropped by 33% in comparison to the original level, while cholesterol and total lipids were depressed 78% and 50%, respectively. The content of ascorbic acid in adrenal tissue decreased mainly at the expense of its reduced form, while in the blood serum the concentration increased, particularly that of dehydroascorbic acid. Animals evidently succumb in experimental insomnia because of insufficient synthesis of steroid hormones by the adrenals, which in turn may be the result of a breakdown in cholesterol synthesis and a low level of the reduced form of ascorbic acid.

1/1

- 43 -

Mechanical and Optical

USSR

UDC: 621.80:681.142.35

IGNAT'YEV, M. B., KULAKOV, F. M., and POKROVSKIY, A. M.

"Prospects of Designing and Using Manipulators Controlled from Computers"

Moscow, Mekhanika mashin, No. 27-28, 1971, pp 45-55

Abstract: The manipulators of the title refer particularly to automatic devices, with or without a human operator, for undersea explorations, where the use of a human being is particularly dangerous if not impossible. The design of such manipulators is connected with the realization of unusually complex control algorithms which can be performed only by computers. The basic factors determining the technical-economic efficiency of computer-controlled or man-controlled manipulators are considered, under the assumption that the manipulator operates in a particular medium of specified variability depending on changing conditions. Such psychological factors as exhaustibility, error proneness, and limited working accuracy, are not taken into account. The basic stages in the process of automatic manipulator design are discussed, and the block dia-

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USSR

IGNAT'YEV, H. B., et al., Mekhanika mashin, No 27-28, 1971, pp 45-55*

grams of two program- and computer-controlled manipulators shown. Also considered are the linguistic approach to the synthesis of control programs, and the modeling of manipulators with program control. Many of the quoted sources are American.

2/2

- 105 -

USSR

POKROVSKIY, A. N., Institute of Physiology, Siberian Division of the USSR Academy of Sciences, Novosibirsk

"Mathematical Model of Impulse Generation by the Tonic Type of Neuron"

Moscow, Biofizika, No 4, 1973, pp 700-706

Abstract: To calculate the intensity of impulse generation by a neuron or group of neurons, the author proposes using instead of the Monte Carlo method a special case of Palm's formula:

$$\int_{-\infty}^t \phi(t', t) \mu(t') dt' = 1; \quad \phi(t', t) = 1 - F(t/t'),$$

where $\mu(t)$ is the intensity of a solitary random spike train, $\phi(t', t)$ is Palm's function, and $F(t/t')$ is the function of distribution of moments t at the end of the interval that started at moment t' . The nature and sequence of the computations is illustrated by two versions of a model of tonic neurons that can be used for a numerical analysis of the transformation of signals in neuronal circuits.

1/1

USSR

POKROVSKIY, A. N., Institute of Automatics and Electrometry, Siberian
Department, Academy of Sciences USSR, Novosibirsk

"The Problem of the Mechanism of the Generation of Electric Potentials in
Nerve Tissue"

Moscow, Biofizika, Vol 15, No 5, Sep/Oct 70, pp 881-887

Abstract: A mathematical model is proposed for the mechanism of the development of the overall dendrite potential in a neuron structure. The model makes it possible to account for the anisotropy of the structure and the presence of fibers with various diameters. Dendrite fibers are replaced by arbitrarily arranged cylinders of infinite length. The time constant of the membrane, the length of linear sections of the dendrites, and the effects of branching are not taken into account. On the basis of the model proposed, an operator nucleus for the transformation of impulses into potential distribution is found. As an example nonuniform stimulation of a uniform isotropic structure is considered.

1/1

USSR

UDC 517.92

KRASNOSEL'SKIY, M. A. and POKROVSKIY, A. V.

