PETRENKO, V.

20NH213/3 1c

Our Interviews

A LOOK INSIDE THE PLANET

V.Petrenko

That our planet is non-homogeneous radially--that is, from the earth's surface to the core centre--has been known for a long time. But scientists were also to know the degree of the Earth's uniformity in the lateral direction, or parallel to its surface. The point is that the processes occurring in the irregularities which arose in the body of the Earth as it was formed out of protoplanetary matter are one of the basic causes of the Earth's evolution and various tectonic phenomena in it (the rises and falls of the crust, crack formation, and fissuring).

Extensive research in this field has also been conducted for several years in our republic. Staff members of the Institute of Geophysics, Ukrainian Academy of Sciences, while studying gravity variations in different parts of the Ukraine, established very curious phenomena. Take, for example, the Ukrainian crystalline shield. It was found out that this section of the Earth's crust is not only thick in its geometry (the depth of the upper mantle border varies here from 35 to 50 kilometres), but also irregular in chemical composition, thermodynamic conditions--temperature, viscosity, etc. and also mobility. The central part of the shield has been registered to be rising by 10 millimetres a year, while its western part is sinking. But if we admit that such processes are under way all the time, then the central portion of the Ukrainian crystalline shield would in the past 500 million years have risen as high as to form mountains taller than the Himalayas, and the western part, on the contrary, would have formed extensive valleys and holes. But neither has happened, and scientists came to the conclusion that the lifting and sinking of the Earth's crust is alternating over a period of time. Since there is no full periodicity in these processes, they came to be known as quasi-periodic.

Simultaneously the scientists investigated the directions of maximum tidal slopes of the earth's surface. It may be recalled that the Sun and the Moon attraction acts not only on the seas and oceans of our planet (rising and falling tides), but also on its crust, thanks to which some of its patches develop a dip as they rise and sink regularly.

These phenomena entail so-called tidal variations in the force of gravity.

We asked ourselves: "Can't we measure the variations of gravity other than those of a tidal nature--ones associated with the physical and chemical processes taking place in the Earth's irregularities?" says Grigory Sobchar, Candidate of Geology and Mineralogy, senior scientific fellow in charge of the investigations.--For if the speeds of these processes differ, so must the force of gravity. The masses are redistributed--either due to the differentiation of the substance, or owing to its flowing from place to place--inflows and outflows in certain locations, or as a result of the incorporation of a denser matter from deeper interior into the earth's crust. It was clear that the more parameters were studied the more complete would be the picture.

We began our gravimetric measurements by moving from point to point by car, but, first, the scientists were tied to the roads, and, second, the speed did not satisfy them. The truth is that to obtain exact results it is necessary, after taking measurements at three points, to close the triangle covered by car as soon as possible. Of late geophysicists have been using MI-4 helicopters for these purposes. The Ukraine now has about 100 permanent gravimetric datum marks.

The studies of quasi-periodic variations in the force of gravity which involved the use of very precise instruments not only enabled scientists experimentally to confirm that the Earth's upper mantle is non-uniform laterally and that our planet is a more dynamic system than previously believed, but also to discover in the territory of the Republic the following irregularities: Central-Ukrainian, West-Ukrainian, East-Ukrainian, Donetsk, Crimean, Tetievskaya, Azov, Tendrovskaya, Zaporozhye, and Caprathian. All this will apparently give us a new insight into some aspects of the Earth's geological development.

(Pravda Ukrainy, February 1, 1972, in full.)

1/3 020 UNCLASSIFIED

TITLE--DIVERS, RESEARCHERS, SPORTSMEN AND MECHANICS -U- PROCESSING DATE--04DEC70

AUTHOR--PETRENKO, V.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA UKRAINY, AUGUST 19, 1970, P 4, COLS 1-7

DATE PUBLISHED--19AUG70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIVER, UNDERWATER RESEARCH LABORATORY, BIONICS, SCUBA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1762 STEP NO--UR/9013/70/000/000/0004/0004

CIRC ACCESSION NO--AN0138725

UNCLASSIFIED

2/3 020 UNCLASSIFIED

CIRC ACCESSION NO--AN0138725 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE UKRAINIAN DIVERS CLUB, "OKEANIYA", IS LOCATED IN KIYEV ON THE ULITSA CHELYUSHKINTSEV. ITS NAME PLATE READS, "THE ACADEMY OF SCIENCES, UK.S.S.R. THE UKRAINIAN ASSOCIATION FOR UNDERWATER ACTIVITIES THE "OKEANIYA". THE REPUBLICAN BOARD OF DIRECTORS". MEMBERS OF THE CLUB ARE ASSOCIATES OF THE UKRAINIAN ACADEMY, ENGINEERS, TECHNICIANS, WORKERS, DESIGNERS, OR STUDENTS. THE CHAIRMAN OF THE REPUBLICAN BOARD OF DIRECTORS IS VITALIY VLADIMIROVICH BAKROV. THE CLUB OFFERS ITS SERVICES TO HYDROBIOLOGISTS, GEOLOGISTS, CYBERNETICISTS, HYDROMECHANICS, BIOCHEMISTS, AND WELDERS. ONE GROUP, HEADED BY CANDIDATE OF BIOLOGICAL SCIENCES GEORGIY DONCHENKO, INVESTIGATED THE NORTHERN SECTION OF LAKE BAYKAL FOR THE INSTITUTE OF OCEANOLOGY OF THE ACADEMY OF SCIENCES, U.S.S.R., AND THE LIMNOLOGICAL INSTITUTE OF THE SIBERIAN BRANCH OF THE ACADEMY. ANOTHER GROUP UNDER VIKTOR TVERDOKHLEB WORKED IN THE SEA OF OKHOTSK WHERE THEY TRIED LOW TEMPERATURE DIVING TECHNIQUES AND STUDIED FLORA AND FAUNA. YEVGENIYA KUZ'MENKO, ANATOLIY MOZZHUNKIN, AND THEIR TEAMMATES SPENT TWO MONTHS ON THE COMMANDER ISLANDS HELPING THE KAMCHATKA BRANCH OF THE PACIFIC SCIENTIFIC RESEARCH INSTITUTE OF FISHERIES AND OCEANOGRAPHY. THE CLUB IS HELPING GEOPHYSICISTS INVESTIGATING THE ONESTR RIVER ESTUARY, AND SCIENTISTS WHO ARE STUDYING DOLPHINS AT THE HYDROBIONICS BASE OF THE UKRAINIAN ACADEMY, TENDEROVSKAYA KOSA IN THE BLACK SEA. IT ALSO CONTINUES SOME RESEARCH IN THE WHITE AND BARENTSEVO SEAS. THE CENTRAL LABORATORY FOR UNDERWATER RESEARCH OF THE "OKEANIYA" IS HEADED BY THE CANDIDATE OF MEDICAL SCIENCES VLADLEN KOZAK.

UNCLASSIFIED

3/3 020 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AN0138725

ABSTRACT/EXTRACT--THE LABORATORY HAS THREE SECTION: (1) MEANS OF PENETRATION, (3) UNDERWATER BIONICS AND PHYSIOLOGY, (3) LOCATOR INSTRUMENTS AND COMMUNICATION. THE LABORATORY HAS DESIGNED, CONSTRUCTED, AND TESTED AN APPARATUS FOR EXPLORING UNDERWATER COMMUNICATIONS. THE ODESSA BRANCH HAS DEVELOPED A NEW SCREWLESS PRIME MOVER. SCUBA DIVERS OF THE "OKEANIAY" INSPECT AND REPAIR UNDERWATER OIL LINES. THE ODESSA GROUP OF THE "OKEANIYA" DOES WORK FOR MANY DESIGNER PLANNING INSTITUTES. ITS TEAM, HEADED BY STANISLAV KLOCHKOV, IS CURRENTLY WORKING NEAR YEVPATORIYA.

UNCLASSIFIED

AN0036660

AUTHOR-- PETRENKO, V.

TITLE-- INSTITUTE OF NUCLEAR RESEARCH

NEWSPAPER-- PRAVDA UKRAINY, APRIL 7, 1970, P 4, COL 1

ABSTRACT-- THE PRESIDIUM OF THE UKRAINIAN ACADEMY OF SCIENCES HAS RESOLVED TO REORGANIZE NUCLEAR DEPARTMENTS OF THE INSTITUTE OF PHYSICS AS THE INSTITUTE OF NUCLEAR RESEARCH IN KIYEV. THE NEW INSTITUTE OF THE UKRAINIAN ACADEMY WILL CONDUCT RESEARCH IN THE AREAS OF NUCLEAR STRUCTURE, MECHANISMS OF NUCLEAR REACTIONS, NEUTRON SPECTROMETRY, NUCLEAR SPECTROMETRY, NUCLEAR ELECTRONICS, NUCLEAR REACTOR PHYSICS, THORIUM FUEL CYCLE, THE EFFECT OF IONIZED RADIATION ON REACTOR MATERIALS, AND ISOTOPE USES.

19721531

UNCLASSIFIED PROCESSING DATE--04DEC70

7/2 016

TITLE--COMPOSITION FOR PREPARING INVESTMENT CASTING PATTERNS -U-

AUTHOR-(03)-MARKON, L.O., SHEVCHENKO, A.F., PETRENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,816
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL COMPOSITION, WAX, METAL CASTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0845 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0131438

UNCLASSIFIED

2/2 016 UNCLASSIFIED

CIRC ACCESSION NO--AA0131438 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPD. HAS THE FOLLOWING PERCENT COMPN.: MONTAN WAX 9-11, ROSIN 9-11, POLYETHYLENE WAX 19-21, AND PARAFFIN THE REMAINDER. FACILITY: UKRORGSTANKINPROM UKRAINIAN STATE DESIGN TECHNOLOGICAL AND EXPERIMENTAL INSTITUTE.

UNCLASSIFIED

Analysis and Testing

UDC 669.218-621.775

USSR

BIBINOV, S. A., DZODZIYEV, G. T., VITRYANYUK, V. K., PETRENKO, V. D.,
Uzbek Refractory and Heat-Resistant Metals Combine, Kiev Polytechnic
Institute

"Expressed Determination of the Content of Total Carbon in Titanium Carbide"

Kiev, Poroshkovaya Metallurgiya, No 6, Jun 72, pp 102-104.

Abstract: The method for determination of the quantity of total carbon in titanium carbide suggested is based on the absorption of soft gamma-radiation by the specimen being analyzed. One of the most important specific features of this method is that the mass absorption factor for soft gamma-radiation is proportional to the fifth power of the atomic number of the absorber. The sensitivity of an experimental model of the device suggested was so great that the carbon content could be determined with an error of not over 0.15%. Three to five minutes are required for analysis. The specimens analyzed are not damaged.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CIRCULATING WATER SUPPLY AND CORROSION OF APPARATUS -U-

AUTHOR-(03)-PETRENKO, V.G., ANTONOV, A.V., MALUKHINA, V.L.

