

USSR

UDC 621.371.352.3:551.465.7:558.3

AFANAS'YEV, K.L., BOL'SHAKOV, E.V., GARNIKER'YAN, A.A., LEPENDIN, L.F., LOBACH, V.T., TIMONOV, V.V., CHEREPANISEV, S.F.

"To The Problem Of Measuring The Height Of Sea Waves By The Radar Method From Aircraft"

Tr. Taganrog. radiotekhn. in-ta (Works Of The Taganrog Radio Engineering Institute), 1971, No 22, pp 148-158 (from RZh: Radiotekhnika, No 2, Feb 72, Abstract No 2615)

Translation: The theoretical bases are stated of the radar method of measuring the height of waves. It is shown that in order to increase the precision of measurement it is necessary to have a tunable transmitter or some fixed radiation frequencies (3 are sufficient). A measuring unit is described, constructed on the basis of a pulse radar station of the meter range; technical data are presented. An analysis of the results obtained during flight tests shows that the discrepancy between these results and the data obtained with the aid of a wave graph does not exceed 10--12 percent. The defect of the method is the impossibility of determining the character of the waves and the length of a wave. 1 ill. 2 tab. 4 ref. N.S.

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UDC 621.371.332.3:551.463.7:538.3

LOBACH, V.T., GARNANER'YAN, A.A., POLOZHENTSEV, R.G., TYUKOV, E.S., INKOVSKIY, A.A.

"Experimental Investigation Of The Statistical Characteristics Of Radar Signals Reflected From Disturbed Sea Surface And Small-Sized Surface Objects"

Tr. Taganrog. radiotekhn. in-ta (Works Of The Taganrog Radio Engineering Institute), 1971, No 22, pp 14-23 (from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2G14)

Translation: The correlation intervals and the variation factor were measured of signals reflected from a disturbed sea surface and small-sized surface objects. A block diagram is presented of a measuring device with use of the "Donets" marine radar station ( $\lambda = 3.2$  cm). An analysis is given of the results obtained; it is shown that they can be used for measurement of the degree of roughness of the sea and for evaluation of the effectiveness of detection of small-sized objects on a background of reflections from the sea surface. 1 ill. 2 tab. 3 ref. N.S.

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USSR

UDC: 548.5

TSEYTLIN, M. N., PLAKHOV, G. F., LOBACHEV, A. N., POPOLITOV, V. I.,  
SIMONOV, M. A., and BELOV, N. V.

"Investigating Crystallization in the Hydrothermal System of  
 $\text{GeO}_2\text{-Sb}_2\text{O}_3\text{-KF-H}_2\text{O}$ "

Moscow, Kristallografiya, vol 18, No 4, 1973, pp 836-839

Abstract: An investigation is conducted into the crystallization conditions in the  $\text{GeO}_2\text{-Sb}_2\text{O}_3\text{-KF-H}_2\text{O}$  system by the hydrothermal method. The purpose of this investigation is two-fold: first, to fill in the gaps of knowledge concerning the interaction chemistry of germanium dioxide and antimony trioxide in the presence of a solution at high temperatures and pressures; second, to obtain all possible single crystals with no analogs in nature because of their potential value as objects of study with regard to structure and physical characteristics. The experiments were conducted with a charge consisting of  $\text{GeO}_2$  and  $\text{Sb}_2\text{O}_3$  copper lined autoclaves with periodic action. The results of the examination of the crystallization in the system are given individually for each temperature jump in the range of 400-550° C, the jumps being made in 20-45° intervals. Photographs of the crystals are shown,  
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USSR

UDC: 548.5

TSEYTLIN, M. N., et al, Kristallografiya, vol 18, No 4, 1973,  
pp 836-839

and a table of interplanar distances for  $Sb_2Ge_2O_7$  crystals is given.

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USSR

UDC: 548.5:535.37

KUZ'MINA, I. P., LOBACHEV, A. N., PREDTECHENSKIY, B. S., STAROSTINA. L. S.,  
STOPACHINSKIY, V. B., KHAYDUKOV, N. M., Institute of Crystallography,  
Academy of Sciences of the USSR

"Luminescent Crystals of Cuprous Oxide"

Moscow, Kristallografiya, Vol 18, No 3, May/Jun 73, pp 635-637

Abstract: The paper describes a method of growing large perfect crystals of  $Cu_2O$  to study bright narrow luminescence lines of recombination of free excitons. A polycrystal like specimen of  $Cu_2O$  is treated by zone melting with an electron beam. The resultant specimen usually consists of 2-3 crystals. A single crystal is grown, using one of these crystals as a seed. The result is a transparent cylindrical rod up to 10 mm in diameter and 100 mm long. These large crystals can be used to study many new properties of excitons -- interaction between excitons and the feasibility of making lasers based on cuprous oxide crystals.

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1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--ELECTROOPTICAL PROPERTIES OF CUBIC ZINC SULFIDE CRYSTALS GROWN BY A  
HYDROTHERMAL METHOD -U-  
AUTHOR--(05)-SHAMBUROV, V.A., KUZNETSOV, V.A., LOBACHEV, A.N., KHARITONOVA,  
I.V., SOSHNIKOV, V.G.  
COUNTRY OF INFO--USSR  
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 302-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ELECTROOPTIC EFFECT, CRYSTALLIZATION, ZINC SULFIDE, CRYSTAL  
GROWING, LIGHT TRANSMISSION, CRYSTAL ORIENTATION, LIGHT MODULATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--1996/147B STEP NO--UR/0070/70/015/002/0302/0307  
CIRC ACCESSION NO--AP0118467  
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118467

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CRYSTN. OF CUBIC ZNS BY THE HYDROTHERMAL METHOD WAS STUDIED UNDER THE CONDITIONS USED BY R. LAUDISE, ET AL. (1965), AND THE SPECTRAL DEPENDENCE WAS STUDIED FOR THE LIGHT TRANSMISSION, THE HALF WAVE POTENTIAL, AND ELECTROOPTICAL COEFFS. OF THE CRYSTALS. THE DEVIATIONS WERE DETD. FROM OPTICAL ISOTROPY. CRYSTALS PREPD. IN THIS WAY CAN BE ORIENTED AS REQUIRED IN THE FORM OF RECTANGULAR PARALLELEPIPEDS OF SUFFICIENT SIZE TO CARRY OUT ELECTROOPTICAL STUDIES. THE CRYSTALS THAT WERE OBTAINED ARE SUITABLE FOR PRACTICAL USE IN LIGHT MODULATION OVER THE RANGE OF WAVELENGTHS OF 0.4-13 MU. FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--NATURE OF FALSE PEAKS IN A FARVITRON, IRON MASS ANALYSIS, SPECTRUM  
AND MEANS FOR ELIMINATING THEM -U-  
AUTHOR-(04)-LINNIK, L.N., ~~LOBACHEV, K.I.~~, LINNIK, N.N., BATALOV, V.S.  
COUNTRY OF INFO--USSR  
SOURCE--PRIB. TEKH. EKSP. 1970, (2), 178-81. *L*  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--SPECTRUM, ION, OSCILLATION  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3007/0869 STEP NO--UR/0120/70/000/002/0178/0181  
CIRC ACCESSION NO--AP0136303  
UNCLASSIFIED



2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136303

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REASONS ARE GIVEN FOR THE OCCURRENCE OF FALSE, FRACTIONAL, AND MULTIPLE MASS PEAKS IN THE FARVITRON SPECTRUM. SOME MEASURES FOR PREVENTION OF FALSE PEAKS ARE DESCRIBED. BY USING THE RELATION BETWEEN THE AMPLITUDES OF THE SIGNALS OF THE MULTIPLE AND BASE MASS, IT IS POSSIBLE TO DET. THE COEFF. OF ION ESCAPE IN THE PROCESS OF OSCILLATION IN THE DRIFT SPACE.  
FACILITY: NAUCH. ISSLED. EKSP. INST. PERERAB. KHIM. VOLOKON, USSR.

UNCLASSIFIED

USSR

UDC: 538.61

KOLOTOV, O. S., LOBACHEV, M. I., and POGOZHEV, V. A.

"Stroboscopic Magneto-optical Device for Studying Polarity Reversal of Magnetic Tape"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 218-220

Abstract: The purpose of the equipment described in this paper is to observe the dynamic domains and to measure the integral pulse characteristics of magnetic tape. A block diagram of the device is shown; the magnetic-optical Kerr effect is used for observation of the domains, and the film being investigated moves through a magnetic field reversing device consisting of an M-shaped form and an erase winding. Photographs of the domains, obtained for films 1200 Å thick in a magnetic field intensity of four oersteds, are reproduced to show the formation of the edge domains and their spread to the central regions of the tape. The authors express their thanks to R. V. Telesnin for his valuable advice.

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USSR

UDC 681.325.66(088.8)(47):621.3.072.8

LOBACHEV, V. M., MASLOV, B. V., MOTENKO, N. I., and SHAGULIN, V. I.

"A Shaper for Control of Pulse-Potential Cascades"

USSR Author's Certificate No 285970, Filed 7 Apr 69, Published 12 Jan 71  
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya  
Tekhnika, No 8, 1971, Abstract No 8B182 P)

Translation: A shaper which controls pulse-potential cascades is being patented. It contains an emitter-repeater, the transistor of which is shunted by a diode. In order to decrease power consumption and to accelerate the process of discharging the capacitors of the control circuits, the diode indicated above is switched on in a direction opposite the shunted transition of the base-emitter of the transistor of the repeater. The latter, made from electrodes galvanically decoupled from the common line of the power supply, is charged simultaneously at all control resistors of the indicated pulse-potential cascades, each of which is connected with the corresponding output terminals via its own capacitor and an additional diode.

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USSR

UDC 599.32-12:616.981.452-036.22(252-925.2)

NAUMOV, N. P., LOBACHEV, V. S., IMITRIYEV, P. P., KANATOV, Yu. V., and SMIRIN, V. M., Moscow State University and Central Asian Antiplague Institute

"Experience in Studying the Dispersal Rate and Paths of Movement of Plague Epizootics in the Northern Desert"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 78-85

Abstract: Microbiological, immunological, and ecological data were employed to trace the paths and rates of plague epizootic dispersal northward across a front of over 200 km east of the Aral Sea in 1966-1969. Data were obtained for the most part from *Rhombomys opimus* Licht. and its parasites. Presence of animals with acute manifestations of plague and incomplete antibodies was assumed to suggest a new invasion. Prior to the period of investigation, plague foci were noted only on the outskirts of this territory following a rodent and ectoparasite eradication program conducted in 1958. In the spring 1966 northward dispersal began from foci just north of the Syr-Dar'ya River. Most progress occurred during 5 months of summer and fall and ranged from 15 to 50 km per year. By fall 1969 the epizootic became stabilized somewhat. Forward progress was stalled in areas that had been subjected to one-time eradication programs, but it was not entirely arrested. The radial dispersal of the

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NAUMOV, N. P., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii,  
No 2, 1973, pp 78-85

epizootic that was revealed suggests that the disease is spread predominantly  
through the dispersal of young *R. opimus*. This research demonstrates that  
epizootics can be traced reliably by direct observation in the field.

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USSR

UDC 591.132.8:598.9+616.981.452

LOBACHEV, V. S., LEVI, M. I., and LIVSHITZ, M. M., Moscow State University and Central Control-Research Laboratory of Moscow Municipal Disinfection Station

"Retention of the Specific Antigen of Plague Bacteria in Pellets of Predatory Birds"

Moscow, Zoologicheskii Zhurnal, Vol 50, No 10, 1971, pp 1593-1595

Abstract: Specific antigens found in the pellets of predatory birds which have eaten the corpses of infected rodents survive longer than the plague bacteria themselves. This experiment, in which a study was made of pellets of the little owl and the black kite after feeding on dead mice infected with the vaccinal strain EV, compares the antibody neutralization reaction with the passive hemagglutination reaction. The latter was more sensitive. The antigen is better preserved in the pellets of nocturnal predators and more concentrated in hair than in bones. Because of its efficiency, this method is one of the best to be utilized in epizootiological experiments with regard to small mammals.