"Vibration-Resistant Differential Equations With a Continuous Right-Hand Side"

Moscow, Trudy Moskovskogo Matematicheskogo Obshchestva (Works of the Moscow Mathematical Society), Vol 27, 1972, pp 93-112

Abstract: There is isolated and studied the class of vibration-resistant differential equations $x(t) = Wu(t)$, where $x(t)$ is a vector function representing the state of an element, $u(t)$ is a scalar function representing control, W is an operator. Operator W is naturally determined for all continuous control functions. In an earlier article ("Vibration-Resistant Differential Equations," Doklady Akademii Nauk SSSR, Vol 195, No 3, 1970, pp 544-547), the authors announced a series of theorems dealing with vibration-resistant differential equations, both with continuous right-hand sides and with discontinuous ones. In the present article are presented complete proofs of the statements, from the above-cited article, pertaining to equations with continuous right-hand sides, and a number of new facts is established. 10 references.

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USSR

UDC 591.5:599.32.3

SMIRNOV, V. S.; PAVLENKO, T. A.; ~~POKROVSKIY, A. V.~~; Institute of Plant and Animal Ecology, Ural Scientific Center, Academy of Sciences USSR, Institute of Ecology and Parasitology, Academy of Sciences, Uzbek SSR

"A Method for Analysis of Age Structure in the Small Five-Toed Jerboa *Allactaga Elater* (Licht.)"

Moscow, Ekologiya, No 4, 1971, pp 88-89

Abstract: A special method for age analysis, especially adapted to the small rodent *Allactaga elater* was developed, since existing techniques for analyzing bone and tooth structure or length of tooth roots were not suitable for this species. A modification of standard methods for determining age by the degree of wear on tooth crowns was chosen, and a method of graphic analysis (Smirnov, 1960) was used which did not require animal tagging and recapture for exact age samples.

Since considerable differences in degree and manner of M_1 , M_2 , M_3 wear (interior or exterior side) were observed in various $1/2$

USSR

SMIRNOV, V. S., et al, Ekologiya, No 4, 1971, pp 88-89

animals, a mean "age index" was developed, representing a total of six different measurements: the total height for the crowns of all three molars on one of the mandibular bones, measured on both the inside and on the outside. Since in the aging process the animal's tooth crowns wear down, this index should decline in proportion to age.

Distribution groupings from population analyses taken on III/68, IX/68 and V/69 showed that this species in the region investigated (Ferganda valley) had two distinct reproductive periods, the spring and fall, and that the life span of *Alactaga elater* corresponds to the general span for small murine rodents.

2/2

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1/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--THE SURGICAL TREATMENT OF AORTIC COARCTATION IN CHILDREN -U-

AUTHOR--(04)--BURAKOVSKIY, V.I., ~~POKROVSKIY, A.V.~~, BUKHARIN, V.A.,
ALEKSEYEV, G.I.

COUNTRY OF INFO--USSR

SOURCE--KHIKURGIYA, 1970, NR 6, PP 80-88

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART SURGERY, PEDIATRICS, ARTERIAL ANASTOMOSIS, DIAGNOSTIC
METHODS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1777

