

USSR

UDC 615.332.015.42:576.851.31

BELIZHENKO, V. D., VED'MINA, YE. A., YERMOL'YEVA, Z. V., and YEFIMTSEVA, YE. P., Chair of Biochemistry, Vitebsk Medical Institute and Chair of Microbiology, Central Institute for Advanced Training of Physicians, Moscow

"Effect of Antibiotics (Neomycin, Monomycin, and Kanamycin) on the Synthesis of Protein and Nucleic Acid in Intact NAG Vibrio Cells"

Moscow, Antibiotiki, No 12, 1971, pp 1085-1088

Abstract: Study of the effect of antibiotics on protein synthesis in intact NAG vibrio (strain 1115) cells showed that neomycin, monomycin, and kanamycin at concentrations of 10, 50, and 500 μ g/ml inhibit the incorporation of $1-C^{14}$ -glycine into the protein fraction soluble in phenol, but stimulate its incorporation into the fractions of RNA, DNA, and proteins insoluble in phenol. The degree of inhibition and stimulation varied directly with the dose of antibiotic. The stimulating effect of the antibiotics on the incorporation of labeled glycine into nucleic acids and phenol-insoluble protein fraction is attributed to the competitive relationships resulting from the utilization by the bacterial cells of amino acids to synthesize proteins and nucleic acids. When protein synthesis is inhibited, the free amino acids can be more fully utilized for nucleic acid synthesis. The stimulation of incorporation of $1-C^{14}$ -glycine into the phenol-insoluble proteins suggest that the synthesis of this protein fraction is not sensitive to neomycin, monomycin, or kanamycin. 1/1

YERMOLENKO A. S.

(P)

JPRS 00409
9 November 1973

PRODUCTION OF HIGHLY TEXTURIZED PERMANENT MAGNETS
FROM MAGNETICALLY ANISOTROPIC POWDERS

Article by Ya. Shtur, L. M. Magat, A. S. Yermolenko, N. A. Beshel'tsova, V. S. Averkiyev, A. V. Parvichin, V. S. Borkovskiy and Ye. V. Shchegoleva, Institute of Metal Physics, USSR Ex- perimental Physics Academy of Sciences USSR, Sverdlovsk, El'ka Metallurg Metallurgicheskiy, Vol. 35, No 2, 1973, sub- mitted 17 December 1971, pp 422-424

In recent years considerable advances have been achieved in the field of developing materials for permanent magnets, owing to synthesis of compounds of the type R_2Co_5 (where R is one of the rare-earth elements—yttrium or thorium) which possess ex- tremely high values of the constant of uniaxial anisotropy (on the order of 10^6 erg/cm³), for example, $1/11$. The process of manufacturing permanent magnets from such materials is re- duced to grinding an alloy and compacting the resultant powder. Here, since due to the high value of microentropy, the role of the magnetostatic interaction turns out to be insignificant and the powder can be compacted without substantial lowering of the coercive force, to a density close to the solid material. All the particles must be oriented prior to compaction to accom- plish the maximum possible values of magnetic energy (it is sug- gested that such particle is a single crystal and, consequently, magnetically uniaxial) and the compaction so as to be done in the axis of easy magnetization along one direction so as to create the magnetic structure. This can usually be achieved by means of placing the powder in a magnetic field. The main difficulty is in observing the magnetic texture during the subsequent com- paction of the powder $2/2$.

Methods of pressing in metallic dies ordinarily used leads to a significant lowering of the powder magnetic texture. This was caused by deformation of the material in one direction (in

174 023 UNCLASSIFIED PROCESSING DATE--230CJ70
TITLE--THE SCIENTIFIC FORECAST OF INTERNATIONAL RELATIONS IN THE LIGHT OF
LENIN'S TEACHING -U-
AUTHOR-(02)-BESTUZHEVLADA, I., YERMOLENKO, D.
COUNTRY OF INFO--USSR
SOURCE--INTERNATIONAL AFFAIRS, FEBRUARY-MARCH, 1970, NR 2-3, PP 95-97
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--FOREIGN POLICY, ECONOMIC FORECASTING TECHNIQUE, STATISTIC
ANALYSIS, GAME THEORY, MATHEMATIC MODEL, COMPUTER APPLICATION, COMPUTER
CONTROL SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0379 STEP NO--UR/0665/70/000/02-/0095/0097
CIRC ACCESSION NO--APO122564
UNCLASSIFIED

2/4 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122564

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT WAS ONLY THE DISCOVERY BY MARX AND ENGELS OF THE MATERIALIST VIEW OF HISTORY THAT MADE IT POSSIBLE TO UNDERSTAND THE ESSENCE OF THE OBJECTIVE LAWS AND GET AT THE TRUE MOTIVE FORCES BEHIND SOCIAL PROGRESS. THE PROFOUND SCIENTIFIC UNDERSTANDING OF THE ESSENCE OF HUMAN SOCIETY MADE IT POSSIBLE TO GO ON FROM GUESSWORK ABOUT THE FUTURE AND THE PROPHECIES OF THE PRE MARXIAN PERIOD TO A SCIENTIFICALLY GROUNDED ANALYSIS OF THE PROSPECTS FOR MANKIND'S DEVELOPMENT. IT ALSO MADE IT POSSIBLE TO ORGANISE THE PLANNED AND PURPOSEFUL TRANSFORMATION OF SOCIETY. SCIENTISTS HAVE NOW GONE ON TO COMPLEX EXTRAPOLATION, WHICH COMBINES MATHEMATICAL STATISTICAL ANALYSIS WITH THE METHODS USED IN THE THEORY OF PROBABILITY, THE THEORY OF LIMITS, THE THEORY OF GAMES, THE THEORY OF MULTIPLES, AND SO ON. SPECIAL FORMULAS HAVE BEEN DEVELOPED WHICH MAKE IT POSSIBLE TO APPROXIMATE WITH GREAT ACCURACY THE DATA OBTAINED THROUGH SIMPLE EXTRAPOLATION. THIS MAKES IT POSSIBLE TO PROJECT A LINE OF DEVELOPMENT INTO THE FUTURE ON THE STRENGTH OF A PROBABLE REPETITION OF THE SAME PROCESSES IN THE SUBSEQUENT PERIOD, AND ALSO TO ACHIEVE GREATER PRECISION ON THE STRENGTH OF SPECIFIC FEATURES WHICH, IN THE OPINION OF THE FORECASTERS, WILL BE CHARACTERISTIC OF THE SELECTED TIME INTERVAL. FORECAST MODELLING IS ANOTHER METHOD THAT IS BEING WIDELY INTRODUCED. THERE HAS BEEN A SHARP INCREASE IN THE IMPORTANCE OF POLLS OF EXPERTS OR GROUPS OF POPULATION IN FRAMING FORECASTS. FINALLY, IN THE PAST FEW YEARS THERE HAS BEEN EXTENSIVE DEVELOPMENT OF WHOLE SYSTEMS BASED ON SINGLE FORECASTS, WHOSE FUNCTION IS TO FORECAST A GIVEN MULTIPLICITY OF OBJECTIVES.

UNCLASSIFIED

374 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122564

ABSTRACT/EXTRACT--(D. M. GVISHIANI AND V. A. LISICHKIN, SYSTEM OF PROGNOSTICATION IN THE PLANNING AND MANAGEMENT OF SCIENTIFIC RESEARCH AND DEVELOPMENT, MOSCOW, 1969, IN RUSSIAN). LET US EXAMINE AN APPROXIMATE PROCEDURE FOR DRAWING UP A FOREIGN POLICY FORECAST, BEARING IN MIND THAT, ACCORDING TO THE CONCRETE CONDITIONS AND THE AVAILABILITY OF INFORMATION, EQUIPMENT, TECHNICAL MEANS AND PERSONNEL, THERE MAY BE A CHANGE IN THE SEQUENCE OF OPERATIONS. IN THE MOST GENERAL TERMS THIS COMES TO THE FOLLOWING: 1. DEFINING THE AIM, TASKS AND TIME INTERVAL OF THE FORECAST. IN SO DOING, IT MUST BE CLEARLY UNDERSTOOD THAT THERE IS A SPECIFIC OPTIMUM TIME INTERVAL FOR FORECASTING EACH OF THE SOCIAL PROCESSES, SO THAT THE MORE PRECISELY THE INTERVAL IS DETERMINED, THE GREATER THE RELIABILITY OF THE FORECAST. 2. CONSTRUCTING THE INITIAL MODEL OF THE PHENOMENON TO BE FORECAST, AND DEFINING THE MAIN PARAMETERS OF THE FORECAST, THE CRITERIA OF THEIR EVALUATION, AND SO ON (MAINLY BY METHODS OF EXPERT EVALUATION). 3. BRINGING OUT THE LEADING TENDENCIES IN THE DEVELOPMENT OF THE GIVEN PHENOMENON AND THEIR COMPLEX EXTRAPOLATION FOR THE ESTABLISHED TIME INTERVAL. FORECASTING TODAY USUALLY ENTAILS EXTRAPOLATION FOR SUCH DATES AS 1975, 1980, 1985 AND 2000. 4. CONSTRUCTING A SERIES OF FORECAST MODELS FOR THE GIVEN DATE AND CONCRETISING THE MINIMUM, MAXIMUM AND OPTIMUM VALUES. 5. POLLING OF EXPERTS AND OR SPECIALLY SELECTED GROUPS OF POPULATION, FOR GREATER PRECISION OF THE MODELS. 6.

UNCLASSIFIED

4/4 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122564

ABSTRACT/EXTRACT--DEFINING THE MARGINS BETWEEN THE PROBABLE AND OPTIMUM STATES OF THE PHENOMENON OR OBJECT FORECASTED FOR A GIVEN DATE, WITH SUBSEQUENT FORMULATION OF THE PROBLEMS REQUIRED TO BE SOLVED FOR MAXIMUM APPROXIMATION OF THE TWO STATES. 7. WORKING OUT ON THIS BASIS RECOMMENDATIONS FOR PLANNING, PROGRAMMING AND CONTROL AS A WHOLE. 8. FRESH POLLING OF EXPERTS TO ASSESS THE RECOMMENDATIONS. 9. CONSTRUCTING A SERIES OF POST PROBABILITY MODELS, THAT IS, MODELS REFLECTING THE PROBABLE CONSEQUENCES OF IMPLEMENTATION OF THE DECISIONS RECOMMENDED. 10. FURTHER POLLING OF EXPERTS, ETC. NEEDLESS TO SAY, THIS EXAMPLE DOES NOT EXHAUST ALL THE POSSIBLE VARIANTS FOR DRAWING UP A FORECAST. IDEALLY, FORECASTING SHOULD BE A CONTINUOUS PROCESS PARALLEL TO THE PROCESS OF CONTROL, THUS ENSURING CONSTANT CORRECTION OF EVALUATIONS OF THE ACTS TO BE CARRIED OUT. THIS CAN BE DONE ONLY WHERE THE SCIENTIFIC AND RESEARCH WORK IS UNLIMITED, WITH THE ESTABLISHMENT AND APPLICATION OF SYSTEMS OF INFORMATION AND CONTROL BASED ON THE LATEST SCIENTIFIC ACHIEVEMENTS AND THE USE OF ELECTRONIC COMPUTERS.