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USSR

UDC 599.323.3:591.9(574)

LOBACHEV, V. S., SHENBROT, G. I., Department of Zoology and Comparative Vertebrate Anatomy, Moscow State University

"An Isolated Population of the Great Jerboa *Allactaga jaculus* (Mammalia, Dipodidae) on the Left Bank of the Syr-Dar'ya River"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 1, Jan 72, pp 156-157

Abstract: in the autumn of 1970, the great jerboa was found for the first time on the left bank of the lower regions of the Syr-Dar'ya River, 50 km west of Kazalinsk. The question of how and when the great jerboa penetrated this region remains as yet unsolved. The population of the great jerboa living at this location has been isolated from other populations of the species for a rather considerable period of time, judging by geomorphological and archaeological data (indeed for several centuries, apparently since the Middle Ages).

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USSR

UDC 648.7:599.323.4

SMIRNOV, A. A., LOBACHEV, V. S., and DENISOVA, A. V., Chair of Vertebrate Zoology, Moscow State University imeni M. V. Lomonosov, Moscow

"Effect on the Reproductive Capacity of Great Gerbils of Treatment of Plants in Their Settlements With Sevin"

Moscow, Nauchnyye Doklady Vyshey Shkoly, Biologicheskkiye Nauki, No 3, 1971, pp 29-33

Abstract: In an area 100 km east of the city of Aral'sk, plants in great gerbil (*Rhombomys opimus* Licht.) settlements were sprayed with sevin in the amount of 0.5 g/m<sup>2</sup>. The consumption of plant feed containing sevin, which was preserved for long periods of time in the animals' feed storage chambers, reduced the total number of embryos increased the number of resorbed embryos, and delayed fertilization of females as well as the time of exit of young animals from the burrows, so that the young animals lacked fresh plant food, which was no longer available during the hot weather. When the settlement area was treated with sevin, the number of animals in the settlements was reduced by a factor close to two and the number of inhabited settlements decreased. Introduction of sevin into the burrows of the great gerbil in large doses may be a method of controlling these animals in plague foci that  
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SMIRNOV, A. A., et al., Nauchnyye Doklady Vyshey Shkoly, Biologicheskiye Nauki, No 3, 1971, pp 29-33

is preferable to dusting of the burrows with DDT combined with spreading bait poisoned with zinc phosphide on the surface, these methods are being used now. The delayed action of sevin as compared with that of zinc phosphide is of advantage, because sevin is spread by the animals throughout the burrows. Sevin would exert its effect in the burrows in locations in which the fleas hatch and concentrate.

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USSR

UDC 599.323.4 Rhombomys:591.555

NAUMOV, N. P., DMITRIYEV, P. P., and LOBACHEV, V. S., Moscow State University

"Changes in Biocenoses in the Aral Kara Kum Caused by the Extermination of Great Gerbils"

Moscow, Zoologicheskii Zhurnal, Vol 49, No 12, Dec 70, pp 1758-1766

Abstract: The effect of the mass extermination of great gerbils in the Aral Kara Kum desert on the general biocenosis of the area was studied. The observations were conducted in the period of 1961 to 1967. Seed -- oats and wheat -- treated with 3% vegetable oil and 15-20% zinc phosphide was scattered throughout the desert in an area thickly populated with the rodents. The mass extermination of gerbils was gradually followed by the disappearance of mice, jerboas, and hamsters and in lesser numbers by disappearance of insectivora and reptiles. The disappearance of these animals produced a sharp change in the trophic conditions of the area with the result that the number of all types of vertebrates and predatory birds gradually diminished. The extermination of the gerbils and disappearance of other rodents led also to a change in the structure of the ground: the numerous nests and tunnels dug in the ground by

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NAUMOV, N. P., et al, Zoologicheskii Zhurnal, Vol 49, No 12, Dec 70,  
pp 1758-1766

the rodents gradually collapsed and filled, thereby changing also the vegetation character of the area. As a consequence of the change in the general biocenosis in the area, conditions were created favoring the breeding of herbivorous animals in the Aral Kara Kum desert.

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1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--VULCANIZATION OF UNSATURATED RUBBERS -U-  
AUTHOR--(04)-DOGADKIN, B.A., DONTSOV, A.A., LOBACHEVA, G.K., VERSHININA,  
N.M.  
COUNTRY OF INFO--USSR  
SOURCE--U.S.S.R. 267,062  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--01APR70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--VULCANIZATION, RUBBER, PYRIDINE, IODINATED ORGANIC COMPOUND,  
PATENT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1411 STEP NO--UK/0482/70/000/000/0000/0000  
CIRC ACCESSION NO--AA0128810  
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128810

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VULCANIZING AGENT, SUCH AS ALLYLPYRIDINIUM IODIDE, WAS USED TO VULCANIZE UNSATD. RUBBERS IN THE PRESENCE OF RADICAL INITIATORS. FACILITY: LOMONOSOV, M. V., INSTITUTE OF FINE CHEMICAL TECHNOLOGY, MOSCOW.

UNCLASSIFIED

USSR

UDC 612.822.3+612.821.6

MONAKHOV, K. K., RYMYANTSEVA, L. K., and LOBACHEVA, V. P., Laboratory of Neurophysiology, Institute of Psychiatry, Academy of Medical Sciences USSR, Moscow

"Spatial-Temporal Systems of Connections Between Evoked Activities in Conditioned Reactions in Man"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 23, No 2, Mar/Apr 73, pp 366-374

Abstract: The feasibility of investigating complex forms of conditioned activity according to the principle of systemic organization of electrical activity in the human brain is analyzed. Determinations of correlation connections (Cc) between evoked activities in different functional cortical areas during elaboration of a trace motor conditioned reflex (stimulation with light followed by verbal confirmation) revealed generation of high Cc between motor and visual areas at the beginning and at the end of the trace pause and a marked decrease in Cc in the middle of the pause. By means of a special computer algorithm, models of spatial-temporal systems were designed for Cc forming between the different cortical areas during the action of a non-signal stimulus and trace conditioning with a 5-sec delay. In this system, principal Cc exist between background activity and evoked activity in the first second after stimulation.

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USSR

MONAKHOV, K. K., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 23, No 2, Mar/Apr 73, pp 366-374

During conditioned activity, a Cc system is formed throughout the whole trace pause, with especially pronounced Cc appearing in the first and fifth second. When such a system is formed, motor reactions appear. The model is considered useful for defining systemic cerebral activity and the participation of individual functional areas.

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USSR

UDC: 681.332.65

CHERNIKHOV, Yu. V., IGNATENKO, A. D., LIBERMAN, V. L., ~~LOBACHEVSKIY, O. V.~~  
Scientific Research and Experimental Design Institute of Automation in Fer-  
rous Metallurgy

"A Method of Shaping Multiphase Pulse Supply Voltage for Combination Logic  
Circuits Based on Thyristors"

USSR Author's Certificate No 287119, filed 17 Mar 69, published 21 Jan 71  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct  
71, Abstract No 10B227 P)

Translation: This Author's Certificate introduces a method of shaping a  
multiphase pulse supply voltage for combination logic circuits based on  
thyristors by isolating a unipolar half-wave of sinusoidal voltage, shifting  
it in phase by 120 degrees, and adding the initial and shifted half-waves.  
In order to improve the reliability and noise suppression of the combination  
logic circuits, the aggregate pulse voltage of each phase is shifted by  
120 degrees with respect to the same voltage of the preceding phase.

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1/3 011 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--ISOTOPIC GEOCHRONOLOGY AND DEEP CRUSTAL STRUCTURE, ISOTOPIC  
GEOCHRONOLOGY AND DEEP CRUSTAL STRUCTURE -U-  
AUTHOR--(02)-KRATTS, K.O., LOBACHZHUCHENKO, S.B.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, GEOTEKTONIKA, NO 2, 1970, PP 74-79  
DATE PUBLISHED-----70  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, NUCLEAR SCIENCE AND  
TECHNOLOGY  
TOPIC TAGS--GEOCHRONOLOGY, EARTH CRUST AGE, ISOTOPE, GEOLOGY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1990/1648 STEP NO--UR/9066/70/000/002/0074/0079  
CIRC ACCESSION NO--A0109649  
UNCLASSIFIED

2/3 011

UNCLASSIFIED

PROCESSING DATE--09DCT70

CIRC ACCESSION NO--AP0109649  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EXPERIENCE IN STUDYING PRECAMBRIAN REGIONS IN THE USSR SHOWS THAT ISOTOPIC GEOCHRONOLOGICAL DATA CAN BE EXTREMELY VALUABLE IN STUDYING OTHER ASPECTS OF GEOLOGY SUCH AS CRUSTAL STRUCTURE, THE SPECIFIC NATURE OF ITS DEEP ZONES, CHARACTERISTICS OF REGIONAL STRUCTURES, ETC. THERE IS SOME INTERRELATIONSHIP BETWEEN DATA FROM ISOTOPIC GEOCHRONOLOGY AND DEEP CRUSTAL STRUCTURE WHICH SUGGESTS THAT THE ISOTOPIC AGE OF ROCKS (MINERALS) REFLECTS CRUSTAL STRUCTURE. THIS ARTICLE GIVES SOME NEW, PRESENTLY UNEXPLOITED METHODOLOGICAL POSSIBILITIES OF ISOTOPIC GEOCHRONOLOGY IN THE STUDY OF COMPLEX GEOLOGICAL PROBLEMS. FOR EXAMPLE, COMPARISON OF THE MAP OF DEEP STRUCTURE OF THE BALTIC SHIELD AND A GEOCHRONOLOGICAL MAP OF THIS SAME AREA REVEALS A SURPRISING CORRESPONDENCE BETWEEN THE GEOCHRONOLOGICAL AND GEOPHYSICAL FIELDS AND ACCORDINGLY WITH CRUSTAL BLOCKS HAVING DIFFERENT STRUCTURE. IN THE ARE OF THE EASTERN BLOCK THERE IS A GEOCHRONOLOGICAL FIELD CORRESPONDING TO THE SAAMO-KARELIAN GEOCHRONOLOGICAL ZONE, CHARACTERIZED BY AN AGE IN THE RANGE FROM 3,000 TO 1,700 MILLION YEARS. THIS AND MANY OTHER EXAMPLES CITED BY THE AUTHORS SHOW THAT LARGE GEOCHRONOLOGICAL FIELDS CORRESPOND TO LARGE CRUSTAL BLOCKS DEFINED ON THE BASIS OF GEOPHYSICAL DATA, DIFFERING FROM ONE ANOTHER IN THEIR DEEP STRUCTURE. THE BOUNDARIES MARKING THE LIMITS OF GEOCHRONOLOGICAL FIELDS AT THE SAME TIME REFLECT THE PRINCIPAL VERTICAL DISCONTINUITIES, DEEP FAULTS BOUNDING LARGE CRUSTAL BLOCKS DIFFERING IN DEEP STRUCTURE.

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373 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109649

ABSTRACT/EXTRACT--IT IS CLEAR THAT THE ISOTOPIC GEOCHRONOLOGICAL CHARACTERISTICS OF TERRITORIES OF ANCIENT SHIELDS HAVE A DEFINITE CORRESPONDENCE TO THE GEOPHYSICAL CHARACTERISTICS OF THESE AREAS AND REFLECT BOTH THE GEOLOGICAL AND DEEP STRUCTURE OF THE CRUST WITHIN THEIR LIMITS. ACCORDINGLY, ISOTOPIC GEOCHRONOLOGY FOR EXTENSIVE AREAS, TOGETHER WITH OTHER METHODS, CAN BE USED FOR THE DETECTION AND MAPPING OF LARGE STRUCTURES OF SEGMENTS OF THE CRUST. ISOTOPIC GEOCHRONOLOGY CAN BE USED IN DETERMINING THE TIME OF FORMATION OF SUCH STRUCTURES AND FOR STUDYING THE CHARACTERISTICS OF THEIR STRUCTURE AND DEVELOPMENT. AS A RESULT, AN APPROACH CAN BE MADE TO STUDYING THE SEQUENCE OF DEVELOPMENT OF LARGE CRUSTAL STRUCTURES, THE NATURE OF THEIR CROSS SECTIONS AND CRUSTAL DEVELOPMENT AS A WHOLE.

UNCLASSIFIED

USSR

UDC 911.3:616.936(470.311)

LOBAN, K. M., and POLOZOK, Y. S.