COUNTRY OF INFO--USSR

SOURCE--KOKS KHIM. 1970, (5), 49-53

DATE PUBLISHED-------70

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

TOPIC TAGS--CORROSION, PHOSPHATE, RIVER WATER, COKE, CHLORINATION, PITTING CORROSION, WATER PURIFICATION, BIOCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1211 STEP NO--UR/0068/70/000/005/0049/0053

CIRC ACCESSION NO--AP0138226

UNCLASSIFIED

2/2 · 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138226

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WATER SUPPLY SYSTEM OF A COKE CHEM. PLANT AND METHODS OF PURIFYING THE CIRCULATING WATERS (FILTERS FOR REMOVING SUSPENDED MATTER, PHOSPHATE TREATMENT, CHLORINATION) ARE DESCRIBED. THE CORROSION ACTIVITY OF THE VARIOS WATERS WERE DETD. UNDER INDUSTRIAL AND LAB. CONDITIONS. THE SEVEREST CORROSION WAS FOUND WITH CIRCULATING AND WITH RIVER WATER, SERIOUS PITTING BEING OBSD. WATER TREATED BY BIOCHEM. METHODS IS LESS CORROSIVE THAN RIVER WATER. FOR THE FINAL COOLING OF GASES, COOLING WATER COMPOSED OF CIRCULATING WATER IN AMT. FOR SYSTEM MAKEUP TOGETHER WITH RIVER WATER TREATED BIOCHEM. AFTER FILTER TREATMENT TO REMOVE THE SUSPENDED MATTER IS REVOMMENDED. REDN. OF RIVER WATER ADDN. INTO THE CIRCULATING COOLING WATER SYSTEM CAN BE ACHIEVED BY USING WASTE WATER FOR BIOCHEM. PURIFICATION. FACILITY: ORSKO-KHALILOVO MET. KOMB., USSR.

UNCLASSIFIED

PETRENKO, V. I.

XI. PLASMA DYNAMICS 191

Petrenko, V. I., R. V. Milin, Yu. R. Knyazev, and A. V. Zyyagintsev. High-current pulsed arc in hydrogen at pressures to 400 atmospheres. IN: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza. Kiyev, Izd-vo Naukova dumka, no. 1, 1971, 205-212.

Experiments in initiating a high pressure pulsed discharge in hydrogen to generate and investigate properties of a dense hydrogen plasma are discussed. The experimental device comprised a high-pressure discharge chamber, a thermo-compressor and condenser batteries. The discharge chamber was a thick-walled cylindrical metal vessel, designed for a maximum operating pressure of 1000 atm. The chamber had three diagnostic windows for conducting optical, photographic and other observations; chamber gas volume was about 1 liter. The thermocompressor maintained the required system pressure, and a liquid nitrogen coolant ensured a chamber hydrogen pressure of 500 atm. The pulsed discharge was initiated using a 0.7 mm copper wire between electrodes fitted with tungsten terminals as shown in Fig. 1. The condenser

Fig. 1. Discharge configuration
1 - tungsten inserts; 2 - textolite cap;
3,5 - electrodes; 4 - plasma

USSR

UDC 577.1:615.7/9

LIPKAN, G. N., and PETRENKO, V. S.

"Choice of Solvent in Primary Toxicological Evaluation of Chemical Substances"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 125-129 (from RZh-Biologicheskaya Khimiya, No 4, Feb 73, Abstract No 4 F1912)

Abstract: The toxicity of various organic solvents - acetone, methyl and ethyl alcohols, ethylene and propylene glycols - was studied in mice injected with these substances intraperitoneally and subcutaneously. The calculated LD_{50} are the basis of recommended amounts of the solvents that do not have toxic action and that can be used in primary toxicological studies on chemical compounds.

1/1

USSR

UDC 632.95

ODINTSOV, V. S., PETRENKO, V. S., TERTYSHNYY, V. N., KHARSUN, A. I.

"Enzymes -- Targets of Organophosphorous Insecticides in the Metamorphosis of Flies"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, vyp. 4, pp 26-28 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N474)

Translation: In order to discover the relation between the activity of esterases and the physiological activity of insecticides with respect to insects a study was made of the nature of the activity dynamics of acetylcholinesterase, carboxylesterase and arylesterase in larvae, pupae and winged houseflies during ontogenesis. The colorimetric hestrine method was used to establish the high activity of the three esterases in the given steps of metamorphosis. The weak physiological activity of organophosphorous compounds in the individual stages of metamorphosis, in particular, the pupae, is explained not by the absence of active enzymes -- targets -- but by a peculiarity of pupal metamorphosis (a nonfeeding phase) and the physical-chemical properties of the compounds. The necessity for using strongly fumigating organophosphorous insecticides for successful control of the pupae stage of development of insects is demonstrated.

Byelorussian SSR

UDC 621.73.043

SEVERDENKO, V. P., PETRENKO, V. V., and PETRENKO, S. I.

"On the Dimensions of Mosaic Units in Steel Types 20 and Kh18N10T after Ultrasonic Working"

Minsk, Vestsi Akademii Navuk BSSR, Series on Physical-Technical Sciences, No 2, 1973, pp 14 - 16

Abstract: The authors deformed samples of No 20 low-carbon steel and Kh18N10T stainless steel with dimensions of 6 x 9 millimeters in a 5-ton press, both without the application of ultrasonics and with ultrasonics at a natural resonant frequency of 19 kilohertz and intensities of 50, 650, and 700 watts per square centimeter. X-ray methods were then used to determine the dimensions of mosaic units in the centers of the samples. As expected, the dimensions of these units decreased with increasing deformation. However, the decreases were less as greater amounts of ultrasonic energy were applied. There was also a significant decrease in the crystal lattice defects of the alloys subjected to ultrasonic energy, which the authors believe reflects the fact that the groups of atoms moving in the deformation process have linear dimensions smaller than the dimensions of the mosaic units, so that there is less elastic deformation of volume elements when obstructions are encountered.
1/1

USSR

UDC 547.944/945 + 541.138

UDOVIKO, YE. A., POKHMELKINA, S. A., and PETRENKO, V. V., Zaporozhe State Medical Institute

"Electrochemical Extraction of Tropan Alkaloids From the Plant Material"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 3, 1972, pp 334-336

Abstract: Electrochemical method was used for isolation of tropane group of alkaloids from Altropa Belladonna (Z.), Datura Stramonium (Z.), and Scopolia Carniolica (obreru). During electrolysis of these extracts tropane alkaloids accumulate in the liquid around the cathode, the area becomes alkaline, the pH changing from 6 to 11, retarding the accumulation of alkaloids. Therefore the medium has to be acidified, to get complete extraction. No accumulation of the alkaloid is observed in the liquid around the cathode without the application of current (by dialysis alone). The alkaloid content in the cathode liquid depends on the duration of the electrolysis - increasing with time - and is inversely proportional to current density; the optimal current densities for the process are rather low, ranging from 10 to 30 a/m^2.

1/1

1/2 060 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CHANGE IN THE DUCTILITY AND MICROHARDNESS OF PARTS STAMPED AFTER ULTRASONIC TREATMENT -U-

AUTHOR-(02)-SEVERDENKO, V.P., PETRENKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. AKAD. NAUK BELORUSS. SSR, 1970, (FIZ. TEKHN.), (1), 86-87

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL MICROHARONESS, DUCTILITY, ULTRASONIC IRRADIATION, RADIATION EFFECT, COPPER, METAL STAMPING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0156 STEP NO--UR/0201/70/000/001/0086/0087

CIRC ACCESSION NO--AP0129412

UNCLASSIFIED

2/2 060 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129412

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PRINCIPLES UNDERLYING THE STAMPING OF METAL PARTS AFTER TREATMENT IN AN ULTRASONIC FIELD ARE DISCUSSED WITH SPECIAL REF. TO THE EFFECT OF ULTRASOUND ON THE MICROSTRUCTURE AND DUCTILITY OF THE MATERIALS. THE DUCTILITY OF CU PARTS SUBJECTED TO ULTRASOUND INCREASES SHARPLY ON SUBSEQUENT STAMPING; THE MICROHARDNESS DIMINISHES UNIFORMLY OVER THE WHOLE SAMPLE, AND NONUNIFORMLY OF DEFORMATION OVER THE CROSS SECTION OF THE PARTS IS ALMOST ENTIRELY ELIMINATED.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--INHIBITION OF MARTENSITIC TRANSFORMATION IN STEEL KH18N10T DURING PLASTIC DEFORMATION WITH SUPERIMPOSED ULTRASONIC VIBRATIONS -U-

AUTHOR-(03)-SEVERDENKO, V.P., PETRENKO, V.V., PETRENKO, S.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(2), 122-4

DATE PUBLISHED--------70

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

TOPIC TAGS--PLASTIC DEFORMATION, STAINLESS STEEL, ULTRASONIC VIBRATION, ALLOY DESIGNATION, MARTENSITIL TRANSFORMATION, METALLOGRAPHY, MAGNETIC SATURATION, FERROMAGNETISM/(U)KH18N10T STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0224 STEP NO--UR/0250/70/014/002/0122/0124

CIRC ACCESSION NO--AT0106548

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--020CT70

2/2 037

CIRC ACCESSION NO--AT0108548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN SAMPLES OF STEEL KH18N10T DEFORMED WITH SUPERIMPOSED ULTRASONIC VIBRATION, THE MAGNETIC SATN. CURVE IS ALMOST INDEPENDENT OF THE DEGREE OF STRAIN WHICH PROVES THE ABSENCE OF THE FORMATION OF LARGE AMTS. OF FERROMAGNETIC ALPHA-PHASE IN THE DEFORMED STEEL. THIS IS EXPLAINED BY HIGHER TEMPS. IN THE DEFORMATION WITH SUPERIMPOSED ULTRASOUND. AT THESE TEMPS. THE MARTENSITIC TRANSFORMATION IS SUPPRESSED. THIS WAS CONFIRMED BY THE METALLOGRAPHIC EXAMN. OF POLISHED SAMPLES DEFORMED WITH AND WITHOUT ULTRASONIC VIBRATIONS.

UNCLASSIFIED

UDC 636.083.37

USSR

KARANFILOV, N. I., Chairman of Kolkhoz imeni M. V. Frunze, Ovidiopol'skiy Rayon, Odesskaya Oblast, Honored Veterinarian, Ukrainian SSR, FAYTEL'BERG, R. Q., Doctor of Medical Sciences, TKACHENKO, G. P., Candidate of Biological Sciences, Senior Scientific Associate, Odessa State University imeni M. I. Mechnikov, MEDVEDEVA, Ye. I., Doctor of Biological Sciences, PANCHENKO, K. A., PETRENKO, Ye. V., LUKINA, G. D., Senior Engineers, BOYKO, L. I., and SELICH, Ye. F., Engineers, Odessa Technological Institute of the Food Industry imeni M. V. Lomonosov

"The Effect of a Preparation Obtained From Algae (Phyllophora) Upon the Weight Gains and Blood Composition of Calves"

Moscow, Zhivotnovodstvo, No 3, Mar 72, pp 82-83

Abstract: A valuable preparation containing amino acids and peptides has been developed from industrial Phyllophora waste by the Odessa Technological Institute of the Food Industry (Author's Certificate No 287959). Employed as a fodder supplement, 4.5 kg of the preparation yield an incremental weight gain of 11.43 kg, in other words, 2.54 kg of meat for each kilogram of the preparation, which costs less than 30 kopeks. The erythrocyte number of the calves increases, as does the hemoglobin content and the total protein content. Additional testing is recommended.

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REFINING OF LINSEED OIL -U-

AUTHOR-(05)-ARTYUNYAN, N.S., ARISHEVA, YE.A., LITVINOVA, YE.D., PETRENKO, YU.A., MNUKHIN, U.YU.