STEP NO--UR/0531/70/000/006/0080/0088

CIRC ACCESSIGN NO--AP0129145

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSIGN NO--AP0129145

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE ANALYZES 127 OPERATIONS PERFORMED FOR COARCTATION OF THE AORTA IN CHILDREN, AGED FROM 2 MONTHS TO 15 YEARS. FEATURES PECULIAR TO THE CLINICAL COURSE OF AORTIC COARCTATION AND PROBLEMS OF DIAGNOSIS IN NURSLINGS ARE DESCRIBED. IN THE CLINICAL COURSE OF AORTIC COARCTATION IN CHILDREN THREE PERIODS ARE SINGLED OUT: (1) CRITICAL, (2) PERIOD OF ADAPTATION AND (3) PERIOD OF COMPENSATION, THIS REQUIRING THE CORRECT CHOICE OF THE MODE OF THERAPY. THE AUTHORS HAVE ELABORATED THE INDICATIONS TO THE OPERATION OF RESECTION OF AORTIC COARCTATION IN CHILDREN WHICH ARE DIFFERENT IN EACH AGE GROUP AND SHOULD TAKE INTO CONSIDERATION THE PATIENT'S AGE, SEVERITY OF THE STATE, POSSIBILITY OF SUBSEQUENT GROWTH OF THE ANASTOMOSIS, ETC. THE TECHNIQUE OF DIFFERENT TYPES OF OPERATIONS AND CHOICE OF THE METHOD DEPENDING UPON ANATOMICAL CONDITIONS AND PATIENT'S AGE ARE DESCRIBED IN DETAIL. THE TOTAL MORTALITY COMPRESSED 7.9PERCENT OF CASES. WITH ACCUMULATION OF THE SURGICAL EXPERIENCE AND AFTER THE ELABORATION OF PRINCIPLES OF POSTOPERATIVE MANAGEMENT OF PATIENTS FROM 1967 OUT OF 49 OPERATIONS, INCLUDING 10 IN EARLY CHILDHOOD, THERE WAS NOT A SINGLE LETHAL OUTCOME. FACILITY: INSTITUY SERDECHNO SOSUDISTOY KHIRURGII IMENI A. N. BAKULEVA, MOSKVA.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SCINTILLATION DEFECTOSCOPE PROVIDING A SHADOW CONTRAST IMAGE ON A
CRT SCREEN -U-
AUTHOR--(03)--POKROVSKIY, A.V., BUTAKOVA, G.YE, IVANCHENKO, YU.P.
COUNTRY OF INFO--USSR P
SOURCE--SVERDLOVSK, DEFECTOSKOPIYA, NO. 1, 1970, PP 130-132
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., METHODS AND EQUIPMENT
TOPIC TAGS--NONDESTRUCTIVE TEST, COBALT, ISOTOPE, CATHODE RAY TUBE,
PHYSICS LABORATORY INSTRUMENT, STEEL/(U)FEU6 PHOTOELECTRIC MULTIPLIER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/0124

STEP NO--UR/0381/70/000/001/0130/0132

CIRC ACCESSION NO--AP0100660

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 032

CIRC ACCESSION NO--AP0100660
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS ASSERT THAT INDUSTRY HAS RECENTLY BEEN MAKING INTENSIVE USE OF DEFECTOSCOPES WITH SCINTILLATION RADIATION SENSORS WHICH CAN PROVIDE A SENSITIVITY FOR STEEL OF UP TO 0.2 TO 0.5 PERCENT UNDER IRRADIATION BY THE CO-60 ISOTOPE. HOWEVER, WITH SUCH EQUIPMENT IT IS DIFFICULT TO INTERPRET THE CONTROL RESULT AND RECOGNIZE THE NATURE OF THE DEFECT. CONSEQUENTLY, THIS METHOD SUFFERS IN COMPARISON WITH THAT OF RADIOGRAPHY. ATTEMPTS HAVE BEEN MADE TO CORRECT THIS DEFECT, BUT HAVE FAILED TO GIVE THE SAME HIGH SENSITIVITY DUE TO POOR INDICATOR EQUIPMENT. THIS PAPER GIVES THE FIRST RESULTS OBTAINED IN TESTS OF A DEFECTSCOPE CONTAINING A SCANNED RADIATION SENSOR AND A CATHODE RAY TUBE AS INDICATOR. THE RESULTS SHOW THAT THE SYSTEM TESTED IS A SUPERIOR INSTRUMENT WITH BETTER SENSITIVITY AND RESOLUTION THAN THE OTHERS. A BLOCK DIAGRAM OF THE EXPERIMENTAL EQUIPMENT IS GIVEN, IN WHICH THE RADIATION SOURCE IS CS 137, AND THE DETECTOR IS A CRYSTAL MEASURING 20 BY 30 MM AND A PHOTOELECTRIC MULTIPLIER FEU-16.