"The Problem of Clinical Characteristics of Imported Malaria and the Effectiveness of Modern Methods for Its Cure"

V sb. Materialy XV Vses. syezda epidemiologov, mikrobiologov i infektsionistov, Tezisy Dokl. Ch 2 (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 2 -- collection of works), Moscow, 1970, pp 66-68 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36. 294)

Translation: In 1961-1969, 234 malaria cases were recorded in Moscow, of which 174 had come from Africa, 56 from Southeast Asia, and 3 from Latin America. There were 137 Soviet citizens, and the remaining 97 were foreigners, mostly Africans. Tropical malaria (50.5% of the cases), tertian malaria (31.7%), and P. ovale malaria (14.7%) were observed.

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USSR

UDC 616.932-085.2

ZHUKOV-VEREZHNIKOV, N. N., LOBAN, K. M., and BAYZHANOV, T., Scientific Research Laboratory of Immunobiology Academy of Medical Sciences USSR and Chair of Infectious Diseases Patrice Lumumba Peoples Friendship University

"Chemotherapy in the Comprehensive Treatment of Cholera Patients"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 17-19

Abstract: Experience has shown that cholera patients recover best when they are given comprehensive treatment that includes etiological, pathogenetic, and symptomatic measures. The severe loss of body fluids can be offset by infusing isotonic solutions of NaCl, NaHCO<sub>3</sub>, and KCl (5-7 liters per day initially, later an amount equal to the loss). If the disease involves cardiovascular collapse and extrarenal coma, it is also necessary to infuse blood extenders and detoxifying substances (e.g., polygluconates), cardiac glycosides, vasopressors, and large amounts of corticosteroids. Bacteriostatic and bacteriocidal antibiotics should be given for 7-8 days, at first parenterally and then, after vomiting subsides by mouth. The most effective are levomycetin, tetracyclines, signamycin, and oletetrim. In over 90 percent of the patients treated, cholera vibrios disappeared from the faeces after 24 hours. The duration of diarrhea and vomiting

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ZHUKOV-VEREZHNIKOV, N. N., et al, Sovetskaya Meditsina, Vol 33, No 7, Jul 70.  
pp 17-19

was half that of patients who received no antibiotics, and the period of convalescence was also shortened. When rehydration solutions and antibiotics are given in the initial stage of the disease, the acute form of cholera is prevented.

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Controls

USSR

UDC: 621.373.43:621.397.62(088.8)

TIKHOMIROV, L. M., BELYAYEV, R. P., LOHAN, V. I., KUBAREV, N. S.

"A Device for Automatic Frequency and Phase Control"

USSR Author's Certificate No 265962, filed 8 Jun 66, published 1 Jul 70  
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D/4 P)

Translation: This Author's Certificate introduces a device for automatic frequency and phase control based on a cold-cathode tube. The tube has a discharge preparation electrode connected through a resistor to a voltage source, and a controlling electrode connected through a capacitor to a source of synchronization pulses. The plate circuit is connected through a capacitor to a sawtooth voltage source and through an RC filter to the output. The discharge preparation electrode is connected through a resistor to the filter capacitor.

1/1

USSR

UDC 621.397.332

TIKHOMIROV, L. M., LOBAN, V. I., SAVINA, V. A.

"Line Scanning Generator"

USSR Author's Certificate No 274156, Filed 8 Jun 66, Published 1 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G91P)

Translation: The schematic of a line scanning output cascade is patented. In this device a thyatron anode is connected to the auxiliary winding of the transformer via a capacitance, and the controlling electrode of the auxiliary winding is connected via a capacitive divider. The scheme is distinguished by the fact that in order to improve the degree of stabilization, the preparatory electrode of the mentioned thyatron is connected via a resistor to the power supply, and the anode of the thyatron is connected via a resistive divider and an integrating circuit to the control grid of the amplifying tube.

1/1



USSR

UDC: 621.397.332.1

TIKHOMIROV, L. M., LOBAN, V. I., SAVINA, V. A.

"A Line Scanning Oscillator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraboty, Tovarnyye Znaki, No 21, 1970, Author's Certificate No 274156, filed 8 Jun 66, p 40

Abstract: This author's certificate introduces a line scanning oscillator for a television receiver. The device contains an amplifier tube, a damper diode, and an output transformer which has an additional winding to which a device is connected for stabilizing the line scanning parameters. This device is based on a nonlinear element such as a thyatron. The anode of the thyatron is connected through a capacitor to the auxiliary winding of the output transformer, while the control electrode of the tube is connected through a capacitive divider to the same winding. As a distinguishing feature of the patent, the degree of stabilization of the scanning oscillator parameters is improved by connecting the preparatory electrode of the thyatron through a resistor to the power supply, while the anode is connected through a resistor divider and an integrating circuit to the control grid of the amplifier tube.

1/1

- 343 -

Acc. Nr.: APC029429

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 85 - 88

CHARACTERISTICS OF DRUG RESISTANCE IN DYSENTERY BACTERIA ISOLATED  
IN MINSK

T. Ye. Lobanok, Yu. K. Fomichev

Byelorussian Institute for Epidemiology and Microbiology, Byelorussian V. I. Lenin  
University

Sensitivity to 4 drugs (streptomycin, chloramphenicol, tetracycline and norsulfazol) of 711 strains of dysentery bacteria, isolated from dysentery cases in Minsk within a number of years was studied. It was shown that 316 isolates were resistant to the above antibacterial preparations, 90.1 per cent of the resistant cultures being polyresistant. Studies in vitro with mixed cultures of sensitive F-bacteria (E. coli K-12 W1485) and resistant Shigella strains demonstrated that the latter transferred the property of drug resistance to the recipient strain in 61.6 per cent of the cases. On the basis of this factor it is concluded that Shigella strains capable of transferring the property of resistance to F-bacteria are the carriers of R-factors.

REEL/FRAME

19681025

69m

USSR

UDC 546.561'23/24:537.311.33+537.323

ASTAKHOV, O. P., and LOBANKOV, V. V.

## "Electrical Properties of Copper Sulphotellurides"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2082-2084

Abstract: Alloys of the form  $\text{Cu}_2\text{Te}_x\text{S}_{1-x}$  were synthesized and their properties studied. X-Ray analysis showed that for  $x > 0.5$  the alloy was a solid solution based on  $\text{Cu}_2\text{Te}$ . Plots of the electrical conductivity  $\sigma$  and the coefficient of the thermal electromotive force  $\alpha$  against temperature in the range 700-1500°K both show significant changes in slope around 1200°K for alloys having  $x = .25$ ,  $x = .50$ , and  $x = .75$ . For the alloy  $x = .75$ , the Hall coefficient decreases monotonically with an increase in temperature from  $4.5 \times 10^{-3}$  to  $2.0 \times 10^{-3} \text{ cm}^3$ . This change may be related to the increase in defects due to disordering. Plots of concentration dependence of the coefficient of thermal emf and conductivity against mole %  $\text{Cu}_2\text{Te}$  at three temperatures -- 950°K, 1100°K, and 1460°K -- showed a general decrease for  $\alpha$  and an increase for  $\sigma$  with increasing  $\text{Cu}_2\text{Te}$ .

1/1

Materials

USSR

UDC 621.362.2

KAZANDZHAN, B. I., LOBANOV, A. A., SELIN, Yu. I., TSURIKOV, A. A.

"Electrical Conductivity and Thermoelectromotive Force of  $Tl_2Te$  and  $Tl_2Se$  in the Molten State"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1970, vyp. 75, pp 163-165 (from PZh-Elektrotehnika i Energetika, No 1, Jan 71, Abstract No 1A158)

Translation: The conductivity  $\sigma$  and thermoelectromotive force of  $Tl_2Te$  and  $Tl_2Se$  in the molten state are measured at temperatures from 700 to 1150°K. The width of the forbidden band is 0.75 eV for  $Tl_2Te$  and 1.02 eV for  $Tl_2Se$ . Two illustrations, bibliography of five titles.

1/1

USSR

UDC 624.21.093

DROZD, YA. I., Honored Worker in Science and Technology; PASTUSHKOV, G. P.,  
LOBANOV, A. T., Candidates of Technical Sciences

"33-Meter Diaphragmless Bridge Beam of Prestressed Algophorite Concrete"

Moscow, Beton i zhelezobeton, No. 12, Dec 71, pp 13-15

Abstract: A study of the use of prestressed algophorite concrete in highway bridges connected by the Belorussian Polytechnical Institute in conjunction with the Main Administration of Highways under the Council of Ministers BSSR is described. A bridge beam without diaphragms of length 33 m was designed and fabricated for a G-7 span structure. The span structure was designed for loads of M-30 and NK-80. The following composition was used per cubic meter of concrete: type 500 portland cement 480 kg, quartz sand (M-2.59) 575 kg, algophorite rubble with a fraction 5-20 mm satisfying requirements of GOST 11991-66, 658 kg and water 192 l. The tests showed that algophorite concrete can be used successfully to produce reliable bearing structures. A correct calculation of the three-dimensional operation of elements of a spanning structure and replacement of heavy concrete with algophorite concrete produced significant economies: the mass of the beams was reduced by 21.9% and the number of high-strength reinforcement rods was reduced by 21.8%. The rating of the concrete could be lowered from 400 to 350. The same formulas as for heavy concrete can be used to calculate these elements for strength in terms of normal cross sections.

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ATO014967

CHEMICAL ABSTRACT

1-70 U R O 139

7661a Spectral characteristics of the various types of KCl-Ag luminescence. Lobanov, B. D. (Irkutsk, Gosuniv. im. Zhdanov, Irkutsk). *Izv. Vyssh. Ucheb. Zaved. Fiz.* 1969, 12(9), 132-137 (Russ.). KCl phosphors contg. 0.1, 0.1, 1.0, and 4.2 millimoles % Ag, resp., were investigated. The photoluminescence spectrum exhibits bands at 410 and 540 nm at 90°K; the former band is excited at 278-247 nm and is attributed to the 1st-order centers representing cation-exchanged Ag ions. The green luminescence, excited at 260 and 238 nm, is assigned to the activator centers of the 2nd kind. The contribution of emission from  $\alpha$ -centers as well as from O-impurity is discussed. In x-ray luminescence spectra, the radiation from  $V_K$  centers with luminescence at 375 nm predominates at 90°K; the bands at 410, 475, and 540 nm, connected with the activator, appear successively on increasing the temp. In the thermoluminescence spectra peaks are found at 105, 160, and 250°K after x-raying at 90°K. The photostimulated luminescence spectra were studied: after x-raying at 90°K, phosphorescence at 375 and 560 nm was observed; the former is attributed to the recombination of electrons with the  $Ag^{2+}$  centers, the green luminescence in the 1st thermostimulation peak to the recombination of the  $V_K$  vacancies with the  $Ag^0$  centers. A band at 475 nm appears on x-raying only at room temp.; it is not observed in photoluminescence and has the recombination character. P. Adamek

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USSR

UDC 62-135-251:534.1

LOBANOV, B. K.

"Application of Statistical Methods in the Designation of Initial Rotor Disbalance"

Moscow, Dinamika Girk. Rotorov -- Sbornik (The Dynamics of Flexible Rotors -- Collection of Works), Nauks, 1972, pp 74-77 (from Referativnyy Zhurnal -- Turbo-stroyeniye, No 1, 1973, Abstract No 1,49,108)

Translation: Consideration is given to an approach to the problem, and its solution, using the mechanism of probability theory and mathematical statistics. The problem deals with a weightless shaft, with concentrated masses possessing radial and angular eccentricities. The deflections, the angles of rotation, the transverse forces, and the tangential moments at cross sections of the rotor are determined. These expressions are used for evaluating the selected set of values of disbalance of the component rotor subassemblies. The confidence coefficient is determined on the basis of the rotor behavior function and its dispersion. The relation of the confidence coefficient to the probability of a normative value of initial disbalance is determined. 1 figures, 1 table, 4 references.

1/1

- 48 -

USSR

UDC 62-135-251.534.1

LOBANOV, B. K.