UNCLASSIFIED

USSR

UDC 662.62

YERMOLENKO, I. N., Corresponding Member of the Academy of Sciences Belorussian SSR, MALASHEVICH, Zh. V., BEZUKH, B. A., and KUZ'MIN, A. N., Institute of General and Inorganic Chemistry, Academy of Sciences Belorussian SSR, and Institute of Physics, Academy of Sciences Belorussian SSR

"Plasma Effect on Carbon and Metallocarbon Fibers"

Minsk, Doklady Akademii Nauk BSSR, Vol 17, No 5, May 73, pp 431-433

Abstract: The action of plasma from a non-electrode high-frequency induction discharge was studied for carbon fibers produced by pyrolysis of oxidized cellulose and its salts. Helium was used as the plasma material. The effect of metals added to the carbon fibers on the nature of plasma radiation was also studied, and a detailed analysis of the spectra showed the time of plasma radiation before the metals were affected, which revealed the presence of non-volatile compounds of metals in the carbon fibers. X-Ray diffraction studies of metallocarbon (Al, Ce, Cr) samples yielded pictures of completely amorphous substances, i.e., the high temperatures acting on metallocarbon fibers for a short time, (1-3 min) does not lead to the formation of crystalline Al, Ce, Cr or their compounds and does not graphitize the carbon residue. Samples 1/2

USSR

YERMOLENKO, I. N., et al., Doklady Akademii Nauk BSSR, Vol 17, No 5, May 73,
pp 431-433

subjected to a longer plasma treatment (10-15 min) had traces of erosion, which may have formed from the action of radiation and thermal fluxes. Thus, it is possible to use a plasma treatment mode which will not cause deep structural alterations in the volume of a carbon fiber and is an important consideration in the modification of carbon fiber surfaces. One figure, one table, 12 bibliographic references.

2/2

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MODIFIED CELLULOSE -U-

AUTHOR--(03)--YERMOLENKO, I.N., SKORYNINA, I.S., VOROBYEVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--USSR, 261,378

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--13JAN70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CELLULOSE RESIN, CHEMICAL PATENT, PHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/1447

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

CIRC ACCESSION NO--AA0128846

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128846

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULOSIC MATERIALS ARE MODIFIED BY TREATMENT WITH P CONTG. REAGENTS, E. G. CONDENSED ACID PHOSPHATES, COMPLEX PHOSPHATES, OR METAL POLYPHOSPHATES, IN THE PRESENCE OF N CONTG. COMPS. AT 140DEGREES. THE PRODUCT OBTAINED IS HEAT TREATED AT 140DEGREES AND A RESIDUAL PRESSURE OF 0.1 MM HG. FACILITY: INSTITUTE OF GENERAL AND INGRGANIC CHEMISTRY, ACADEMY OF SCIENCES, BELORUSSIAN SSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PHASE DIAGRAM OF A CERIUM NITROTRIACETIC ACID HYDROGEN PEROXIDE
SYSTEM BASED ON SPECTROGRAPHIC ABSORPTION PROPERTIES -U-
AUTHOR--(03)-KRIVONOZHNIKOVA, L.G.; GANPOLSKIY, V.I.; YERMOLENKO, I.N.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAO. NAUK BELORUSS. SSR 1970, 14(3), 230-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ABSORPTION SPECTRUM, CERIUM COMPOUND, ACETATE, COMPLEX
COMPOUND, PHASE DIAGRAM, HYDROGEN PEROXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1162 STEP NO--UR/0250/70/G14/003/0230/0232
CIRC ACCESSION NO--AT0134844
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134844

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION SPECTRUM OF THE PEROXYNITRILOTRIACETATE COMPLEX OF CE(III) WAS STUDIED AS A FUNCTION OF COMPN. OF THE TITLE SYSTEM. A TERNARY EQUIL. DIAGRAM WITH CONTOUR LINES OF EQUAL ABSORPTIVITIES INDICATES THE SOLN. COMPN. NEEDED FOR FORMATION OF A MAX. AMT. OF COMPLEX. THE MAX. ABSORPTION PROPERTIES OF THIS SYSTEM WERE NEAR THE COMPONENT RATIO OF 1:5:4 OF CE:NITRILOTRIACETIC ACID (H SUB3 H):H SUB2 O SUB2. THIS IS NOT THE COMPN. OF THE COMPLEX, BUT ONLY THE CONDITIONS FOR MAX. ABSORPTION. ALONG WITH CEX,NH SUB2 O SUB2 COMPLEXES, CEX SUB2 MH SUB2 O SUB2 COMPLEXES WERE PRESENT.

UNCLASSIFIED

Public Health, Hygiene and Sanitation

USSR

UDC: 614.48:615.478.74

Y
YERMOLENKO, I.N., LYUBLINER, I.P., and STAKHOVSKIY, YE.V., Institute of General and Inorganic Chemistry, Academy of Sciences, Belorussian SSR, and Belorussian Scientific Research Institute of Hematology and Blood Transfusion

"Filters Made of Cellulose Derivatives for Sterilizing Air and Liquids"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 107-111

Abstract: Filters made of cellulose phosphate and impregnated with the anti-septics methylene blue, tryptaflavine, and silver exhibited marked antimicrobial activity. Air became sterile when passed through filters containing more than 0.25% methylene blue or 0.25% tryptaflavine, and more than 0.62% silver. Filters containing more than 0.62% silver sterilized liquids, while those with 0.5% methylene blue or 0.5% tryptaflavine had only a bacteriostatic effect. The materials tested were resistant to laundering, highly air, permeable and capable of sterilizing a large volume of air without regeneration. These features, plus their biological compatibility and inexpensiveness, recommend them as filters and for use in manufacturing protective clothing, masks, etc.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPOSITION OF A CERIUM NITRILOTRIACETATE PEROXIDE COMPLEX -U-
AUTHOR--(03)-GANOPOLSKIY, V.I., KRIVONOZHNIKOVA, L.G., YERMOLENKO, I.N.
COUNTRY OF INFO--USSR
SOURCE--VESTI AKAD. NAVUK BELARUS. SSR. SER. KHIM. NAVUK 1970, (1), 38-42
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CERIUM COMPOUND, ACETATE, PEROXIDE, COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1875 STEP NO--UR/0419/70/000/001/0038/0042
CIRC ACCESSION NO--AP0123663
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123663

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPN. OF CE NITRILOTRIACETATE PEROXIDE COMPLEXES IS CONSIDERED BY USING THE RESULTS OF ISOMOLAR SERIES AND MOLAR RATIO STUDIES OF THE SYSTEM CE(III) NITRILOTRIACETATE H SUB2 O SUB2. THE FOLLOWING EQUATIONS ARE PROPOSED: 2CEX SUBM PLUS H SUB2 O SUB2 YIELDS X SUBM CE0DCX SUBM PLUS H SUB2 WHERE X IS NITRILOTRIACETIC ACID. THE CE NITRILOTRIACETATE PEROXIDE REACTS WITH H SUB2 O SUB2: O SUB2 CE SUB2 X SUB2 SUBM PLUS H SUB2 O SUB2 PLUS OH PRIME NEGATIVE YIELDS O SUB2 CE SUB2 X SUB2M.NHO SUB2 PRIME NEGATIVE PLUS H SUB2 O. WITH M EQUALS 1, N EQUALS 1 AND 2; WITH M EQUALS 5, N EQUALS 2 AND 4. CONSEQUENTLY, WITH AN INCREASE IN THE CONTENT OF NITRILOTRIACETATE IN THE COMPLEX, THE CAPACITY OF THE COMPLEX INCREASES. THE INTENSITY OF THE ABSORPTION BANDS OF THE COMPLEX ALSO INCREASES. FACILITY: INST. FIZ. TVERD. TELA POLUPROV., MINSK, USSR.

UNCLASSIFIED

Acc. Nr: **AP0043940**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 107-111

FILTERS MADE OF CELLULOSE DERIVATIVES
FOR STERILIZATION OF AIR AND FLUIDS

Yermolenko, I. N.; Lyublner, I. P.; Stakovskiy, Ye. V.

Antimicrobial fibrous materials on the basis of cellulose were obtained by introduction of ionic groups into the composition of a polymere by esterification with phosphoric acid in the presence of urea and subsequent sorption of the preparations-aseptics (methylene blue, trypanflavine and silver) from water solutions. Antimicrobial activity of these materials was determined by passing the air through a layer of the filter into a fluid nutrient medium, with subsequent transfer to spolid media.

It was shown that when methylene blue and trypanflavine content was over 0.25% and silver — over 0.62 of the weight of the filter, the latter proved to sterilize the air well. Treatment of these materials in nontoxic washing agents was not accompanied by reduction of antimicrobial activity.

1/1

REEL/FRAME
19770366

6 DI

USSR

UDC 661.183.123.2

LYUBLINER, I. P., YERMOLENKO, I. N., KOFMAN, A. YE., and DIN', K. K.,
Institute of General and Inorganic Chemistry, Academy of Sciences BSSR

"Investigation of the Phosphorylation Process of Carbon Fibers"

Minsk, Vesti Akademii Navuk BSSR, Seriya Khimicheskikh Navuk, No 3, 1973,
pp 80-85

Abstract: The phosphorylation process of carbon fiber materials obtained by pyrolysis of oxidized cellulose with PCl_3 vapors has been investigated by means of physico-chemical methods. It has been shown that the amount of chemically bound phosphorus increases with increasing temperature of phosphorylation up to the maximum of 10 weight-%. At the same time it depends on the pyrolysis temperature of the carbon fiber used in phosphorylation. By means of chemical analyses and potentiometric titration it has been established that the phosphorylated fibers obtained are monobasic ion exchange resins with exchange capacity of up to 3 mg-eq/g. The IR spectra and chemical studies showed that along with the phosphorylation process there occurs an addition of chlorine to the carbon fiber. The roentgenograms show that during the phosphorylation process no structural changes in the fibers take
1/2

USSR

LYUBLINER, I. P., et al., Vestsi Akademii Navuk BSSR, Seriya Khimicheskikh Navuk, No 3, 1973, pp 80-85

place, except for some degree of disorganization. The thermal stability of phosphorylated carbon fibers is higher by about 100° than that of the starting carbon. The phosphorylated ion exchange resins are stable in strongly acetic media during repeated sorption-desorption cycles.

- END -

2/2

CSO: 1841-W

- 76 -

Organometallic Compounds

USSR

UDC 549.21+541.6

YERMOLENKO, I. N., SAFONOVA, A. M., and MALASHEVICH, ZH. V., Institute of General and Inorganic Chemistry, Academy of Sciences Belorussian SSR

"Study of the Structure of Metallocarbon Filaments Obtained from Salts of Oxidized Cellulose"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Khimicheskikh Nauk, No 6, 1972, pp 60-66

Abstract: Hydrocarbon filaments containing Al, La, and Ba in their structure have previously been synthesized and their rather unique properties determined. This study presents data on the elemental composition, X-ray analysis, and electron micrographs of carbon and metallocarbon filaments. These were obtained from monocarboxycellulose and its Al and Fe salts at temperatures of 400-1600°C. The carbon particles have a flaky structure and show structural anisotropy. The aluminocarbon and carbon samples were similar in external form and X-ray patterns. The ferroc carbon form, however, exhibited significant differences. The latter may be due to the reduction of the iron ion to metallic iron, which reduces the order in the hydrocarbon structure.

1/1

USSR

UDC: 533.69.01+533.662.013

ANTONOV, A. M., YERMOLENKO, M. S., MAKSIMENKO, L. A.