COUNTRY OF INFO--USSR

SOURCE--MASLO-ZHIR. PROM. 1970, 36(3), 19-21

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--WOOD CHEMICAL PRODUCT, CHEMICAL PURIFICATION, OPTIC PROPERTY, TEST METHOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1561 STEP NO--UR/9085/70/036/003/0019/0021

CIRC ACCESSION NO--AP0118544

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REFINING OF LINSEED OIL, CONSISTING OF TREATING WITH ACIDS, NEUTRALIZATION WITH NAOH (80 G-L.), AND TREATING WITH ACTIVATED BLEACHING CLAY WAS EXPTL. INVESTIGATED WITH SPECIAL EMPHASIS ON ACID TREATMENT. A COMPARISON WAS MADE BETWEEN REFINING INCLUDING TREATMENT WITH ACIDS, AND REFINING WITHOUT ACIDS. PRELIMINARY TREATMENT OF 3 LINSEED OIL TYPES (PREPD. FROM FLAX FOR SPINNING, FROM FLAX FOR OIL PREPN., AND FROM A FLAX MIXT.) WITH 0.2PERCENT (BASED ON THE AMT. OF OIL) 85PERCENT H SUB3 PO SUB4 OR 93PERCENT H SUB2 SO SUB4 OR WITH THEIR DIL. SOLNS. PROVIDES BETTER ELIMINATION OF PHOSPHATIDES AND AN IMPROVEMENT IN OIL APPEARANCE (LOWER COLOR) AND ITS THERMAL TESTING COMPARED WITH AN UNTREATED OIL SAMPLE.

FACILITY: KRASNODAR. POLITEKH. INST., KRASNODAR, USSR.

UNCLASSIFIED

II. Combinatory Analysis and Graph Theory
A. General Combinatory Analysis Theory

USSR

PETRENYU, A. Ya.

"Non-Isomorphicity Characteristics of Systems of Steiner Triads"

Ukr. Mat. Zh. [Ukrainian Mathematics Journal], 1972, Vol 24, No 5, pp 772-780 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V398, by the author).

Translation: A method is suggested for construction of systems of Steiner triads, consisting in that the set of triads present in a given system is replaced by a set equivalent to it in its content of pairs of elements of the main set. Furthermore, a method is described for establishing the nonisomorphicity of systems of Steiner triads using tables of invariants. 20 biblio. refs.

1/1

USSR

UDC: 519.1

KOPYLOVA, A. N., PETRENYUK, A. Ya.

"Combinatorial Mathematics at Moscow State University"

Moscow, Kombinator. analiz--sbornik (Combinatorial Analysis--collection of works), vyp. 2, 1972, pp 106-109 (from RZh--Kibernetika, No 5, May 73, abstract No 5V412)

Translation: A report on a research seminar in combinatorial analysis which has been in progress for the last few years at Moscow State University under the direction of K. A. Rybnikov. Titles and brief annotations are given on some of the reports made in 1970-1972.

1/1

USSR

NEPOROZHNEV, I. P., PETRENYUK, A. Ya.

"Constructive Denumeration of Systems of Groups of Pairs and Subdivided Systems of Steiner Triads"

Kombinator. Analiz. [Combinatorial Analysis -- Collection of Works], No 2, Moscow, 1972, pp 17-37 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V335, by V. Tarakanov).

Translation: A system of groups of pairs $\Pi_{2\mu}$ of order 2μ refers to a subdivision of the set of disordered pairs of elements from set F of thickness 2μ into groups of pairs such that each element from F belongs to exactly one pair of each group. An algorithmic method of construction of all systems of nonisomorphic groups of pairs of a fixed order is described; the systems of groups of pairs $\Pi_{2\mu}$ and $\Pi'_{2\mu}$, constructed in sets F and F' respectively, are called isomorphic if there is a mutually unambiguous correspondence $\phi: F \to F'$, for which each group of pairs $\Pi_{2\mu}$ corresponds to a certain group of pairs from $\Pi'_{2\mu}$. The basic tools used in this construction are the tables of invariants and diagrams introduced by the authors. If $\Pi_{2\mu}$ consists of the

USSR

Neporozhnev, I. P., Petrenyuk, A. Ya., Kombinator. Analiz., No 2, Moscow, 1972, pp 17-37.

systems $\Sigma_1, \ldots, \Sigma_{2\mu-1}$, graph G_{ij} is constructed, the points of which are elements from F, while the lines are elements from $\Sigma_i \cup \Sigma_j$ ($i \neq j$, $1 \leq i, j \leq 2\mu - 1$). This graph is nothing other than a set of nonintersecting cycle. The type of interweaving of groups of pairs Σ_i and Σ_j refers to the symbol $(s_1^{r_1}, \ldots, s_m^{r_m})$, where $0 < s_1 < \ldots < s_m$, $r_i > 0$, $i = 1, \ldots, m$; this symbol expresses the fact that G_{ij} consists of r_k cycles of length $2s_k$, $\Sigma r_k s_k = \mu$. The invariant table for certain set of groups of pairs is a full summary of the types of interweavings of each of the groups of pairs in the given set with all others. Obviously, two sets with different invariant tables are not isomorphic. However, coincidence of invariant tables still does not provide isomorphism of two sets of groups of pairs. Therefore, in the case of coincidence, a more precise method of differentiation is used -- the method of diagrams, which transform one into another, if the systems of groups of pairs are isomorphic. A list (incomplete) is presented of 120 systems Π_{10} of groups of pairs of order 10, not isomorphic in pairs, produced by application of the method found by the authors. Applications are also indicated,

USSR

Neporozhnev, I. P., Petrenyuk, A. Ya., Kombinator. Analiz., No 2, Moscow, 1972, pp 17-37.

in the calculation of nonisomorphic systems of Steiner triads Δ_{2t+1} of order $2t + 1$, each containing a subsystem of Steiner triads Δ_t or order t (such systems of triads are called subdivided).

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ON THE COLOURATION OF A TORUS LATTICE -U-

AUTHOR--PETRENYUK, A.YA.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK MOSKOVSKOGO UNIVERSITETA, MATEMATIKA, MEKHANIKA, 1970, NR 1, PP 3-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--MATRIX FUNCTION, SEQUENCE, COLOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0566 STEP NO--UR/0055/70/000/001/0003/0007

CIRC ACCESSION NO--AP0117796

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117796

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS PAPER A FORMULA IS DERIVED FOR THE NUMBER TAU(P, Q. S) OF DIFFERENT COLOURINGS OF THE SET OF VERTICES OF A TORUS LATTICE WITH S COLOURS AND ALSO FORMULAS ARE OBTAINED FOR THE NUMBER TAU(P, Q; R SUB1, ..., R SUBS) OF SUCH COLOURINGS WHEN EXACTLY R SUBI VERTICES ARE COLOURED WITH THE COLOUR A SUBI (I EQUALS 1, ..., S). THE PARAMETERS P AND Q ARE ODD PRIME NUMBERS. POLYA'S METHOD IS USED.

UNCLASSIFIED

USSR UDC 616.993.192.1-021.5-085.357.453.015.2:615.282.612.1/-07:/
616.454616.839-008./

PETRENYUK, L. M., Chair of Hospital Therapy, Lugansk Medical Institute
"Treatment of Patients With Chronic Aquired Toxoplasmosis"

Moscow, Klinicheskaya Meditsina, Vol 49, No 4, Apr 71, pp 116-121

Abstract: Treatment with chemotherapeutics is not sufficiently effective in chronic acquired toxoplasmosis. Hospital therapy was applied for 1 month in which treatment with pipolphen, chloridine, sulfadimezin, and vitamins B_1, B_{12}, and C was combined with the administration of toxoplasmin and prednisolone. During the subsequent 3-4 mos, ambulatory treatment with pipolphen, toxoplasmin, delagil (quinganine) instead of prednisolone, and multivitamins was applied. As distinguished from conventional therapy with chloridine, sulfadimezin, and vitamins, the treatment comprising administration of prednisolone and toxoplasmin completely restored the functioning of the adrenal cortex and the sympathic-adrenal system. The patients treated by the new method experienced a marked subjective improvement and, in the majority of cases, showed negative results in the toxoplasmin allergy test and the complement fixation reaction.

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USSR

UDC 669.18:669.046.5

MELEZHIK, V. D., PETRICHENKO, A. G., KHITRIK, S. I., LYSENKO, I. V., and POLYANSKIY, V. I.

"Investigation of Ferrosilicon From Kaolins for Deoxidation of Pipe Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 15-16

Abstract: Data are given on the use of ferrosilicon from kaolin for the deoxidation of low-carbon pipe steels. The procedure for the production of ferrosilicon from secondary kaolins from the Cherkassk region of the Ukrainian SSR, and experimental meltings in 300-ton-capacity Martin furnaces using ferrosilicon for preliminary deoxidation reduce the expenditure of carbon ferromanganese and 45% ferrosilicon, thus reducing the cost of melting steel. In spite of the high phosphorus content in kaolin ferrosilicon (03%), its use does not increase the phosphorus content in the metal. Steel deoxidation by kaolin ferrosilicon does not involve additional contamination by nonmetallic impurities.

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Scientific Translation Service
30 March 1973

PETRICHENKO, A.M.

UDC 669.017

EFFECT OF THE EXTENT OF INITIAL STATE NON-EQUILIBRIUM ON THE STARTING TEMPERATURE OF THE GAMMA-TO-ALPHA TRANSFORMATION IN STEELS

V. P. Tarabanova, S. S. Dyachenko, and A. M. Petrichenko, Khar'kov Motor Vehicle-Road Institute, submitted to press 10 November 1971, final version 21 April 1972 Pages 1205-1212

A decrease in the temperature of the beginning of the $\alpha \longrightarrow \gamma$ transformation in steels with non-equilibrium structures was observed, which is explained by the increase of the free energy of the object in the origin of defects of the crystalline structure in it. The density of dislocation causing the decrease in temperature of the beginning of the formation of austenite below the "equilibrium" critical point Ac_1 was estimated.

It is known that the beginning of imperfections essentially affect the kinetics and temperature characteristics of polymorphic transformation. Thus, in reference [1], a decrease in the temperature of the polymorphic transformation $\alpha \longrightarrow \beta$ is observed in cristobalite with an increase in the density of the defect. On the contrary, in whiskers of zinc sulfide [2] and iron [3] an increase in the temperature of the phase transition was noted. As for the variation of the position of the critical points in the heating of steel, as a function of the initial state, this problem so far remains a matter for discussion. Some researchers have noted a decrease in the temperature Ac_1 in the heating of steels with non-equilibrium structures [4--6]. In later investigations, in conditions of fast heating, no decrease in the critical point below the "equilibrium" position was observed in the variation of the initial state of the steel [7]. At the same time, the theoretical analysis of the variation of the free energy of the phases under the effect of defects in the crystalline structure testifies to the fact that the temperature of the phase transition in non-equilibrium objects must vary

* [$\alpha \longrightarrow \gamma$ indicated throughout article. Error probable in title.]

[1, 8]. The introduction of defects of the crystalline structure in to the body leads to an irreversible increase in the free energy of the object, which may be described within the framework of conventional thermodynamic presentations by a certain additional term, predetermined by the number and chemical potential of the imperfection [9]. In this case the condition of phase equilibrium acquires the form

$$F_1 + U_1 = F_2 + U_2, \qquad (1)$$

where F_1 and F_2 represent the free energies of the phases in equilibrium crystals ("chemical" free energies); u_1 and u_2 are the energies introduced into phases 1 and 2 by imperfections of the crystalline structure.