"Application of Statistical Methods in the Designation of Initial Rotor Disbalance"

Moscow, Dinamika Gibk. Rotorov -- Sbornik (The Dynamics of Flexible Rotors -- Collection of Works), Nauks, 1972, pp 74-77 (from Referativnyy Zhurnal -- Turbostroyeniye, No 1, 1973, Abstract No 1.49.108)

Translation: Consideration is given to an approach to the problem, and its solution, using the mechanism of probability theory and mathematical statistics. The problem deals with a weightless shaft, with concentrated masses possessing radial and angular eccentricities. The deflections, the angles of rotation, the transverse forces, and the tangential moments at cross sections of the rotor are determined. These expressions are used for evaluating the selected set of values of disbalance of the component rotor subassemblies. The confidence coefficient is determined on the basis of the rotor behavior function and its dispersion. The relation of the confidence coefficient to the probability of a normative value of initial disbalance is determined, 1 figures, 1 table, 4 references.

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- 48 -



USSR

UDC 62-135-251:534.1

LOBANOV, B. K.

"Application of Statistical Methods in the Designation of Initial Rotor Disbalance"

Moscow, Dinamika Gibk. Rotorov -- Sbornik (The Dynamics of Flexible Rotors -- Collection of Works), Nauks, 1972, pp 74-77 (from Referativnyy Zhurnal -- Turbostroyeniye, No 1, 1973, Abstract No 1.49.108)

Translation: Consideration is given to an approach to the problem, and its solution, using the mechanism of probability theory and mathematical statistics. The problem deals with a weightless shaft, with concentrated masses possessing radial and angular eccentricities. The deflections, the angles of rotation, the transverse forces, and the tangential moments at cross sections of the rotor are determined. These expressions are used for evaluating the selected set of values of disbalance of the component rotor subassemblies. The confidence coefficient is determined on the basis of the rotor behavior function and its dispersion. The relation of the confidence coefficient to the probability of a normative value of initial disbalance is determined. 1 figures, 1 table, 4 references.

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- 48 -

USSR

UDC 62-135-251:534.1

LOBANOV, B. K.

"Application of Statistical Methods in the Designation of Initial Rotor Disbalance"

Moscow, Dinamika Gibk. Rotorov -- Sbornik (The Dynamics of Flexible Rotors -- Collection of Works), Nauks, 1972, pp 74-77 (from Referativnyy Zhurnal -- Turbostroyeniye, No 1, 1973, Abstract No 1.49.108)

Translation: Consideration is given to an approach to the problem, and its solution, using the mechanism of probability theory and mathematical statistics. The problem deals with a weightless shaft, with concentrated masses possessing radial and angular eccentricities. The deflections, the angles of rotation, the transverse forces, and the tangential moments at cross sections of the rotor are determined. These expressions are used for evaluating the selected set of values of disbalance of the component rotor subassemblies. The confidence coefficient is determined on the basis of the rotor behavior function and its dispersion. The relation of the confidence coefficient to the probability of a normative value of initial disbalance is determined. 1 figures, 1 table, 4 references.

1/1

- 48 -

USSR

UDC: 547.26.118

MATROSOV, Ye. I., TSVETKOV, Ye. N., ~~LOBANOV, D. I.~~, MALEVANNAYA, R. A.,  
KABACHNIK, M. I., Institute of Organoelemental Compounds, Academy of Sciences  
of the USSR

"Association of Substituted Phosphinylbenzoic and Phosphinyl-p-toluic Acids  
According to the Data of Infrared Spectra"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1218-1223

Abstract: IR-spectroscopy was used to study the nature of association in  
carboxylic acids containing the phosphoryl group. The study specimens were  
chiefly certain phosphinylbenzoic  $R_2P(O)C_6H_4COOH$  and  $\alpha$ -phosphinyltoluic  
 $R_2P(O)CH_2C_6H_4COOH$  acids with various substituents at the phosphorus atom. It  
was shown that in the crystalline state association takes place principally  
through the formation of strong intermolecular H bonds with participation of  
the phosphoryl groups. A reduction in the basicity of the phosphorus substit-  
uent in the case of diphenylthiophosphinyl-substituted acids leads to dimeriza-  
tion on the carboxylic acid pattern. In chloroform, the polymer associates  
formed through the participation of phosphoryl groups in the H bonds are des-  
troyed, and dimer association becomes a predominant type. In proton-acceptor  
solvents (tetrahydrofuran, acetonitrile), molecules of free acids bound to the  
solvent by H bonds are observed in addition to the polymer associates.

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- 27 -

USSR

UDC: 547.558.1

TSVETKOV, Ye. N., MAKHAMATKHANOV, M. M., LOBANOV, D. I., and KABACHNIK, M. I.,  
Institute of Organoelemental Compounds, Academy of Sciences of the USSR

"Electronic Effect of Phosphorus-Containing Substituents. Constants  $\sigma_m$  of  
Diphenylphosphino-, Diphenylphosphinyl and Diphenylthiophosphinyl Groups"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2387-2390

Abstract: This paper is a continuation of research on synthesis of phosphorus-containing phenols and determination of their ionization constants. The constants  $\sigma_m$  are calculated for the  $(C_6H_5)_2P^-$ ,  $(C_6H_5)_2P(O)^-$  and  $(C_6H_5)_2P(S)^-$  groups by using the ionization constants of the corresponding meta-substituted phenols. The phosphorus-containing phenols -- m-diphenylphosphino-, m-diphenylphosphinyl-, and m-diphenylthio-phosphinylphenols -- were synthesized by Lamza's method (*J. pr. Chem.*, 25, p 294, 1964). The ionization constants of these phenols were determined by potentiometric titration in a water-alcohol mixture (1:1 by volume) at 25°C. The constants  $\sigma_m$  were then calculated by a previously derived formula. The results are tabulated.

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USSR

UDC: 547.558.1

TSVETKOV, YE. N., MAKHAMATKHANOV, M. M., LOHANOV, D. I., and KABACHNIK, M. I., Institute of Organoelemental Compounds, Moscow, Academy of Sciences USSR

"Ionization Constants of m- and p-Dimethylphosphinophenols"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, pp 500-501

Abstract: In connection with the study of p- $\pi$  conjugation in trivalent phosphorus compounds, the authors prepared m- and p-dimethylphosphinophenol hydrobromides by dealkylation of the corresponding dimethylphosphinoanils with 48 percent hydrobromic acid. The ionization constants of the resultant compounds were determined by potentiometric titration in water at 25° in an argon current. m-Dimethylphosphinophenol hydrobromide:  $pK_{a1} = 5.89 \pm 0.04$ ,  $pK_{a2} = 9.66 \pm 0.04$ . p-Dimethylphosphinophenol hydrobromide:  $pK_{a1} = 6.75 \pm 0.04$ ,  $pK_{a2} = 9.41 \pm 0.04$ .

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1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--NUCLEOPHILIC CONSTANTS OF SOME GROUPS CONTAINING PHOSPHORUS (V) -U-  
AUTHOR--TSVETKOV, YE.N., MAKHAMATKHANOV, M.M., LOBANOV, D.I., KABACHNIK,  
M.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 178-80  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--OXIDATION, ORGANIC PHOSPHORUS COMPOUND, PHOSPHINE SULFIDE,  
POTENTIOMETRIC TITRATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1984/1667 STEP NO--UR/0062/70/000/001/0178/0180  
CIRC ACCESSION NO--AP0100271  
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100271

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXIDN. OF APPROPRIATE PHOSPHINES WITH H SUB2 O SUB2 OR ADDN. OF S TO THESE GAVE THE FOLLOWING XC SUB6 H SUB4 OH (X, M.P., PKA AND HAMMETT SUBSTITUENT CONSTANT SHOWN, RESP.): P, ME SUB2 P (O), 188-9DEGREES, 8.45, 0.62; M, ME SUB2 P (O), 165-6DEGREES, 8.90, 0.42; P, ME SUB2 P (S), 104-5DEGREES, 8.44, 0.62; M, ME SUB2 P (S), 69 TO 70DEGREES, 8.87, 0.43; P, ME SUB3 P (IODIDE SALT), 248-9DEGREES, 7.55, 1.02; AND M, ME SUB3 P (IODIDE SALT), 219-20DEGREES, 8.03, 0.81. THE PKA VALUES WERE OBTAINED POTENTIOMETRICALLY IN AQ. SOLN. THE SUBSTITUENT CONSIS. SIGMA PRIME NEGATIVE WERE CALCD. FROM PKA DATA BY THE CORRELATION EQUATION: PKA EQUALS 9.87 PLUS 2.217 SIGMA PRIME NEGATIVE. THE ABOVE X GROUPS ARE SOMEWHAT LESS EFFECTIVE AS POLAR SUBSTITUENTS THAN ARE THE ETO SUB2 C AND AC GROUPS.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--IONIZATION CONSTANTS FOR M AND P DIMETHYLPHOSPHINOPHENOLS -U-  
AUTHOR--(04)-TSVETKOV, YE.N., MAKHAMTKHANOY, M.M., LOBANOY, D.I.,  
KABACHNIK, M.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 500-1  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--IONIZATION, ORGANIC PHOSPHORUS COMPOUND, PHENOL,  
POTENTIOMETRIC TITRATION, DEALKYLATION, ISOMER, MOLECULAR ORBITAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1995/1397 STEP NO--UR/0079/70/060/002/0501/0500  
CIRC ACCESSION NO--AP0116844  
UNCLASSIFIED



2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116844

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEALKYLATION OF ANISOLE ANALOGS WITH 48PERCENT HBR GAVE M ME SUB2 PC SUB6 H SUB4 OH.HBR, M. 142-3DEGREES, PKA SUB1 5.89, PKA SUB2 9.66; PARAIOMER, M. 214-15DEGREES, PKA SUB1 6.75, PKA SUB2 9.41. THE PKA VALUES WERE CALCD. FROM POTENTIOMETRIC TITRN. DATA AT 25DEGREES. THE PKA VALUES ARE COMPLEX OR MACROSCOPIC CONSTS. IN WHICH BETAIN FORMATION IS REGLIGIBLE IN THE META ISOMER BUT APPRECIABLE IN THE PARA ISOMER. THUS THE 1ST PKA REFERS TO LOSS OF PROTON FROM THE P ATOM, WHILE THE 2ND PKA COVERS THE IONIZATION OF THE HO GROUP. THE PKA SUB2 VALUES ARE BELIEVED TO REFLECT THE ELECTRONIC EFFECTS OF THE ME SUB2 P GROUP AND THE LARGER VALUE OF THE PARA ISOMER INDICATES THE ELECTRON ACCEPTOR NATURE OF THE ME SUB2 P GROUP OWING TO THE ABSENCE OR SMALLNESS OF THE P PI CONJUGATION AND THE EXISTENCE OF THE ACCEPTOR TYPE OF CONJUGATION WITH THE HIGHER VACANT ORBITALS IN P. FACILITY: INST. ELEMENTOORG. SUEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.241

TSVETKOV, YE. N., MAKHAMATKHANOV, M. M., LOBANOV, D. I., and KABACHNIK, M. I.,  
Institute of Elementoorganic Compounds, Academy of Sciences USSR

"Electronic Influence of Phosphorus-Containing Substituents: The  $\sigma^-$  and  $\sigma^m$   
Constants for Dimethylphosphino-, Dimethylphosphinyl, dimethylethiophosphinyl,  
and Trimethylphosphonyl Groups"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 769-779

Abstract: The synthesis was reported for a number of phenol derivatives having the groups  $(\text{CH}_3)_2\text{P}$ ,  $(\text{CH}_3)_2\text{P}(\text{O})$ ,  $(\text{CH}_3)_2\text{P}(\text{S})$ , and  $\text{CH}_3)_3\text{P}^+$  in the meta and para positions. The electrophobic character ( $\sigma^-$  and  $\sigma^m$ ) of each derivative was calculated. The ionization constant of each derivative was measured by potentiometric titration in water and in a 1:1 by volume mixture of ethanol and water. The influence of the  $\sigma^-$  and  $\sigma^m$  on the  $\text{pK}_a$  values (7.55 to 10.90) is essentially the same for all groups. The Bronsted equations describing the relationship between the  $\text{pK}_a$  for water and the  $\text{pK}_a$  for alcohol are given. The C-H vibrational frequencies were determined by IR; NMR spectra were also examined. All the data indicate that the studied substituents are  $\pi$ -acceptors and are directly related to reactive electron-donor centers.