"Flow Around a Thin Wing With Escaping Jets"

Tr. II Resp. konf. po aerogidromekh., teploobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey" (Works of the Second Republic Conference on Aerohydrodynamics, Heat Exchange and Mass Exchange. "High-Velocity Aerodynamics" Section), Kiev, Kiev University, 1971, pp 165-167 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B369)

Translation: In order to solve the problem of flow of an ideal compressible fluid around a thin wing of finite span from which jets are escaping, a system of discrete associated horseshoe vortexes and a system of free straight vortexes are substituted for the wing. The equation for the axis of a jet is given by some semi-empirical formula. The jet is broken down into individual sections, and a vortex strip with known intensity is substituted for each of these sections. The distribution of the load on the surface of the wing is determined from the condition of non-flow in the corresponding number of discrete computational points where the inductive velocities from the wing and jet vortex systems are calculated from the Biot-Savart formula. V. I. Putyata.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--REGENERATION OF THE IRON FORM OF TYPE X ZEOLITE AS A CATALYST OF
CARBON MONOXIDE OXIDATION -U-
AUTHOR--YERMOLENKO, N.F., MALASHEVICH, L.N., SARAYEVA, M.L.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 95-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ZEOLITE, CARBON MONOXIDE, IRON OXIDE, OXIDATION, CRYSTAL
STRUCTURE, ADSORPTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/1666 STEP NO--UR/0419/70/000/001/0095/0093
CIRC ACCESSION NO--AP0104888
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104888

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVITY OF AN FE X TYPE ZEOLITE CONTG. 4.19 WT. PERCENT FE SUB2 O SUB3 WITH A 39.5PERCENT NA YIELDS FE EXCHANGE DEGREE WAS STUDIED EXPTL. DURING THE OXIDN. OF AN AIR MIXT. CONTG. 5-7 VOL. PERCENT CO IN A FLOW APP. AT 350DEGREES. THE INITIAL OXIDN. DEGREE (ALPHA) DECREASES LINEARLY FROM ALPHA EQUALS 84PERCENT TO SIMILAR TO 45-50PERCENT AFTER 35 HR AND THEN REMAINS CONST. FOR 38 HR. THE ADSORPTION CAPACITY OF ZEOLITE IS SIMILAR TO 22PERCENT LOWER THAN THAT OF THE FRESH ZEOLITE AS DETD. FROM THE ADSORPTION OF AQ. VAPORS ON SAMPLES HEATED TO 300DEGREES AT 10 PRIME NEGATIVES TORR FOR 6 HR. THE CRYST. STRUCTURE OF THE ZEOLITE DID NOT CHANGE DURING THE REACTION. TO RECOVER THE CATALYST ACTIVITY, THE FOLLOWING METHODS WERE USED: (1) OXIDN. REGENERATION BY DRY AIR AT 350DEGREES FOR 6 HR WITH A RESULTING ALPHA EQUALS 60PERCENT, (2) A FLOW OF DRY N AT 350DEGREES FOR 6 HR DID NOT INCREASE ALPHA, (3) THE REGENERATION BY H SUB2 O AT 25DEGREES WITH RESULTING ALPHA EQUALS 55PERCENT, (4) AND THE REGENERATION WITH H SUB2 O AT 90-95DEGREES WITH RESULTING ALPHA EQUALS 81.6PERCENT. THE RECOMMENDED MANNER FOR MAINTAINING ALPHA SIMILAR TO 80-82PERCENT IS A 1 HR OXIDN. REGENERATION EVERY 5TH HR COMBINED WITH A H SUB2 O REGENERATION AT 95DEGREES EVERY 25TH HR.

UNCLASSIFIED

USSR

UDC 541.183

YERMOLENKO, N. F., (DECEASED), YATSEVSKAYA, M. I., and NGUYEN, T. N.,
Institute of General and Inorganic Chemistry, Academy of Sciences BSSR

"Sorption of Uranium From Aqueous Solutions by Mineral Sorbents and by
Carbon Modified with Titanium Dioxide"

Minsk, Vestsi Akademii BSSR, Seriya Khimicheskikh Navuk, No 3, 1973, pp 65-68

Abstract: A series of adsorbents modified by deposition of a thin layer of titanium dioxide on their surface was studied with the goal of improving their effectiveness in extracting U^{6+} from aqueous solutions. Experimental data showed that the effectiveness of carbon, aluminum oxide and silica gel was improved considerably after TiO_2 was deposited on their porous surface.

Adding a complexing agent to the solution -- a carboxylic acid for example -- improved the extracting ability even more. This was especially noted in case of aluminum oxide modified with TiO_2 in combination with benzoic acid added to the solution; a four-fold increase in the effectiveness of extraction was achieved.

1/1

USSR

UDC 533.682

YERMOLENKO, S. D., ROVNYKH, A. V.

"Solution of the Problem of a Wing of Arbitrary Shape in the Plan View Moving Near a Shielding Surface"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy -- Aviatsionnaya Tekhnika, No 1, 1971, pp 5-14

Abstract: The problem of a wing of arbitrary shape in the plan view moving near a shielding surface is solved in the nonlinear statement since at small distances from the shield even the aerodynamic characteristics of very long wings are essentially nonlinear. The statement is based on the vortex model in which the wing is replaced by a system of oblique horseshoe vortices. The connected parts of the vortices are located in the plane of the chords, and the free parts make angles with it found from the condition of coincidence of the vortex with the local velocity vector in the vicinity of the trailing edge of the wing. The aerodynamic characteristics are determined for the cross sections and the wing as a whole.

Calculations examples are presented, and a comparison is made with the calculation by the linear theory and experimentation for wings of various shapes

YERMOLENKO, S. D., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Aviat-sionnaya Tekhnika, No 1, 1971, pp 5-14

in the plan view in broad ranges of attack angles and distances from the trailing edge of the wing to the shield.

The solution obtained can be considered with sufficient grounds to pertain to a wing moving both near the Earth and near a smooth water surface inasmuch as it is proved theoretically and experimentally that the latter can be considered a solid wall without introduction of significant error. Although the described method of replacing the lifting surface by a system of discrete vortexes and the relations obtained are applicable to a wing of arbitrary shape in the plan view, when deriving the final formulas the investigation was restricted to the class of wings with rectilinear edges.

2/2

- 15 -

USSR

YERMOLENKO, S. D., and ROVNYKH, A. V.

"Range of Practical Application of Linear Lifting-Surface Theory to Calculation of Aerodynamic Wing Characteristics"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and Equipment of the Air Fleet -- Republic Interdepartmental Collection of Scientific and Technical Works), 1970, vyp. 20, pp 29-34 (from RZh-Mekhanika, No 1, Jan 71, Abstract No LB379 by V. I. Putyata)

Translation: The article compares experimental local and total characteristics of certain types of wings, with characteristics obtained by calculation in accordance with linear and nonlinear theory. It is shown that even for wings with not very low aspect ratios the local characteristics, and for wings moving in the vicinity of the interface even total aerodynamic characteristics, are linearly dependent on angle of attack only at very low values of the latter. It is pointed out that nonlinear theory provides significantly greater possibilities for practical application.

1/1

1/2 040 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--NONLINEAR THEORY OF A BEARING SURFACE IN AN INCOMPRESSIBLE FLOW -U-
AUTHOR-(02)-~~YERMOLEKHO, S.D.~~, ROVNYKH, A.V.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK SSSR, SIBIRSKOE OTDELENIE, IZVESTIYA, SERIYA
TEKHICHESKIKH NAUK, FEB. 1970, P. 12-21
DATE PUBLISHED--FEB70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS
TOPIC TAGS--ANTIFRICTION BEARING, SURFACE PROPERTY, THIN FILM,
INCOMPRESSIBLE FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1235

STEP NO--UR/0288/70/000/000/0012/0021

CIRC ACCESSION NO--AP0124889

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--11DEC70

GIRC ACCESSION NO--AP0124889

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLUTION OF THE PROBLEM OF A BEARING SURFACE OF AN INCOMPRESSIBLE FLOW ON THE BASIS OF A VORTEX MODEL OF THE WING. ONLY SYMMETRICAL WINGS MOVING WITHOUT SLIPPING ARE CONSIDERED, AND WORKING FORMULAS ARE PRESENTED ONLY FOR WINGS WITH RECTANGULAR EDGES. TO SIMPLIFY THE PROBLEM, THE VORTEX SURFACE AND THE WAKE ARE REPLACED BY A SYSTEM OF OBLIQUE HORSESHOE SHAPED VORTICES. FORMULAS FOR THE PROJECTIONS OF THE VELOCITY INDUCED AT AN ARBITRARY POINT IN SPACE BY A SINGLE OBLIQUE HORSESHOE SHAPED VORTEX ARE DERIVED.

UNCLASSIFIED

Transformation and Structure

USSR

UDC 669.25'295.154+532.731

YEREMENKO, V. N., and CHURAKOV, M. M., Institute for Problems of Material Science,
Academy of Sciences Ukrainian SSR, Kiev

"Kinetics of Dissolving Titanium Carbide in Molten Cobalt"

L'vov, Fiziko-Khimiicheskaya Mekhanika Materialov, No 3, May-June 70, pp 62-67

Abstract: A study was made of the effect of hydrodynamic conditions on the rate of dissolving titanium carbide in molten cobalt. The dissolving process was studied using a rotating disk since, owing to the diffusion "homogeneity" of the disk surface, this method makes it possible to find the true values of the dissolving rate constant. Electrolytic cobalt (99.98% pure) and titanium carbide, produced by the reduction of titanium dioxide with carbon, was used. The initial titanium carbide powder contained (wt %) 18.8 total carbon, 1.2 free carbon, 0.15 Fe, and 0.08 N, while the TiC samples contained (wt %) 19.0 total carbon, 0.15 Fe, 0.10 Co, and 0.10 N. The article contains a diagram showing how the samples are fastened and a diagram showing the unit for studying dissolving rate of solids in molten metals.

From previous experience it was established that accuracy in measuring sample height during testing was unsatisfactory for reliably determining the temperature function of the reaction rate if the time to sample rupture was restricted to two hours. Therefore, in the previous research, time to rupture was determined only 1/4

USSR

YEREMENKO, V. N., and CHURAKOV, M. M., Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-Jun 70, pp 62-67

activation, calculated according to the temperature relationship of the given dissolving rate, was 31 ± 7 kcal/mol.

4/4

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CHROMIUM NICKEL OXIDE CATALYST PREPARATION CONDITIONS -U-
AUTHOR--(03)-KUTANOV, I.P., YERMOLENKO, YE.N., PROKOPOVICH, A.A.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (2), 124-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THERMAL ANALYSIS, X RAY STUDY, CHROMIUM OXIDE, NICKEL OXIDE,
HEAT EFFECT, CATALYST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2028 STEP NO--UR/0419/70/000/002/0124/0127
CIRC ACCESSION NO--AP0125616
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE SAMPLES OF MIXED CR(OH) SUB3, NI(OH) SUB2 CATALYSTS WERE EXAMD. BY DTA AND X RAY ANAL. A MECH. MIXT. OF WET HYDROXIDES AND A MECH. MIXT. OF DRY HYDROXIDES EXHIBITED IDENTICAL DTA PATTERNS WITH 2 ENDOTHERMAL EFFECTS, ONE BEGINNING AT 70DEGREES WITH A MAX. AT 140DEGREES CORRESPONDING TO THE DESORPTION OF FREE OR ADSORBED H SUB2 O AND THE OTHER LESS PRONOUNCED BEGINNING AT 210DEGREES WITH A MAX. AT 230DEGREES CORRESPONDING TO THE EVOLUTION OF H SUB2 O FORMED FROM OH GROUPS. AN EXOTHERMAL EFFECT BEGINNING AT 320DEGREES WITH A MAX. AT 340DEGREES IS DUE TO THE CRYSTN. AND PARTIAL OXIDN. OF CR SUB2 O SUB3. A FINAL WEAK ENDOTHERMAL EFFECT WAS OBSD. AT 600DEGREES CORRESPONDING TO THE DESORPTION OF O, WHICH WAS ADSORBED DURING THE EXOTHERMAL EFFECT AT 340DEGREES. SAMPLES HEATED IN VACUUM DID NOT EXHIBIT THIS EFFECT. THE DTA DIAGRAM OF THE CATALYST PREPD. BY SIMULTANEOUSLY COPPTG. THE HYDROXIDES FROM NITRATE SOLNS. WITH NH SUB3 DIFFERS FROM THE DESCRIBED PATTERN BY A SHARP SEPN. OF THE 1ST 2 ENDOTHERMAL EFFECTS; THE 2ND ONE IS WELL DEVELOPED AND MUCH DEEPER WITH A MAX. AT 200DEGREES. X RAY POWDER PATTERNS OF ALL SAMPLES AT SMALLER THAN 350DEGREES SHOWED AN AMORPHOUS PATTERN. FOR SAMPLES HEATED TO 340DEGREES, THEY WERE ALL IDENTICAL WITH MAX. AT 2.17, 2.49, 2.67, AND 3.64 ANGSTROM. AT 600DEGREES THEY CONTAINED ADDNL. MAX. AT 2.08, 2.51, AND 2.95 ANGSTROM. FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/4 076 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FOR YOU, THE EARTH. SOME PRACTICAL APPLICATIONS OF THE SPACE
PROGRAM --U-
AUTHOR--YERMOLIN, A. (110) Y
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, SEL'SKAYA ZHIZN', 12 APRIL 1970, P 4
DATE PUBLISHED--12APR70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, SPACE TECHNOLOGY, METHODS
AND EQUIPMENT, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--SPACE PROGRAM, SOIL, AGRICULTURE CROP, MANNED ORBITAL
LABORATORY, SPACE STATION, SPACEBORNE EARTH PHOTOGRAPHY,
SPECTROPHOTOMETRIC ANALYSIS, COLOR PHOTOGRAPHY, IR PHOTOGRAPHY/(U) SOYUZ
8 MANNED SPACECRAFT, (U) SOYUZ 7 MANNED SPACECRAFT, (U) SOYUZ 6 MANNED
SPACECRAFT
CNTRL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1991/1212 STEP NO--UR/0516/70/000/000/0004/0004
CIRC ACCESSION NO--AN0110845
UNCLASSIFIED