UNCLASSIFIED

Acc. Nr: AP0044700

Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48,
Nr 1, pp 49-55

THE CLINICAL PICTURE AND DIAGNOSIS OF ANGINA
ABDOMINALIS

A. V. Pokroyskiy, B. I. Bragin, I. I. Rushanov, L. S. Zingerman
Summary

Among 281 patients with obstructive lesions of the abdominal aorta and its branches the authors revealed 47 persons with occlusions of the visceral vessels; of this number in 20 cases they occurred as the result of nonspecific aortoarteritis and in 27 — of atherosclerosis; only in 24 patients there were clinical manifestations of the disease.

As a rule, the clinical picture of angina abdominalis occurred in affection of two or three branches; only in isolated lesion of the splanchnic artery there were definite clinical manifestations. Routine clinical examination enables in most cases to suspect the true nature of the pathology and the final diagnosis is established during X-ray investigation (preferably serial) in the dorsoventral and lateral projections.

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REEL/FRAME
19771435

02th

Acc. Nr: AP0047352

Ref. Code: UR0589

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970,
Vol 104, Nr 1, pp 54-61

SURGICAL TREATMENT OF ANGINA ABDOMINALIS

A. V. Pokrovskiy, B. I. Bragin, V. S. Rabotnikov and D. M. Tsireshekin

The paper deals with the problems of diagnosis and surgical treatment of the abdominal ischemic syndrome. The authors have observed 24 patients with angina abdominalis in investigation of 281 patients with atherosclerotic occlusion of the abdominal aorta and its branches. Eight patients with angina abdominalis were operated upon with one lethal issue. It is considered that: 1) the established diagnosis of angina abdominalis is an indication to surgical therapy; 2) the approach — median laparotomy in extravasal compression of the celiac artery, left — sided thoracolumbarotomy in all other cases; 3) an end-to end distal anastomosis in reconstructive operations seems to be more rational, it is more advantageous hemodynamically; 4) recognition and surgical treatment of angina abdominalis in due course eliminating ischemia enabled to avoid lethal intestinal infarction.

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REEL/FRAME

19790878

th

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Acc. Nr. **AP0029114**

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 1, pp 65-71

THE NEUROLOGICAL SYMPTOMATOLOGY OF ATHEROSCLEROTIC ANEURYSMS OF THE ABDOMINAL AORTA WITH LERICHE'S SYNDROME

N. K. Bogolepov, A. V. Pokrovskiy, N. P. Barinov

The report deals with an analysis of neurological disorders in 13 patients with atherosclerotic aneurysms of the abdominal aorta and with the syndrome of Leriche. The following neurological syndromes could be elicited in this form of pathology: 1) vegetative-trophic; 2) radiculo-neuritic; 3) syndromes of spinal insufficiency - transitory and stable. The clinical picture as a rule was characterized by changes of the sacrolumbar plexus and its separate branches, changed vegetative innervation and affection of the spinal marrow. An analysis of neurological changes in this form of pathology as the authors assume, gives a supplementary criteria for early diagnosis, for the localization of the pathological process and the determination of the stage in the course of the disease.

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REEL/FRAME
19680625

UDC 53.07/.08+53.001.5

USSR

GORBUNOV, V. I., ~~POKROVSKIY~~, A. V., TEMNIK, A. K.

"Several Ways of Raising the Sensitivity of the Scintillation Method of Betatron Defectoscopy"

Izv. Tomsk. politekhn. in-ta (News of Tomsk Polytechnical Institute), 1970, Vol. 184, pp 136-139 (from RZh-Fizika, No 1, Jan 71, Abstract No iA430)

Translation: Fluctuation phenomena in the electric circuits in the detection-recording section of a betatron defectoscope are analyzed on the basis of probability theory and mathematical statistics. It is shown that the most promising way of raising the signal-to-noise ratio in betatron defectoscopy with scintillation counters is the application of comb-shaped filters in the recording circuits.
K. B.

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USSR

DYSSA, O. F., EPISHIN, V. V., POKROVSKIY, B. G., SEMENYUK, A. L.

"Use of the Method of Maximum Likelihood for Processing of Measurement Results"

Otbor i Peredacha Inform. Resp. Mezhved. sb. [Collection and Processing of Information, Republic Interdepartmental Collection], No 29, 1971, pp 33-37, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V127 by the author's).

Translation: It is demonstrated that with a known form of distribution of the quantity measured, the optimal estimate of unknown parameters is provided by the method of maximum likelihood, using which the precise estimates of unknown parameters are determined and the position of the true and approximate regression curves are represented graphically within fixed confidence areas.

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1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NEW PHASES IN A SCANDIUM TITANIUM OXYGEN SYSTEM -U-
AUTHOR--(03)-MIKHAYLOV, YU.YA., KOMISSAROVA, L.N., POKROVSKIY, B.I.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1117-20
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--X RAY ANALYSIS, CRYSTAL LATTICE STRUCTURE, SCANDIUM, TITANIUM,
OXYGEN, PHASE ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/2065 STEP NO--UR/0020/70/190/005/1117/1120
CIRC ACCESSION NO--AT0122294
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0122294

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PART OF THE SC TIO SYSTEM WAS STUDIED BY X RAY PHASE ANAL., AND MORE ACCURATE DATA WERE OBTAINED ON THE COMPN. OF THE COMPS. FOUND EARLIER (IBID, 1966, 168, 1076). THE COMPN. IS GIVEN BY THE FORMULA SC SUB2 TIO SUB5, AND ITS INDUCED X RAY DIFFRACTION DIAGRAM AND THE CELL PARAMETERS ARE GIVEN. THE PHASE EQUIL. WERE STUDIED AT 1250 AND 1500DEGREES. IN THE REGION RICH IN TI, (SC SUBMINUSX T1 SUBX)TIO SUB5, WHICH IS ISOSTRUCTUAL WITH SC SUB2 TIO SUB5, IS FORMED. IT IS MONOCLINIC WITH BETA IS CONGRUENT TO 90DEGREES. AS THE SC CONC. IS INCREASED BETA APPROACHES 90DEGREES MORE CLOSELY, AND FOR X EQUALS 0.82-0.83 BETA EQUALS 90DEGREES. AT 1250DEGREES THE REGION OF HOMOGENEITY OF THIS PHASE OCCURS AT X EQUALS 0.94-0.18, BUT AT 1500DEGREES IT NARROWS TO X EQUALS 0.94-0.63. A NO. OF NEW PHASES WERE FOUND IN THE SYSTEM, AND THEIR LATTICE PARAMETERS AND REGION OF EXISTANCE ARE TABULATED. SC BEHAVES LIKE AL AND FE. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

UDC 534.322.2+534.83

USSR

POKROVSKIY, B. V., YUDIN, YE. YA.

"Hydrodynamic Noise and Vibration of Centrifugal Pumps"

Nauchn. tr. NII stroit. fiz. Gosstroya SSSR (Scientific Works of the Scientific Research Institute of Structural Physics of Gosstroy USSR), 1970, No 1(13), pp 5-25 (from RZh-Fizika, No 12(II), Dec 70, Abstract No 12Zh773)

Translation: A study of vortex noise and vibration was carried out on smooth rods with different profiles rotating in a cylindrical body, in tubes with different roughness placed in the wind tunnel of the All-Union Scientific Research Design and Technological Institute of Hydraulic Machinery, and also on pumps with wheels and helixes of different roughness encountered in practice in pump construction. It was established by the experiments that the intensity of the noise and vibration generated by the vortex sources of oscillations is proportional to the 6th power of the velocity and the 2nd power of the characteristic dimension of the body. A change in the mass, elastic properties, and internal quenching of the material of the rods does not affect this law. The spectra of vortex noise and

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- 26 -