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Acc. Nr:

AP0034220

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

UR 0078

71269s Complexing of titanium with *N*-benzoyl- and *N*-cinnamoylphenylhydroxylamines studied by an extraction method. Lobanov, F. L.; Savostina, V. M.; Fes'kova, V. M.; Shpigun, O. A.; Peshkova, V. M. (Mosk. Gos. Univ., Moscow, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 101-4 (Russ). Ti(IV) was extd. from 6*N* HClO<sub>4</sub> by C<sub>6</sub>H<sub>6</sub> soln. of *N*-benzoylphenylhydroxylamine (HA) or *N*-cinnamoylphenylhydroxylamine (HA'). Extn. consts. (*k*) by HA and HA', given as log *k*, are 9.61 ± 0.04 and 9.94 ± 0.04, resp. Stability consts. (*K*<sub>1</sub> to *K*<sub>3</sub> and β), detd. by the Bjerrum or by the L. Sillen-D. Dyrssen (1953) are tabulated. For HA-Ti(IV) complex, log β<sub>4</sub> is ~46.2 and for HA'-Ti(IV) complex ~52.0. HMIR

REEL/FRAME

19710873

USSR

LOBANOV, G., GONCHAROV, V., TRET'YAKOV, YE., Journal Correspondents

"Reservoir on the Kuban'"

Moscow, Gidrotekhnika i melioratsiya, No. 12, Dec 71, pp 4-18

Abstract: The Krasnodar Reservoir was built to equalize the flow of the Kuban' River which changes by a factor of 20 over a year, from 100 to 2,000 m<sup>3</sup>/sec. The basic dam is located at the eastern boundary of Krasnodar. This dam and the high right bank of the Kuban' form the basin of the dam. Its capacity is 3100 million cubic meters and the area is 40,000 hectares. At the present time 600,000 hectares are under constant flooding. The dam ensures a stable water supply for the fishing industry and improves shipping conditions on the Kuban'. The story of the construction of the reservoir is given.

1/1

- 25 -

Catalysis

USSR

UDC 541.128.12.13

BAKHMEN, N. N., ~~LOBANOV, I. N.~~, MARGOLIS, L. Ya., NIKIFOROV, V. S., and SAKHAROV, M. M., Institute of Chemical Physics, Acad. Sc., USSR, Moscow

"Heterogeneous-Homogeneous Catalysis in the Combustion of Mixture Systems"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 5, Feb 72, pp 1107-1110

Abstract: Combustion rate of condensed mixture systems may be increased 2-2.5 fold by addition of small amounts of compounds of iron, chromium, copper, silicon, and other elements. Many of these compounds are known catalysts for deep oxidation of hydrocarbons and ammonia. It has been proposed that the entire mixture or at least considerable portion of it reacts at the surface of catalyst particles. To check this proposition, a theoretical calculation was derived for the rate of the catalyzed reaction. From theoretical considerations the conclusion was reached that a heterogeneous-homogeneous catalytic process takes place. Active products are formed on the surface of the catalyst particles, the active products even at low concentrations increase considerably the homogeneous reaction rate. Support for the heterogeneous mechanism of catalysis during combustion is found in the relationship between the combustion rate and the catalyst  
1/2

USSR

BAKHMEN, N. N., Doklady Akademii Nauk SSSR, Vol 202, No 5, Feb 72, pp 1107-1110

concentration. The effectiveness of the catalyst increases only at low concentrations. Further support for this mechanism rests on the fact that with small additions of the catalyst either an acceleration or inhibition of the combustion may occur -- a phenomenon impossible to explain by the reaction of the mixture on the surface of catalyst particles.

2/2

- 6 -

PHYSICS

Electricity & Magnetism

USSR

KOMIN, A. V., LOBANOV, K. M., and USTYUZHANINOV, V. G.

"Effect of an Electric Field on Particle Movement in a Stellarator"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970, pp 1,346-1,350

Abstract: The equipotential surfaces of the electric field in question in this article coincide with the magnetic surfaces of the stellarator. The method followed by the authors in making their calculations is to solve, by the Runge-Kutta method, the system of differential equations describing the motion of charged particles in the electric and magnetic fields. These equations are given in vector form. Since the exact analytic expression for the magnetic surfaces is unknown, the averaged magnetic surfaces experimentally corrected in the separatrix region to reduce the divergence between the true and equipotential magnetic surfaces are used. The results of the computations indicate that the electric field strongly affects the particle trajectories. The authors express their gratitude to R. Z. Sagdeyev and A. A. Galeev for their useful comments.

1/1

USSR

UDC: 621.372.852.3

LOBANOV, N. P., KAROZIN, A. P.

"A Waveguide Attenuator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzyy, Tovarnyye Znaki, No 4, 1970, p 193, patent No 249433, filed 15 Apr 68

Abstract: This Author's Certificate introduces a waveguide attenuator which contains a waveguide section partly filled by a dielectric vessel with running water. As a distinguishing feature of the patent, matching is improved and the limits of attenuation control are extended by making the dielectric vessel in the form of a spindle-shaped flask. This flask is stretched out along the horizontally mounted waveguide section and is connected through two apertures in the middle of the lower broad wall of the waveguide to pipes for water inlet and outlet. The flask is connected by an aperture in the middle of the upper broad wall of the waveguide to a dielectric water outlet pipe. Attenuation is regulated by immersing the water outlet pipe in the flask.

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UDC 546.185

USSR

KORNUA, P. P., KALENSKAYA, A. I., LOBANOV, O. P., and SHEVCHENKO, V. I.,  
Institute of Organic Chemistry, Academy of Sciences, UkrSSR

"Phosphorylation of Monocyanoaminoethylenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43(105), No 2, Feb 73, pp 261-267

Abstract: 1,1-Dicyano-2-aminoalkenes react with phosphorus pentachloride forming cyclic phosphorylation products -- 1,1,5-trichloro-4-cyano-3-R-1,2,6-phosphadiazines. In contrast, monocyanoaminoethylenes which are capable of cis-trans isomerization react with phosphorus pentachloride in two ways forming acyclic trichlorophosphazo-1,2-dialkyl(diaryl)-2-cyanoethylenes and cyclic 1,1,5-trichloro-3,4-dialkyl(diaryl)-1,2,6-phosphadiazines. Monocyanoaminoethylenes are much more reactive than dicyanoaminoethylenes. The latter react with phosphorus pentachloride at 80° and higher, while the monocyanoaminoethylenes react already at 20-25°, slightly exothermally. Acyclic trichlorophosphazocycanoethylenes isomerize in the presence of HCl to cyclic phosphadiazines.

1/1

USSR

UDC 538.4

BICHENKOV, Ye. I., VOYTENKO, A. Ye., LOBANOV, V. A., LYUBIMOVA, M. A.

"Experimental Studies of Rapid Compression of Magnetic Flux in Cumulative Magnetic Systems"

7-ye Soveshch. po Magnit. Gidrodinamike. T. 1 [Seventh Conference on Magnetic Hydrodynamics, Vol 1], Riga, Zinatnye Press, 1972, pp 214-216, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 Bi6 by I. M. Rutkevich).

Translation: A description is presented of an experimental explosive magnetic installation, producing magnetic field intensities in an inductive load of around 2.6 Moe in a time of less than 100 psec. The working volume, from which the magnetic field is extracted into the load, is the space between eccentrically placed copper cylindrical rings. The interior of the smaller of the cylinders is filled with an explosive charge. An oscillogram of current and its derivative with respect to time is presented for one experiment.

1/1

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LOBANOV, V. F.

KAM / 18.11.60 / 5-11.11.73 37  
500-112

conductivity  $\epsilon$  and the pressure in the mainstream. In the far wake ( $x/d > 150-200$ , where  $d$  is the diameter of the cylindrical part of the model), this relationship approaches

$$\sigma \sim \frac{1}{\sqrt{x}}$$

Relationships of the electron density drop  $N_e$  to the distance along the wake are plotted in terms of  $x/d$ . The electron-collision frequencies data were determined taking electron velocity distribution into account.

On the basis of the experimentally obtained initial conditions, changes of the wake temperature, velocity, diameter, and electron concentration are calculated using different models of viscosity. The theoretical and experimental data are compared for a wake factor up to 500 calibers ( $x/d$ ) in length.

Lobanov, V. F. and Yu. I. Padeyenko. Calculation of the stresses in an elastic sphere situated in a hypersonic stream. Izv. Dinamika sploshnoy sredy, Novosibirsk, no. 7, 1971, 226-232 (RZhMekh, 5/72, 659285)

An axisymmetric problem is considered, dealing with determination of the stress field originating in a hollow elastic sphere during its presence in a hypersonic stream. The aerodynamic pressure acting upon the sphere is considered to be known and is given in the form of a function that depends upon the angular coordinate in accordance with Newton's law. The inner surface of the sphere is stress-free. The solution is represented in series form using Legendre polynomials. Numerical calculations were conducted on a digital computer for a solid sphere and for a hollow sphere with a Poisson coefficient  $\nu = 0.2$ .

USSR

UDC: 51

LOBANOV, V. I., LINKIN, V. M."An Adaptive Algorithm for Solving a Class of Games"

Tr. 4-y Zimn. shkoly po mat. programmir. i smezh. voprosam, 1971, vyp. 2  
(Works of the Fourth Winter School on Mathematical Programming and Related Problems, 1971, No 2), Moscow, 1971, pp 99-111 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V386)

Translation: An adaptive algorithm is proposed for finding the optimum strategies of a class of antagonistic finite games with complete information. Assuming certain limitations on the time of solution of the problem or on the computer memory, the algorithm constructs strategies which can be called "fairly good". The adaptive algorithm utilizes evaluation of a whole series of actions rather than just one. It is outlined as applied to many-move games where empirical information -- gain or loss -- relates to the entire set of moves of a player. [from the article].

1/1

- 17 -

1/2 023  
 TITLE--PRECISION STAMPING OF FORGED PRODUCTS ON HAMMERS WITHOUT A DRAFT  
 -U-  
 AUTHOR--LOBANGV, V.K.  
 COUNTRY OF INFO--USSR  
 SOURCE--KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP  
 43-44  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR  
 TOPIC TAGS--METAL STAMPING, BIBLIOGRAPHY, METALLURGIC PLANT, METAL  
 FORGING, MACHINERY MANUFACTURING PLANT, ECONOMICS, DIE, TRACTOR  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--1999/1329  
 CIRC ACCESSION NO--AP0123207  
 STEP NO--UR/0418/70/000/001/0043/0044  
 UNCLASSIFIED

"APPROVED FOR RELEASE: 09/19/2001      CIA-RDP86-00513R002201820006-0

... HAS BEEN MASTERED BY THE KHARKOV TRACTOR PLANT IMENI  
ORDZHONIKIDZE (KHAR'KOVSKIY TRAKTORNYI ZAVOD IMENI ORDZHONIKIDZE) AND  
HAS BEEN SUPPLIED TO MANY OF THE COUNTRY'S ENTERPRISES.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/19/2001      CIA-RDP86-00513R002201820006-0"

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70  
CIRC ACCESSION NO--A0123287  
ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. METHODS ARE INVESTIGATED FOR  
STAMPING PARTS WITHOUT DRAGS

USSR

UDC 532.593

KOROTKOV, P. F., LOBANOV, V. S., KHRISTOFOROV, B. D., Moscow

"Calculation of a Water Explosion by Experimental Data on the Cavity Expansion"  
Novosibirsk, Fizika goreniiya i vzryva, Vol 8, No 4, 1972, pp 558-565

Abstract: Numerical calculations are presented for the equations of hydrodynamics in which the shock wave parameters and pressure in an expanding bubble during an underwater explosion of a spherical charge are calculated by the experimental dependence of the gas bubble radius on time. A comparison of the calculation results for explosions of PETN charges with a density of 0.4 grams/cm<sup>3</sup> with the experimental data is presented. By means of the proposed program it is possible to obtain a number of parameters characterizing the effect of the explosion which cannot be determined experimentally at this time. The proposed procedure does not require knowledge of the equation of state of the explosive and can be used for approximate determination of it. For determination of all the parameters characterizing the underwater explosion it was sufficient only to photograph the movement of the gas bubble. The same results can be obtained if the parameters of the shock wave front are given as the boundary condition.