274 076

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0110845

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPACE VEHICLES CAN BE USED FOR SOLVING A NUMBER OF PROBLEMS, SUCH AS CLASSIFYING SOILS IN DIFFERENT REGIONS OF THE COUNTRY. THIS WILL MAKE POSSIBLE A BETTER USE OF AGRICULTURAL LANDS, SELECTING LANDS FOR THE SUMMER GRAZING AND WINTERING OF CATTLE. IN THE NOT TOO DISTANT FUTURE, USING SPECTRAL ANALYSIS OF COLOR PHOTOGRAPHS OF SOWN AREAS, WE WILL BEGIN TO ESTIMATE THE YIELD OF PLANTS AND THEIR DEGREE OF MATURITY, THAT IS, MAKE A QUALITATIVE AND QUANTITATIVE EVALUATION OF SOWN AREAS AND CROPS AND THE DYNAMICS OF CHANGE IN THE VEGETATION COVER. THE USE OF CAMERAS OPERATING IN THE INFRARED AND VISIBLE RANGES WILL EVIDENTLY MAKE IT POSSIBLE TO EVALUATE THE EVOLUTION OF THE SNOW COVER AND HEAT BALANCE AND COMPILE TEMPERATURE MAPS. WHEN SUCH EVALUATIONS ARE AVAILABLE IT WILL BE POSSIBLE TO HAVE A MORE RATIONAL DISTRIBUTION AND USE OF SOWING AND HARVESTING EQUIPMENT. IN THIS WAY SPACE TECHNOLOGY IS BECOMING ONE OF THE POWERFUL TOOLS FOR DAY TO DAY CONTROL OVER LARGE SCALE AGRICULTURE. THE MENTIONED DEVELOPMENTS, MAKING USE OF THE ADVANTAGES OF INFORMATION RECEIVED FROM SPACE, CAN BECOME A REALITY WITH THE SPACE VEHICLES AND TECHNIQUES ALREADY IN EXISTENCE, AND LATER WITH THE ADVENT OF FUTURE SPACE VEHICLES HAVING CAMERAS WITH A GREATER RESOLVING POWER. DEPENDING ON THEIR OBJECTIVES, SPACE VEHICLES CAN CARRY SUCH APPARATUS AS THE FOLLOWING: CAMERAS WITH COLOR AND BLACK AND WHITE FILM, COLOR AND BLACK AND WHITE TELEVISION CAMERAS, VARIOUS TYPES OF SPECTRUM ANALYZERS, INFRARED RADIATION DETECTORS AND OTHER INSTRUMENTS AND DEVICES.

UNCLASSIFIED

3/4 076

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0110845

ABSTRACT/EXTRACT--IN THE MULTISIDED SOLUTION OF THE AFOREMENTIONED PROBLEMS A MAJOR ROLE CAN BE PLAYED BY MANNED ORBITAL STATIONS. DURING THE STAGE OF PERFECTING THE EQUIPMENT IT WILL BE NECESSARY TO VALIDATE THE PRINCIPLES FOR IDENTIFYING THE IMAGES OF THE EARTH AND COMPILE CATALOGUES OF KEY PHOTOGRAPHS SO THAT THE INFORMATION OBTAINED FROM AUTOMATIC STATIONS CAN BE INTERPRETED AND BE RELIABLE. FOR THIS REASON MAN MUST NECESSARILY PARTICIPATE IN SUCH EXPERIMENTS. AN EXPERIMENT FOR OBTAINING IMAGES OF THE EARTH AND SELECTING KEY PHOTOGRAPHS WAS CARRIED OUT IN OCTOBER 1969 DURING FLIGHT OF THE THREE "SOYUZ" SHIPS. DURING THIS FLIGHT MUCH ATTENTION WAS GIVEN TO OPTICAL EXPERIMENTS, THE MATCHING OF PHOTOGRAPHS AND SPECTROPHOTOMETRIC MEASUREMENTS OF THE EARTH'S SURFACE OVER THE TERRITORY OF THE SOVIET UNION BETWEEN THE CASPIAN AND ARAL SEAS SIMULTANEOUSLY FROM SPACESHIPS AND AIRCRAFT AT DIFFERENT ALTITUDES ABOVE THE EARTH. ALL THIS WAS BACKED UP BY SYNCHRONOUS DATA FROM METEOROLOGICAL SATELLITES AND GROUND FIELD TEAMS. A PRECISE AGREEMENT WAS OBTAINED BETWEEN SATELLITE AND SUBSATELLITE EXPERIMENTS. THE EXPERIMENTS WERE MADE ON ALL THREE SPACESHIPS. THESE EXPERIMENTS LAID A BASIS FOR A THEORY OF "SPACE AGRICULTURE." SPACE METHODS ARE BEING DEVELOPED FOR STUDYING THE SURFACE CHARACTERISTICS, NATURAL CONDITIONS AND RESOURCES OF THE EARTH FROM TELEVISION IMAGES, MULTICHANNEL PHOTOGRAPHS AND SPECTRA OF RADIATION REFLECTED FROM THE EARTH'S SURFACE. THE USE OF SPACE VEHICLES IN THE SERVICE OF AGRICULTURE REQUIRES NEW FORMS AND METHODS OF BOTH PLANNING AND CONDUCTING SCIENTIFIC EXPERIMENTS.

UNCLASSIFIED

4/4 076

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0110845

ABSTRACT/EXTRACT--FOR THIS REASON LENINGRAD UNIVERSITY HAS ESTABLISHED A SPACE AGRICULTURE LABORATORY WHICH IS NOW FUNCTIONING. ITS PERSONNEL INCLUDE SPECIALISTS IN GEOMORPHOLOGY, GEOLOGY AND GEOTANY. HYDROMETEOROLOGISTS, IN COLLABORATION WITH PHYSICISTS AND GEOPHYSICISTS, ARE WORKING ON THE MULTISIDED DEVELOPMENT OF METHODS FOR STUDYING NATURAL RESOURCES AND MAKING RECOMMENDATIONS ON THEIR RATIONAL USE.

UNCLASSIFIED

USSR

UDC 621.314.58(088.8)

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

"Device For Control Of Frequency Converter"

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

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

1/1

- 38 -

YERMOLOV, A. S.

MEDICINE

SO: JPRS 54539
23 Nov 71

UDC: 616.334+616.342]-002.44-071616.36-07

THE SIGNIFICANCE OF FUNCTIONAL AND MORPHOCHEMICAL EXAMINATION OF THE LIVER IN EVALUATING ITS CONDITION IN THE PRESENCE OF PEPTIC ULCER

(Article by M.V. Zhuravleva, A.S. Yermolov, A.A. Martino, Institute of Human Morphology, USSR Academy of Medical Sciences, Moscow, and Second Moscow Medical Institute named N.I. Pirogov, Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, No 10, 1971, pp 67-70)

Many clinicians are concerned with the condition of the liver in the presence of peptic ulcers.

This is justified by the anatomical and physiological similarity between the stomach and the liver, their common vascular supply and innervation. Indeed, biochemical and functional studies of the liver (N.N. Myslyak, I.A. Ageyenko and A.N. Bakkeyeva; A.I. Vannar; K.M. Solodova; Picco and Fernando; Halle et al.) indicate that it does change. However, the degree of involvement of the liver in the presence of peptic ulcer has not been investigated sufficiently, in spite of the special studies pursued in this direction. The shifts in biochemical analyses on such patients are inconsistent (B.I. Lapidus).

Works dealing with the morphology of the liver with chronic peptic and peptic ulcer are few in number; they involve few case histories and, in essence, do not make use of histochemical methods (Z.A. Sonder' et al.; O.Ya. Kartanova et al.; G.A. Dzhabiyani; Ye.N. Petrovich; L.I. Aruin et al.). In the last few years histochemical investigation is gaining increasing importance in the study of the pathomorphology of various diseases. The histochemical method holds some promise with regard to investigation of the functional state of organs and systems on the cellular level; it permits demonstration of their participation in intermediate [interstitial?] metabolism.

In order to determine the correlation between functional and morphological changes in the liver associated with peptic ulcer and the localization, duration, and intensity of the process and nature of complications, we conducted a complex clinicomorphological survey of patients with peptic ulcers using histochemical methods. In all

VERMOLOV, A. S.

MEDICINE

SURGICAL TACTICS IN GASTROINTESTINAL HEMORRHAGES

Article by Yu. Ye. Berzov, I. G. Kochergin, A. S. Yermolov, M. D. Lapin, Second Moscow Medical Institute, Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 7, 1972, pp 55-59

UDC: 616.334.6.342-003.1-089.811

SO: JPRS 54153
29 SEP 71

COLEEN

For more than 100 years there has been a scientific debate as to method of choice for the treatment of patients with hemorrhaging in the digestive tract. This debate is particularly heated with respect to gastroduodenal bleeding since this is encountered the most often and its causes are very diverse.

The difficulty of determining the causes and sometimes the location of such hemorrhages, the serious condition of the patient because of the blood lost compel us to consider the development of standard tactics for the entire group of gastroduodenal hemorrhages directed toward stopping the bleeding and stabilizing hemodynamic indices. The solution to this problem determines, in essence, the medical tactics.

The seeming simplicity of the solution (any hemorrhage is the prerogative of a surgeon and requires surgery) encounters specific conditions in each concrete case and contradictions between what is necessary and what is impossible (little justified or unjustified risk). Such conditions and contradictions include: the serious condition of the patient who has lost much blood and extremely critical surgical intervention in this situation; the inability to stop bleeding by virtue of the particular nature of the cause that caused it (nonresectable tumor of the stomach, pancreas, etc); unreliability of surgical methods of arresting bleeding in the presence of some forms of pathology (erosive gastritis, atresia of varicose esophageal veins) and, finally, bleeding that does not respond to surgical management (hemorrhagic diathesis, hemophilia, and others).

In spite of this, we must agree with Yu. Yu. Dzhanelidze, that "all patients with gastroduodenal bleeding should be referred to the surgical department and they should be considered as subjects whose life is in immediate danger." S. I. Spasokukovskiy believed that all patients with

Yu. Yu. Dzhanelidze, Sovetskaya Khirurgiya (Soviet Surgery), No 5, 1933, p 268.