The increase in the free energy of the system with the introduction of imperfections into it changes the conditions of the formation of the nucleus of the new phase, which not only may affect the kinetics of the phase transformations, but also cause a phase transition not realized at the given temperature in equilibrium crystals analogous to what occurs in bodies with high values of surface energy [10]. As a matter of fact, the phase transition 1 → 2 will occur if

$$F_2 + U_2 < F_1 + U_1. \qquad (2)$$

From expression (2) it follows that if even the chemical free energy $F_1 < F_2$, that is, in equilibrium conditions phase 1 is stable, in a crystal containing imperfections the free energy of phase 1 may turn out to be higher than in phase 2, which causes the occurrence of a phase transformation.

From general considerations, the principles indicated must also be applied to the formation of austenite in the heating of steels, which gives grounds to expect not only variations of the kinetic parameters $\alpha \rightarrow \gamma$ of the transformation in objects with a non-equilibrium structure, but also shifts of the transformation temperature. This work is devoted to the study of this problem.

The basic material for the investigation was steel 20. The following variations of the initial state were selected: (1) hardening in water at 880°C; (2) annealing to lamellar perlite; (3) deformation by cold rolling (ε ~50%) of the steel annealed to lamellar perlite; (4) powder filed from hardened steel.

USSR

UDC 669.71.042.6

LIKHACHEV, R. B., PETRICHENKO, A. M.

"Kinetics of Shrinkage of Aluminum Alloys in Liquid and Liquid-Solid States"

Usadochn. protessy v splavakh i otlivkakh -- V sb. (Shrinkage Processes in Alloys and Castings -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 251-253 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G190)

Translation: A study of alloy shrinkage and also the development of measures to control defects of shrinkage origin are basic areas in the theory and practice of casting. A procedure for studying the shrinkage of aluminum alloys during the crystallization process is discussed. There are 2 illustrations.

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USSR

UDC 669.71.042.6

PETRICHENKO, A. M., KRYLOV, V. I.

"Effect of the Thermal State of the Metal Die Pressure Cast Mold on Shrinkage and Dimensions of Castings from Aluminum Alloys"

Usadochn. protessy v splavakh i otlivkakh -- V sb. (Shrinkage Processes in Alloys and Castings -- collection of works), Kiev, Naukova dumka Press, 1970, pp 304-306 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G184)

Translation: The thermal operation of a metal die pressure cast mold is described on the basis of research results. The optimal conditions are determined for it from the point of view of improving precision of the castings and insuring high output capacity of the pressure casting machines. There are 2 illustrations.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DEPENDENCE OF THE CAST IRON FLOW FACTOR ON THE GEOMETRY OF CASTING CHANNELS OF A MOLD -U-

AUTHOR-(04)-PETRICHENKO, A.M., GLIZER, Z.KH., GOLDMAKHER, P.E., LUKASHCHUK, T.I.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, 2, 30-1

DATE PUBLISHED-------70

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

TOPIC TAGS--CAST IRON, FOUNDRY TECHNOLOGY, FERROUS LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1376 STEP NO--UR/0128/70/002/000/0030/0031

CIRC ACCESSION NO--AP0116825

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPTL. MOLD ALLOWING A SIMULTANEOUS OUTFLOW OF MOLTEN IRON THROUGH 4 CHANNELS HAS BEEN USED TO DET. THE INFLUENCE OF THE SHAPE OF THE CHANNEL CROSS SECTION ON THE FLOW FACTOR. A FLAT CHANNEL WITH A PLANE UPPER SURFACE AND A CYLINDRICAL BOTTOM ONE, FORMED WITH A LARGE RADIUS, SHOWS THE HIGHEST FLOW FACTOR (0.61-0.68), LEAST AFFECTED BY VARIATIONS OF THE METAL TEMP. EXPTS. WITH RECTANGULAR SECTIONS SHOW THAT MAX. FLOW IS OBTAINED WHEN THE WIDTH TO HEIGHT RATIO IS 3:1. APPROACHING A SQUARE CROSS SECTION CAUSES THE FLOW FACTOR TO FALL.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--CHROMIUM AND SILICON WELDING ELECTRODES I10 -U-

AUTHOR-(03)-PETRICHENKO, A.M., VERETNIK, L.O., RYUMIN, G.V.

COUNTRY OF INFO--USSR

SOURCE--SVAR. PROIZVOD. 1970, (1), 43

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--WELDING ELECTRODE, WEAR RESISTANT FERROUS ALLOY, HIGH CARBON STEEL, ALLOY STEEL, FERROUS WELD HEAT TREATMENT, CHROMIUM STEEL, SILICON STEEL/(U)I10 WELDING ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0769 STEP NO--UR/0135/70/000/001/0043/0043

CIRC ACCESSION NO--AP0102732
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102732

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NEW ELECTRODES ARE DESTINED FOR WELDING MACHINE COMPONENTS EXPOSED TO ABRASION. THE METAL WELDED BY ELECTRODES HAS THE COMPN. C 1.0-1.5, CR 4.5-6, SI 2.0-2.2, MO 0.6-0.7, TI 0.6-0.7, AND MN 0.8-1PERCENT. THE I10 ELECTRODE CONSISTS OF A STEEL CORE (SW-0.8 STEEL) WITH A SPECIAL COVER. THE WELDED COMPONENTS SHOULD BE HARDENED AND THEN TEMPERED. OPTIMUM HEATING IS UP TO 1000DEGREES, AND COOLING IN OIL. THE HARDNESS OF A THUS OBTAINED WELDED METAL IS HRC 60-2 (WITHOUT THERMAL TREATMENT 45-52).

UNCLASSIFIED

USSR UDC 620.179.18

KHEYFETS, YU. I., PETRIK, A. A.

"Nondestructive Control of the Depth of the Nitrated Layer in Nonmagnetic Steels"

Sverdlovsk, Defektoskopiya, No 1, 1972, pp 130-132

Abstract: A newly developed method for the nondestructive control of a nitrided layer of nonmagnetic steels was investigated on valve stems (14 mm in diameter) of 4Kh14N14V2M steel. The control device consists of a modified IE-1 electric conductivity meter. A diagram shows the control of valves for 40-150 μA indicator readings as a function of 0.04-0.15-mm nitrided layer depths. A great number of control checkings revealed that the error did not exceed 0.01 mm of the nitrided layer depth values determined metallographically. 3 illustrations, 7 bibliographic references

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1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--THE FIRST RESULTS OF DEEP SEISMIC SOUNDING IN THE BAIKAL RIFT ZONE -U-

AUTHOR--KRYLOV, S.V., MISHENKIN, B.P., KRUPSKAYA, G.V., PETRIK, G.V., YANUSHEVICH, T.A.

COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA I GEOFIZIKA 1970, NR 1 (121) PP 84-91

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--SEISMIC SOUNDING, EARTH CRUST, SEISMIC WAVE, MOHOROVICIC DISCONTINUITY, ELASTIC WAVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1290 STEP NO--UR/0210/70/000/001/0084/0091

CIRC ACCESSION NO--AP0103172

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103172

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FIRST RESULTS OF STUDY OF THE EARTH'S CRUST OF BAIKAL RIFT ZONE AND SOUTHERN END OF THE SIBERIAN PLATFORM, CARRIED OUT BY THE PUNCTATE SOUNDING METHOD USING THE WAVES OF DIFFERENT TYPES ARE LISTED IN THE PAPER. THE CHANGES OF SEISMIC DISCONTINUITIES RELIEF, INCLUDING THE MOHO AND ALSO ELASTIC WAVES VELOCITIES ALONG THE ROUTE OF STUDY ARE REPRESENTED IN THE SUMMARY SECTION OF THE EARTH'S CRUST. IT IS ESTABLISHED THAT THE MOHO DISCONTINUITY IN BAIKAL RIFT ZONE IS CHARACTERIZED BY DECREASED VALUES OF ELASTIC WAVES VELOCITIES. "THE ROOT" AND "ANTIROOT" ARE ABSENT IN THE RELIEF OF THE EARTH'S CRUST BASEMENT.

UNCLASSIFIED

1/2 049 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--OZHEZKAZGAN ORBITA STATION NOW EQUIPPED TO RECEIVE COLOR TV -U-

AUTHOR--PETRIK, K.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA, 7 MAY 1970, P 3

DATE PUBLISHED--07MAY70

SUBJECT AREAS--NAVIGATION, SPACE TECHNOLOGY

TOPIC TAGS--SPACE COMMUNICATION SITE, COMMUNICATION SATELLITE, GROUND COMMUNICATION EQUIPMENT, COLOR TV, COMMUNICATION NETWORK/(U)ORBITA STATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1721 STEP NO--UR/9003/70/000/000/0003/0003

CIRC ACCESSION NO--AN0131987

UNCLASSIFIED

2/2 049 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131987

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DZHEZKAZGAN HAS BEEN INCLUDED AS ONE OF THE FIVE CITIES IN THE COUNTRY (WITH NOVOSIBIRSK, KHABAROVSK, KRASNOYARSK AND MAGADAN) IN THE LONG RANGE PLAN FOR THE DEVELOPMENT OF COLOR TELEVISION IN THE USSR. WORKERS HAVE JUST COMPLETED RECONSTRUCTION OF THE LOCAL "ORBITA" STATION WHICH WILL PERMIT IT TO RECEIVE COLOR TELEVISION PROGRAMS. ADDITIONAL EQUIPMENT WILL BE INSTALLED AT THE LOCAL RADIO TELEVISION TRANSMITTING STATION. BY THE END OF THE YEAR DZHEZKAZGAN RESIDENTS WILL BE ABLE TO WATCH COLOR BROADCASTS.

UNCLASSIFIED

USSR

UDC: 621.3.0888

VALITOV, R. A., BUYNYAVICHYUS, V. V., PETRIKIS, S. S.

"Correlation Measurements and Experimental Determination of Errors"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 29-31 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A300)

Translation: The authors note the importance of correlometers and the necessity for checking their errors with respect to three types of measurements: 1) the coefficient of mutual correlation in the case of zero delay; 2) determination of the correlation function or its envelope; 3) determination of decorrelation. A block diagram is given of a two-channel signal generator for determining errors of the first and third types. A method is also given for determining errors of the second type, a process which is in general more complicated than for the other types. E. L.