1/1

USSR

UDC 616.932-092.9

ZYKIN, L. F., LOBANOV, V. N., SAGEYEVA, O. F., and PETROVA, L. S., All Union  
Scientific Research Antiplague Institute "Mikrob"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002201820006-0

"Study of the Action of Cholero-gen and Isolated Cell Components of *V. cholerae*"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunologii, No 9, Sep 70, pp 36-43

Abstract: A comparative study of the action of cholero-gen and the isolated cell structures of *Cholera vibrio* (cell walls, flagellae, and cytoplasm) is presented. A fatal cholera syndrome developed in neonatal rabbits following endoenteric infection. Histological investigations revealed various lesions in the intestine, including necrotic changes in the villi, mucosa and submucosa of the small intestine, and granular dystrophy of the kidney and liver cells. No cholero-genic action was produced by the cell walls, flagellae, and cytoplasm. Endotoxin localized in cell walls and cholero-gen differed in respect to their effect on neonatal rabbits.

1/1



USSR

UDC: 669.295-492

USTINOV, V. S., LOBANOV, V. S., OLESOV, Yu. G., KANTUK, A. I.,  
and ZAPADNYA, V. I.

"Technical-Economic Problems and Prospects in the Development of  
Titanium Powder Metallurgy"

Moscow, , Tsvetnyye Metally, No 8, Aug 70, pp 73-76

Abstract: The factor which has prevented the wide use of titanium has been the high cost of parts made from castings of the metal. In the industrial production of such parts and semi-finished products from titanium castings, 70-80% of the furnace charge is waste. Nor can the waste be reprocessed to bring it up to standard. However, the metal-ceramic method of producing such parts lends itself readily to automation, and the waste is less than 25% of the weight of the finished part. Thus, the economy in materials and labor is reflected in a substantial reduction of the production costs. One metallurgical plant (unidentified) has a method for recovering titanium dioxide with calcium hydride. The titanium powder then obtained, with a grain size of less than 40 microns, contains 0.2-0.3% H, 0.04-0.07 C, 0.05-0.08 Ca, 0.2-0.35 of Fe and Ni, 0.006 Cl, 0.2-0.25 O. The powder is used in

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USSR

USTINOV, V. S., et al., Tsvetnyye Metally, No 8, Aug 70, pp 73-76

electronics production as a getter, for the production of porous filters, and other products. Such products, however, suffer from poor mechanical properties because of the high content of impurities. Hydrogenation is a likely method of titanium powder production. The resulting powder is large-grained, but can be broken down to any desired size. Its wastes can be reprocessed on a large laboratory scale. Electrolysis of titanium production wastes with a soluble anode is also a promising method for obtaining titanium powder. The quality of the powder is good and the process is adaptable to industrial conditions of production. The authors present the results of computations they have made of the anticipated production costs of these methods.

2/2

USSR

UDC 615.373.576.851.315.098.31].015.4:612.111

5

SOLOV'YEV, V. D., KOBRINSKIY, G. D., DOMARADSKIY, I. V., LAVRUSHKO, V. S.,  
LOBANOV, V. V., BICHEUL', K. G., GAL'TSEVA, G. V., RASSUDOV, and PUSHNITSA, N. P.,  
Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical  
Sciences USSR, and Rostov-on-Don Antiplague Institute

"Effect on Erythrocytes of the Receptor-Destroying Enzyme from Filtrates of  
Cholera Vibrio Cultures"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,  
pp 42-46

Abstract: Erythrocytes treated with filtrates of cholera vibrio cultures lose  
their capacity for agglutination by certain viruses. The authors studied this  
phenomenon of the "receptor-destroying enzyme" (neuraminidase) to determine  
the possibility of using it as an aid in diagnosing cholera. In in vitro exper-  
iments with guinea pig erythrocytes, filtrates of classic KAG, and El Tor  
vibrio cultures prevented the cells from being agglutinated by swine influenza  
virus, whereas filtrates of the control cultures (Comamonas, Pseudomonas, and  
E. coli) did not do so. The same effect was observed in the case of erythrocytes  
from the intestinal contents of suckling rabbits infected with various cholera  
vibrio strains. An investigation of the intestinal contents of 279 patients  
1/2

(5)

USSR

SOLOV'YEV, V. D., Zhurnal Mikrobiologii, Epidemiologii i Immunob ologii, No 10, 1972, pp 42-46

suffering from gastritis, dysentery, and other gastrointestinal disorders with symptoms resembling those produced by El Tor cholera showed that the hemagglutination reaction was negative in 94% of those over 1 year of age and in 46% of the infants.

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USSR

UDC 539.376+532.135

LOBODOV, V. V., POZDEYEV, A. A., PODGAYETS, R. M.

"Stress Relaxation in a Hollow, Nonlinear, Viscoelastic Cylinder with Displacements Fixed at the Contour"

Sb. Nauch. tr. Perm. Politekhn. In-t. [Collected Scientific Works of Perm Polytechnical Institute], No 102, 1971, pp 143-150. (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 VS65 by L. Kh. Papernik).

Translation: The problem of the stress state of an infinite hollow cylinder of a viscoelastic material loaded around the external contour by fixed radial displacements is studied. The defining equation used is a nonlinear heredity relationship similar to the equation of Rabotnov

$$\epsilon(t) = \varphi[\sigma(t)] + \int_0^t K(t-s) \varphi'[\sigma(s)] ds,$$

which is used for the case of a complex stress state in the form used in the deformation theory of plasticity, and relates the intensity of shear stresses and strains. The function of "instantaneous" loading  $\varphi(\sigma)$  selected is a special form of exponential function, dependent on the maximum shear stress  
1/2

USSR

UDC 539.376+532.135

LOBODOV, V. V., POZDEYEV, A. A., PODGAYETS, R. M., Sb. Nauch. tr. Perm. Politekhn. In-t., No 102, 1971, pp 143-150.

intensity. The variational principle of the minimum addition of energy is used to produce the solution. An approximate numerical solution is produced by the method of local variations and for comparison, an analytic solution by the Ritz method is produced. The known solutions of the elastic problem of Lamé and the problem for rigid plastic bodies are used as coordinate functions in the Ritz method. In the solutions by both methods, the form of the kernel  $K(t - s)$  was not specified, but in the numerical example analyzed, the resolvent of the kernel is selected as the sum of two exponents. For the kernel selected in both cases, the distributions of radial and tangential stresses with respect to the thickness of the cylinder wall, changing with time, are calculated. 6 Biblio. Refs.

2/2

- 117 -

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--CONTINUOUS CASTING OF 82 TIMES 82 MM TOOL STEEL BILLETS -U-  
AUTHOR--(04)-LOBANOV, V.V., GLAZKOV, A.YA., RUTES, V.S., CHIGRINOV, M.G.  
COUNTRY OF INFO--USSR  
SOURCE--STAL' 1970, 30(3), 233-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--CONTINUOUS CASTING, CAST STEEL, TOOL STEEL, ALLOY ADDITIVE,  
ALUMINUM, METAL ROLLING, METAL CRACKING, GRAIN SIZE, METAL POROSITY,  
SILICIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3007/1286 STEP NO--UR/0133/70/030/003/0233/0239  
CIRC ACCESSION NO--AP0136692  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THESE BILLETS WERE SUCESSFULLY CAST AT 2.3 M PER MIN THROUGH A 10 M NOZZLE FROM 0.7-0.8PERCENT C STEEL WHEN HOLDING TUNDISH TEMP. AT 1510-300DEGREES AND THOSE FROM 1.2-1.3PERCENT C STEEL WHEN THIS TEMP. WAS 1490-1510DEGREES. CLOGGING OF THE NOZZLE WITH NONMETALLICS WAS PREVENTED BY SUBSTITUTING AL IN THE LADLE WITH 1 KG CA SILICIDE PER TON. POROSITY AND GRAIN SIZE WERE CONTROLLED BY ADDING 0.3 KG AL WIRE PER TON TO THE MOLD, WHICH DID NOT CONTAMINATE BILLET SURFACE. EXCESSIVE PRESSURE OF 17.5 TONS PRODUCED BY THE PINCH ROLLS CAUSED CRACKING AND SEGREGATION IN BILLETS, WHICH WERE ELIMINATED BY REDUCING THIS PRESSURE TO 1.5 TONS. SURFACE FOLDS 0.5-2 MM DEEP CAUSED BY MOLD OSCILLATION WERE FULLY ELIMINATED BY SCALING IN SUBSEQUENT HEATING.

UNCLASSIFIED



USSR

UDC 576.851.315.098.345.5

YAGOVKIN, E. A., DOMARADSKIY, I. V., KISELEVA, V. I., and LOBANOV, V. V.,  
Rostov-on-Don Antiplague Institute

"Isolation of a Cholera Vibrio Lipopolysaccharide and Some of Its Biological Properties"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,  
pp 47-52

Abstract: A purified lipopolysaccharide extracted from strain 2913 of the El Tor vibrio, Ogawa serotype, was examined as a possible component of a chemical vaccine against cholera. A modification of Westphal's method was used to obtain the lipopolysaccharide. The yield of the purified preparation was 2% of the dry bacterial mass. It contained 2.67% nitrogen, 1.3% phosphorus, 1.3% protein, 51.7% carbohydrates, and 0.4% nucleic acids. The lipid component was determined qualitatively by staining the electrophoregrams with Sudan black. Ouchterlony's gel precipitation reaction and immunoelectrophoresis in agar gel revealed two precipitation bands of thermostable antigens. The preparation had low toxicity for mice and moderate pyrogenicity for rabbits. It exhibited preventive properties in a test of active protection of mice. Parenteral immunization of rabbits with lipopolysaccharide resulted in the formation of vibriocidal antibodies in high titers.

1/1

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USSR

UDC: 621.372.412

LOBANOV, Ye. M., CHUBAROV, L. B., YAKOVLEV, V. N., NEBOSTUPOV, V. N.,  
BAGAYEV, N. M.

"Oscillation Frequency Temperature Dependence of Crystal Plates"

[Tr.] Tashkent. in-ta inzh. zh.-d. transp. ([Works] of the Tashkent Institute  
of Railway Transportation Engineers), 1970, vyp. 66, pp 146-148 (from RZh-  
Radiotekhnika, No 1, Jan 71, Abstract No 1D345)

Translation: An investigation is made into the effect which temperature  
has on the frequency of oscillations of a quartz AT-section plate. An  
expression is derived which can be used to evaluate the effect of the tem-  
perature coefficients of the constants of elasticity of quartz as well as  
the effect of the angle of plate cut-off on the temperature coefficient of  
frequency. V. V.

1/1

LOBANOV, Yu. V.

*transmission element*

IN THE COMMITTEE FOR INVENTIONS AND DISCOVERIES  
UNDER THE COUNCIL OF MINISTERS USSR

[Announcement: Moscow, Vseshtk Akademi Nauk SSSR, Russian, Vol  
42, No 11, November 1972, pp 132-133]

The Committee has registered the following scientific dis-  
coveries:

G. N. FLEDOV, YU. TS. OGANEVYAN, YU. V. LOBANOV, YU. A. LAZAREV,  
Czechoslovak citizen J. ZVARA, V. Z. BELYI, V. A. DNUIN, A. G.  
DEMIN, AND YU. P. KHANITONOV.

"ELEMENT NO. 105 OF MENDELBYEV'S PERIODIC SYSTEM."

Formulation of the discovery: Experimentally established  
was the previously unknown phenomenon of formation of a chemical  
element with the ordinal number 105. An isotope of that element  
with a half-life  $T_{1/2} \approx 2$  seconds was obtained during the ir-  
radiation of americium with neon nuclei.

Priority of discovery -- 18 February 1970.

Certificate No. 114. Application No. OT-7896.

The data obtained by the authors of the discovery are of  
great scientific importance, as they show a divergence of the  
experimentally determined radioactive properties of element  
No. 105 from the previously predicted theoretically on the  
basis of known semi-empirical laws and require revision of the  
latter. The new experimental data relating to the synthesis of the  
element No. 105 indicate a real possibility of the detection of  
heavier chemical elements in nuclear reactions, for example, of  
No. 106, and permit much more confidently predicting the proper-  
ties of those elements.

*Handwritten notes:*  
JRS 58011  
18 Feb 73  
Handwritten signature

USSR

UDC 541.183

LOBANOVA, G. L., KIROVSKAYA, I. A., and MAYDANOVSKAYA, L. G. (deceased),  
Tomsk State University imeni V. V. Kuybyshev

"Simultaneous Adsorption of Hydrogen and Oxygen on Gallium Arsenide"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71, p 2101

Translation: The paper presents the results of a study of adsorption of  $H_2 + O_2$  mixtures on a GaAs semiconductor. The adsorbent was a finely dispersed powder (specific surface  $0.3 \text{ m}^2/\text{g}$ , weight 1.4 g) produced by pulverising a single crystal. The experiments were done in a statistical vacuum installation with an attainable vacuum of  $5 \cdot 10^{-6} \text{ mm}$ . The total gas pressure and its mixture for various ratios of components was 0.31-0.99 mm at temperatures from -183 to  $375^\circ\text{C}$ .

According to the resultant data, the most active component of the  $H_2 + O_2$  mixture is oxygen. The degree of adsorption  $\alpha$  of the gas mixtures occupies an intermediate position between  $\alpha_{H_2}$  and  $\alpha_{O_2}$  and increases with an increase in the concentration of the most active component,  $O_2$ . At a ratio of  $H_2:O_2 = 1:2$  and temperatures above  $150^\circ\text{C}$ , the value of  $\alpha$  becomes larger than the value for the adsorption of oxygen. Basically, the curves for the adsorption

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USSR

LOBANOVA, G. I., et al., Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71,  
p 2101

isobars of  $H_2 + O_2$  mixtures behave in the same manner as for oxygen adsorption. In the interval from  $-183$  to  $300^\circ C$ , equilibrium is reached in the system in about 30 minutes. At temperatures above  $300^\circ C$ , considerable time (more than a day) is required to reach equilibrium. The kinetic curves are quite complex and cannot be described by a single law.

On the basis of the above facts as well as calculations of heats of adsorption (by various methods) the authors make the following statements concerning the mechanism of the investigated phenomenon. In the interval from  $-183$  to  $0^\circ C$  physical adsorption takes place, while chemisorption predominates at higher temperatures. Chemisorption is accompanied by a chemical reaction of the components which shows up most noticeably above  $300^\circ C$ . During the reaction of  $H_2$  and  $O_2$ , the formation of a "dead-end" compound  $H_2O$  is noted as well as temperature conditions for retention of water on the surface. Oxygen is first to occupy the active sections on the surface. Hydrogen adsorption can take place on free sections and on

2/3

USSR

LOBANOVA, G. I., et al., Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71,  
p 2101

sections occupied by oxygen, which is most readily ionized at relatively high temperatures: oxygen facilitates adsorption of hydrogen, and hydrogen adsorption then becomes predominant.

3/3

USSR

KIROVSKAYA, I. A., LOBANOVA, G. I., STAROVOYTENKO, L. M.

"Adsorption of Water Vapors on Gallium Arsenide"

Adsorbtsiya Parov Vody na Arsenide Galliya [English Version Above], Moscow, 1971, 8 pages (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 B1488 Dep. by the author's).

Translation: A volumetric-gravimetric method is used to study the adsorption of water vapor on electron and hole specimens of GaAs in the 0-200° temperature interval and  $2.25-4.1 \cdot 10^{-3}$  mm pressure interval. The adsorption isobars are descending curves, indicating the reversible nature of the process. With slight fillings, the adsorption isotherms follow the Langmuir equation and indicate that with increasing filling, tangential interactions occur in the adsorbed layer. The Clapeyron-Clausius and Bering-Serpinskiy equations are used to calculate the heats of adsorption, 0.3-6 kcal/mol in the temperature interval studied. A mechanism of adsorption of H<sub>2</sub>O vapors is suggested, which agrees with statements made earlier on the nature of adsorption of mixtures of H<sub>2</sub> and O<sub>2</sub> on gallium arsenide.

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USSR

UDC 541.183

KIROVSKAYA, I. A., LOBANOVA, G. I., STAROVOYTENKO, L. M., Tomsk State University imeni V. V. Kuybyshev

"Adsorption of Water Vapor on Gallium Arsenide"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 9, 1971, p 2374

Abstract: Adsorption of water vapor on finely ground powder of n- and p-gallium arsenide single crystals was determined in a static vacuum apparatus at 0-200°C, and  $2.25-4 \cdot 10^{-5}$  mm Hg pressure. The amount of adsorption on both n- and p-type samples was of the same order of magnitude ( $10^{-5}$  a mmol/sq.m.) and adsorption isobars indicated reversibility of the process. Heats of adsorption, calculated for the cited ranges of temperature and pressure, were in the 0.31-6.4 kcal/mol range and approximately equal for n- and p-type samples. The concave adsorption isotherms at a small coverage are described by the Langmuir equation with adsorption constants in the 60-150°C range equal to  $(1.6-7.2) \cdot 10^{-4}$  and  $(2-40) \cdot 10^{-4}$  for n- and p-gallium arsenide, respectively. The experimental data indicate a preferential adsorption of water  
1/2

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USSR

KIROVSKAYA, I. A., et al, Zhurnal Fizicheskoy Khimii, Vol 45,  
No 9, 1971, p 2374

molecules by Ga atoms with formation of  $H_2O^+$  and  $Ga^-$ , hence a reversible chemisorption. Also a better interpretation of the adsorption mechanism of hydrogen-oxygen mixture by gallium arsenide is made possible.

2/2

USSR

WEINSTEIN, B. K.; GURSKAYA, G. V.; LOBANOVA, G. M. (Institute of Crystallography, USSR Academy of Sciences)

"X-Ray Diffraction and Electron Microscope Study of Hexagonal Crystals of Catalase. II. X-Ray Study"

Moscow, Kristallografiya; July-August, 1971; pp 764-73

ABSTRACT: The authors present a method of the joint use of X-ray and electron microscope data for the study of the structures of crystalline proteins with large molecular weights. Based on this method, a Fourier synthesis with a resolution of 30 Å was obtained for hexagonal crystals of catalase without the use of isomorphous derivatives. The quaternary structure of the molecules and their position in an elementary cell were established from the synthesis.

The article includes 10 figures and one table. There are 14 references.

1/1

USSR

UDC 632.95

NOVIKOVA, K. F., and LOBANOVA, I. V.

"Colorimetric Method of Determining Propanide and Its Toxic Metabolite 3,4-Dichloroaniline in Rice"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 163-166 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N453)

Translation: Propanide (I) and 3,4-dichloroaniline (II) are extracted from rice with n-hexane, re-extracted with MeOH-water mixture (1:2), and I is extracted again with  $\text{CHCl}_3$ . The methanol phase is diluted with water, NaCl is added, and II is extracted with  $\text{CHCl}_3$ . The extracts are evaporated, I is hydrolyzed with HCl, and both components are determined colorimetrically in the form of a coupling product of diazotized II with  $\alpha$ -naphthol. The sensitivity of the method is 0.4 mg/kg of I and II.

1/1

Acc. Nr:

**AP0037005**

Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskii Zhurnal SSSR, 1970, Vol 56,  
Nr 2, pp 172-178

ON VISCERAL REPRESENTATION IN THE CAUDATE NUCLEUS  
OF THE CAT

L. V. Lobanov

Lab. of Comp. Physiology of Internal Analysers, I. P. Pavlov's Institute of Physiology,  
Acad. Sci. USSR, Leningrad

The study was carried out in acute experiments on cats. Evoked potentials in the cortex and the caudate nucleus were recorded in response to the stimulation of the visceral nerves. Visceral representation as well as somatic, optic, auditory and olfactory those were shown to exist in the caudate nucleus. The evoked potentials of the caudate nucleus were also shown to be independent from the cortex.

*d.r.*

*1/1*

REEL/FRAME

19721937

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USSR

UDC 539.67

VLADIMIROVA, N. N., GLOTOVA, L. S., GORFINKEL', V. B., DUNAYEV, F. N.,  
LOBANOVA, N. B., and YAKOVLEV, G. P.

"Effect of Magnetic Structure on Internal Friction of Nickel and Ferronickel Alloys"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 187-191

Abstract: The effect of tensile stresses and heat treatment on the ferromagnetic internal friction of nickel, permalloy-66, and permalloy-50 is studied.

It is shown that the effect of external static tensile stresses on internal friction and vibration period depends on both the magnitude and sign of saturation magnetostriction of a given material. Hysteresis of the logarithmic decrement  $\delta$  and of vibration period  $T$  was experimentally revealed from the magnitude of tensile stresses.

The effect of heat treatment for 66%Fe, 80%Ni alloys was determined. The magnetic structure obtained as a result of heat treatment affects the internal friction. 4 figures, 3 references.

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USSR

UDC 539.67

DURAYEV, F. N., LOBANOVA, N. B., MAN'KO, L. M., and YAKOVLEV, G. P.

"Kinetics of Local Directional Order-Disorder Transformation in Permalloy-66"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 175-178

Abstract: The effect of holding time at various temperatures on the logarithmic decrement of damping and period of low-frequency torsional vibrations of Fe-66% Ni alloy samples, preliminarily annealed and cooled at different rates in the presence and absence of a magnetic field is investigated.

It is shown that curves of temperature dependence  $\delta(t)$  and  $T(t)$  reflect the kinetics of local directional order-disorder transformation. Relaxation times of this transformation depend weakly or not at all on the initial pattern of pair distribution of identical atoms. The activation energy of local directional order-disorder transformation is close to or coincides with the activation energy of the opposite process, i.e., the thermomagnetic treatment effect. 2 figures, 6 references.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CATALYTIC ALKYLATION OF ANILINE BY 2-METHYL-2-PROPANOL -U-

AUTHOR--(02)-LOBANOVA, N.S., POPOV, M.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. 1970, 43(4), 938-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALKYLATION, ANILINE, PROPANOL, ALUMINUM SILICATE, CATALYST  
ACTIVITY, ALUMINUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1383

STEP NO--UR/0080/70/043/004/0938/0939

CIRC ACCESSION NO--AP0128783

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VAPOR PHASE ALKYLATION OF PHNH  
 SUB2 (I) TO ME STZ3 CNMNH (II) BY 2, METHYL, 2, PROPANOL (III) CATALYZED BY  
 AL SILICATE, AL SILICATE PLUS 5PERCENT AL SUB2 O SUB3, AND AL SUB2 O  
 SUB3 AT 270-360DEGREES WAS STUDIED. A MIXT. OF 19.7 G I AND 33.0 G III  
 (1:2.1 MOLAR RATIO) WAS FED WITHIN 5 HR INTO A TUBE (15 MM DIAM.) FILLED  
 WITH 80 ML CATALYST, AT 0.15 HR PRIME NEGATIVE VOL. RATE AND THE MIXT.  
 DRIED AND DISTD TO GIVE LARGER THAN 73PERCENT RECOVERY OF I AND GOOD  
 YIELDS OF II. AL SILICATE WAS THE MOST ACTIVE CATALYST AND GAVE, AT  
 300DEGREES, 73.6PERCENT RECOVERY OF I AND 55.3PERCENT II, 8 SUB752  
 232DEGREES, N PRIME 20 SUB3 1.5380, O PRIME 20 0.9490. SOMEWHAT LESS  
 ACTIVE WAS AL SILICATE PLUS 5PERCENT AL SUB2 O SUB3, WHICH, AT  
 330DEGREES, GAVE 78.8PERCENT RECOVERY OF I AND 53.1PERCENT II. AT THE  
 SAME TEMP., AL SUB2 O SUB3 GAVE ONLY 39.1PERCENT II. (THE SUB3 O) SUB2  
 NPH WAS NOT AMONG THE PRODUCTS.

UNCLASSIFIED



1/2 014 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--AUTOCCLAVE REWORKING OF GOLD CONTAINING PYRITE ARSENIC CONCENTRATES  
OF THE ZODSKII DEPOSIT -U-  
AUTHOR--(02)-KHRYASHCHEV, S.V., LOBANOVA, T.A.  
COUNTRY OF INFO--USSR  
SOURCE--TSVET. METAL. 1970, 43(2), 82-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY  
TOPIC TAGS--MINERAL DEPOSIT, GEOGRAPHIC LOCATION, GALENA, GOLD, SILVER,  
BISMUTH, ARSENIC, PYRITE, OXIDATION, SOLVENT EXTRACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/0739 STEP NO--UR/0136/70/043/002/0082/0083  
CIRC ACCESSION NO--AP0107281

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FUNDAMENTAL MINERALS OF THE ZODSKII DEPOSIT CONCS. ARE THE FOLLOWING: PYRITE AND MARKASITE (35-55PERCENT), ARSENOPYRITE (2-20PERCENT), CHROMITE (1-3PERCENT), LIMONITE (1.5-10PERCENT), SPHALERITE (2PERCENT), CHALCOPYRITE (0.2-2PERCENT), GALENA (0-5PERCENT), MAGNETITE (0.5PERCENT), PENTLANDITE (1.5-2PERCENT), AS WELL AS SOME AU, AG, BI, AND A FEW OTHER MINERALS. PRACTICAL EXPERIENCE SHOWS THAT THE MOST RESISTANT TO CYANIDING IS AU COMBID WITH PYRITE AND ARSENOPYRITE. ON CYANIDING SUCH A CONC., ONLY 70-5PERCENT OF THE AU IS EXTRACTED INTO THE SOLN.; THE REMAINDER REMAINS IN THE TAILINGS. UNDER 0 PRESSURE AND AT INCREASED TEMP., THE PYRITE AND ARSENDOPYRITE OXIDIZE ALMOST COMPLETELY. THE EXPTS. WERE PERFORMED IN AN AUTOGLAVE HAVING A CAPACITY OF 11. THE OPTIMUM PARAMETERS OF AUTOCLAVE LEACHING ARE THE FOLLOWING: NAOH CONC. 180 G-L.; SOLID:LIQ. EQUALS 1:10, TEMP. 100-120DEGREES, DURATION 3 HR, 0 PRESSURE 20 ATM. THE EXTN. OF AS WAS 72PERCENT FROM THE CONC. OF MIXED ORES, 90PERCENT FROM TABLE CONC., AND 95PERCENT FROM SULFIDE CONC. AU WAS NOT OBSD. IN THE SOLNS. AFTER AUTOCLAVE TREATMENT. THE EXTN. OF AU INTO THE SOLN. IS SIMILAR TO 99PERCENT, AND THE CYANIDING CAKES CONTAIN 0.2-1 G AU-TON, WHICH MEANS THAT THEY CAN BE DUMPED.

UNCLASSIFIED

USSR

UDC 546.791.4.:547.29

LOBANOVA, T. S., DUNAYEVA, K. M., and IPPOLITOVA, YE. A., Chair of Inorganic Chemistry

"Study of the Complex Formation of Uranium (IV) with Acetate and Formate Ions"

Moscow, Vestnik Moskovskogo Universiteta, Vol 12, No 2, Mar-Apr 71, pp 229-231

Abstract: Uranium (IV) complexes with acetate and formate ions were studied. Tenoyltrifluoroacetone and tenoylacetate were placed in contact with uranium (IV), in the presence of benzene, water and monocarboxylic acid. Stability constants for the ions  $[U(Comp)_3]^{3+}$  and  $[U(Comp)_2]^{2+}$  were determined by the distribution method at 20°C and the ionic strength  $\mu = 2$  maintained by sodium perchlorate addition so as to decrease the possibility of the complexes being oxidized by atmospheric oxygen. The concentration of acetic and formic acids was varied in the range 0.032-2 and 0.1-2 N respectively. It was shown that no complex formation occurs in the aqueous phase. Stability constants for the complexes were determined from the graphs of  $F_1$  plotted against the concentration of acetate and formate ions.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30DC170  
TITLE--PHYSIOLOGICAL STUDIES ON ERYTHROMYCIN PRODUCING ORGANISM  
ANTINOMYCES ERYTHREUS, STRAIN 1-EHR -U-  
AUTHOR-(04)-LOBANOVA, V.V., GRABOVSKAYA, D.Z., SMIRNOVA, N.V., BRINBERG,  
S.L.  
CCUNTRY OF INFO--USSR  
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 505-509  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ACTINGMYCES, ERYTHROMYCIN, FERMENTATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/1869 STEP NO--UR/0297/70/015/006/0505/0509  
CIRC ACCESSION NO--AP0125480  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30UCT70

CIRC ACCESSION NO--AP0125480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYSIOLOGY OF TWO STRAINS OF ACTINOMYCES ERYTHREUS PRODUCING ERYTHROMYCIN WERE STUDIED COMPARATIVELY. THE PHAGE RESISTANT STRAIN IAE-I-EPHR DIFFERED FROM THE INITIAL STRAIN LS-E2577 BY MORE INTENSIVE SYNTHESIS OF ERYTHROMYCIN, AS WELL AS BY ITS ATTITUDE TO MINERAL NITROGEN. NO SIGNIFICANT PHYSIOLOGICAL DIFFERENCES BETWEEN THE STRAINS WERE OBSERVED WITH RESPECT TO THEIR ATTITUDE TO THE CARBON SOURCES, CONCENTRATIONS OF MINERAL PHOSPHORUS AND CORN STEEP LIQUOR. OPTIMAL RATIO OF THE FERMENTATION MEDIUM COMPONENTS OPTIMAL FOR STRAIN I-I-EPHR WAS DETERMINED. THE ANTIBIOTIC YIELD ON THE MEDIUM IN FLASKS AND PILOT PLANT FERMENTORS REACHED 2000 UNITS-ML. THE EFFECT OF TEMPERATURE, AMOUNT OF THE INOCULUM AND CONCENTRATION OF WHALE OIL ON ERYTHROMYCIN BIOSYNTHESIS BY STRAIN I-EPHR WAS FOUND. STRAIN I-EPHR DIFFERED FROM STRAIN 2577 IN ITS MICROMORPHOLOGY BY FORMATION OF HYPHAE OF THE SECONDARY GROWTH. FACILITY: ALL UNION INSTITUTE FOR ANTIBIOTICS, MOSCOW AND SVERDLOVSK PLANT OF MEDICAL PREPARATIONS.

UNCLASSIFIED

USSR

UDC: 612.836.81.014.424.5

LOBANOVA, Ye. A., and GONCHAROVA, A. V., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR

"Conditioned Activity in White Rats Exposed to Ultrashort and Short Radio Waves"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1971, pp 29-32

Abstract: Rats were exposed to ultrashort (150 v/m) or short (2,250 v/m) radio waves 60 min daily for 4 months. CNS function was evaluated by the conditioned reflex (motor-food) method. Conditioned activity remained unimpaired in the rats after the first few sessions of ultrashort waves, but thereafter the latent period of the conditioned response to the weak stimulus shortened. Conditioned activity returned to normal 20 days after the last exposure. Thus, ultrashort radio waves tend to increase the excitability of the cortex. In the animals exposed to short waves, conditioned activity changed after the first few sessions. During the ensuing exposures it became inhibited. Eventually all the conditioned reflexes disappeared both before and after differentiation. The increased excitability after chronic irradiation with ultrashort waves is regarded as a response to weak stimulation, while the inhibition caused by irradiation with short waves is a response to stronger stimulation.

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USSR

UDC 616.5-022.6-085.339:576.858.095.383

BORZOV, M. V., KUZNETSOV, V. P., and LOBANOVSKIY, G. I., Chair of Skin and Venereal Diseases, Odessa Medical Institute and Department of Interferon Synthesis, Institute of Microbiology and Epidemiology imeni N. F. Gamaleya, Moscow

"Use of Interferon in the Treatment and Prevention of Viral Dermatoses"

Moscow, Vestnik Dermatologii i Venerologii, No 9, 1971, pp 14-17

Abstract: Good results were obtained from using interferon to treat 203 patients (5 to 70 years of age) with various viral dermatoses. Instead of lotions, ointments, etc. containing interferon, these three methods were used: (a) superficial traumatization of the skin with interferon applied to warts, papillomas, and some condylomas; (b) injection of a solution of interferon (1000 units in 1 ml of sterile distilled water) into the affected tissues in the case of herpes simplex, warts, and molluscum contagiosum; (c) iontophoresis for various forms of dermatoses. The particular mode of treatment was chosen in relation to the dermatosis, its site, and age of the patient. There were no side effects and recurrences were comparatively few.

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USSR

UDC 669-415:620.175

SHTURGUNOV, I. L., LOBAREV, M. I., GERASHCHENKO, P. M.

"Estimating the Ductility of Thin Sheet Materials"

Moscow, Zavodskaya Laboratoriya, Vol 37, No. 8, 1971, p 972-974.

Abstract: A method is suggested for estimating the ductility of thin sheet materials (less than 5 mm thick), based on tests involving twisting of specimens of various shapes. A square specimen form is used for tests at 800-1300° C, a cylindrical form for tests at 20 to 800°C. The results produced are compared to the results of testing using the method of the Central Scientific Research Institute for Ferrous Metallurgy. The method described can be used to evaluate plasticity and deformation resistance of thin sheet and bimetallic materials, to study the influence of the degree of preliminary deformation, etc. 3 figs; 4 biblio refs.

1/1



1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CHANGES OF BLOOD SERUM PROTEIN FRACTIONS IN PATIENTS WITH MALIGNANT  
NEOPLASMS -U-  
AUTHOR--(05)-TSUTSAYEVA, A.A., LOBASENKO, N.P., LYSENKO, A.I., ROZINOV,  
L.P., KHARCHENKO, V.F.  
COUNTRY OF INFO--USSR  
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 99-101  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--NEOPLASM, BLOOD SERUM, BLOOD PROTEIN  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3002/1735 STEP NO--UR/0475/70/000/005/0099/0101  
CIRC ACCESSION NO--AP0129103  
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129103

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PATIENTS WITH MALIGNANT TUMOURS SHOW A QUANTITATIVE QUALITATIVE CHANGE OF THE BLOOD SERUM PROTEIN CONTENT. INCREASE OF BLOOD SERUM GLOBULINS AND DECREASE OF ALBUMENS, DECREASE OF THE ALBUMIN GLOBULIN COEFFICIENT IN ONCOLOGICAL PATIENTS ARE NONSPECIFIC OF THE TUMOR GROWTH. BUT AT THE SAME TIME THE BLOOD SERUM OF ONCOLOGICAL PATIENTS SHOWS AN ATYPICAL PROTEIN NOT CONNECTED WITH C REACTIVE PROTEIN, WHICH IS DETECTED IN THE ALPHA 2 FRACTION AND APPEARS REGULARLY AT THE II-III STAGES OF THE DISEASE. FACILITY:  
KAFEDRA MIKROBIOLOGII, KHAR'KOVSKOGO MEDITSINSKOGO INSTITUTA  
BIOFIZICHESKAYA LABORATORIYA, KHAR'KOVSKOGO NAUCHNO-ISSLED. INSTITUTA  
VAKTSII I SYVOROTOK, OBLASTNOY ONKOLOGICHESKIY DISPANSER.

UNCLASSIFIED

USSR

UDC 620.17

GALENKO, P. P., LOBASENOK, V. A., and BOL'SHAKOV, V. N., Dept. of Nondestructive Testing Physics, Academy of Sciences Belorussian SSR

"Study of Cyclic Deformation of Metals and Polymers"

Minsk, Doklady Akademii Nauk BSSR, Vol 15, No 2, 1971, pp 134-136

Abstract: The leading role in departures from Hooke's law is played by plastic deformations caused by irreversible displacement in crystallites (for example, shear, twinning, dislocation, and so on). When metals and polymers undergo cyclic deformation (stretching-compression and sign-alternating twisting), even in the so-called elastic region these departures yield a hysteresis loop instead of the anticipated Hooke's straight line. A special stand was built to investigate sign-constant and cyclic deformations. Torsion of cylindrical and tubular specimens was selected as the type of deformation to be investigated for polymers and metals. This type of deformation yields shearing in a purer state than other deformation types --- elongation, compression, and bending. The torque applied to the test specimens was measured by the deformation of an elastic element. The specimen and the elastic element were rigidly connected with a special coupling element, forming one system.

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