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 BIOLOGI 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

ARC ACCESSION NO--AP0120905

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/3 017

IRC ACCESSION NO--AP0120905

BSTRACT/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

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SURGERY OF GASTRODUODENAL PEPTIC ULCER -U-
AUTHOR-(02)-BEREZOV, YU.YE., YERMOLOV, A.S.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 4, PP 30-36
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, SURGERY, HEMORRHAGE, DUODENUM,
STOMACH, SECRETION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1240 STEP NO--UR/0531/70/000/004/0030/0036
CIRC ACCESSION NO--AP0054135
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054135

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEPICTS THE MAIN PROBLEMS CONCERNED WITH SURGERY OF PEPTIC ULCER. THE INDICATIONS TO THE OPERATIVE TREATMENT OF THIS DISEASE ARE DISCUSSED. OPERATIVE TREATMENT IS DEEMED INDICATED MAINLY IN COMPLICATIONS OF PEPTIC ULCER. IN A NONCOMPLICATED COURSE OF THE DISEASE OPERATIVE TREATMENT IS DEEMED EXPEDIENT ONLY WHEN IT IS IMPOSSIBLE TO ACHIEVE A STABLE REMISSION WITH THE AID OF THERAPEUTIC METHODS. THE SURGEONS TACTICS IN PERFORATIVE AND HEMORRHAGIC GASTRODUODENAL ULCERS IS DISCUSSED. THE AUTHORS ARE OF THE OPINION THAT IT IS EXPEDIENT TO PERFORM PALLIATIVE INTERVENTIONS IN SUCH COMPLICATIONS AND TO LIMIT THE USE OF RADICAL OPERATIONS (IN THE TREATMENT OF PEPTIC ULCER) ONLY IN THE PRESENCE OF STRICT INDICATIONS. THE POSSIBILITY AND EXPEDIENCY OF USING VAGOTOMY IN COMBINATION WITH DRAINAGE OPERATIONS AND ANRECTOMY ARE DISCUSSED. BASING UPON THE EXPERIENCE GAINED WITH 116 OPERATIONS FOR GASTRODUODENAL PEPTIC ULCER THE AUTHORS PROPOSE TO DETERMINE THE TYPE OF OPERATION IN ADDITION TO VAGOTOMY DEPENDING UPON THE TYPE OF MOTORICITY AND SECRETION OF THE STOMACH.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--LABORATORY INSTRUMENT FOR EVALUATING THE ANTIWEARING PROPERTIES OF
MOTOR OIL, HYDRAULIC FLUID, AND JET FUEL -U-
AUTHOR--(04)--FILATOV, P.G., KLIMOV, K.I., CHURSHUKOV, YE.S., YERMOLOV, F.N.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, VESTNIK MASHINOSTROYENIYA, NO 2, 1970, PP 54-56
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS, METHODS AND EQUIPMENT
TOPIC TAGS--PHYSICS LABORATORY INSTRUMENT, LUBRICATING OIL, HYDRAULIC
FLUID, JET FUEL, TEST METHOD, FRICTION TEST, ANTIWEAR ADDITIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1870 STEP NO--UR/0122/70/000/002/0054/0056
CIRC ACCESSION NO--AP0130697
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130697

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

ABSTRACT. A DESCRIPTION IS GIVEN OF A UNIT INITIATING THE WORK OF REAL FRICTION PAIRS WITH SEQUENTIAL RECIPROCATING MOTION. ANTIWEARING PROPERTIES ARE DETERMINED IN THE VOLUME OF FILM OF THE FLUIDS TESTED. PROCEDURES FOR EVALUATING THE ANTIWEARING PROPERTIES OF OILS AND FUELS ARE DEVELOPED. THE ORIGINAL ARTICLE HAS TWO TABLES, TWO ILLUSTRATIONS, AND FOUR BIBLIOGRAPHIC ENTRIES.

UNCLASSIFIED

USSR

UDC: None

YERMOLOV, I. N., VOPIKIN, A. Kh., and RYZHOV-NIKONOV, V. I.

"A Device for Ultrasonic Defectoscopy"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrastysy, tovarnye znaki, No 4, 1973, p 98, No 363911

Abstract: The distinctive feature of this device for use in defect-locating equipment is a second oscillograph indicator with scanning proportional to the change in frequency of the pulse signal filling. This has the effect of improving the accuracy of determining the form and dimensions of the defects. No illustration of the circuit is given.

1/1

- 138 -

USSR

UDC: 621.317.76(088.8)

YERMOLOV, R. S.

"A Digital Instrument for Low-Frequency Measurement"

USSR Author's Certificate No 256866, filed 20 Nov 67, published 16 Apr 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A300 P)

Translation: The proposed instrument contains a unit for measuring the period of electrical oscillations and a code comparison unit. As a distinguishing feature of the patent, speed is increased by using a reference frequency pulse generator and a reference frequency pulse counter connected in series. The set input of the reference frequency pulse counter is connected to the input of the pulse counter in the code comparison unit, and the input of the reference frequency pulse generator is connected to the unit for measuring the period of electrical oscillations. The code comparison unit is connected between the unit for measuring the period of electrical oscillations and the reference frequency pulse counter.

1/1

- 119 -

Acc. Nr: AP0036830

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, Immunobiologii, 1970, Nr 1, PP 130-135

DYNAMICS OF DETECTION AND IMMUNOLOGICAL ROLE
PLAYED BY NORMAL ANTIBODIES IN DEVELOPING ANIMALS

Yermolov, V. I.

The incidence of detection and the biological role of normal antibodies in the progeny of dogs with endotheliochorial placenta are presented. Normal antibodies to *Sh. sonnei* (Coons method and agglutination) were constantly revealed in the fetuses and growing puppies. The appearance of antibodies in the blood at the period of postnatal development of dogs was accompanied by increased phagocytic and bactericidal activity of the blood, this pointing to their stimulating action of the nonspecific immune mechanisms in maturing animals.

D.W.

REEL/FRAME
19721747

6

USSR

UDC 669.295:620.18:
:621.791.052

YERMOLOVA, M. I., and FOLOMEYEVA, M. A., All-Union Scientific
Research Institute of Aviation Materials

"Structure and Phase Transformations in Welded Joints of VT14
and VT22 Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov,
No 12, 1973, pp 59-62

Abstract: Welded specimens of two-phase titanium alloys VT14
and VT22, 1.5-2.0 mm thick, produced by automatic argon-arc
welding without additive, were investigated after welding and
following heat treatment. In the welded joint of VT14 alloy
metastable α' , α'' , and β -phases develop after welding, the decay
products of which lead in prolonged aging to a plasticity loss
of the welded joint metal in the near-seam weakness zone. In the
welded joint of VT22 alloy, the metastable β -phase developing

1/2

USSR

YERMOLOVA, M. I., and FOLOMEYEVA, M. A., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 12, 1973, pp 59-62

after welding disintegrates on aging and produces an embrittling ω -phase. Welded joints of both alloys are not recommended to be applied without stabilizing anneal, because the decay products of their metastable phases, developing in the seam and in the near-seam zone, after heating at 300-400°C lower the plasticity of the metal. Three figures, three tables.

2/2

- 58 -

USSR

UDC 669.295:669.017,3

LASHKO, N. F., KHATSINSKAYA, I. M., and YERMOLOVA, M. I., All-Union Institute of Aviation Materials

"Volume Changes in the Decomposition of Metastable Phases in Titanium Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72, pp 275--283

Abstract: Results are presented of a dilatometric investigation of a number of alpha-beta titanium alloys with the following chemical compositions (in wt %): OT4--2.5-4.5 Al, 0.8-2.0 Mn; VTZ-1--6.5 Al, 1.5 Cr, 2.5 Mo, 0.4 Fe; Alloy 1--4.0 Al, 2.1 V, 1.2 Cr, 7.65 Mo; and VT22--4.7 Al, 5.0 V, 1.1 Cr, 5.0 Mo, 1.0 Mn. It was found that the formation of a stable beta-phase, enriched with beta-stabilizing elements, is a leading process causing a volume change in the decomposition of the metastable phase. Development of the omega phase, as a result of beta-phase diffusion decomposition, precedes the decrease in volume associated with the formation of an enriched beta-phase. In the first stage of metastable alpha''-phase decomposition in Alloy 1, where the alpha''-phase was fixed by quenching from the single-phase region or from the two-phase region (VTZ-1), the decrease in volume, caused by the enriched beta-phase, prevails over the increase in volume associated with depletion of the alpha''-phase and its conversion to the alpha'-phase.

1/2

-- 44 --

USSR

LASHKO, N. F., et al., Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72, pp 275-283

Decomposition of the alpha'-phase occurs with a general decrease in alloy volume which stems from precipitation of the beta-phase, and its enrichment and volume increase during alpha'-phase formation. Ye. V. Znamenskaya, V. N. Moiseyev, and O. P. Solonina participated in this work. Five figures, 7 tables, 10 bibliographic references.

2/2

USSR

Y
UDC 649.413.54:597:517.311.3

KHATSINSKAYA, I. M., LASHKO, G. P., and YEREMOVA, N. I., All-Union Scientific-Research Institute of Aviation Materials

"Degree of Stability and Anomaly of Electrical Resistance of Metastable Phases in $\alpha+\beta$ Titanium Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniya, Vol 30, No 2, Aug 70, pp 336-347

Abstract: Physical methods (electrical resistance and X-ray structural analysis) were used to study the specifics of metastable phase decomposition in α - β titanium alloys. An anomalous change in electrical resistance was noted upon heating of the α' , α'' and β_{met} phases in the temperature interval 20-500° C. The anomalous change of electrical resistance of the metastable phases is reversible within certain temperature intervals, depending on the degree of stability. The anomaly in electrical resistance is related to specific features of the electron structure of the transition metals included in the $\alpha+\beta$ titanium alloys. It is assumed that the nature of the chemical bond changes when α' , α'' and β_{met} phases are heated. The temperature coefficient of electrical resistance of all metastable phases formed in $\alpha+\beta$ titanium alloys decreases with increasing metastability. The change in the temperature

1/2

USSR

KHATSINSKIYA, I. M., et al, Fizika Metallov i Metallovedeniya, Vol 30, No 2,
Aug 70, pp 336-347

coefficient of electrical resistance upon heating is apparently related to a
redistribution of localized and nonlocalized s- and d-electrons, resulting in
a partial change in the nature of the chemical bond in these phases.

2/2

1/2 007

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--EXPERIENCE WITH INTERNATIONAL STANDARDIZATION OF BIOLOGICAL
ACTIVITY OF CHLORTETRACYCLINE -U-

AUTHOR--(04)-YAKOBSON, L.M., SHIRYAYEVA, V.L., SNEZHNOVA, L.P., YERMOLOVA,
O.B.

COUNTRY OF INFO--USSR, UNITED KINGDOM, WORLD WIDE

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 3, PP 232-235

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TETRACYCLINE, TECHNICAL STANDARD, BIOLOGIC SCIENTIFIC SOCIETY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1985/0465

STEP NO--UR/0297/70/015/003/0232/0235

CIRC ACCESSION NO--AP0100943

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 2ND PROPOSED SERIES OF THE INTERNATIONAL ACTIVITY STANDARD OF CHLORTETRACYCLINE WAS STUDIED WITH THE THREE DOSE AGAR DIFFUSION METHOD. THE CAVES WITH THE WORKING CONCENTRATIONS OF THE TEST SOLUTION AND THE STANDARD WERE SITUATED ACCORDING TO THE LATIN SQUARE. AT P-95 ACTIVITY OF THE PREPARATION IN 13 TESTS WAS 1038 TO 1060 MUG-MG. THE DATA FROM 9 LABORATORIES IN 6 COUNTRIES WERE STATISTICALLY TREATED IN THE CENTER FOR ANTIBIOTIC STANDARDIZATION OF THE WORLD HEALTH ORGANIZATION IN LONDON. THE AVERAGE ACTIVITY OF THE PROPOSED STANDARD OF CHLORTETRACYCLINE WAS FOUND TO BE 1004 MU G-MG. THE WHO EXPERT COMMITTEE APPROVED THE NEW INTERNATIONAL STANDARD OF CHLORTETRACYCLINE AND ASSUMED ITS SUPPOSED ACTIVITY TO BE 1000 MU G-MG. THE UNIT OF ACTIVITY WAS EQUAL TO 1 MU G.