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1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PROTOLYTIC REACTIONS AND ANALYTICAL PROPERTIES OF PHENYLANTHRANILIC ACID -U-

AUTHOR-(04)-FRUMINA, N.S., PETRIKOVA, K.G., TREGUB, YE.G., PLETNEV, S.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 434-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ABSORPTION SPECTRUM, PROTON, AMINE, BENZOIC ACID, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1127 STEP NO--UR/0075/70/025/003/0434/0439

CIRC ACCESSION NO--AP0128554

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128554

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXISTENCE LIMITS OF MOL. AND IONIZED FORMS OF PHENYLANTHRANILIC ACID (I) WERE ESTABLISHED BY STUDYING THE ABSORPTION SPECTRA OF I. THE REDOX POTENTIAL OF I WAS MEASURED OVER A WIDE ACIDITY RANGE AND ITS CHANGE IN RELATION TO THE PROTOLYTIC I REACTIONS WAS ESTABLISHED. DURING PROTONATION, THE P ELECTRONS OF THE N ATOM ARE IMMOBILIZED, RESULTING IN A CHANGE IN THE SPECTRUM. COMPARISON OF THE SPECTRA OF PH SUB2 NH AND I INDICATE THAT THE LONG WAVE BAND IN THE SPECTRUM OF THE LATTER IS LINKED TO THE PRESENCE OF AN ELECTRON ACCEPTOR SUBSTITUENT, THE CARBOXYLIC GROUP, AND THE GRADUAL DISAPPEARANCE OF THIS BAND DURING PROTOLYSIS INDICATES A CHANGE IN THE ELECTRON DISTRIBUTION IN THE MOL. AS A RESULT OF THE FORMATION OF A 2ND ELECTRON ACCEPTING GROUP (PROTONIZED N). THE SOLY. DATA AND ABSORPTION SPECTRA WERE USED TO CALC. THE ACID DISSOCN. AND THE PROTONATION CONSTS. OF I: PK SUBDISSOLN. 3.99 PLUS OR MINUS 0.028 AND PK SUBPROT MINUS 1.35 PLUS OR MINUS 0.065, RESP. FACILITY: SARATOV STATE UNIV., SARATOV, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ULTRAMICROMETHODS OF CHEMICAL ANALYSIS. 12. REFERENCE PALLADIUM HYDROGEN MICROELECTRODE FOR TITRIMETRIC DETERMINATIONS -U-

AUTHOR-(02)-ALIMARIN, I.P., PETRIKOVA, M.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 213-15

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL ANALYSIS, PALLADIUM, METAL ELECTRODE, HYDROGEN, POTENTIOMETRIC TITRATION, ZINC, IRON, CHROMIUM, INDIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2180 STEP NO--UR/0075/70/025/002/0213/0215

CIRC ACCESSION NO--AP0125760

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 021

CIRC ACCESSION NO--AP0125760

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF A NEW PD-H REF. MICROELECTRODE IS SUGGESTED FOR TITRIMETRIC ULTRAMICRODETNS. THE MICROELECTRODE CONSISTS OF A PD WIRE, 0.2-0.3 MM THICK AND 10 MM LONG, NHOSE END (2-3 MM) IS PALLADIZED ELECTROLYTICALLY IN 0.3-0.5PERCENT PDCL SUB2 IN 1N HCL. THEN THE PD IS SATD. WITH H IN 2N H SUB2 SO SUB4. POTENTIOMETRIC DETNS. OF 10 PRIME NEGATIVE9-10 PRIME NEGATIVE8 G OF SOME ELEMENTS, FE PRIME2 POSITIVE, CR PRIME6 POSITIVE, ZN PRIME2 POSITIVE, IN PRIME3 POSITIVE CAN BE CARRIED OUT BY THE OXIDN. REDN. AND PPTN. METHODS FROM A VOL. OF 3-4 MU L. FACILITY: INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 047 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--CELLULAR MATERIALS BASED ON HOLLOW GLASS MICROSPHERES AND POLYMER BINDERS -U-

AUTHOR-(03)-KRASNIKOVA, I.V., PETRILENKOVA, YE.B., PARSHINA, N.K.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 45-6

DATE PUBLISHED--------70

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

TOPIC TAGS--IMPACT STRENGTH, EPOXY RESIN, POLYMER BINDER, GLASS, DIELECTRIC PROPERTY, PLASTIC MECHANICAL PROPERTY, INSULATING MATERIAL, SHIPBUILDING ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1098 STEP NO--UR/0191/70/000/003/0045/0046

CIRC ACCESSION NO--AP0128525

UNCLASSIFIED

2/2 047 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES AND USES OF HIGH,IMPACT CELLULAR MEATERIALS EDS (PREPD. FROM EPOXY RESIN BINDERS AND HOLLOW GLASS BEADS) ARE DESCRIBED. EDS EXHIBITED SUPERIOR PHYSICOMECH., THERMAL. AND DIELEC. PROPERTIES, AND A LOW H SUB2 O ABSORPTION UNDER ATM. OR HYDROSTATIC PRESSURES. EDS IS USEFUL AS SOUND AND HEAT INSULATOR, AND FOR THE CONSTRUCTION OF MARINE BOATS.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PROPERTIES OF THE OLIGOESTER ACRYLATE MGF-9 HARDENED WITHOUT HEATING -U-

AUTHOR-(03)-PETRILENKOVA, YE.B., ORLOVA, L.V., STRIKOVSKAYA, G.G.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 48-9

DATE PUBLISHED-------70

SUBJECT AREAS--AERONAUTICS

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, GLASS FIBER, REINFORCED PLASTIC, FOAM PLASTIC, P LASIC CONCRETE, CHEMICAL REACTION RATE, POLYMERIZATION, PEROXIDE, CATALYST, ESTER, POLYMER BINDER/(U)MGF9 BINDER FIBER GLASS PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1700 STEP NO--UR/0191/70/000/002/0048/0049

CIRC ACCESSION NO--AP0112694

UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112694

ABSTRACT/EXTRACT--(U) GP-0- ABSRACT. OLIGOESTER ACRYLATE MGF-9 (I) WAS HARDENED AT ROOM TEMP. IN THE PRESENCE OF 2-5 PARTS CUMENE HYDROPEROXIDE (II) AND ACCELERATOR K FOR 2-28 DAYS. II AFFECTED THE HARDENING RATE ONLY DURING THE INITIAL 5 HR, THEREAFT ER HE POLYMN. OCCURRED AT A CONST. RATE AND WAS COMPLETED AFTER 5-7 DAYS. THE HARDENED I EXHIBITED SUPERIOR PHYSICOMECH. PROPERTIES AND WAS USED AS A BINDER FOR GLASS FIBER REINFORCED PLASTICS, FOAMS, AND PLASTIC CONCRETES. T

UNCLASSIFIED

USSR

UDC 678.643'42'5-405.8.01:53

KRASNIKOVA, T. V., PETRILENKOVA, E. B., PARSHINA, N. K..(Deceased)

"Foam Materials Composed of Hollow Glass Microspheres and Polymeric Binders"

Moscow, Plasticheskiye Massy, No 3, 1970, pp 45-46

Abstract: Small hollow glass microspheres covered with EDS-6 or EDS-7 epoxy resin binder allowing thorough adhesion of all microspheres in one solid mass were developed as a water resistant foam material. The above resins are strong, water resisting cements, while other resins, such as EDS-5, contain hydroxyl groups and are hydrophyilic. The resin covered microspheres are very hydrostatic, even under considerable pressure. They can be used as gas containers and sound proofing material, and they can satisfy many aquatic needs.

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1/3 015 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EFFECT OF NONAQUEOUS SOLVENT ON THE EXCHANGE ADSORPTION OF ALIPHATIC AMINES -U-

AUTHOR-(02)-PETRISHCHEV, K.P., DAVYDOV, A.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 499-503

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, ALIPHATIC AMINE, ION EXCHANGE RESIN, METHANOL, SOLVENT ACTION/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1194 STEP NO--UR/0076/70/044/002/0499/0503

CIRC ACCESSION NO--AP0128612

UNCLASSIFIED

2/3 015 UNCLASSIFIED PROCESSING DATE---20NOV70

CIRC ACCESSION NO--AP0128612

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN STATIC CONDITIONS THE EXCHANGE SORPTION OF NH SUB4 PRIME POSITIVE, MENH SUB3 PRIME POSITIVE, MENH SUB2 PRIME POSITIVE, ME SUB2 NH PRIME POSITIVE, HOCH SUB2 CH SUB2 NH SUB3 PRIME POSITIVE, AND ET SUB3 NH PRIME POSITIVE FROM MEOH AND AQ. SOLNS. OF CORRESPONDING CHLORIDES ON THE CATION EXCHANGER KU,2 IN THE H AND CA FORMS WAS STUDIED. THE SOLNS. OF CONCNS. OF 0.01-0.1 N WERE USED. THE ION EXCHANGE EQUIL. WAS ESTABLISHED IN AQ. OR MEOH SOLNS. DURING 48 OR 240 HR, RESP. A MAJOR EFFECT OF THE CHEM. NATURE OF A SOLVENT USED ON THE VALUE OF THE EXCHANGE ADSORPTION IN COMPARISON WITH PHYS. PROPERTIES OF A SOLVENT IS DEMONSTRATED. AT THE EXCHANGE IN MEOH SOLNS. ON H OR CA FORMS OF THE CATION EXCHANGER KU,2 THE FOLLOWING ADSORPTIVITY SERIES WERE FOUND: HOCH SUB2 CH SUB2 NH SUB3 PRIME POSITIVE EQUALS ME SUB3 NH PRIME POSITIVE LARGER THAN MENH SUB3 PRIME POSITIVE LARGER THAN NH SUB4 PRIME POSITIVE ME SUB2 NH SUB2 PRIME POSITIVE LARGER THAN ET SUB3 NH PRIME POSITIVE, OR MENH SUB3 PRIME POSITIVE LARGER THAN ME SUB2 NH SUB2 PRIME POSITIVE LARGER THAN ME SUB3 NH PRIME POSITIVE EQUALS NH SUB4 PRIME POSITIVE LARGER THAN HOCH SUB2 CH SUB2 NH SUB3 PRIME POSITIVE LARGER THAN ET SUB3 NH PRIME POSITIVE, RESP. AT THE SAME TIME, VALUES OF THE EXCHANGE ADSORPTION IN MEOH AND AQ. SOLN. ARE VERY SIMILAR FOR THE CASE OF THE H FORM SOLN. OF KU,2 WHILE ON THE CA FORM OF KU,2 THE SORPTION FROM MEOH IS SMALLER BY A FACTOR OF 2 THAN THAT FROM AQ. SOLNS. THIS DIFFERENCE IS CAUSED BY THE DIFFERENT DIMENSIONS OF SOLVATED AND HYDRATED CATIONS.

UNCLASSIFIED

3/3 015 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0128612
ABSTRACT/EXTRACT--THE SORPTION OF ET SUB3 NHCL IS SMALLER BY A FACTOR OF 4.5 THAN THAT OF THE OTHER AMINES AND SMALLER BY A FACTOR OF 20 THAN THAT ON THE H FORM OF KU,2. FACILITY: GOS. INST.AZOTN. PROM. PROD. ORG. SIN., MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--PREPARATION OF METHANOL WITH LOW ELECTRICAL CONDUCTIVITY -U-

AUTHOR-(03)-PETRISHCHEV, K.P., KARAYEV, M.M., DAVYDOV, A.T.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. UKR. 1970, (2), 22-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METHANOL, ELECTRIC CONDUCTIVITY, FILTRATION, CATION EXCHANGE RESIN, ANION EXCHANGE RESIN/(U)KU2 ION EXCHANGE RESIN, (U)AV17 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0750 STEP NO--UR/0436/70/000/002/0022/0024

CIRC ACCESSION NO--AP0119657

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEOH OF HIGH PURITY AND LOW ELEC. COND. WAS OBTAINED BY FILTRATION OF COM. MEOH THROUGH H,FORM CATIONITE KU,2, AND THEN THROUGH THE OH,FORM OF ANIONITE AV,17 OR THROUGH A MIXT OF BOTH. THE COND. DECREASED FROM 8 TIMES 10 PRIME NEGATIVE7 TO 5.0 TIMES 10 PRIME NEGATIVE8 OHM PRIME NEGATIVE1 CM PRIME NEGATIVE1. THE ESTER AND ALDEHYDE CONTENT DIMINISHED BY 50PERCENT, THE AMT. OF N CONTG. COMPDS. WAS REDUCED FROM 0.68 TO 0.01 MG-L. AND OF VOLATILE FE COMPDS. FROM 0.038 TO 0.012 MG-L. FACILITY: SEVERODONETSK, FILIAL, GIAP. SEVERODONETSK, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--REMOVAL OF NITROGEN CONTAINING COMPOUNDS FROM METHANOL. I. PHYSICOCHEMICAL PROPERTIES OF SOME CATION EXCHANGERS IN METHANOL -U-

AUTHOR--KARAVAYEV, M.M., PETRISHCHEV, K.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 145-50

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SEPARATION, PHYSICAL CHEMISTRY PROPERTY, METHANOL, CATION EXCHANGE PROPERTY, CHEMICAL STABILITY, ABSORPTION, ORGANIC NITROGEN COMPOUND/(U)KU1 CATION EXCHANGE RESIN, (U)KU6 CATION EXCHANGE RESIN, (U)K84 CATION EXCHANGE RESIN, (U)SG1 CATION EXCHANGE RESIN, (U)SBS1 CATION EXCHANGE RESIN, (U)KU2 8CH CATION EXCHANGE RESIN, (U)KU6G

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0980 STEP NO--UR/0080/70/043/001/0145/0150

CIRC ACCESSION NO--APO049173

UNCLASSIFIED

Acc. Nr: AP0049173 — Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0080

104226f Removal of nitrogen-containing compounds from methanol. I. Physicochemical properties of some cation exchangers in methanol. Karavaev, M. M.; Petrishchev, K. P. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 145–50 (Russ). Degree of swelling in H_2O and MeOH, chem. stability in MeOH, and absorption capacity of NH_3, $MeNH_2$, Me_2NH, Me_3N, and 1-methylpyrrolidone for cation resins KU-1, KU-6g, KB-4, SG-1, SBS-1, KU-2-8ch, and KU-2-8 were detd. Chem. stability was detd. by extn. of resins with boiling MeOH for 3 hr and dissoln. was followed. High acidic exchangers KU-2-8, KU-2-8ch, and low acidic SG-1 were sufficiently stable but only KU-2-8 and KU-2-8ch were recommended to use for MeOH purification. The absorption capacity of resins with respect to the N-contg. compds. decreases in the same order they are mentioned. The lowest capacity was that one found for 1-methylpyrrolidone; the highest value was only 0.85 for SBS-1 and the lowest one 0.10 mequiv/g for KU-6g. J. Havel

1/1

REEL/FRAME
19800980

7 H

USSR UDC: 621.372.061

PETRISHCHEV, V. I.

"Synthesis of a First-Order Speed-Optimum Phase Automatic Frequency Control System"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 48, pp 211-214 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A103)

Translation: The synthesis is done on the basis of Pontryagin's principle of the maximum; the phase AFC system is treated as an automatic control system in which the controlled object is a tunable oscillator and the controlling element is the frequency controller. The author finds the optimum characteristic of the phase AFC system which can be realized in the case of a phase detector with rectangular characteristic. The maximum duration of the transient process in an optimum phase AFC system is determined. Two illustrations, bibliography of eight titles. M. S.

1/1

USSR

PETRISHCHEV, V. I.

UDC 621.372.061

"Synthesis of a First-Order FAPCh [automatic phase frequency control] System which is Optimal with Respect to Speed in the Presence of Noise"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 95-98 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A48)

Translation: It is demonstrated that the FAPCh system which is optimal with respect to speed must have a phase detector with a rectangular characteristic. This system will be optimal also in the presence of additive noise. In shaping the rectangular characteristic of the phase detector it is sufficient to send a square standard signal and a signal from the tunable oscillator in the form of δ-pulses to the multiplier. It is possible to show that the first order FAPCh system with a rectangular phase detector characteristic is also optimal in the presence of internal noise. The bibliography has six entries.

1/1

USSR

MATRESHIN, V. F., PETRITSYUK, V. D., MATRESHIN, A. V., and BORISOVA, G. P.

"Protective Action of Sodium Hydroxybutyrate in Poisoning by Organophosphorus Compounds"

Sb. Nauch. Robot Voyen. Med. Fak. pri Kuybyshev Med. In-te (Collection of Scientific Papers of the Military Medical Faculty at the Kuybyshev Medical Institute), 1973, No 4, pp 206-208 (from RZh-Biologicheskaya Khimiya, No 24, Dec 73, Abstract No 2190)

Translation: The protective action of sodium hydroxybutyrate (I) was studied on mice using subcutaneous or intraperitoneal administration, 25 minutes prior to exposure to lethal doses of organophosphorus compounds. In preliminary experiments concentrations of I were determined (100 and 200 mg/kg) which exhibit marked protective action. It has been shown that subcutaneous administration of 100 and 200 mg/kg of I resulted in 65 and 85% survival of the animals respectively. It has been assumed that the expressed protective action of I (especially on subcutaneous injection) is connected with an action on the retarding CNS paths and not with the blocking of the choline receptors nor with the action of nucleophilic substances -- reactivators of CE.

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UDC 539.3.01

USSR

PETRIVNIY, I. I.

"Variation Method for Ribbed Plates With Cuts"

V sb. Kratk. tezisy dokl. k Konf po povrezhdeniyam i ekspluat. nadezhnosti sudovykh konstruktsiy, 1972 (Brief Subjects of Papers at the Conference of Breakdown and Utilization of the Reliability of Ship Designs, 1972 -- Collection of Works), Vladivostok, 1972, pp 23-27 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V60)

Translation: A discrete algorithm is proposed for calculating plates with an arbitrary outline and variable thickness reinforced by ribs for rigidity and with arbitrary cuts. The algorithm is based on finding the minimum potential energy of the rigidity ribs and the plate. The thickness of the plate is taken as a constant within the limits of each triangular element. The lines of the contour of the elements coincide with the existing ribs. An expanded rectangular plate ribbed on the longitudinal edges with an elliptical opening ribbed along the edge is considered as an example. The coefficients of stress concentration are given in a table as functions of the dimensions of the opening, the rib of the plate and the thickness of the rigidity ribs. N. T. Glazunova.

1/1

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 022

TITLE--ADSORPTION OF LITHIUM AND CESIUM CATIONS ON PLATINUM -U-

AUTHOR-(03)-PETRIY, O.A., FRUMKIN, A.N., SHCHIGOREV, I.G.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 400-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, LITHIUM, CESIUM, PLATINUM ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0364/70/006/003/0400/0404

PROXY REEL/FRAME--1998/1135

CIRC ACCESSION NO--AP0121694

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 022
CIRC ACCESSION NO--AP0121694
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF LI PRIME POSITIVE AND CS PRIME POSITIVE ON PLATINIZED PT ELECTRODE WAS INVESTIGATED AT 20 PLUS OR MINUS 1DEGREE BY THE ADSORPTION CURVE, CHARGING CURVE, AND POTENTIOMETRIC METHODS. ADSORPTION WAS MEASURED IN ACID (H SUB2 SO SUB4 PLUS LI SUB2 SO SUB4, H SUB2 SO SUB4 PLUS CS SUB2 SO SUB4, HBR PLUS LIBR, HBR PLUS CSBR), AND THE ALK. (LIOH, CSOH) SOLNS. DISPLACEMENT OF H PRIME POSITIVE IONS FROM THE ELECTRODE BY CS AND LI IONS WAS NOTED WHEN A CORRESPONDING EXCESS OF THE LATTER WAS PRESENT IN SOLN. AS WELL AS A GREATER ABILITY TO ADSORPTION OF CS PRIME POSITIVE THAN LI PRIME POSITIVE WAS OBSERVED. ALONG WITH INCREASE OF THE SP. ADSORPTION ON GOING FROM LI PRIME POSITIVE TO CS PRIME POSITIVE, THE CHARGING CURVES BECOME LESS REVERSIBLE UPON POLARIZATION OF THE ELECTRODE TO 0.8-0.9 V. IN THE LIMITS OF THE H REGION, THESE CURVES ARE PRACTICALLY REVERSIBLE, WHICH DENOTES DIFFERENCES IN THE BINDING FORCE OF O WITH PT IN THE PRESENCE OF LI PRIME POSITIVE AND CS PRIME POSITIVE.
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF SOLUTION PH ON THE ADSORPTION OF HYDROGEN AND OXYGEN ON PLATINUM AND RHODIUM ELECTRODES -U-
AUTHOR-(02)-PETRIY, O.A., KOTLOV, YU.G.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 404-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, HYDROGEN, OXYGEN, PLATINUM ELECTRODE, RHODIUM, SULFATE, CHLORIDE, BROMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1144 STEP NO--UR/0364/70/006/003/0404/0407

CIRC ACCESSION NO--AP0121703
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121703

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF PH ON H AND O ADSORPTION ON ELECTRODES OF PLATINIZED PT IN SOLNS. N NA SUB2 SO SUB4 PLUS H SUB2 HO SUB4 (PH 1.60-3.74), N KCL PLUS HCL (PH 1.20-3.34), N KRB PLUS HBR (PH 1.15-3.15), AS WELL AS OF RHODIUMIZED RH IN N NA SUB2 SO SUB4 PLUS H SUB2 SO SUB4 (PH 1.67-3.74) SOLNS. WAS STUDIED BY THE CHARGING CURVE METHOD AND BY CALCG. THE RELATION BETWEEN ADSORBED H AND THE POTENTIAL FOR DIFFERENT PH VALUES. THE EFFECT OF PH ON H ADSORPTION WAS DEPENDENT ON THE POTENTIAL, TYPE OF METAL, AND SOLN. COMPN. THIS DEPENDENCE INCREASED FOR THE PT ELECTRODE IN THE ORDER SO SUB4 PRIME2 NEGATIVE SMALLER THAN CL PRIME NEGATIVE SMALLER THAN BR PRIME NEGATIVE. THE EFFECT OF PH WAS MORE DISTINCT FOR THE RH ELECTRODE.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ELECTROCHEMICAL BEHAVIOR OF PLATINUM AND RHODIUM FILMS -U-

AUTHOR-(03)-MANSUROV, G.N., PETRIY, O.A., PAVLOVICH, V.K.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2) 291

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ELECTROCHEMICAL REACTION, PLATINUM, RHODIUM, SITALL GLASS, COPPER, ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0468 STEP NO--UR/0364/70/006/002/0291/0291

CIRC ACCESSION NO--AP0107074

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107074

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIANGULAR VOLTAGE PULSES WERE USED FOR OBTAINING POTENTIODYNAMIC CURVES ON PT AND RH FILMS, SPUTTERED IN VACUUM ON SITALL SUBSTRATES, IN H H SUB2 SO SUB4 AND IN THE PRESENCE OF VARIOUS ADDNS. OF CUSO SUB4. PARALLEL MEASUREMENTS WERE MADE ON COMPACT METALS IN THE FORM OF WIRES. THE H SECTIONS OF THE CURVES IN N H SUB2 SO SUB4 ON FILMS AND COMPACT ELECTRODES COINCIDE. ON FILMS A SOMEWHAT EARLIER DEPOSITION OF O IS OBSD. AND ITS AMT. WAS SOMEWHAT HIGHER THAN ON A COMPACT ELECTRODE. THE NATURE OF FORMATION AND SISSOLN. OF CU LAYERS ON FILMS AND COMPACT ELECTRODES IS IDENTICAL. THE SHAPE OF THE POTENTIODYNAMIC CURVES IN THE PRESENCE OF CU IONS IN SOLN. WAS EQUAL FOR RH FILMS AND COMPACT ELECTRODES. AS IN THE CASE OF PT, MAX. WERE FOUND ON THE CURVES THAT CORRESPOND TO THE DISSOLN. OF THICK AND THIN LAYERS AND CU ADATOMS.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SURFACE STATE OF AN IRIDIUM ELECTRODE STUDIED BY MEANS OF ISOELECTRIC SHIFTS IN POTENTIAL -U-

AUTHOR-(02)-PETRIY, O.A., THIEU, N.V.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 408-11

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--IRIDIUM, ELECTRODE POTENTIAL, METAL ELECTRODE, POTASSIUM BROMIDE, HYDROXIDE, IODIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1729 STEP NO--UR/0364/70/006/003/0408/0411

CIRC ACCESSION NO--AP0115558

UNCLASSIFIED

2/2 016 UNCLASSIFIED

CIRC ACCESSION NO--AP0115558 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEPENDENCES OF ISOELEC. SHIFTS IN POTENTIAL AND ADSORPTION GAMMA H PRIME POSITIVE OF H IONS ON THE IR ELECTRODE POTENTIAL FOR 0.001N KOH, 0.01N KOH PLUS N KBR, 0.01N KOH PLUS N KI, AND 0.01N KBR PLUS N KBR ARE PRESENTED. TECHNIQUE OF THE MEASUREMENTS, PREPN. OF IR ELECTRODE, AND DETN. OF ITS REAL SURFACE ARE DESCRIBED EARLIER (CA 70: 120513M). ISOELEC. SHIFTS IN POTENTIAL ARE DETD. AT 20DEGREES FOR THE CHANGES OF 0.001N KOH TO 0.1N KOH, OR 0.001N KOH (OR HBR) PLUS 0.009N KI (OR KBR) TO 0.1N KOH (OR HBR) PLUS 0.91N KI (OR KBR). THE PHI SUBR POTENTIALS ARE GIVEN IN RELATION TO THE REVERSIBLE H ELECTRODE IN THE SAME SOLN. FROM ISOELEC. SHIFTS IN POTENTIAL AND EQUIL. CHARGE CURVE THE DEPENDENCE OF THE H ION ADSORPTION ON THE POTENTIAL IS CALCD. THE CALCN. IS ACHIEVED WITH THE SUE OF AN EQUATION DERIVED PREVIOUSLY (CA 69: 73416Z). THE DEPENDENCES CALCD. ARE COMPARED WITH THOSE FOUND EXPTL. BY TITRATING THE SOLN. POTENTIALS, FOR WHICH GAMMA SUBH PRIME POSITIVE EQUALS 0, ARE THE SO CALLED ZERO CHARGE POTENTIALS PHY SUBZ.CH. IN ALK. IODIDE SOLN., 2 POINTS OF ZERO CHARGE FOR PHI SUBR EQUALS 0.11 AND 0.75 V EXIST. THE 1ST POINT CORRESPONDS TO THE REDN., THE 2ND ONE TO THE OXION. SURFACE STATE. THE DEPENDENCES OF PHI SUBZ.CH. ON PH ARE PRESENTED.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 025

TITLE--ADSORPTION OF IONS AND ATOMS ON PLATINUM GROUP METALS -U-

AUTHOR-(02)-FRUMKIN, A.N., PETRIY, O.A.

COUNTRY OF INFO--USSR

SOURCE--ELECTROCHIM. ACTA 1970, 15(2) 391-403

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL, ADSORPTION, HYDROGEN, ELECTROLYTE, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0289 STEP NO--UK/0000/70/015/002/0391/0403

CIRC ACCESSION NO--AP0053274

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053274

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENT METHODS OF DEDUCING THE BASIC EQUATION OF THE THERMODYNAMIC THEORY OF ELECTROCAPILLARITY FOR H ADSORBING METALS ARE COMPARED. THE RELATIONS THAT DET. THE VALUE OF THE ISOELEC. POTENTIAL SHIFT UNDER DIFFERENT CONDITIONS, AS WELL AS THE VALUE OF THE DEPENDENDENCE OF THE POTENTIAL ON THE SOLN. PH, THE FREE CHARGE REMAINING CONST., WERE DEDUCED AND EXPTL. VERIFIED. QUANT. FORMULAS ARE GIVEN FOR THE CONTRIBUTIONS OF ATOMS AND IONS TO THE SETTING UP OF THE P.D. AT THE METAL ELECTROLYTE SOLN. INTERFACE.

UNCLASSIFIED

USSR

UDC: 621.385.64(088.8)

PETROCHENKOV, V. I.

"A Magnetron"

USSR Author's Certificate No 283419, filed 29 Mar 69, published 10 Dec 70 (from RZh-Elektronika i yeye Primeneniye, No 6, Jun 71, Abstract No 6A151P)

Translation: This Author's Certificate introduces a magnetron which contains a decelerating system closed into a ring encircling the cathode. The tube also contains a distributed energy tap. As a distinguishing feature of the patent, emission power is increased by making the distributed energy tap in the form of an open decelerating system with one end connected to the useful load and the other connected to a balanced matched load. Tuning elements for selecting the amount of coupling are connected between the circular closed decelerating system and the distributed energy tap. Jumpers and a shield are used as the tuning elements.

1/1

USSR

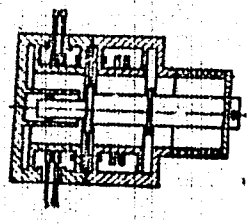
UDC: 621.385.64

PETROCHENKOV, V. I.

"A Magnetron"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 31, 1970, Soviet Patent No 283419, Class 21, filed 29 Mar 69, p 74

Abstract: This Author's Certificate introduces: 1. A magnetron which contains a decelerating system closed into a ring surrounding the cathode, and a distributed power output. As a distinguishing feature of the patent, the emission power is increased by making the distributed power output in the form of an open decelerating system in which one end is coupled to the useful load, while the other is connected to a matched balance load. Between the ring decelerating system and the distributed power output are tuning elements for coupling selection. 2. A modification of this magnetron distinguished by the fact that jumpers and a shield are used as the tuning elements.



1/1

USSR

UDC 539.376+532.135

SVIRIDENOK, A. I., PETROKOVETS, M. I., BELYY, V. A.

"Introduction of a Single Unevenness in a Viscoelastic Halfspace"

V sb. Kontaktn. vzaimodeystviye tverd. tel i raschet sil treniya i iznosa (Contact Interaction of Solid States and Calculation of the Forces of Friction and Wear--collection of works), Moscow, Nauka Press, 1971, pp 101-105 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V474)

Translation: An estimate of the possibility of using the known laws of deformation of viscoelastic bodies with coefficients determined from mechanical experiments to the calculation of the interaction of a smooth metal sphere with polymer materials is presented. This creates prospects for direct application of the results of developing the theory of deformation and strength of polymer materials to the solution of the problem of friction during metal-polymer contact. The bibliography has 23 entries.

1/1

USSR

UDC: 537.531

KOMAR, A. P., KOROBOCHKO, Yu. S., MINEYEV, V. I., and PETROCHENKO, A. F.

"Bremsstrahlung of Electrons With Energies of 7-10 Mev in Thin Silicon Crystals"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, vol. 41, No. 4, April 1971, pp 807-814

Abstract: The purpose of the experiments described in this paper is to make a more detailed study of the radiation spectra produced by a stream of electrons of 7-10 Mev of energy braked by a target of thin crystalline silicon and to compare the experimental results with those of theoretical calculations. The spectral measurements were made on an LPI betatron with a maximum energy of 15 Mev; the target, 7-11 microns thick, was placed in the betatron chamber so that the direction of the incident electrons and the axis of the braked radiation beam coincided

USSR

KOMAR, A. P., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 4, Apr 71, pp 807-814

with the /110/ direction of the crystal. A collimator inside the chamber reduced the angular dispersion of the electrons to the target. The axial part of the output bremsstrahlung was conducted through a system of lead collimators to a scintillation spectrometer. A block diagram of the equipment is shown and a detailed description given.

2/2

USSR

UDC 539.21:536.42

PETROPAVLOV, N. N. and MNYUKH, Yu. V.

"Investigating the β-δ Polymorphic Transition Process in Hexachlorophene"

V sb. Kristallizatsiya i faz. prevrashcheniya (Crystallization and Phase Transformations--collection of works) Minsk, "Nauka i tekhn." 1971, pp 46-53 (from RZh-Fizika, No. 9, 1971, Abstract No. 9E338)

Translation: The investigation of low-temperature polymorphic transitions in C_2Cl_6 and the observation and cinematic filming of the phase interfaces at the optical resolution limit have led to the establishment of a layer growth mechanism for crystals of the daughter phase. A series of secondary phenomena is discovered: rhythmic splitting, the movement of twinning boundaries under the action of the phase interfaces, and the formation of spherical cavities measuring less than one micron. Author's abstract

1/1

Acc. Nr: AP0034399 Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 136-140

THE EFFECT OF QUINACRINE AND AURANTINE ON THE ORIGINATION AND DEVELOPMENT OF RESISTANCE IN STREPTOCOCCI

I. S. Petropavlovskaya, V. M. Podboronov

Division of Infection Pathology and Experimental Therapy of Infections of the N. F. Gamalei Institute of Epidemiology and Microbiology of the AMS of the USSR, Moscow

Combined use of streptomycin (100 Un/ml) with quinacrine or aurantine produces a much greater reduction of viable staphylococci in the culture medium than does the use of streptomycin alone. An addition of quinacrine (80 γ/ml) or of aurantine (0.05 γ/ml) yields in 24 hours a complete bactericidal effect without development of resistant forms. Combination of penicillin with quinacrine or aurantine exercised bactericidal effect also on the penicillin-resistant staphylococcus obtained through passages on the media with progressively increasing concentration of the antibiotic. The resistance was noted to go down to the sensitivity level of the initial strain under effect of quinacrine and aurantine.

D. A.

1/ REEL/FRAME 6

19711059

USSR

UDC 69.018.2:669.1'24

PETROPAVLOVSKAYA, Z. N., Central Scientific Research Institute of Technology and Machine Building

"Relaxation Stability of Fe- and Ni-Base Alloys at High Temperatures"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 36-39

Abstract: The relaxation stability of Fe- and Ni-base alloys was studied for a Ni-Cr alloy; Ni-W with 15% Cr and 5% Mo; Ni-W with 15% Cr, 5% Mo and 2% Nb; steel with 5% Cr, 1% Mo, and 0.2% Nb; steel with 5% Cr, 1% Mo, 0.1% V and 0.2% Nb; and steel with 12% or 18% Cr, 1% Mo, 0.2% Nb, and 0.1% V. It was determined that alloying of iron or nickel-base solid solutions must be done using elements which increase the elastic properties of the lattice and create thermally stable strengthening phases to provide a high relaxation stability. Polycomponent alloying of the solid solution with Nb, Mo, and W is the most effective in that maximum strengthening can be achieved with the minimum amount of alloying elements in comparison with binary solid solutions. The presence of strengthening phases increases the strength and relaxation stability only in their dispersed distribution in the solid solution with high elastic properties. It was noted that the

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USSR

PETROPAVLOVSKAYA, Z. N., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 36-39

EI893 alloy, having intermetallic strengthening, is more heat-resistant than KhN70VMYuT (EI765) alloy which has mixed strengthening. 6 figures, 8 bibliographic references.

2/2

1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MICROSCOPIC PLASTIC DEFORMATION, ASSOCIATED WITH, STRESS RELAXATION, IN STEELS AND ALPHA IRON -U-
AUTHOR-(03)-MIRKIN, I.L., PETROPAVLOVSKAYA, Z.N., ILINYKH, S.A.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 62-64

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC DEFORMATION, STRESS RELAXATION, CARBON STEEL, ALLOY STEEL, CHROMIUM STEEL, INTERMETALLIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0924 STEP NO--UR/0129/70/000/003/0062/0064

CIRC ACCESSION NO--AP0133013

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133013

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NATURE OF THE MICROSCOPIC PLASTIC DEFORMATIONS (STRAINS) TAKING PLACE IN C AND ALLOY STEELS AND ALPHA-FE DURING STRESS RELAXATION AT HIGH TEMP. WAS STUDIED BY AN INTERFERENCE METHOD. IN STEELS THE MICROSCOPIC STRAINS WERE IN GENERAL VERY NON UNIFORM. IN ALPHA-FE THE STRAINS TENDED TO HAVE AN INTERGRANULAR CHARACTER AND WERE SHARPLY LOCALIZED. IN THE PRESENCE OF FINE CARBIDE OR INTERMETALLIC HARDENING PHASES INTRAGRANULAR STRAINS IN CR STEELS TENDED TO TAKE PLACE PREFERENTIALLY.

UNCLASSIFIED

USSR

UDC 621.376.4

PETROPAVLOVSKIY, V. P., SINITSYN, N. V.

"Highly Stable Transistorized Phase Detectors"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8, 1971, pp 924-927

Abstract: A study was made of the principles of constructing highly stable transformerless phase detectors by replacing the transformer by a transistorized inverter. This replacement gives a significant gain in thermal stability and the pass band of the entire device (up to several tens of megahertz), and it also solves the problems of microminiaturization. Circuit diagrams are presented for a balanced phase detector, a varicap phase detector and a high-sensitivity phase detector. The characteristics of each of these schemes are discussed.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CHANGE IN AMINO ACID COMPOSITION DURING THE RIPENING AND STORAGE OF TOMATOES -U-

AUTHOR-(02)-PETROPAVLOVSKIY, YE.I., TROYAN, Z.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (1), 21-5

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, FOOD STORAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1091 STEP NO--UR/0322/70/000/001/0021/0025

CIRC ACCESSION NO--AT0119950

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0119950

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AMINO ACID COMPN. AND AMT. OF FREE AMINO ACIDS DEPENDED ON THE SORT, PLACE OF GROWTH, AND DEGREE OF RIPENING. RIPE RED TOMATOES CONTAINED MORE AMINO ACIDS THAN GREEN ONES. BY STORAGE OF RIPE TOMATOES IN INDUSTRIAL CONDITION FOR 3 DAYS, THE CONTENT OF GAMMA AMINOBUTYRIC ACID, ALANINE, AND GLUTATHIONE DECREASED WITH A SIMULTANEOUS INCREASE IN GLUTAMIC ACID, TISTIDINE, LYSINE, AND TYROSINE. FACILITY: KRASNODAR. POLITEKH. INST., KRASNODAR, USSR.

UNCLASSIFIED

USSR

UDC: 681.325.65

IGNATOV, V. A., KONAREV, A. P., PETROPOL'SKIY, N. V., POLYAK, L. M.

"An Angle-to-Code Converter"

USSR Author's Certificate No 327509, filed 21 Apr 69, published 10 Apr 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B459 P)

Translation: Converters for changing shaft position to code are known which contain a phase shifter; a power supply; an amplifier; and a series circuit comprised of a null detector, control module, square pulse generator, frequency dividers, flip-flops, coincidence gates, and a register. The register input is connected to the output of the control module, and the output is connected through a coincidence gate to the output of one of the frequency dividers. A disadvantage of such converters is the high error rate of conversion.

To reduce conversion error, the proposed converter contains an additional multiple-pole phase shifter and two parallel networks made up of an amplifier, null detector, flip-flop, coincidence gate, OR gate, and pulse counter connected in series. The inputs of these networks are connected

USSR

IGNATOV, V. A., USSR Authors Certificate No 327509

to the outputs of the main and auxiliary phase shifters respectively, and the outputs are connected to the input of the register.

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UDC 681.327.12

ZARETSKAS, V.-S. S., ZARETSKAS, S.-G. S., PETROSHYAVICHYUTE, O. S., RAGUL'SKIS, K. M.

"Photoelectric Device for the Measurement and Input of Data into Computers"

Patent No. 327502 (1374753/18-24 from 24 November 1969), Class G 06k 11/00, G 08c 8/01, announced by Kaunas Polytechnical Institute (from Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 5, 1972, p 146)

Abstract: A photoelectric device for the measurement and input of data into computers containing a rotating object table connected with a drive with a pickup for position and velocity, an illuminator with a source of continuous light, an electron-optical system for shaping and converting of information signals with objects, and a programming and control system are described. It is distinguished by the fact that in order to expand the functional potentialities and increase accuracy the irradiator contains a unit with light generation modes with a source of light flashes connected to one of its outputs, a unit for controlling the light intensity, and semitransparent plates installed on the optical axis of the source of light flashes at an angle to the direction of the light flow from the continuous light source to the unit for light intensity control and the optical axis of the objectives of the electron-optical system for shaping and converting information signals. The output of the units for light generation modes and control of light intensity are connected with the outputs of the programming and control system.

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Epidemiology

USSR

UDC 616.981.25-036.22(99)

PETROSOV, V. V., and MORDVINOVA, N. B., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, and Moscow Scientific Research Institute of Epidemiology and Microbiology, Ministry of Health USSR

"Distribution of Staphylococcus Infection in an Isolated Collective of Polar Explorers in the Antarctic"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 94-98

Abstract: Staphylococcal infection was observed May 1968 to February 1969 among 16 individuals in a Soviet Antarctic expedition to Novolazerevskaya Station in order to define the behavior of bacteria, normally residing in the human upper respiratory tract, under isolated conditions. For unknown reasons pathogenic Staphylococci were never detected among four individuals throughout the observation period. Among the remaining 12, 3 were permanent carriers and 9 were intermittent carriers. The same phagotype was isolated from the upper respiratory tracts of specific individuals throughout the observation period, and never more than one was isolated from a particular individual, indicating that each individual acts as a host to a stable colony of bacteria specific to him. Such stability, even when illness arises among other individuals with different

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PETROSOV, V. V. and MORDVINOVA, N. B., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 94-98

phagotypes, is probably due to intraspecies antagonism of the bacteria. Though foreign pathogenic bacteria were detected on the skin and in the respiratory tracts of 3 individuals, the initial phagotype subsequently regained dominance. Phagotypes were subjected to several tests to determine their pathogenic properties and virulence. In general they were found to be toxigenic (84.9% of 253 strains isolated) and virulent (95.1%). Considering the large number of individuals carrying pathogenic bacteria, the possibility of reinfection by foreign bacteria, and the toxigenicity and virulence of the strains, it is likely that the individual's immunobiological properties are more important to the pattern of Staphylococcal etiology than are the properties of the bacteria.

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Acc. Nr: AP0046256 Ref. Code: UR0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1, pp 36-38

Yu. A. Petrosov — THE TECHNIQUE AND ASSESSMENT OF THE TREATMENT OF HABITUAL DISLOCATIONS, SUBLUXTIONS AND CHRONIC ARTHRITIS OF THE TEMPEROMANDIBULAR JOINT WITH THE AID OF A NONREMOVABLE RESTRICTING BAR

Summary. The author proposes an original nonremovable restricting bar for the treatment of habitual dislocations, subluxations and chronic arthritis of the temperomandibular joint which has advantages over the existing orthopedic apparatus. The paper describes the design of the bar, the technique of its application, indications and contraindications. The immediate and remote results of treatment effected in 144 patients with habitual dislocations and subluxations and in 18 patients with chronic arthritis of the temperomandibular joint. The immediate results were good in 142 patients with habitual dislocations and in all 18 patients with chronic arthritis of the temperomandibular joint. The remote results (from 6 months to 3¼ years) showed a stable effect in 80 patients and a relapse in only 7 patients.

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REEL/FRAME
19781374

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1/2 009 UNCLASSIFIED PROCESSING DATE---30OCT70

TITLE--ON THE PECULIARITIES OF APPEARING AND TREATMENT OF ASTHMATIC SYNDROME IN PNEUMONIAS IN CHILDREN OF VERY YOUNG AGE -U-

AUTHOR--PETROSOVA, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 5, PP 31-33

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PNEUMONIA, DISEASE INCIDENCE, ASPHYXIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1466 STEP NO--UR/0477/70/000/005/0031/0033

CIRC ACCESSION NO--AP0125094

UNCLASSIFIED

2/2 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0125094 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME AUTHENTIC CHANGES IN THE APPEARENCE OF ASTHMATIC SYNDROME IN CASES OF PNEUMONIA IN CHILDREN OF YOUNG AGE HAVE BEEN STUDIED. OF 2,506 CHILDREN TILL 2 YEARS OLD, ADMITTED AS IN PATIENTS WITH PNEUMONIA DURING 1966-68, ASTHMATIC SYNDROME HAS BEEN OBSERVED IN 413 CHILDREN (16.4PERCENT). THE HIGHEST LEVEL OF PNEUMONIAS, COMPLICATED BY THE ASTHMATIC SYNDROME WAS MARKED FROM OCTOBER TILL DECEMBER AND APPEARED MOSTLY IN CASES OF RECURRENT PNEUMONIAS. INTRODUCTION IN THE COMPLEX TREATMENT OF SPASMOLYTIC AND DESENSITIZATION MEDICAMENTOUS PREPARATIONS HAS LED TO A QUICK ELIMINATION OF ASTHMATIC ASPHYXIA. FACILITY: BELORUSSKOGO INSTITUT USOVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

USSR

UDC 543.062 + 546.791

TARAYAN, V. M., OVSEPYAN, Ye. N., and PETROSYAN, A. A., Yerevan' State University, Institute of General and Inorganic Chemistry Acad. Sci. Armenian SSR (Yerevan')

"Extraction of Uranium (VI) with Basic Dye Acridine Orange NO"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, pp 966-970

Abstract: Maximum extraction of uranium (VI) into the organic phase was achieved in the presence of $4.0\text{-}8.5\cdot10^{-5}$M concentration of dye and 7.0-$7.7\cdot10^{-3}$M concentration of sodium benzoate at pH 4.3-5.6. Excen benzoate produces a sharp rise in the optical density of the blank. Benzene is the preferred extractant for the ternary complex. The maximum light absorption of the benzene extract (505 nm) remained constant for 3-3.5 hours. The order of addition of reagents did not influence the optical density of extract. A direct proportionality between the uranium (VI) concentration in aqueous phase and the optical density of the extract remained constant within 0.1-5.5 μg UO_2^{2+}/ml. The average molar extinction coefficient is $5.4\cdot10^4$. The dye cation and the uranium (VI) benzoate anion react in a 1:1 molar ratio. The specificity factor $K = \frac{[ion]}{[UO_2^{2+}]}$ where [ion] is the 1/2

USSR

TARAYAN, V. M., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, PP 966-970

concentration of impurity ion low enough not to influence the extraction selectivity of uranium (VI) by dye was calculated for 12 cations and 3 anions. Five figures and one table.

2/2