UNCLASSIFIED

ACC. NO: AF0034400

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 132-135

TOXIC PROPERTIES AND ANTIBACTERIAL ACTIVITY OF DIHYDROSTREPTOMYCIN PREPARATIONS CONTAINING VITAMINS

Zak, A. F.; Vermolova, O. B.

Antibiotic Department of L. A. Tarasevich State Control Institute, Moscow

Antimicrobial and toxic properties of 3 dihydrostreptomycin salts were studied. Inclusion of ascorbic or panthothenic acids to the molecule of dihydrostreptomycin resulted in somewhat lower acute toxicity to mice and a markedly increased cytotoxicity. As compared to dihydrostreptomycin sulfate dihydrostreptomycin ascorbate was 10 times more toxic with respect to tissue cell cultures. The local irritating effect of dihydrostreptomycin ascorbate and panthothenate completely matched with their cytotoxic properties and was much higher than that of dihydrostreptomycin sulfate. Studies with cell cultures inoculated with staphylococci showed that dihydrostreptomycin panthothenate and especially ascorbate had a much higher sanitation effect on fibroblast cytoplasm than dihydrostreptomycin sulfate.

1/1

REEL/FRA
19711060

d.n.
10

Coatings

USSR

UDC 620.197.6

PAVLOVA, F. S., GERASIMOV, V. V., and YERMOLOVA, T. A.

"Electrochemical Behavior of Type OKh18N10T Steel With Aluminum Coating"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr, 1971, pp 187-189.

Abstract: The effectiveness of a coating of 0.3-mm type AD-1 Aluminum on OKh18N10T steel for increasing corrosion resistance in a cold 0.001 n solution of NaCl was tested. The experiments showed that the effectiveness of electrochemical protection increases with increasing solution temperature, and the electrode potential of the coating decreases. The data produced indicate that lack of aluminum coating over sectors up to 3 Cm² in area is not dangerous from the standpoint of development of corrosion cracking, since the nearest aluminum layer provides cathode protection for the steel under these conditions.

1/1

UDC: 620.193.2

USSR

PAVLOVA, F. S., GERASIMOV, V. V., and YERMOLOVA, T. A.

"Behavior of Protective Metal Coatings in Fresh Water"

Moscow, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 622-625

Abstract: There is rather limited information on the corrosion and electrochemical behavior of single- and multi-layer metal coatings in an aqueous medium of a given composition. This study involved ORHLSK10T steel, coated with nickel (100 microns), chromium (250 microns), cadmium (60 microns). The corrosion rate was determined by loss of weight. The high corrosion resistance of chromium and electrolytic nickel derives from the fact that their stationary potentials are in the passive region; for phosphorus-containing nickel and for cadmium the potentials are in the active dissolution region. The cadmium coating in cold water electrochemically protects the steel base. An increase in temperature alters the stationary potentials of both cadmium and type-20 steel: the steel sometimes becomes the anode. Chromium, owing to

1/2

USSR

PAVLOVA, F. S., et al, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70,
pp 622-625

its high passivation capacity, is indispensable as the upper layer of multi-layer coatings of Cu-Ni-Cr, Ni-Ni-Cr. Cathodic coatings were found to protect steel, provided the latter has no scratches, pores, and nicks. In electrochemical terms, a 60-micron coating comprising two layers of nickel and an upper chromium layer was found to protect steel against corrosion for 8000 hours of testing.

USSR

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

YERMOLOVICH, Yu. B.

"Thermomagnetic Phenomena in Nonparabolic Zones in the Mixed Mechanism of Scattering by Acoustic Oscillations in the Lattice and by Ionized Impurities"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron. (Bulletin of the Kiev Polytechnical Institute. Radioelectronics Series), 1971, No 8, pp 41-43 (from RZh Fizika, No 12, Dec 71, Abstract No 12Yel321)

Translation: A theory of a nonparabolic zone was developed for the case of a mixed mechanism of scattering by acoustical phonons and by ionized impurities. Formulas are obtained for the constant of the Nernst-Ettingshausen effect and the thermal emf in a null magnetic field in the presence of current carriers of both signs. Authors' abstract.

1/1

Semiconductors and Transistors

USSR

UDC 537.311.33:546.682'86

YERMOLOVICH, YU. B.

"Mobility And Mechanism Of Scattering Of Holes In Indium Antimonide At Low Temperature"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron. (Bulletin Of Kiev Polytechnical Institute. Radioelectronics Series), 1970, No 7, pp 148-152 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B34)

Translation: On the basis of cyclotron--resonance measurements the magnitudes are calculated of the mobility of holes in InSb resulting from scattering at acoustics phonons and at ionized impurities. Good agreement with experiment is found. 10 ref. Summary.

1/1

USSR

YERMOLOVS'KYY, M. A.

UDC 510

"On the Relation Between Theory and Model in Scientific Cognition"

Filos. probl. suchasn. pryrodozn. Mizhvid. nauk. zb. (Philosophical Problems in Modern Natural Science. Interdepartmental Collection of Scientific Works), 1971, vyp. 25, pp 63-67 (Ukrainian; Russian summary) (from RZh-Matematika, No 2, Feb 72, Abstract No 2A7 from author's summary)

Translation: The idea is developed that the representation of a theory as a model of the object which this theory reflects is one of the directions in the solution of methodological problems in modeling. In this connection a theory is regarded as the model of an object which produces the relative independence of knowledge and is the basis of the separation of this knowledge from the real world.

1/1

- 81 -

USSR

UDC 615.281.8:547.678.3

YERMOL'YEVA, Z. V., Academician of the Academy of Medical Sciences USSR, KORNEYEVA, L. Ye., BALEZINA, G. I., NIKOLAYEVA, O. D., GVAZAVA, I. S., and FADEYEVA, L. L., Institute of Virology imeni D. I. Ivanovskiy of the Academy of Medical Sciences USSR and the Chemical Therapy Group of Academician of the USSR Academy of Medical Sciences Z. V. Yermol'yeva

"Tyleron as an Interferon Inductor"

Moscow, Antibiotiki, Vol 18, No 6, Jun 73, pp 517-520

Abstract: In the current investigation the harmlessness, interferonogenic activity, and protective action (against infectious viral diseases) of tyleron hydrochloride were tested by administering the drug to white mice hypodermically and orally and to monkeys orally. It was established that there is no toxic effect from various dosages of tyleron hydrochloride with either method of introduction. A marked interferonogenic action was obtained where tyleron hydrochloride was given to mice in dosages of 5, 10, and 20 mg/kg and where 25 mg/kg were administered to monkeys. Oral administration proved more beneficial, while no difference was found between a dosage given in one part daily and given in three equal parts daily. Combining tyleron and prodigiozan made it possible to cut the dosage of

1/2

USSR

YERMOL'YEVA, Z. V., et al., Antibiotiki, Vol 18, No 6, Jun 73, pp 517-520

tyleron in half and increased the titer and length of interferon circulation in the blood by 50%. Tyleron was found to have a marked protective effect for influenza pneumonia in mice, despite low titers of circulating interferon. On the basis of this investigation, tyleron hydrochloride may be recommended as an effective interferon inductor.

2/2

- 22 -

USSR

UDC 615.331 (PRODIGIOSANUM).015.46

YERMOL'YEVA, Z. V., VAYSBERG, G. YE., BRAUDE, A. I., TARANENKO, L. A., LUSHINA, L. A., GIVENTAL', N. I., and SHCHERBAKOVA, E. G., Laboratory of Medical Pathology and Laboratory of New Antibiotics, Chair of Microbiology, TsIU [Central Institute for the Advanced Training of Physicians], Moscow

"The Effect of Prodigiozan Inhalation on the Immunological Reactivity of the Human Body"

Moscow, Antibiotiki, Vol 18, No 1, 1973, pp 76-79

Abstract: Inhalation of prodigiozan promotes immune reactions in the human body. Thus, in a group of 78 subjects aged 19 to 59, a single inhalation of 5 ml of a 0.04% prodigiozan aerosol (obtained under 0.5-0.8 atm at a rate of 12-15 L/min) increased the number of active neutrophils from 53 to 74% in 24 hrs in all subjects, and the increased phagocytic activity was maintained at least up to the 48th hr after inhalation. At the same time, the inhaled prodigiozan increased alkaline phosphatase activity in the neutrophils of peripheral blood from 42 to 115 conventional units in 35 out of 39 subjects, raised lysozyme concentration from 2.7 to 3.5 mcg/ml of blood serum in 12 out of 27 subjects, and induced formation of interferon in titers of 7-13 units/ml serum in 10 out of 10 subjects. It is concluded that a single inhalation of 1/2

USSR

YERMOL'YEVA, Z. V., et al., Antibiotiki, Vol 18, No 1, 1973, pp 76-79
prodigiozan aerosol significantly stimulates humoral and cellular components
of human immunological reactivity.

2/2

USSR

YERMOI'YEVA, Z. V., and VED'MINA, Ye. A.

Mikrobiologicheskaya Diagnostika Kholery (Microbiological Diagnosis of Cholera), Moscow, USSR Ministry of Health, 1971, 28 pp

Translation:

Table of Contents:

	Page
Goals and Objects of Investigation	4
Taking and Transporting Material Being Investigated	5
Methodology of Bacteriological Investigation for Cholera	8
Stages of Investigation	9
Stage I (Initial Investigation)	9
Stage II (5-6 Hours After Start of Investigation)	11
Stage III (10-12 Hours After Start of Investigation)	12
Stage IV (18-24 Hours After Start of Investigation)	15
Study of Pure Culture and Its Identification	15
Study of Cultural-Morphological Properties	15
Study of Biochemical Properties	15
Study of Proteolytic Activity	16
Study of Diastatic Activity	16
Study of Fermentation of Carbohydrates and Alcohols	16
1/3	16

USSR

YERMOL'YEVA, Z. V., and VED'MINA, Ye. A., Mikrobiologicheskaya Diagnostika Kholery, Moscow, USSR Ministry of Health, 1971, 28 pp

	Page
Study of Reducing Properties and the Formation of Indol (Nitronso-Indol Reaction -- Cholera Red Reaction)	17
Study of Hemolytic Activity	18
Study of Sensitivity of Cholera Phages	18
Study of Antigenic Properties	19
Tests Which Differentiate Biotypes of Cholera Vibrios (Classical Cholera Vibrios and El Tor Cholera Vibrios)	20
Test With Diagnostic C and El Tor-2 Phages	20
Polymyxin Test	21
Reaction of Hemagglutination of Chick Erythrocytes	21
Foges-Proskauer Reaction	21
Hexamine Test	22
Soda-Serum Agglutination	22
Soda-Mercuric Chloride Precipitation	22
Accelerated Methods of Bacteriological Cholera Diagnosis	24

2/3

USSR

YERMOL'YEVA, Z. V., and VED'MINA, Ye. A., *Mikrobiologicheskaya Diagnostika*
Kholery, Moscow, USSR Ministry of Health, 1971, 28 pp

Page
25
25
25

Serological Methods of Cholera Diagnosis
Agglutination Reaction
Reaction for Analyzing Vibriocidic Antibodies

3/3

USSR

YERMOL'YEVA, Z. V., et al, Voprosy Virusologii, No 4, Jul/Aug 71, pp 442-446

intervals of 3-4 days. The fourth group received placebos. The effectiveness index of interferon was 3.0 (frequency of diseases three times smaller than in the placebo group) in the interepidemic period and 2.2 during the epidemic. The effectiveness index of interferon with ecmoline was 1.8, and that of UF virus was 3.0 in the interepidemic period. All differences are statistically significant. Since no toxic effects were observed, the method is recommended for the prevention of influenza and other acute respiratory diseases.

2/2

- 85 -

USSR

UDC: 616.988.75-085.371:576.85.23(ECHO)7-036.8

ELIMOVA, M. I., RITOVA, V. V., VOROSHILOVA, M. V., YERMOL'YEVA, Z. V., Central Institute for the Advanced Training of Physicians, Institute of Virology imeni Ivanovskiy, Academy of Medical Sciences USSR, Institute of Poliomyelitis and Viral Encephalitis, Academy of Medical Sciences USSR, Moscow

"Study of the Epidemiological Effectiveness of the Stimulator of Interferon Formation During an Outbreak of A2 (Hong Kong) Influenza"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 48, No 1, Jan 71, pp 70-73

Abstract: More than 100 new viruses producing respiratory diseases have been discovered during the past ten years, requiring development of new prophylactic methods.

A study in groups of children and adults showed that ZhEV-4 (Zhivaya enterovirusnaya vaksina--live enterovirus vaccine), a stimulator of interferon formation, had a prophylactic effect for healthy persons in contact with infected persons. Per-oral immunization of children by vaccine (in a 1:10 dilution) at

1/2

USSR

BLINOVA, M. I., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 43, No 1, Jan 71, pp 70-73

two-week intervals reduced incidence by a factor of 2.8; the protective coefficient was 64%. The same results were obtained with adults. After intranasal administration of the vaccine, the incidence of influenza dropped by a factor of 2.6 and the protective coefficient was 61%. Persons who received a single vaccine administration had a mild form of flu. When people received the vaccine twice or three times, only isolated cases were observed. There were no incidents of allergy or side reactions. The best effect was observed when the vaccine was used in a 1:10 dilution perorally.

2/2

Acc. Nr.: **AP0029499**

Ref. Code: UR 0297

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

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

Triprotamines in the form of sulfates were isolated from the milt of individual sturgeon stocks. The amino acid composition of triprotamines 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.

gm

REEL/FRAME

19681100

USSR

UDC 621.316.721

AZAT'YAN, G.A., BELEN'KOV, N.M., YERMOSHIN, V.D., KOMAROV, L.I., KURNOSOV, A.I.

"Analysis Of Operation And Production Technology Of Current Regulator"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 3(53), pp 67-72 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B477)

Translation: The circuit is considered of a current regulating two-terminal network using transistors and semiconductor diodes, which is intended to be accomplished as a hybrid microcircuit. The production technology for the hybrid circuit is considered and its parameters are cited. 5 ill. 5 ref. S.D.

1/1

USSR

UDC: 531.312.62

YERMOSHIN, V. N.

"On the Problem of Making Standard Superconductive Inductance Coils for Frequencies of up to 1 MHz"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 27-29 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D523)

Translation: The problem of exact calculation of the inductance of a solenoid on elevated frequencies (up to 1 MHz) reduces in the general case to determining corrections for the effect of such factors as skin effect, distribution of capacitance and distribution of resistance of the coil. For conventional solenoid designs, the effect of coil resistance can be disregarded. The distributed capacitance of a solenoid can be reduced by reducing the diameter of the solenoid and increasing the pitch of the winding. Calculation showed that using a linear conductor with a cross section measurement of the order of 0.01 mm for the winding can reduce the distributed capacitance of a solenoid by a factor of 5. However, such a solenoid would have high resistance, and consequently low Q. Thus the

1/2

USSR

YERMOSHIN, V. N., Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1, Novosibirsk, 1970, pp 27-29

linear solenoid design makes sense where superconductivity is present. In this regard, inductance can be calculated with high precision. A. K.

2/2

- 49 -

USSR

UDC: 681.121+551.571:665.61

GABDULLIN, T. G., YERMOSHIN, Yu. A., ZINATULLIN, F. L., MUSINA, R. G.

"A Depth Instrument for Simultaneous Measurement of Flowrate and Moisture Content"

Tr. Tatar. n.-i. i proyekt. in-t neft. prom-sti (Works. Tatar Scientific Research and Planning Institute of the Petroleum Industry), 1971, vyp. 20, pp 318-328 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.581)

Translation: It is shown that a combination instrument which provides for simultaneous measurement of discharge rate and moisture content in a water-petroleum mixture separately by strata is needed when determining the point of leakage into a well. A description is given of the device, the principle of action, and the results of laboratory and industrial tests of the combination instrument. The influence of principal factors on measurement results is determined on the basis of the laboratory tests, and a procedure is given for taking these factors into account when making deep measurements. Five illustrations, one table, bibliography of six titles.

1/1

USSR

UDC 519.281

YERMURATSKIY, P. V.

"A Complex Method"

Tr. Mosk. Energ. In-ta [Works of Moscow Power Institute], No 76, 1970, pp 89-94,
 (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No
 6 V167 by Yu. Pollyak).

Translation: An algorithm is described for seeking the minimum of the function

$$f(x), x = \|x_1, \dots, x_k\|$$

in a convex area defined by the limitations:

$$g_i < x_i < h_i, i = 1, 2, \dots, m_1 < k; \quad (1)$$

$$g_i < \varphi_i(x) < h_i, i = k+1, \dots, m. \quad (2)$$

Error-free calculation of $f(x)$ and $\varphi_i(x)$ is assumed. Search is reduced to generation of N random points (the "complex"), evenly distributed in the area fixed by limitations (1) with subsequent displacement of points not satisfying conditions (2), in the direction toward the center of gravity of the points satisfying condition (2). If the points thus produced $x_j = \|x_{1j}, x_{2j}, \dots, x_{kj}\|$ (points of the complex) are located compactly, so that

USSR

UDC 519.281

YERMURATSKIY, P. V., Tr. Mosk. Energ. In-ta, No 76, 1970, pp 89-94.

$$\frac{1}{2k} \sum_{i=1}^k (|c_i - x_{i1}| + |c_i - x_{i2}|) < \epsilon$$

(x_{j1}, x_{j2} are points from set $x_j, j = 1, 2, \dots, N$, corresponding to the greatest and the least value of $f(x), c_i = \frac{1}{N-1} \left(\sum_{i=1}^N x_{ii} - x_{i1} \right)$ are the coordinates of the center of gravity of the points (with the exception of point x_{i1}), ϵ is a fixed (small) constant), then point x_{i1} is taken as an estimate of the minimum. Otherwise, the complex is perturbed, the procedures of displacement of points and testing of compactness is repeated, etc. An ALGOL program of the algorithm is given. In the realization of this program for the BESM-4 computer, $k \leq 40, m \leq 4k$.

USSR

UDC 519.281

~~YERMURATSKIY, P. V.~~

"Method of Rotating Coordinates (Rozenbrok Method)"

Tr. Mosk. Energ. In-ta [Works of Moscow Power Institute], No 76, 1970, pp 95-101,
(Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No
6 V168 by Yu. Pollyak).

Translation: An algorithm is described, realizing the method of search for a unique extreme (in the permissible area fixed by inequalities) of continuous function $f(x)$ suggested by H. Rozenbrok (Rozenbrok, H., Story, S., Vychislitelnyye Metody Dlya Inzhenerov-khimikov [Computer Methods for Chemical Engineers], Mir Press, Moscow, 1968, p 107). The algorithm is reduced to coordinate-by-coordinate descent with periodic rotation of coordinate axis. The value of the step on each coordinate is selected during the computation process. If relief $f(x)$ contains a hill or valley, the direction of motion toward the extreme (i.e. the corresponding axis of the coordinates) is automatically set along the hill or valley. An ALGOL program for the algorithm and a test example are given.

USSR

UDC 519,281

YERMURATSKIY, P. V.

"Method of Optimization with Variation of Metrics"

Tr. Mosk. Energ. In-ta [Works of Moscow Power Institute], No 76, 1970, pp 102-107, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V169 by Yu. Pollyak).

Translation: An iteration algorithm for search for the local extreme of a continuous function $f(x)$ is presented (without limitation of the area of change of $x = ||x_1, \dots, x_k||$), suitable for the case when $f(x)$ has continuous first derivatives and is approximated near the extreme by a quadratic function of variables x_1, \dots, x_k . On the n th ($n = 1, 2, \dots$) cycle of optimization, search for the extreme is performed in the direction $S_n = -B_n^{-1} g_n = H_n g_n$, where g_n is the estimate of the gradient of $f(x)$ at point x_n , produced in the $(n-1)$ th cycle, B_n is the estimate of the matrix of secondary partial derivatives $d^2 f(x)/dx_i dx_j$, $i, j = 1, 2, \dots, k$, produced by successive refinement from cycle to cycle. A unit matrix can serve as the initial approximation of H_1 . The refinement (for $n \geq 2$) is performed in correspondence with the formula

$$H_n = H_{n-1} + \frac{\sigma_n \sigma_n^T}{\sigma_n^T u_{n-1}} - \frac{H_{n-1} u_{n-1} u_{n-1}^T H_{n-1}}{u_{n-1}^T H_{n-1} u_{n-1}}$$

USSR

UDC 519.281

YERMURATSKIY, P. V., Tr. Mosk. Energ. In-ta, No 76, 1970, pp 102-107.

where $y_{n-1} = g_n - g_{n-1}$, σ_{n-1} is the vector of displacement of the current extreme point in one cycle of search for the extreme in direction S_n , T is the transposition symbol. Where $n = 1$, the matrix H_1 is directly used. A special procedure is suggested for search for the extreme in direction S_n . It is also indicated that this operation can be performed by the method of cubic interpolation (RZhMat, 1965, 1B549) or by any method of one dimensional search (Wild, J., Metody Poiska Ekstremuma [Methods of Search for Extremes], Nauka Press, Moscow, 1967). An ALGOL program is presented realizing this algorithm, plus a test example.

1/2 044 UNCLASSIFIED PROCESSING DATE--09DCT70
TITLE--WELDING OF HEAVY GAGE STEEL OKH23N28M3D3T -U-

AUTHOR--(03)--ZUBCHENKO, A.S., YERNILLOV, V.A., KOLYADA, A.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (3), 30-1

DATE PUBLISHED-----70

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

TOPIC TAGS--AUSTENITIC STEEL, WELDING ELECTRODE, ARC WELDING,
NONDESTRUCTIVE TEST, STEEL WELDING, WELDING INSPECTION, CHEMICAL
COMPOSITION, TENSILE STRENGTH, SULFURIC ACID, PHOSPHORIC ACID, CORROSION
RESISTANT STEEL, IMPACT STRENGTH/(U)OKH23N28M3D3T AUSTENITIC STEEL,
(U)OKH23N28M3D3T WELDING ELECTRODE, (U)OZL17U WELDING ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1460

STEP NO--UR/0314/70/000/003/0030/0031

CIRC ACCESSION NU--AP0109520

UNCLASSIFIED

2/2 044

UNCLASSIFIED

PROCESSING DATE--090C170

CIRC ACCESSION NO--AP0109520

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STABILIZED AUSTENITIC STEEL OF THE OKH23N28M3D3T GRADE EXHIBITS A HIGH CORROSION RESISTANCE TO H SUB2 SO SUB4, H SUB3 PO SUB4, AND SULFIDIC SOLNS. BUT IS MORE SUSCEPTIBLE TO WELDING INDUCED HOT CRACKING THAN ARE AUSTENITIC STEELS OF THE NONTRANSITION CLASS. HOT CRACKING AND (OR) INTERCRYST. CORROSION ARE FREQUENTLY ENCOUNTERED IN WELDED JOINTS ON PLATES IS GREATER THAN 20 MM THICK. TO IMPROVE THE QUALITY OF WELDS ON HEAVY GAGE STEEL, A SERIES OF MANUAL AND AUTOMATIC WELDING TESTS USING VARIOUS COM. AND LAB. PREPD. WELDING ELECTRODES WAS PERFORMED ON 45 AND 50 MM THICK PLATES OF THE OKH23N28M3D3T STEEL (CONTG. C 0.06, SI 0.53, MN 0.32, S 0.007, P 0.026, CR 23.1, NI 27.0, CU 2.79, MO 2.7, AND TI 0.73PERCENT AND EXHIBITING AN ULTIMATE TENSILE STRENGTH OF 69 KG PER MM PRIME2 AND AN IMPACT STRENGTH OF 22 KG-M PER CM PRIME2). AUTOMATIC WELDING BY OKH23N28M3D3T ELECTRODES UNDER AN OXIDIZING, CERAMIC FLUX YIELDED UNSATISFACTORY RESULTS, DWING TO THE OCCURRENCE OF DEEP, PROPAGATING CRACKS. SEAMS WELDED BY THE OZL-17U ELECTRODES (OF A COMPN. SIMILAR TO THAT OF THE BASE METAL, EXCEPT FOR MN 3.06, TI 0.15, AND NB 0.45PERCENT) FAILED IN TESTS FOR INTERCRYST. CORROSION. SOUND AND CORROSION RESISTANT HEAVY GAGE WELDS OF SATISFACTORY MECH. PROPERTIES MAY ONLY BE OBTAINED BY MANUAL ARC WELDING UNDER AR BY USING OKH23N28M3D3T OR SIMILAR ELECTRODES OF 3-4 MM DIAM. PARTS OF HEAT EXCHANGERS FOR H SUB2 SO SUB4 SHOULD BE WELDED BY THIS METHOD.

UNCLASSIFIED

USSR

UDC 533.6.011.8:533.722

YEROFEYEV, A. I., Moscow

"On Modeling the Interaction of Atomic Particles With the Surface of a Solid"

Moscow, Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 94-102

Abstract: The applicability of simplified models for the description of the interaction of gas atoms with the surface of a solid is analyzed for the case when the interaction time is short in comparison with the characteristic oscillation time of atoms in the solid. For an arbitrary time period of interaction in a quasi-unidimensional case, a comparison is presented of interaction results of a gas atom with the surface of a solid modeled by a semi-infinite lattice of elastically bound atoms with a gas atom interaction with a harmonic oscillator. The effect of the anharmonicity of forces acting between atoms of a solid on the interaction of the gas atom with the surface is demonstrated for the

1/2

USSR

YEROFEYEV, A. I., Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 94-102

limiting case when the relation of the interaction time to the characteristic oscillation time of atoms in the lattice approaches zero. A comparison of derived values for μ^x (μ^x = limiting value of $\mu = m/M$, where m = mass of gas atom and M = mass of surface atom) shows that the accounting for anharmonicity results in a reduction of the applicability of the simplified model of free particles. Four figures, twenty nine formulas, sixteen bibliographic references.

2/2

5

USSR

UDC 669.71.042.6

YEROFEYEV, A. T., KUZ'MIN, G. G., ZOLOTUKHIN, V. A.

"Casting of Large Aluminum Ingots Weighing Up to 2 t by Continuous Casting Methods"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], 1970, No. 6, pp. 93-94. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G140 by G. Svodtseva).

Translation: The technology developed for production of Al ingots weighing up to 2 t allows labor consumption to be reduced to 10.72 rubles per ton (as against 12.92 rubles per ton for 15-kg ingots). The losses to oxidation during melting are decreased by 10-15%, since the total surface area subjected to drop formation and oxidation is 5.8 times less than for the 15-kg ingots. A technological plan for production of large ingots is described.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INTERMEDIATE COMPOUNDS IN THE CATALYTIC AUTOXIDATION OF BENZOIC
ACID IN THE PRESENCE OF CUPRIC OXIDE AND CUPRIC BENZOATE -U-
AUTHOR-(02)-YEROFEYEV, B.V., PETKEVICH, T.S.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM, NAVUK 1970, (1), 12-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZOIC ACID, ORGANOCOPPER COMPOUND, BENZENE DERIVATIVE,
HETEROCYCLIC OXYGEN COMPOUND, CATALYST, REACTION RATE, COPPER OXIDE,
CATALYTIC OXIDATION, ORGANIC COMPLEX COMPOUND, COPPER COMPLEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1079

STEP NO--UR/0419/70/000/001/0012/0015

CIRC ACCESSION NO--AP0104477

UNCLASSIFIED

2/2 015
CIRC ACCESSION NO--AP0104477

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERMEDIATE IN THE OXIDN. OF BZOH AT 220DEGREES USING CUO AND CU(OBZ) SUB2 CATALYSTS; ARE STUDIED. THE INTERMEDIATE IN THE CU(OBZ) SUB2 OXIDN. IS CU(OBZ) SUB2. BZOH. THE PRODUCT ISOLATED IN OXIDN. WITH CUO COULD BE A BASIC BENZOATE OF COPPER CONTG. A COORDINATED MOL. OF BZOH. THE IR SPECTRA OF THE PRODUCTS ARE DISTINCT FROM THE SPECTRUM OF BENZOYLSALICYLATE OF COPPER. REACTION RATE STUDIES SHOW THAT BENZOYLSALICYLATE IS NOT A BASIC INTERMEDIATE PRODUCT. I AND II ARE THOUGHT TO OCCUR IN THE 1ST STAGE OF BZOH OXIDN. WITH CU(OBZ) SUB2.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--USE OF A TWO SECTIONED COLUMN DURING AN ANALYSIS OF C SUB6- C SUB8
AROMATIC HYDROCARBONS BY GAS LIQUID CHROMATOGRAPHY -U-
AUTHOR-(02)-YEROFEYEV, B.V., URBANOVICH, I.I.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1),
99-100
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE, TOLUENE, XYLENE, ISOMER, CHEMICAL ANALYSIS, LIQUID
CHROMATOGRAPHY, GAS CHROMATOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0709 STEP NO--UR/0419/70/000/001/0099/0100
CIRC ACCESSION NO--AP0113573
UNCLASSIFIED

272 011 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0113573
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COLUMN CONSISTING OF A SECTION
(1.8 M) WITH 20PERCENT 7,8 BENZOQUINOLINE ON CELITE C 22 (0.18, 0.25 MM)
AND A 1.5 M LENGTH WITH 20PERCENT DINONYLPHTHALATE (TUBE DIAM 3MM) WAS
USED AT 78DEGREES WITH 60 ML H- MIN AS CARRIER GAS AND FLAME IONIZATION
DETECTOR; THE SAMPLE SIZE WAS 1-3MUL. FOR STABILIZATION OF THE STREAM
OF H IT WAS LEAD THROUGH A CU CAPILLARY (12 M BY 0.25 MM INSIDE DIAM.).6
SUB6 H SUB6, PHME, PHET, P, M, AND O SYLENES ARE ALL WELL SEPD. AND
APPEAR IN THE ORDER GIVEN IN EQUIVALENT 40 MIN. IF THE ORDER OF THE
COLUMNS IS REVERSED, PHET, P, AND M SYLENE APPEAR AS ONE PEAK.
FACILITY: INST. FIZ ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

USSR

(78)

BALOSHIN, O. N., BLAGORODOV, A. M., BOLONKIN, B. V., VLADIMIRSKIY, V. V.,
GORIN, YU. P., GRIGOR'YEV, V. K., GRISHIN, A. P., YEROFEYEV, I. A., KOROL'KOV,
I. YA., LUZIN, V. N., MILLER, V. V., NIKOLAYEVSKIY, YE. S., PETRUKHIN, V. N.,
PLIGIN, YU. S., PONOMAREV, L. A., SIROTKIN, S. M., SOKOLOVSKIY, V. V., TARASOV,
YE. K., TLKHOVIROV, G. D., TROSTINA, K. A., TURCHANOVICH, L. K., and SHKURENKO,
YU. P., Institute of Theoretical and Experimental Physics GKI AE (State
Committee for the Use of Atomic Energy)

"The $K^-p \rightarrow K^0n$ Charge Exchange Reaction at a Pulse of 39 Gev/sec"

Moscow, Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544

Abstract: The authors present the measurement results from studying the charge exchange reaction of K^- -mesons on protons ($K^-p \rightarrow K^0n$) at a pulse of 39 Gev/sec. The study was carried out using the ITEP 6-m magnetic track spectrometer. The working volume of the magnetic field of the spectrometer was $1.0 \times 1.5 \times 6$ m. Twelve optical spark chambers were located inside the magnet, with each chamber having eight spark gaps (10 mm each). The chamber electrodes consisted of two layers of aluminum foil 14 microns thick. The photographs were taken through a special slit in the magnet yoke. A mirror system made it possible to obtain three stereoprojections of all of the chambers

1/2

USSR

18

BALOSHIN, O. N., et al., Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544 with one camera. The reaction was studied on the negative particle beam of the IFVE accelerator. The K^- -mesons were distinguished by a differential Cerenkov counter. The beam was focused on a liquid hydrogen target 40 cm long which was set approximately three meters from the first chamber of the spectrometer. Approximately $5 \cdot 10^7 K^-$ -mesons were passed through the equipment and 1020 photographs taken. Pairs of uniformly charged tracks were measured on the photographs. The measurement results were then processed on the Razdan-3 computer. Only 270 intersecting tracks were found. A graph is given for the differential cross section of the reaction. The results show that the cross section value of 7.4 ± 1.2 microbarns obtained by the authors in comparison to data obtained for lower energies elsewhere shows the logarithmic dependence of the charge exchange cross section on the pulse, equal to -1.58 ± 0.05 . The authors thank K. G. Borekov, A. M. Lapidus, S. T. Sukhorukov, and K. A. Ter-Martirosyan for their presentation of the computational results as the dependence of the differential cross section on pulse transfer (do/dt). This dependence is compared with predictions of the Regge pole model.

1/1

- 82 -

1/2 012 UNCLASSIFIED
TITLE--SPIN AND PARITY OF THE B MESON -U- PROCESSING DATE--23OCT70
AUTHOR--YEROFEYEV, I.A. X
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(4), 805-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ANGULAR DISTRIBUTION, CASCADE, RADIOACTIVE DECAY, MESON, PI
MESON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1033 STEP NO--UR/0367/70/011/004/0805/0809
CIRC ACCESSION NO--AP0124692
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANAL. OF THE ANGULAR DISTRIBUTIONS IN THE CASCADE DECAY B PRIME NEGATIVE YIELDS PI PRIME NEGATIVE OMEGA PRIMEO, OMEGA PRIMEO YIELDS PI PRIME POSITIVE PI PRIME NEGATIVE PI PRIMEO SHOWED THAT THE B MESON HAS J PRIMEP EQUAL TO EITHER 1 PLUS, 2 PLUS, 3 MINUS,..... A COMPARISON OF DATA WITH THAT OF OTHER WORK MAKES THE QUANTUM NO. 1 MORE PLAUSIBLE. A CALCN. OF THE AV. VALUE OF THE B MESON SPIN PROJECTION ONTO THE Z AXIS FOR THE QUANTUM NO. 1 PLUS GAVE THE RESULTS: MEAN VALUE OF J SUBZ PRIME2 PRIMEONE HALF EQUALS 1.38 PLUS OR MINUS 0.24. THIS ALIGNMENT OF THE B MESON IS DIRECTLY OPPOSITE TO THAT OBTAINED PREVIOUSLY (G. ASCOLI, ET AL., 1968) AND INDICATES A SHARP CHANGE IN THE BIRTH MECHANISM OF THE B MESON WITHIN THE PULSE INTERVAL OF THE IMPINGING PI PRIME NEGATIVE MESONS, 3.25-5.0 GEV-C.

FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED