3/3 030 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123471

ABSTRACT/EXTRACT--FACILITY: THE N. I. GRASHCHENKOV LABORATORY OF PROBLEMS OF CONTROLLING THE FUNCTIONS IN THE HUMAN AND ANIMAL ORGANISM, ACADEMY OF SCIENCES, USSR, MOSCOW.

UNCLASSIFIED

AA0040651

Latech, Yu. V.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

240726 ELECTROSLAG REMELTING in a syphon bottom pouring operation: the consumable electrode is inserted so that its base is clear of the bottom by one third of the slag bath depth. Voltage is applied and the molten slag syphoned into the mould, or else imported via a tundish and orifice in the bottom of the mould. The slag rises and makes the circuit. The idea is to raise the slag sharply and thus avoid any skull or crusting on the mould bottom or walls. Once the slag reaches project height, syphoning stops and remelting proceeds normally.
5.3.66 as 1060334/22-2. PATON,B.E.et al.E.O.PATON ELECTROWELDING INST. (26.8.69) Bul 13/1.4.69.
Class 18b. Int.Cl.C 21 c.

19750234

AA0040651

AUTHORS: Paton, B. Ye.; Medovar, B. I.; Latash, Yu. V.; Dudko, D. A.; Yemel'yanenko, Yu. G.; Klyuyev, M. M.; Pilinskiy, I. S.; Laktionov, V. S.; Butskiy, V. N.; and Kostrev, L. K.

Ordena Trudovogo Krasnogo Znameni Institut Elektrosvarki imeni E. O. Patona

19750235

USSR

UDC 621.762.224

GOLDAYEV, I. P., MOTORNENKO, A. P., SHEVCHENKO, A. P., and LASTIVNYAK, YU. A., Khar'kov Aviation Institute

"Gas-Jet Spraying of Liquid Metals and Alloys"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 71, pp 9-13

Abstract: One of the most productive methods of producing metal and alloy powders is by spraying a stream of melted metal. The authors of the present article have developed a method for producing those powders by means of a supersonic high-temperature gas jet, designed to improve the thermodynamic parameters of the gas. A gas generator operating by burning a mixture of compressed air and a hydrocarbon fuel such as gasoline is described and illustrated. The supersonic gas stream produced is directed at a stream of melted metal and causes it to break into droplets, producing the powder upon cooling. The gas generator allows the parameters of the gas stream at the output of the nozzle to

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USSR

GOLDAYEV, I. P., et al., Poroshkovaya Metallurgiya, No 2, Feb 71, pp 9-13

be continually varied between 500 and 1500°K and 700 and 1250 m/sec velocity. Several types of nozzle apparatus are diagrammed. The new gas generator and total system for production of metal powder are claimed to improve spraying conditions, improve particle formation conditions, decrease air consumption, and allow the chemical composition of the powder to be altered by performing spraying in a reducing, neutral or oxidizing medium.

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UDC 681.325.65

USSR

LASTOCHKIN, N. K., GRACHEVA, I. I., TKACH, I. I.

"Some Problems in Automating Experimental Investigations of the Parameters of Analog-Digital and Digital-Analog Converters"

Novosibirsk, Konf. po avtomatiz. nauch. issled. na osnove primeneniya EVM, 1972--sbornik (Conference on Automating Computer-Based Scientific Research, 1972--collection of works), 1972, pp 97-101 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 72, abstract No 11B302)

Translation: It is noted that most parameters of converters are functions of random quantities, and therefore their determination requires statistical methods which can be completely realized only when fully automated systems are used. The particulars and principles of organization of automated systems for measuring parameters are considered. Bibliography of five titles. L. P.

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UDC 669.27.28.017

USSR

MORGUNOVA, N. N., KLYPIN, B. A., and LASTOCHKIN, B. B.

"Influence of Carbon on the Ductility of Molybdenum"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 63-67

Translation: The influence of 0.02-0.29% C on the transition temperature from the plastic state to the brittle state is studied in bars of deformed and recrystallized molybdenum. As the carbon content is increased, the transition temperature of the deformed molybdenum remains practically unchanged, while the transition temperature of recrystallized molybdenum increases. The relationship is demonstrated between a change in transition temperature and the microstructure of the molybdenum. In deformed molybdenum with various carbon contents, the carbides produced are of identical size and distributed evenly, and in recrystallized molybdenum the carbides become larger with increasing carbon content and form a network on the grain boundaries. 3 figures; 1 table.

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SOLUTION FORMATION OF MIXED COMPOUNDS OF ZINC COMPLEXONATES WITH AMINES AND SULFUR CONTAINING LIGANDS -U-

AUTHOR-(03)-LASTOVAKIY, R.P., FRIDMAN, A.YA., DYATLOVA, N.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 701-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZINC COMPLEX, AMINE, ORGANIC SULFUR COMPOUND, ACETATE, PYRIDINE, CHEMICAL REDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1607 STEP NO--UR/0078/70/015/003/0701/0706

CIRC ACCESSION NO--AP0112601

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30DEC70

CIRC ACCESSION NO--AP0112601

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MIXED COMPLEXES OF THE GENERAL STRUCTURE ZNL(NH SUB3) SUBN OR ZNL(NH SUB3) SUBN X SUBM FORM BY A REACTION OF ZNL (L EQUALS IMINODIACETATE, (HYDROXYETHYL)IMINO) DIACETATE, NITRILOTRIACETATE, OR EDTA ANION) WITH X (X EQUALS PYRIDINE, H SUB2 O, SCN PRIME NEGATIVE, THIOUREA, S SUB2 O SUB3 PRIME2 NEGATIVE) IN AQ. SOLNS. THE VALUES OF STABILITY CONSTS. (BETA) OF THESE COMPLEXES DEPEND ON THE NATURE OF DONOR ATOM OF X LIGANDS AND ON POTENTIAL OF THEIR REDN. LOG BETA OF 49 COMPLEXES ARE TABULATED.

UNCLASSIFIED

USSR

UDC 612.821.1-057:378

LASTOVCHENKO, V. B., Higher Radio Engineering School for Air Defense

"Mental Performance of Students"

Moscow, Gigiyena i Sanitariya, No 11, 1972, pp 54-56

Abstract: The attention span of 58 college freshmen was studied by the method of red-and-black tables (which require searching for numbered squares in the order specified by the experimenter). The test was given before and after class and before the start of homework after a period of rest. The results showed a lengthening or shortening of the attention span depending on the type of nervous system and individual psychological traits. In some students the attention span decreased by the end of class but increased after rest (the group included both excellent and poor students). In others, it increased by the end of class but decreased after rest (excellent and poor students). In a third group, the attention span decreased after class and continued to deteriorate even after rest (only poor students). The fourth group showed an improvement in attention by the end of class, with the improvement continuing after rest (only excellent students).

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USSR

UDC 628.16.08+628.322+682.162.8

GLOBA, L. I., LASTOVETS', L. M., ROTMISTROV, M. M., GOLUB, N. F., and RADOLITS-'KA, L. S., Institute of Colloid Chemistry and Chemistry of Water, Academy of Sciences UkSSR, and Institute of Infectious Diseases, Ministry of Health, UkSSR

"Removing Water from Viruses with Some Materials With Adsorption and Adhesive Properties"

Kiev, Doklady Akademii Nauk Ukrainas'koy SSR, Seriya B. Geologiya, Geofizika, Khimiya i Biologiya, Vol 33, No 11, 1971, pp 1036-1038

Abstract: The problem of water decontamination to a degree adequate for complete prevention of spread of contagious diseases has not yet been fully resolved. This is particularly true with respect to contamination with pathogenic microorganisms, which are present in water in the form of suspensions or colloids (usually as a mixture of both). An attempt was made to convert finely dispersed mixtures into coarse ones, to facilitate removal from the medium. Various clay-like materials were studied as catalysts of the process. First, virus cultures were introduced into tap water. Then samples of infected water were treated with 800 mg/l of each of the materials tested, with the addition of 50 mg/l of aluminum sulfate. Samples were left to stand

USSR"

GLOBA, L. I., et al., Doklady Akademii Nauk Ukrains'koy SSR, Seriya B. Geologiya, Geofizika, Khimiya i Biologiya, Vol 33, No 11, Nov 71, pp 1036-1038

for 2 hours. During that time, the adsorbents precipitated. The liquid left above the precipitate was then filtered and tested for virus content. Tests indicated that viruses were removed to the extent of 90.0 to 99.9%. This was taken as a positive proof of the effectiveness of the method; the use of highly dispersed materials for water purification.

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USSR

UDC [661.7:547.297.2]+661.718.1

KOLPAKOVA, I. O., KARACHNIK, M. I., MEDVED', T. YA., LASTOVSKIY, R. P., KRINITSKAYA, L. V., URINOVICH, YE. M., and SMIRNOVA, V. A.

"Simultaneous Production of Acetyl Chloride and Hydroxyethylenediphosphonic Acid"

Moscow, Khimicheskaya Promyshlennost', No 8, 1972, pp 576-578

Abstract: Results are reported of the study of optimal reaction conditions for the simultaneous production of acetyl chloride and hydroxyethylenediphosphonic acid (HEDPA). The yield of HEDPA reached 84% when phosphorus trichloride was reacted with a mixture of acetic acid and acetic anhydride. The structure of HEDPA was proven by parallel synthesis from acetyl phosphonic acid diethyl ester and diethyl phosphite. Further proof was obtained by infrared spectroscopic analysis and potentiometric titration.

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USSR

UDC 547.241.07

KABACHNIK, M. I., MEDVED', T. Ya., LASTOVSKIY, R. P., KOLPAKOVA, I. D., URINOVICH, Ye. M., KRINITSKAYA, L. V., and MIRONOVA, Ye. I.

"A Method of Making Hydroxyethylidenediphosphonic Acid"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 292984, Division C, filed 2 Jun 69, published 15 Jan 71, p 101

Translation: This Author's Certificate introduces: 1. A method of making hydroxyethylidenediphosphonic acid by interacting phosphorus trichloride with acetic acid in the presence of heat. As a distinguishing feature of the patent, the process is simplified by adding acetic anhydride to the initial mixture. 2. A modification of this method distinguished by the fact that the phosphorus trichloride, acetic acid and acetic anhydride are present in the mixture in a molar ratio of 1:2:1. 3. A modification of this method in which the process is carried out at a temperature of 35-120°C.

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USSR UDC 576.2

DANILIN, V. P., and [redacted], Laboratory of Control Problems of the Functions of the Organism of Man and Animals imeni N. I. Grashchenkov, Academy of Sciences USSR, Moscow

"Subjective Estimate of the Duration of Periods of Sleep in the Case of Awakening in Different Stages, Phases and Cycles"

Moscow, Doklady Akademii Nauk SSR, Vol 204, No 3, 1972, pp 748-751

Abstract: An effort has been made to use a subjective estimate of sleep periods with respect to their duration and quality in the presence of awakening in different stages and phases of sleep, by comparison with the objective electropolygraphic recording indexes, and judgment of the characteristic features of the psychological activity which either was not perceived or was not remembered by the subject. Fourteen healthy men from 21 to 46 years old (averaging 28 years old) participated in the experiments. The results obtained revealed the obvious dependence of the subjective estimate of the duration of the preceding sleep period on several factors: the stage and phase of sleep at the time of awakening, the order number of the sleep cycle on awakening (the first or second half of the night), the first or repeated awakening in the given cycle and the stage of sleep during preceding awakening, and the nature of the psychological

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DANILIN, V. P., and LATAS, L. P., Doklady Akademii Nauk SSR, Vol 204, No 3, 1972, pp 748-751

activity before awakening. It was discovered that during the first (within the limits of the given cycle) awakening from delta sleep, more than half of the estimates of the time past are low, often very significantly low. The discovered difference between the nature of the estimates of the duration of the preceding sleep period on awakening from the fast sleep phase during the first and second halves of the night can be stated in connection with the presence or absence of the delta sleep stages before the fast sleep episode. The absence of these stages before fast sleep during the second half of the night obviously leads to a relative decrease in the saturation of the fast sleep by the psychophysiological process fixed in the memory with corresponding underestimation of the time occupied by other slow sleep stages or even the duration of fast sleep itself. Consequently, there is a functional difference between the fast sleep periods with the preceding delta sleep and without it.

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USSR UDC 616.8-009.836.12-092 "52"

YAKHNO, N. N., RAYT, M. L., BEYN, A. M., and LATASH, L. P., Laboratory of Problems of the Control of Functions in the Organism of Man and Animals imeni N. I. Grashchenkov, and Chair of Clinical Physiology, Central Scientific Research Laboratory of the First Moscow Medical Institute imeni I. M. Sechenov

"Diurnal Rhythm of Wakefulness and Sleep in Narcolepsy"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 71, No 3, Mar 71, pp 20-23

Abstract: The diurnal rhythm of wakefulness and sleep was studied in one patient with monosymptomatic narcolepsy (attacks of sleep during daytime) and in two patients with polysymptomatic narcolepsy (sleep attacks, cataplexy phases, and hallucinations during night sleep). Electroencephalograms (frontal, parietal, and occipital areas), electromyograms (mouth musculature), and electrocardiograms were recorded while the patients were carefully observed over a 24-hour period. The total duration of the sleep phase was markedly prolonged in the patient with monosymptomatic narcolepsy as a result of the sleep seizures during the day. Stages of pronounced drowsiness were observed in the patients with polysymptomatic narcolepsy. All patients

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USSR

YAKHNO, N. N., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 71, No 3, Mar 71, pp 20-23

displayed a deficit of the various "slow" sleep phases and increased recurrence of "rapid" sleep phases in the first half of the day and of delta-sleep phases in the evening and at night. A premature onset and a greater phasic activity of "rapid" sleep was observed in patients with polysymptomatic narcolepsy.

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Acc. Nr: A70054511 Abstracting Service: INTERNAT. AEROSPACE ABST. Ref. Code: GR 002C

A70-25400 # Certain regular correlations between the degree of manifestion of the skin galvanic reaction and changes in the EEG accompanying local injuries of limbal (rhinencephalic) structures of the human brain (Nekotoryye zakonomernyi sootnosheniia vyrazhennosti K.G.R. i izmenenii E.E.G. pri lokal'nykh porazheniiakh limbicheskikh /rinentsefal'nykh/ struktur mozga cheloveka). I. G. Dallakian, L. P. Latash, and L. T. Popova (Akademiia Nauk SSSR, Laboratoriia Problem Upravleniia v Organizme Cheloveka i Zhivotnykh, Moscow, USSR). *Akademiia Nauk SSSR, Doklady*, vol. 190, Feb. 1, 1970, p. 991-994. 13 refs. In Russian.

Investigation of the role of a selective injury of only one specific formation of a limbal system (or of a disturbance of certain components of the system) in the suppression of the skin galvanic reaction. A study was made of patients with various types of focal brain injuries, involving a comparison of the special features of the dynamics of the skin galvanic reaction with the nature of the changes in the EEG and the location of the pathological process in the brain. Comparisons of changes in the biocurrents in the brains of patients with injuries in various parts of the brain and with various degrees of manifestation of the skin galvanic reaction revealed some interesting relations. It was found that the skin galvanic reaction is absent significantly more often in patients with injuries of the mediobasal temporal formations, in the EEGs of whom there are signs of

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disturbances of the activity of similar (symmetrical) formations in the opposite hemisphere. The presence of 'mirror' foci in the EEGs of patients with convexital injuries in the temporal portion of the brain was, as a rule, not associated with the suppression of the skin galvanic reaction.

A.B.K.

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UDC 669.187.26

USSR

BUSHMELEV, V. M., TYURIN, YE. I., DUNCHEV, YA. P., [illegible] V. M., VOLKOV, S. YE., PUPYNINA, S. M., SHARAPOV, A. A., BAGLAY, V. M., MEDOVAR, B. I., LATASH, YU. V., Krasnyy Oktyabr' Plant, Central Scientific Research Institute of Ferrous Metallurgy and Institute of Electric Welding Imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Production of 4-Ton Ingots in a Bifilar Electroslag Remelting Furnace"

Moscow, Stal', No 3, Mar 70, pp 236-238

Abstract: The article describes a bifilar electroslag remelting scheme developed at the Institute of Electric Welding Imeni Ye. O. Paton, which provides for the melting in one crystallizer of two electrodes, isolated from each other, which are attached to one electrode holder and connected to the ends of the secondary winding of a single-phase transformer with the same power as in a single-electrode furnace. In order to obtain rectangular 640X460 ingots weighing 4 tons, one of the electroslag remelting furnaces of the Krasnyy Oktyabr' Plant, designed for

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USSR

BUSHMELEV, V. M., et al, Stali, No 3, Mar 70, pp 235-236

the production of 2-ton ingots according to the single-electrode scheme and equipped with a single-phase 1000-kva transformer, was remodeled for melting according to the bifilar scheme. Only the mechanical part of the furnace underwent alteration. Slag systems used for the melting included CaF_2-Al_2O_3, CaF_2-CaF_2-CaO-Al_2O_3, and CaF_2-CaO-Al_2O_3-MgO. It was found that the production of metal of satisfactory quality in the bifilar furnace requires the same degree of submersion of the electrodes in the slag bath, as well as keeping the electrode spacing unchanged during the melting. This was accomplished with the use of simple devices. The bifilar scheme approximately doubles furnace productivity and reduces electric energy consumption by 25-29 percent. Data are presented on the quality of 4-ton ingots of ball-bearing steel ShKh 15, structural steel 40KhNMA and stainless sheet steels 10Kh12NVMFA (EI962) and Kh23N18 obtained on the bifilar furnace.

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USSR

UDC 621.039.53

SUKHOTIN, A. M., LANTRATOVA, N. YA., MATUSHKIN, V. A., POLYAKOVA, N. YE., LATERNER, S. A.

"Strength of Building Materials in N_2O_4 at High Temperatures and Pressures"

Dissotsiiruyushch. rasv. kak teplonositeli i rab. tela energ. ustanovok -- V sb. (Dissociating Gases as Heat Transfer Agents and the Working Medium of Power Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 122-130 (from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U163)

Translation: Results are presented from a study of the strength of building materials in N_2O_4 at temperatures to 700° C and pressures to 150 absolute atmospheres under static conditions. A loss in weight is observed at a temperature of 100° C for all the tested materials. On making the transition to higher temperatures, the losses of weight of all the materials decrease and are gradually replaced by an increase in weight. The surface of the stainless steel samples is covered with dense oxide films. Increasing the pressure increases the corrosion rate by tens of times. There are 5 illustrations, 4 tables and a 3-entry bibliography.

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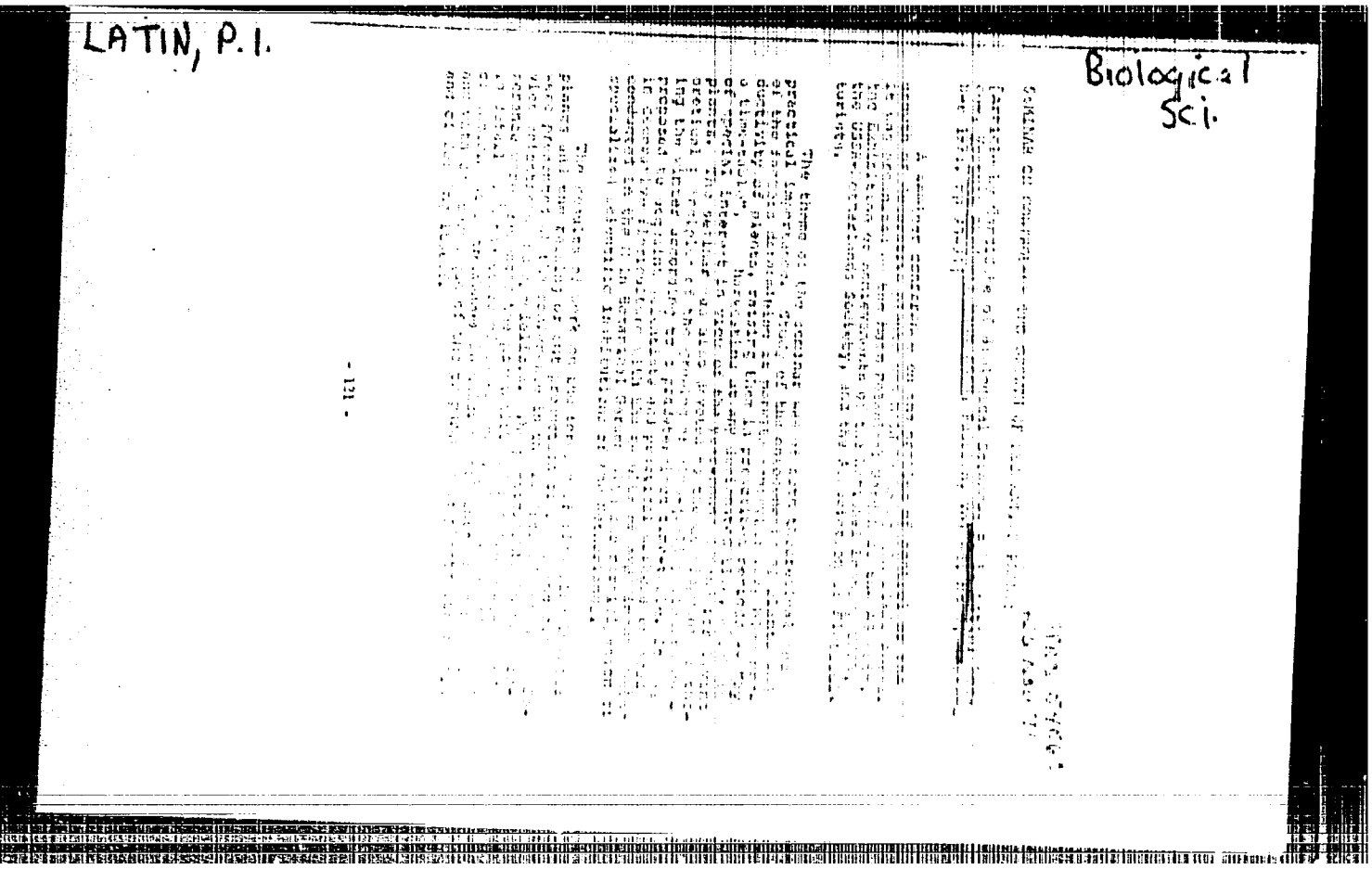

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REACTION OF FERRIC CHLORIDE WITH FERRIC OXIDE -U-

AUTHOR-(02)-LATINA, Z.I., FURMAN, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 830-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IRON COMPOUND, CHLORIDE, CHLORINATION, CHEMICAL REACTION, METAL OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1064 STEP NO--UR/0080/70/043/004/0830/0834

CIRC ACCESSION NO--AP0123057

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--11NOV70
CIRC ACCESSION NO--AP0123057
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FECL SUB3 CAN BEST BE USED AS A CHLORINATING AGENT AT LARGER THAN 500DEGREES SINCE AT LOWER TEMPS. (225-433DEGREES) IT IS PARTIALLY PRESENT AS FEOCL DUE TO THE REACTION WITH FE SUB2 O SUB3 PRESENT. AT 500DEGREES THE THERMAL DECOMPN. OF FEOCL IS COMPLETE.

UNCLASSIFIED

USSR UDC: 621.373.42

ABKEVICH, I. I., LATENIS, V. S.

"An SHF Oscillator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, 1970, Autnor's Certificate No 259177, filed 23 May 68, p 195

Abstract: This Author's Certificate introduces an SHF oscillator with electronic frequency tuning based on a Gunn diode. As a distinguishing feature of the patent, the range of electronic frequency adjustment is extended by adding an inductance in the load circuit of the oscillator. Structurally this inductance takes the form of two sections of the middle conductor of a coaxial cable connected to the diode.

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USSR UDC: 621.396.96.004

LATINSKIY, S. M., SHARAPOV, V. I., KSYONZ, S. P., AFANAS'YEV, S. S.

"Theory and Practice in Radar Systems Operation"

Teoriya i praktika ekspluatatsii radiolokatsionnykh sistem (cf. English above), Moscow, "Sov. radio", 1970, 432 pp, ill. 1 r. 20 k. (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12G62)

Translation: Light is thrown on some problems in the theory and practice of radar systems operation. Methods of maintaining the parameters of radar systems are considered: effective range, precision in determining the coordinates of the target, reliability on the given level. Considerable attention is given to the problem of maintaining reliability in the face of failures. Some phases of technical diagnosis are outlined and examples are given of setting up programs for troubleshooting and for monitoring radar systems for operability. Principles and methods are described for effective adjustment and regulation of radar equipment. Considerable space is devoted to the use of quantitative methods in solving problems of utilization. The book is written for engineers involved in the design, production and use of radar equipment as well as for students of advanced courses in radio engineering schools. 245 illustrations, 10 tables, bibliography of 69 titles. Annotation.

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1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CALCULATION OF THE ULTRAVIOLET AND VISIBLE ABSORPTION SPECTRA OF A NICKEL,II 1,5,DIPHENYLFORMAZAN COMPLEX -U-

AUTHOR-(05)-YURCHENKO, E.N., KUKUSHKINA, I.I., YERMAKOVA, M.I., AVDEYEV, V.I., LATOSH, N.I.

COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 47-54

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, ABSORPTION SPECTRUM, NICKEL COMPLEX, CALCULATION, MOLECULAR ORBITAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1720 STEP NO--UR/0379/70/006/001/0047/0054

CIRC ACCESSION NO--AP0129088

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129088

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FREQUENCIES OF THE MAX. AND THE OSCILLATOR STRENGTHS ARE GIVEN OF BANDS OF THE ABSORPTION SPECTRA OF 1,5,DIPHENYLFORMAZAN I, AND ITS NI(II) COMPLEX (II), RESOLVED INTO INDIVIDUAL GAUSSIAN COMPONENTS, IN THE SOLNS. OF CCL SUB4, ME SUB2 CO, AND ETOH. IN VIEW OF THE INTERPRETATION OF THE BANDS, THE CALCN. OF THE MOLS. I AND II, BY USING THE MO LCAO METHOD OF MULLIKEN HELMHOLZ WOLFSBERG, WAS PERFORMED. THE SINGLE ELECTRON SCHEMES OF THE ENERGY LEVELS OF I, AND II, AND THE ASSIGNMENTS OF THE TRANSITIONS ARE GIVEN. THE INTENSITY OF THE LONGWAVE ABSORPTION OF I RISES IN GOING FROM CCL SUB4 TO ETOH, WHEREAS THE INTENSITY OF THE TRANSITIONS AT SHORTER WAVELENGTHS DID NOT CHANGE. THE OSCILLATOR STRENGTHS OF THE 1ST TRANSITION AND OF THE TRANSITIONS AT SHORTER WAVE LENGTHS DECREASED IN THE SPECTRUM OF II WITH THE INCREASING INTERACTION OF THE SOLVENTS IN THE ABOVE SEQUENCE. THIS INTERACTION CAUSES THE DECREASE OF THE NEG. CHARGE OF THE N ATOMS AND THE DECREASE OF THE OSCILLATOR STRENGTHS OF THE TRANSITIONS BETWEEN THE MO WHICH INCLUDED THE AO OF N. THE BAND OF II WHICH LIES IN THE IR REGION AT 4500 CM PRIME NEGATIVE1 WAS ASSIGNED, ON THE BASIS OF THE CALCNS., TO THE ELECTRONIC TRANSITION 9A SUBG-6A SUBU. ALL TRANSITIONS WERE INTERPRETED AS PI PI SEXTILE TRANSITIONS.

FACILITY: IZHEVSK. MEKH. INST., IZHEVSK, USSR.

UNCLASSIFIED

USSR UDC: 577.1:615.7/9

PODGORNAYA, I. V., LATOSH, N. I., TRESCHENKO, I. P., CHERNOV, D. I.

"Effect of Complexing Agents (Hydroxy- and Sulfo-Substituted Ethylenediamine-tetraacetic Acid Salts and Iminodiacetic Acid) on the Behavior of Cerium-144 in an Organism"

Tr. In-ta ekol. rast. i zhivotnykh. Ural'sk. fil. AN SSSR (Works of the Institute of Plant and Animal Ecology, Ural Affiliate, Academy of Sciences of the USSR), 1970, vyp. 66, pp 76-80 (from RZh-Biologicheskaya Khimiya, No 23, 10 Dec 70, Abstract No 23F2209)

Translation: It was found that the introduction of one or two hydroxy groups into the molecule increases its effectiveness, while the addition of a sulfo group reduces effectiveness. From the authors' resume.

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USSR

UDC: 577.1:615.7/9

VORONINA, N. M., TREGUBENKO, I. P., IAMOSH, N. I., SUSHCHENYA, Ye. I., SEMENOV, D. I.

"Effect of Complexing Agents (Iminodiacetate Derivatives of the Oxybenzylmethane Series) on the Behavior of Iron-59, Zinc-65, Zirconium-95, Yttrium-91 and Cerium-144 in an Organism"

Tr. In-ta ekol. rast. i zhivotnykh. Ural'sk. fil. AN SSSR (Trudy of the Institute of Animal and Plant Ecology, Ural Affiliate, Academy of Sciences of the USSR), 1970, vyp. 68, pp 68-75 (From RZh-Biologicheskaya Khimiya, No 23, 10 Dec 70, Abstract No 23326-05)

Translation: The effectiveness of the complexing agents (amount of extraction of yttrium and cerium from the organism and the degree of reduction of their deposition in tissues) increases symbatically with the increase in the number of iminodiacetate groups in the molecule. With respect to their effectiveness, preparations with three and four groups are comparatively on a level with ethylenediaminetetraacetic acid sodium salt (data from experiments with yttrium), and in some instances (experiments with cerium) are considerably more effective. From the authors' resume.

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, '70

240644 BACTERIAL STRAIN Brevibacterium sp. 22L was obtained by microbiological selection from a parent Brevibacterium strain and found to be suitable for the production of L-lysine in nutrient media comprising sources of carbon, source of nitrogen, biotin and homoserine under aerobic conditions. The novel strain ferments glucose and saccharose and does not liquify gelatine. Essential morphological characteristics are given. 10.2.68 as 1216519/28-13, LATSARS, A.A. et al. Microbiology Inst. Acad. Sci., Latvian S.S.R. (25.8.69) Bul 13/1.4.69. Class 6a, Int. Cl. C 12k.

19750331

AA0040702

AUTHORS: Latsars, A. A.; Bukin, V. N.; Beker, M. Ye. and Liyepin'sh, G. K.

Institut Mikrobiologii imeni Avgusta Kirkhenshteyna AN Latviyskoy SSR

19750332

2/2

USSR

UDC 669.295:620.193.91

NIKANOROV, M. A., and LATSH, V. V.

"Aging Titanium Alloys With an Unstable Beta-Structure"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 2, Feb 72, pp 342-351

Abstract: A study was made of the effect of heat treatment and varying oxygen content on the kinetics and nature of beta-phase decomposition in thermally unstable beta-titanium alloys. Titanium alloys TC6 (TiAl3Mo4V5Cr11) with two levels of oxygen content and VT15 (TiAl3Mo8Cr11) with a low oxygen content were studied. Ingots weighing 100 kg were melted in a electric-arc vacuum furnace by the method of double melting with a consumable electrode. Blanks with a 100-mm diameter were forged from ingots 260 mm in diameter and then forged into rods with a 20-mm diameter. The rods were turned to a diameter of 15 mm and cut into samples 20-mm long. Results of the study showed that when alloy TS6 (0.065% O_2) is aged at 200°C there occurs a formation of the omega-phase which is accompanied by an increase in alloy hardness. An increase in quench temperature significantly accelerates the process associated with omega-phase formation. With increased oxygen content the process of omega-phase formation is slowed. After aging at 300°C for 1000 hours no precipitation of the omega-phase is observed by x-ray analysis, which indicates a lowering of intensity or complete conversion of omega-phase formation. In alloys VT15 and TS6 with a low oxygen content (0.065%), low-temperature aging in combination with subsequent aging at 300°C leads to an intense growth in hardness

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USSR

NIKANOROV, M. A., et al, Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 2, Feb 71, pp 342-351

was manifested by formation of a structure consisting of fine particles of the alpha-phase, coherently bonded with the matrix beta-phase solid solution. The structural state forming as a result of step aging differed from the structural state observed after ordinary modes of aging at 200 and 300°C. Treatment of the alloys with this structure according to the mode of 580°C for three minutes leads to formation of a structure with the initial beta-phase. The omega-phase forming as a result of low-temperature aging initiates formation of the alpha-phase in the process of extended aging at 450°C. One can assume that for a given treatment, formation of the alpha-phase in the studied alloys proceeds directly from the omega-phase. The authors thank R.M. LEMENOVA and G.V.MURAVYEVA for examining a number of TEM samples under an electron microscope and calculating their electron-diffraction structures. 7 figures, 3 tables, 13 bibliographical references.

2/2

Oncology

USSR

UDC 616-006-092.9-022.6:576.858.5SA7(C8)

BRUYAKO, E. T., POGOSYANTS, YE. YE., and LA'TSHTEYN, A. D., Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR, and Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Induction of Tumors in Striped Hairy-Footed Hamsters With Simian Adenovirus SA7(C8)"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 679-681

Abstract: The small rodent Phodopus sungorus campbelli Th. was chosen for oncological studies because it has a relatively small number of easily identified chromosomes (2n=28), often develops spontaneous tumors, and is susceptible to carcinogenic chemicals. About 65% of the hamsters, inoculated within 24 hours of birth with 0.1 ml of simian adenovirus SA7 solution containing $10^{5.3}$ or $10^{6.2}$ EOU and under the skin of the back, developed sarcomas at the site of inoculation in 30-60 days. The sarcomas consisted of tightly packed spindle-shaped cells with little intercellular substance and little infiltration of the underlying tissues. The tumors grew at a rapid rate, and some became as large as the animals. Eighteen of the 24 hamsters which were not sacrificed for histological tests died within 16 days after the tumors were detected. No metastasis into internal organs was observed.

UNCLASSIFIED PROCESSING DATE--03JUL70

TITLE--THE IMPORTANCE OF GLUCOCORTICOID METABOLISM IN THE TREATMENT OF VIRAL HEPATITIS -U-

AUTHOR--KLOKOV, G.P., SHCHYKMAN, M.S., LATSINIK, G.Y.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 1, PP 72-79

DATE PUBLISHED--------70

28
5
33

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, VIRAL DISEASE CORTICOID, METABOLISM, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1978/0570 STEP NO--UR/0497/70/048/001/0072/0079

CIRC ACCESSION NO--AP0045593

UNCLASSIFIED

Acc. Nr: AP0045593 Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48, Nr 1 , pp 72-79

THE IMPORTANCE OF GLUCOCORTICOID METABOLISM IN THE TREATMENT OF VIRAL HEPATITIS

Rudnev, G. P.; Sheykman, M. B.; Latsinik, G. Ye.

Under study was the state of processes of glucocorticoid conversion in 96 patients suffering from viral hepatitis of diverse severity. There was found a raised excretion of reduced tetrahydrometabolites, testifying to a disturbance of enzymatic processes of cortisol inactivation, impairment of processes of binding of corticosteroids with glucuronic and sulfuric acids, decrease of the binding capacity of blood plasma transcortin, diminished excretion of 11-oxy-17-ketosteroids and increased excretion of 6-beta-oxycortisol. There was established a relationship between metabolic disturbances of cortisol and the severity of the disease. The authors analyze the pathogenetic importance of disclosed metabolic disturbances of glucocorticoids, as well as the possibility of using indices of cortisol metabolism for assessing the severity of the disease, for prognosis and for control over the effectiveness of treatment.

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REEL/FRAME 19780570

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RADIOISOTOPE INVESTIGATION OF THE LIVER CONDITION IN PERSONS HAVING SUSTAINED VIRAL HEPATITIS -U-

AUTHOR-(03)-SOSKIN, A.M., LATSINIK, G.YE., ZHIGILEVA, V.I.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 22-26

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, RADIOBIOLOGY, RADIOACTIVE ISOTOPE, IODINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1182 STEP NO--UR/0504/70/042/005/0022/0026

CIRC ACCESSION NO--AP0123159

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN EXAMINING 54 PATIENTS HAVING SUSTAINED VIRAL HEPATITIS DURING THE PERIODS FROM 8 MONTHS TO 3 YEARS AFTER RECONVALESCENCE, AS WELL AS 48 PATIENTS WITH LIVER CIRRHOSIS AT THE TERMINATION OF BOTKIN'S DISEASE THE AUTHORS USED THE METHODS OF RADIOISOTOPE DIAGNOSIS, HEPATOGRAPHY AND SCANNING. THE RESULTS OF HEPATOGRAPHY WITH BENGAL ROSE LABELLED I PRIME131 SHOWED THAT A DROP IN THE ABSORBTIVE FUNCTION OF THE LIVER WAS PERSISTENT IN 70PERCENT OF THE PATIENTS, AND CIRRHOTIC CHANGES WERE REVEALED IN 48PERCENT. SCANNING WITH RADIOACTIVE AU PRIME198 IS OF GREAT INTEREST IN CATAMNESTIC EXAMINATION OF PATIENTS WITH VIRAL HEPATITIS. FACILITY: KAFEDRA INFEOTSIONNYKH BOLEZNEY TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY AND LABORATORIYA RADIOIZOTOPNOY DIAGNOSTIKI MOSKOVSKOGO N-I RENTGENO-RADIOLOGICHESKOGO INST.

UNCLASSIFIED

USSR UDC 539.3

GRIGORENKO, YA. M., BESPALOVA, YE. I., LATSINNIK, L. F., (Kiev), Institute of Mechanics, Academy of Sciences, Ukrainian SSR

"Calculation of Plates of Variable Rigidity"

Kiev, Prikladnaya Mekhanika, Vol 7, No 9, Sep 71, pp 45-49

Abstract: The article approaches a solution to two-dimensional boundary-value problems of the curvature of rectangular plates with rigid characteristics, variable in two directions, with various combinations of hinged and rigid support of two opposing edges. The problem is solved by the method of integral relationship in the form of L. V. Kantorovich with the use of trigonometric functions. Solution of unidimensional problem is realized by means of a stable numerical method on an electronic digital computer. Examples are given of the calculation of specific problems which illustrate good convergence of the applied method. This approach may be used without any essential difficulties also when solving problems given with a stress-deformed state of open shells of variable rigidity in two directions. One figure, two tables, six references.

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UDC 591.392

USSR

SMIRNOVA, I. B. and LATSIS, R. V., Institute of Biological Development, Academy of Sciences USSR, Moscow

"Role of Thiols in Alteration of Radiosensitivity of Dividing Sea Urchin Eggs"

Moscow, Doklady Akademii Nauk SSSR, No 1, 1972, pp 254-256

Abstract: Artificially fertilized sea urchin (Strongilocentrotus nudus) eggs developing in fresh seawater were irradiated (1500 rad) in different stages of mitosis. The number of surviving eggs was found to be highest among those exposed in the metaphase and lowest among those exposed in the telophase-prophase. The thiol level was also highest in the metaphase and lowest in the telophase-prophase. In another experiment, sea urchin eggs were kept in 1% ether for 30 minutes. They remained in the same stage of mitosis as when they were first placed in the solution. Transfer to fresh seawater, however, resulted in gradual restoration of division. Irradiation of eggs kept in seawater and ether solution affected the radiosensitivity of both egg masses equally. The changes in thiol level of the eggs kept in ether were paralleled by the changes in degree of radiosensitivity. Thus, alteration of radiosensitivity during embryogenesis is causally related to fluctuations in the content of endogenous thiols.

USSR

UDC 577.391

SMIRNOVA, I. B., and LATSIS, R. V., Institute of Developmental Biology, Academy of Sciences USSR, Moscow

"Changes in the Radiosensitivity and in the Content of SH-Groups in the Early Embryogenesis of the Loach (Misgurnus fossilis)" (Submitted by Academician B. L. Astaurov)

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 4, 1970, pp 913-916

Abstract: The relationship between the endogenous thiol content and the radiosensitivity of developing roe of Misgurnus fossilis was studied. Beginning with the appearance of the first cleavage groove (60-70 min after fertilization), samples of the roe were taken every 5 min up to 145 min after fertilization. A part of the sample was irradiated with X-rays in a dose of 1000 r, while another part was subjected to histochemical investigation to determine the content of SH-groups. The embryos that survived after irradiation were counted 24 hr after fertilization. The rate of survival was low after irradiation in stages in which the content of SH-containing proteins was low (60-70, 105-110, and 135-145 min after fertilization), and high in stages in which the content of these compounds was high. There was a linear relationship between the percentage of roe grains surviving after irradiation and the content of protein SH-groups in them. Analogous relationships between the content of endogenous thiol compounds in the hematopoietic tissue of mice and rats and the survival

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USSR

SMIRNOVA, I. B., and LATSIS, R. V., Doklady Akademii Nauk SSSR, Vol 192, No 4, 1970, pp 915-916

of these animals after irradiation, and between the content of thiol compounds and the resistance of tumor cells to radiation has been established.

2/2

UDC: 621.374.2

USSR

BRESLAVTSEV, I. D., VENIKOV, N. I., DVORNIKOV, V. D., KHLESHOV, I. L., LATUSHKIN, S. T., REZVOV, V. A., CHUMAKOV, N. I., and YUDIN, L. I.

"Use of 'Deviation Grouping' to Obtain Intense Short Neutron Pulses in the IAE Cyclotron"

Moscow, Pribory i Tekhnika Eksperimenta, No 4, July-August 1972, pp 26-31

Abstract: A system is described for the formation and diagnostics of a beam of neutrons using the method of deviation grouping. Similar to that of Karlsruhe, as described by S. Cierjacks et al (Rev. Scient. Instrum., 39, 1968, p 1279), the system involves a packet of ions cut by a pulsed voltage of an internal deflector and accelerated to the proper energy level. The ions are deflected vertically to a target whose thickness is larger than the ion path, and as a result of the impact of the particles on the target, short intense neutron pulses are obtained. A detector, recording the neutrons' energy spectrum, is placed at a distance of 13.5 m from the target. Unlike the Karlsruhe cyclotron, however, the IAE has two 180° duants, such that it is impossible to place all elements of the system in the space outside them. The setup

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UDC: 621.374.2

USSR

BRESLAVTSEV, I. D., et al, Pribory i Tekhnika Eksperimenta, No 4, July-August 1972, pp 26-31

involving the IAE cyclotron is described, together with the electronic equipment, and a sketch of the instrumentation is given in block form. A neutron pulse frequency of as much as 110 kHz is obtained. The authors are associated with the Institute of Atomic Energy at Moscow.

2/2

LATUSHKINA, V. B.

50:JPRS 54153
23 SEP 71

UDC: 616.24-003.66-092.9-085.355:577.156

THE EFFECT OF PROTEOLYTIC ENZYMES ON DEVELOPMENT AND COURSE OF EXPERIMENTAL PNEUMOCONIOSIS

[Article by Yu.N. Uspenskiy, V.B. Latushkina, I.A. Kocherkova, Institute of Industrial Hygiene and Occupational Diseases, USSR Academy of Medical Sciences, Moscow; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 7, 1971, pp 68-90]

On the basis of the literature as well as of our previous investigations which revealed the regulatory influence of proteolytic enzymes on tissular and external respiration of healthy and sick rats (Yu.N. Uspenskiy et al; Yu.N. Uspenskiy and G.S. Tseytlina, 1966; 1969), we decided to investigate the effect of proteolytic enzymes on the development and course of experimental silicosis and pneumoconiosis induced by dust from tungsten-cobalt alloys with diamond. For this purpose we prepared a mixture of proteolytic enzymes consisting of 5 grams trypsin, 5 grams chemotrypsin, and 50 grams pancreatin which was administered by inhalation (one gram of mixture per ten rats) and by mouth (one gram of mixture per 200 ml of drinking water per ten rats).

In all we performed seven series of experiments on 300 albino rats. In the first through fifth series (210 rats) the animals were exposed to quartz dust, in the 6th and 7th (45 rats) to tungsten-cobalt (TC) and diamond alloy dust. The control consisted of 45 rats.

In the first and second series (untreated animals), quartz dust (SiO_2) in a dosage of 50 mg was administered to 20 rats intratracheally, once; and 20 rats inhaled the same dust in a concentration of 150±50 mg/cubic meter for six months. In the 3rd series quartz dust was administered, as in the first series, once (60 rats), but throughout the observation period (12 months) the animals also received a mixture of enzymes with their drinking water. In the 4th series, 40 rats inhaled a mixture of quartz and enzymes for six months.

In the 5th series (70 rats), in addition to inhalation (for six months) of a mixture of quartz and enzymes, the animals received a set of enzymes with their water for 12 months.

In the 6th series, 25 animals were submitted once to the intratracheal action of tungsten-cobalt alloy with 5% diamond in a dosage of 50 mg. In the 7th series, 20 animals were exposed to the same dust, in the same manner, and

UDC 51:330.115

USSR

VOROB'YEV, A. F., LATUSHKO, N. A., SMAKOTINA, T. A.

"Mathematical Economics Formalization of Storage Problems"

Tr. Mosk. Ekon.-Statist. In-ta, [Works of Moscow Economics and Statistics Institute], No 3, Part 2, 1970, pp 39-48, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V579).

No Abstract.

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UDC 533.9

USSR

ATAMANOV, N. S., ZA[illegible]D, V. N., [illegible]KOV, V. G., IL'YE[illegible], B. P., [redacted] Ya. M., and TOLOK, V. T., Physicotechnical Institute of the Academy of Sciences UkrSSR, Khar'kov

"Capture of Plasma Injected Into an Injector-Divertor Device of a Stellarator in the Case of a Short- and Long-Term Modulation of the Confining Magnetic Field"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 3, Mar 72, pp 3[illegible]-371

Abstract: The [illegible] investigation of the capture of plasma by the magnetic field of an injector-divertor device of a stellarator is described. The capture of the [illegible] by modulation durations of the confining magnetic field [illegible] plasma [illegible]. By the use of a [illegible] of the confining magnetic field, the [illegible] part of the plasma flow, which is more valuable for the injection, can be trapped and, in the [illegible], the rear part will split off by entering into the injection chamber. The length of the plasma flow captured in the trap can be controlled by [illegible] duration of the magnetic field [illegible] to the field of the [illegible] by reference to an oscillogram of the [illegible] density of captured plasma on the [illegible] [illegible] Hz, [illegible]
co[illegible]

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LATUTA, V.Z.

PRESSURE REACTOR

- 67 -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720009-8"

UDC 621.762

USSR

SAMSONOV, G. V., SERGEYEV, N. N., DZODZIYEV, G. T., VIERYAZKIN, V. N., and LATYAYEVA, L. V.

"Cermet Hard Alloys Based on Titanium Carbide"

Kiev, Poroshkovaya Metallurgiya, No 9, 1971, pp 42-45

Abstract: Conditions for obtaining TiC-Ni alloys and their possible use in cutting tools are investigated. The mixture for obtaining the alloys was prepared in a mill lined with hard alloys, in an ethyl alcohol medium. The ball size was 3-9 mm. To investigate the effect of grain size of initial powders on the structure and properties of TiC-Ni alloys, the ratio of ball weight to mixture weight was taken as 6:1, 10:1, and 15:1, and the grinding time was varied from 1/2 to 1½ hours. Short bars 5 x 5 x 35 mm in size were pressed from the mixtures obtained in the different grinding regimes. The bars were sintered in two stages: first (preliminary) sintering to remove decomposition products of the plasticizing agent and low flash vaporization of the oxides (in dried hydrogen at 700°), and the second (final) sintering -- in a vacuum of 5 10-3 mm Hg at different temperatures and isothermal exposure times. It was shown that satisfactory mechanical properties (Rockwell hardness -- 90-90.5 Rockwell hardness, A-Scale) strength = [illegible] kg/mm², and [illegible] kg obtained when finely pulverized mixtures [illegible] shown by the [illegible]

USSR

SAMSONOV, G. V., et al, Kiev, Poroshkovaya Metallurgiya, No 9, 1974, pp 42-45

by sintering in a vacuum of 5 10-3 mm Hg at 1300° and with isothermal exposure time of 30 minutes. It was found that for a 6:1 ratio of ball weight to mixture weight, even for maximum grinding time (1½), following sintering the alloys exhibit porosity up to 0.4% and do not meet the requirements specified. The experimental alloys surpass the alloy T14K8 as to wear resistance by a factor of 1.6-1.8 for cutting using steel 50 at a rate of 180-190 m/min, and when used to reinforce drawing plates for wire-drawing, the wear-resistance of these alloys is superior to that of the VK6 alloy by a factor of 1.5-2.

UDC: 547.258.2

USSR

RAZUVAYEV, G. A., LATYAYEVA, V. N., VASIL'YEVA, G. A., VYSHINSKAYA, L. I., Scientific Research Institute of Chemistry Affiliated With Gor'kiy State University imeni N. I. Lobachevskiy

"The Reaction of Dicyclopentadienyldibenzyltitanium With Organolithium Compounds"

Leningard, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1306-1310

Abstract: The authors studied the reaction of dicyclopentadienyl dibenzyltitanium $(C_6H_5)_2Ti(CH_2C_6H_5)_2$ (I) with methyl- and benzyllithium in ratios of 1:1 and 1:3 in an attempt to synthesize new organotitanium compounds. Compound (I) reacted with 1 mole of methyllithium to form cyclopentadienyllithium, toluene and methane. The excess methyllithium caused further reduction of Ti^{III} to Ti^{II}. Compound (I) reacted with 3 g-mol of methyllithium as follows:

$$I + 3CH_3Li \rightarrow [CH_3TiCH_2C_6H_5] + C_5H_5Li + 2Li + C_6H_5CH_3 + 2CH_4 + [C_2H_4].$$

Hydrochloric acid hydrolysis of the asymmetric titanium compound gave: toluene, methane and a salt of Ti^{III}:

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USSR

RAZUVAYEV, G. A., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1306-1310

$$[C_6H_5CH_2TiCH_3] + 3HCl \longrightarrow C_6H_5CH_3 + CH_4 + TiCl_3 + \frac{1}{2}H_2$$

Attempts to synthesize dibenzyltitanium by thermal dissociation of tetrabenzyltitanium (II) were unsuccessful. Dibenzyltitanium and cyclopentadienyl dibenzyltitanium (III) were synthesized by reacting compound (I) with benzyllithium in various ratios.

$$I + C_6H_5CH_2Li \longrightarrow C_5H_5Ti(CH_2C_6H_5)_2 + C_5H_5Li + 0.5C_6H_5CH_3 + 0.2(C_6H_5CH_2)_2$$

Product (III) is stable when stored at room temperature for long periods. The reaction of compound (I) with 2 moles of methyllithium produced cyclopentadienyllithium, toluene and dibenzyl. Metallic lithium was also found.

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Organometallic Compounds

UDC 547.258.2 + 547.256.61

USSR

RAZUVAYEV, G. A., LATYAYEVA, V. N., LINEVA, A. K., Scientific-Research Institute of Chemistry at Gor'ki State University imeni N. I. Lobachevskiy, Gorkiy, Ministry of Higher and Secondary Specialized Education RSFSR

"Benzoyl Peroxide Reaction With Bicyclopentadienyl Titanium Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1804-1812

Abstract: Reaction of bicyclopentadienyldiphenyl titanium with benzoyl peroxide taken in a 1:1 ratio occurs with formation of an intermediary complex $[(C_5H_5)_2Ti(C_6H_5)_2.(C_6H_5COO)_2]$. Titanium is reduced to the trivalent state -- probably through a preliminary expansion of the electron cloud which results in the complex -- forming $C_5H_5Ti(OCOC_6H_5)_2$, benzene, and polymeric other. Cyclopentadienyltitanium dibenzoate reacts with benzoyl peroxide to

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USSR

RAZUVAYEV, G. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1804-1812

give cyclopentadienyltitanium tribenzoate. The same product may be obtained from the reaction of biscyclopentadienyltitaniumdiphenyl with benzoyl peroxide taken in a 1:5 ratio or through an exchange reaction $C_5H_5TiCl_3 + 3\ C_6H_5COOAg$. When biscyclopentadienyl-phenylvanadium is reacted with benzoyl peroxide (a 1:1 ratio), biscyclopentadienylvanadiumdibenzoate is formed in a 50-60% yield plus benzene, polymeric ether, and some cyclopentadienylvanadium-tribenzoate. The yield of the latter product increases as the ratio benzoyl peroxide:biscyclopentadienylphenylvanadium is increased.

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UDC 547.258.2

USSR

RAZUVAYEV, G. A., LADYAYEVA, V. N., VYSHINSKAYA, L. I., VASIL'YEVA, G. A.

"Reactions of Biscyclopentadienyldiphenyltitanium With Lithium-organic Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2033-2035

Abstract: Reaction of biscyclopentadienyldimethyltitanium with phenyllithium and biscyclopentadienyldiphenyltitanium (I) with methyllithium occurs with reduction of titanium organic compounds, yielding methane, benzene, metallic lithium, cyclopentadienyllithium, and a nonsymmetric compound of divalent titanium. Phenylmethyl-titanium. When (I) was reacted with benzyllithium in a 1:1 ratio, benzene, cyclopentadienyllithium, and a nonsymmetric compound of trivalent titanium: cyclopentadienylphenylbenzyltitanium were obtained. Reaction of (I) with three moles of benzyllithium gave benzene, toluene, dibenzyl, metallic lithium, cyclopentadienyllithium and phenylbenzyltitanium. It is proposed that all of these

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USSR

RAZUVAYEV, G. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2033-2038

reactions occur through the formation of a reversible onium complex which breaks down through a homolytic break of the Ti-R bond, yielding cyclopentadienyllithium and a nonsymmetric titanium organic compound.

2/2

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 015

TITLE--TETRAKIS,PENTAFLUOROPHENYL,TITANIUM -U-

AUTHOR-(04)-RAZUVAYEV, G.A., LATYAYEVA, V.N., KILYAKOVA, G.A., MALKOVA, G.YA.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 620-1

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

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, ORGANOTITANIUM COMPOUND, BENZENE DERIVATIVE, THERMAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0020/70/191/003/0620/0621

PROXY REEL/FRAME--2000/1066

CIRC ACCESSION NO--AT0124723

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 015

CIRC ACCESSION NO--AT0124723

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. C SUB6 F SUB5 LI TREATED TI FI SUB2 O AT MINUS 70DEGREES WITH TICL SUB4 AND HELD 2 DAYS GAVE 1 20-30PERCENT ORANGE (C SUB6 F SUB5) SUB4 TI.2E(SUB2 O, M. 117-19DEGREES, WHICH WAS VERY HYGROSCOPIC. TREATED WITH HCL IT GAVE SUB6 F SUB5 H AND TICL SUB4. HGCL SUB2 GAVE (C SUB6 F SUB5) SUB2 TI TICL SUB4. HEATED DRY THE SUBSTANCE IS STABLE TO 100DEGREES WELL AT 120-30DEGREES IN THE MELT IT DECOMPS. EXPLOSIVELY; IN C SUB6 H SUB6 AT 200-50DEGREES IT WAS TOTALLY DECOMPD. IN 40-50 HR TO C SUB12 H SUB6 F SUB4, M. 62DEGREES. C SUB6 F SUB5 H AND (C SUB6 F SUB5) SUB2, AND INDRG. TI FLUORIDES. POSSIBLY THE 1ST PRODUCT IS C SUB6 F SUB4 HPH.

FACILITY: NAUCH.-ISSLED. INST. KHIM., GOR'K. GOS. UNIV. IM. LOBACHEVSKOGO, GORKI, USSR.

UNCLASSIFIED

UDC 621.375.82

USSR

LATYNIN, YU. M., and KUZ'MYCHOV, V. M.

"Effect of Giant Laser Pulses on Thin Metallic Wire"

Visnyk Kharkiv. un-tu (Herald of Khar'kov University), 1973, No 92, Radiophysics, vyp. 2, pp 86-89 (Ukrainian) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D901 by V. N. SH.)

Translation: For purposes of studying the possibility of using thin metallic wires in a laser emission energy meter, a study was made of the effect of a neodymium glass laser pulse on Pt wire 3 microns in diameter. It was found that under the action of a giant emission pulse the increase in its electrical resistance is proportional to the incident energy right up to densities causing failure of the wire. The radiation striking a black wire causes it to kink and stretch. The simultaneous decrease of almost 4% in the electrical resistance of the wire is due to the disappearance of imperfections in the crystal lattice.

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UDC 576.85:633.367+577.15:632.954

USSR

LATYPAVA, R. M., and VAGINA, N. S.

"The Activity of Oxidoreductases in the Tubers of the Yellow Fodder Lupine After Application of Simazin"

Minsk, Izvestiya Akademii Nauk BSSR, No 4, 1971, pp 50-54

Translation: The effects of simazin on the formation of tubers, the activity of oxidoreducatases in the tubers, and the concentration of nitrogen in various parts of the yellow fodder lupine were investigated. It was found that these parameters changed unequally after application of different doses of simazin. In tests performed under natural conditions, a dose of 0.5 kg of simazin per hectare had no inhibitory effects. Doses of 1.0 and 1.5 kg per hectare reduced the number of tubers and the activity of dehydrogenase and copper-containing enzymes (polyphenol oxidases and ascorbinic oxidases) but did not inhibit the activity of iron-containing enzymes (peroxidases and catalases) or nitrogen fixation. The concentration of nitrogen did not change in the aboveground parts and in roots and was even increased in the tubers.

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1/2 057 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--GRAFTING OF METHYL METHACRYLATE ON POLY(VINYL FLUORIDE) UNDER THE INFLUENCE OF GAMMA RADIATION -U-

AUTHOR-(03)-LATYPOV, T., YULCHIBAYEV, A.A., USMANOV, KH.U.

COUNTRY OF INFO--USSR

SOURCE--UZB. KHIM. ZH. 1970, 14(1), 53-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--GRAFT POLYMERIZATION, METHYL METHACRYLATE, FLUORINATED ORGANIC COMPOUND, GAMMA RADIATION, RADIATION EFFECT, COPOLYMER, THERMOMECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1840 STEP NO--UR/0291/70/014/001/0053/0056

CIRC ACCESSION NO--AP0123629
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 057

CIRC ACCESSION NO--AP0123629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IRRADN. OF A POLY(METHYL METHACRYLATE) (I)-H SUB2 C:CHF (II) MIXT. WITH GAMMA RAYS IN VACUUM GAVE GRAFT COPOLYMERS CONTG. LESS THAN OR EQUAL TO 74.2 II UNITS. THE CONVERSION RATE OF II IS CONSIDERABLY GREATER IN THE PRESENCE OF I THAN THE II HOMOPOLYMN. RATE UNDER THE SAME CONDITIONS. THE GRAFT COPOLYMERS HAVE GREATER SWELLING IN ACETONE, HCONME SUB2, OR DIOXANE AND ARE ESP. SOL. IN PHME AT ROOM TEMP. GRAFTING DECREASES THE MELT FLOW INDEX OF II AND IT CHANGES THE SHAPE OF ITS THERMOMECH. CURVES.

FACILITY: TASHKENT. GOSUNIV. IM. LENINA, TASHKENT, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 051

TITLE--CHEMICAL CHANGES IN POLY,VINYL FLUORIDE, INDUCED BY IRRADIATION -U-

AUTHOR-(03)-USMANOV, KH.U., YULCHIVAYEV, A.A., LATYPOV, T.V.

COUNTRY OF INFO--USSR

SOURCE--UZB. KHIM. ZH. 1970, 14(2), 63-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, POLYMER, GAMMA RADIATION, RADIATION POLYMERIZATION, RADIATION EFFECT, POLYMER CROSSLINKING, POLYMER DEGRADATION, CONJUGATE BOND SYSTEM, COBALT ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0291/70/014/002/0063/0066

PROXY REEL/FRAME--3008/0918

CIRC ACCESSION NO--AP0137946

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 051

CIRC ACCESSION NO--AP0137946

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(VINYL FLUORIDE) OBTAINED BY RADIATION POLYMN. IN BULK WAS IRRADIATED WITH PRIME60 CO GAMMA RAYS AT 10 PRIME3 MM IN A WIDE RANGE OF IRRADN. RATES AND DOSES. POLYMER O. AND ITS F CONTENT WERE DETD. IN THE COURSE OF IRRADN. AT ALL RATES AND DOSES OF IRRADN. THE F CONTENT DECREASE WAS PROPORTIONAL TO THE OVERALL DOSE BECAUSE OF HF EVOLUTION. THE O. OF POLYMER DECREASED BECAUSE OF LOOSENING THE POLYMER MASS BY THE GAS EVOLVED. AT LOW DOSES EVOLUTION OF GAS WAS ACCOMPANIED BY POLYMER DEGRADATION WHEREAS AT HIGH DOSES CROSSLINKING WAS ALSO OBSD. IR ANAL. REVEALED FORMATION OF CONJUGATED DOUBLE BONDS. IRRADIATED POLYMER WAS EASILY OKIDIZED BY O.

FACILITY: TASHKENT, GOSUNIV. IM. LENINA, TASHKENT, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 036

TITLE--RESONANCE CHARGE EXCHANGE IN A HE POS6TIVE AND HE SYSTEM -U-

AUTHOR-(04)-LATYPOV, Z.Z., FEDORENKO, N.V., FLAKS, I.P., SHAPORENKO, A.A.

COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EKSP, TEOR. FIZ. 1970, 11(3), 189-92

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--ION BOMBARDMENT, HELIUM, ELECTRON RESONANCE, CHARGE EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0386/70/011/003/0189/0192

PROXY REEL/FRAME--1987/0780

CIRC ACCESSION NO--AP0104226

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 036
CIRC ACCESSION NO--AP0104226
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CROSS SECTION, DELTA, OF THE PROCESS HE POSITIVE PLUS HE YIELDS HE PLUS HE POSITIVE WAS MEASURED AT ENERGIES E EQUALS 150-3200 EV IN THE ASSEMBLY DESCRIBED IN PREVIOUSLY (LATYPOV, ET AL., 1968). FOR THE PROCESS, DELTA EQUALS F(E) IS AN OSCILLATING FUNCTION. THE DIFFERENCE BETWEEN EVEN AND ODD STATES DID NOT PASS THROUGH A MAX. OSCILLATIONS WERE EXPLAINED ON THE ASSUMPTION OF AN EFFECT OF SCATTERING OF PARTICLES IMPINGING ON THE HOST OF THE ATOM TARGET.

UNCLASSIFIED

USSR

UDC 669.21/23:669.231+669.715

LATYPOVA, I. M., VOLKOVA, R. M., and MAKUSHKINA, K. D., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, Moscow

"Oxidizability of Platinum and Beryllium Alloys"

Abstract: The purpose of this article is to fill, at least partially, the gap in information concerning the oxidation of platinum containing small additions of different elements. Such information is important because low-alloyed platinum is used in the manufacture of refractory materials. The paper describes research on the kinetics of oxidation and on the composition of platinum alloy oxide films with small additions of beryllium -- 0.01, 0.04, 0.06, 0.08, and 0.1% -- to the alloy. The original materials of which the alloy was made consisted of 99.96% technical platinum and 99.9% metallic beryllium. Melted in an arc furnace with a tungsten electrode on a copper, water-cooled sole in an atmosphere of purified helium, the alloys were cast in ingots weighing 60 grams. After repeated remelts, for the purpose of equalizing the composition, the castings were furnace cooled. They were then annealed at 1200° C for two hours, and rolled into sheets 1 mm thick. The specimens were cut into plates measuring 20 x 30 mm, and oxidized in air at 1300°C.

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USSR

LATYPOVA, I. M., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Col 6, No 5, 1970, pp 28-30

The electronographic method was used to measure the phase composition of the platinum alloys. Measurement results and results from the literature are compared. The experiments showed that in the oxidation of platinum containing 0.06, 0.08, or 0.1% Be, the surface formation consisted mainly of BeO.

2/2

USSR

LATYPOVA, R. I., Uzbek Scientific Research Institute of Sanitation, Hygiene, and Occupational Diseases

"Kidney Function in Persons Handling Both Organochlorine and Organophosphorus Pesticides"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 11, 1971, pp 19-23

Abstract: Urinalysis of 196 persons whose jobs involved contact with organochlorine and organophosphorus pesticides (airplane pilots and mechanics, tractor drivers, agronomists, disinfectors, etc.) for 1 to 20 years and ranging in age from 20 to 60 revealed signs of kidney dysfunction in almost all. The abnormalities detected included impairment of renal adaptation function (moderate oliguria, nocturia, isosthenuria), increased blood urea, low excretion of urea, decrease in glomerular filtration and renal plasma flow. The changes were more pronounced in those with little experience, indicating the development of adaptation with age, and in those who handled the toxic chemicals on the ground (tractor drivers, disinfectors, agronomists.

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UDC 77

USSR

MOLOTSKIY, M. I., LATYSHEV, A. N.

"Interaction of Silver Atoms on the Surface of a Halide"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 144-146 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1366)

Translation: On the assumption that a chemisorbed Ag^+ atom on the surface of AgBr forms the quasimolecule Ag_2^+, with the closest Ag^+ ion of the lattice in the field of the remaining ions, the position of the local level of this atom is calculated. The values obtained for the thermal and optical ionization from this level into the 0.804 and 1.246 ev conductivity bands were close to experimental data on the thermal decay energy of the first atom of the Ag-center (in terms of isoopacities) and on the long-wave boundary of the Herschel effect. The adsorption of Ag_2 molecules with the formation of a stable Ag_3^+ quasimolecule

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USSR

MOLOTSKIY, M. I., LATYSHEV, A. N., Mezhdunar. kongress po fotogr. nauke, Moskva, 1970. Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vnesh-torgizdat, no year given, pp 143-146

and the adsorption of a linear Ag_3 molecule transforming into triangular Ag_4 and forming a tetrahedron is considered under the same assumption. The interaction of two Ag atoms on the surface is considered as the rise (due to exchange forces) and the repulsion of two parallel dipoles; it is shown that the formation of an Ag_2 molecule from these on a smooth surface is possible despite the energy barrier caused by their interaction with the lattice. A similar analysis for the Ag atom and the Ag^+ ion showed that the AgAg complex forms only on a stepped surface and not on a smooth surface; on the [111] edge of this complex there is a considerably deeper electron shower than on the [100] edge, in agreement with experimental data showing higher sensitivity of octahedral microcystals than of cubic crystals. A.L. Kartuzhanskiy.

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Acc. Nr: AT0102946 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code: 4/1/01/39

116390t Effect of thermal treatment of the film on the intensity of the vibrational band for silicon-oxygen bonds in passivating films. Ivanova, E. N.; Latyshev, A. N.; Synorov, V. F.; Erokhina, L. E.; Ogurtsova, M. P. (Voronezh. Gosuniv., Voronezh, USSR). *Izv. Vyssh. Uchebn. Zaved., Fiz.* 1970, 13(1), 154–5 (Russ). The effect of heating on the intensity of absorption band of the Si–O bonds of SiO at 10 μ was investigated. The monoxide films were obtained by thermal dusting SiO and quartz oxide in vacuo (5×10^{-5} torr) on polished Si plates. Thermal treatment was carried out at 300 and 500° for 5–30 min. A shift of absorption band from 10 to 9.3 μ together with a gradual increase of its intensity was obsd. in dependence on the heating degree. The layers of 1–1.3 μ, for which no interference effect was to be taken into account, were used to obtain the abs. absorptivity value. The spectrum of a 1-μ thick film before and after the 20- and 30-min heating in Ar at 510° was studied. The transmissivity changes of the film, caused by the effect of its thermal treatment, are 2%. An increase of the absorption band intensity in the spectrum of the film is due to a gradual transition of Si monoxide to dioxide at a const. no. of O atoms. This effect must be taken into consideration for the detn. of stoichiometric compn. of passivating films by ir spectroscopy.

Vackuv Sarn

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REEL/FRAME
19861012

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--STRUCTURE OF A COLLOID BAND IN THE ABSORPTION OF SILVER HALIDES -U-

AUTHOR-(03)-LATYSHEV, A.N., NECHAEVA, T.A., DREKHOVA, L.L.

COUNTRY OF INFO--USSR

SOURCE--ZH. NAUCH. PRIKL. FOTOGR. KINEMATOGR. 1970, 15(1), 68-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SILVER COMPOUND, HALIDE, ABSORPTION BAND SPECTRUM, OSCILLATION, COLLOID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0284 STEP NO--UR/0077/70/015/001/0068/0069

CIRC ACCESSION NO--AP0124043

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REAL PART OF THE AV. N OF AG WAS TAKEN AS 0.065. THE ABSORBANCE CURVE IS OF THE GREATEST INTEREST FOR THE SYSTEM AG-AGCL WHERE A VERY STRONG OSCILLATION IS OBSD. THIS OSCILLATION SHOULD APPEAR IN THE FORM OF A STRUCTURE IN THE COLLOID BAND FOR PARTICLES 100-200 NM IN DIAM. IN THIS CASE THE BAND HAS 2-3 MAX. AN INCREASE IN THE PARTICLE DIAM. SHOULD INCREASE THE NO. OF MAX. AND DECREASE THEIR INTENSITY. WITH A PARTICLE SIZE OF 600-700 NM THE NO. OF MAZ. IS 5. FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED

USSR

UDC: 539.163.546.662

GAVRILYUK, V. I., GROMOV, K. YA., KLYUCHNIKOV, A. A., KUPRIYASHKIN, V. T., LATYSHEV, G. D., MAKOVETSKIY, YU. V., and FEOKTISTOV, A. I.

"Studying the Internal Conversion Electron Spectrum of ^{146}Gd"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 9, 1973, pp 1839-1845

Abstract: The authors study the individual sections of the internal conversion electron spectrum of ^{146}Gd with the aid of a $\pi\sqrt{2}$ magnetic beta-spectrometer with high discrimination. This involved three problems: 1. More accurate measurement of conversion line intensity on the L-subshells of atoms for gamma-114.67, gamma-115.52, and gamma-154.58 than has been done previously in order to determine more precisely the E2-component admixture in these M1-transitions. 2. Study the possible direct transitions K260.19, $2^- \rightarrow 4^-$ and K269.28, $1^- \rightarrow 3^-$ according to the decay scheme. 3. Detect the K421 and K576 transitions. The results show that the calculated spectrum was more compressed than the experimental. Further study of the levels of ^{146}Eu will show what is the real order of the levels.

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USSR

UDC 539.121.72/75

VISHNEVSKIY, I. N., GAVRILYUK, V. I., KUPRYASHKIN, V. T., LATYSHEV, G. D., MAKOVETSKIY, YU. V., and KHALOV, V. G., Institute of Nuclear Research Academy of Sciences, Ukrainian SSR

"Annihilation of Positrons in Copper and Brass Subjected to Different Heat Treatments"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 18, No 10, October 1973, pp 1599-1604

Abstract: Using a high-resolution magnetic spectrometer, the authors find the distributions of the annihilation quanta by energy $\varrho(E)$ and the distribution of electrons by impulses $n(p_z)$ in samples of copper and brass subjected to different heat treatments. They find that for the annealed samples of copper and brass, broader distributions are produced for $\varrho(E)$ and $n(p_z)$ than for the quenched ones. This effect may be

. USSR

VISHNEVSKIY, I. N., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 18, No 10, Oct 73, pp 1599-1604

used for studying the influence of the technological procedure of producing the samples on their properties. After defining the problem in the introduction, the authors give a detailed account of the method used in the investigation, after which they analyze the results. The article contains 8 figures and 6 bibliographic references.

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Optics & Spectroscopy

USSR

AGEYEV, V. A., GAVRILYUK, V. I., KUPRYASHKIN, V. T., LATYSHEV, G. D., LUTSYK, I. N., MAYDANYUK, V. K., MAKOVETSKIY, Yu. V., and FEOKTISTOV, R. T., Institute of Physics of the Academy of Sciences UkrSSR

"Study of Conversion Electron Spectrum of Nb^{96}"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

Abstract: Individual segments of the conversion electron spectrum of Nb^{96} associated with the doublet structure of transitions found by Monaro and others are also possible according to the decay scheme of Nb^{96} are studied. The measurements were made on the magnetic β-spectrometer of the type π/2 of the Institute of Physics of the Academy of Sciences UkrSSR. The measurements showed K-line doublets of transitions in the regions 350, 720, and 810 kev and K241.3 is apparently a single line. The results of the measurements are given in a table. The energy of all transitions observed was determined with an error of ±0.3 kev. The K-lines of the transitions 350.1 and 352.1 kev were weak and therefore only an estimate of their intensity is given. For all transitions observed, α_K were determined with respect

USSR

AGEYEV, V. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

to the ratios of the intensities of the conversion lines to the intensities of γ-rays. The values of α_K for the transitions 350.1 and 352.1 were estimated. All transitions correspond to multipolarities M1 or E2. The exception was γ812.4, for which the internal conversion ratio was less than that established from Tc^{96} decay. The ground states are evaluated on the basis of the shell model.

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USSR

UDC 632.95

POLESHCHUK, V. D., LATYSHEV, V. I., KAMENNOV, N. A., DRENOVA, V. P., SMIRNOVA, S. N., STOLBOV, D. N.

"Repellent Activity of Diethylamide and Dibutylamide of Valeric Acid with Respect to Various Types of Ticks"

Sb. nauch. tr. Mosk. NII vaktsii i syvorotok (Collection of Scientific Works of Moscow Scientific Research Institute of Vaccines and Serums), No 22, 1972, pp 209-211 (from RZh-Khimiya, No 15, Aug 72, Abstract No 15N504)

Translation: According to field and laboratory tests, diethylamide and dibutylamide of valeric acid have high repellency with respect to the Hyalomma plumbeum plumbeum tick which carries hemorrhagic Crimean fever. The tissue treated with these repellents calculated at 7 grams/m^2 remained repellent for 5 days. For Alectrolobius tholorani papillipes these materials were not repellent. The five-day repellency of tissue for Ixodes persulcatus ticks, Dermacentor pictus and D. marginatus was achieved from a dibutylamide dose of 55-65 g/m^2. The DETA had no repellency with respect to N. p. plumbeum, A. th. papillipes and D. marginatus, but tissue treated with DETA calculated at 40-50 g/m^2 remained repellent for 20 days for I. persulcatus and D. pictus.

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USSR

UDC 551.46.087.08

YAMKOVOY, V. A., OVANESOV, O. G., LATYSHEVA, G. I., STRUTSINSKIY, A. V., and MATVEYEV, V. A.

"A Marine Water Temperature Meter"

Kiev, Vestn. Kiev. politekhn. in-ta. Ser. priboroctr. (Journal of the Kiev Polytechnic Institute-Instrument Engineering Series) No 3, 1972, pp 34-35 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.723 by V. S. Krasnova)

Translation: A short description of an instrument for measuring the temperature of marine water is presented, whose function is based on the transformation of temperature into an electrical signal. The average temperature is measured by the unbalance current of a bridge using a microammeter M=1690-A, first class, with current limits 0-100 microamp, as an indicator. The range of temperature from -2°C to +35°C is broken down into four subranges of 10°C each. The voltage of the feeding measurement circuit is 9.86 volts constant current. The instrument assures the measurement of temperature in each range with an accuracy of $\pm$ 0.1°C. The maximum endurance time of the monitor for a fixed level and a discrete measurement is 4-5 seconds. (1 illustration, English resume)

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USSR

UDC 669.293.017:537.312.62

PAN, V. M., LATYSHEVA, V. I., SUDOVTSOV, A. I., and MEL'NIKOV, V. I.

"A Possible Cause for the High Critical Temperature of the Superconducting Compound $Nb_3Al_{0.8}Ge_{0.2}$"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 92-98

Translation: Isothermal cross-sections of a sector of the diagram of phase equilibria of the system niobium-aluminum-germanium are constructed for niobium-rich alloys (up to 27.5 at.% aluminum and germanium) at 1,700 and 1,000°C are constructed. It is demonstrated that at these temperatures the isomorphic compounds Nb_3Al and Nb_3Ge form a continuous series of solid solutions. The form of the area of homogeneity of the β-$Nb_3Al_xGe_{1-x}$ phase is studied. It is demonstrated that in the system Nb_3Al-Nb_3Ge (that is, in the cross-section of the niobium-aluminum-germanium system with constant niobium content 75 at.%), only those alloys which have a germanium concentration of not over 5-7 at.% are single-phase (these concentrations of germanium correspond approximately to the trinary compound with the formula $Nb_3Al_{0.8}Ge_{0.2}$).

USSR

PAN, V. M., et al., Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 92-98

It is also demonstrated that the critical temperature of the β-$Nb_3Al_xGe_{1-x}$ phase increases (apparently according to a parabolic rule) with increasing content of germanium under the condition of retention high (not under stoichiometric, that is, 25 at.%) total concentration of component B (that is, % Al + % Ge). If the total concentration of component B begins to drop and falls below the stoichiometric level, the critical temperature drops sharply.

The form of the area of homogeneity of the β-$Nb_3Al_xGe_{1-x}$ phase determined in this work shows that the highest concentration of germanium at which the stoichiometric composition of the phase (% Al + % Ge $\geq$ 25) is still attained is 5-7 at.%. It is therefore clear that this composition, corresponding to the formula $Nb_3Al_{0.8}Ge_{0.2}$, should and does show the highest critical temperature.

6 figures; 20 biblio. refs.

2/2

USSR UDC: 537.312.62

PAN, V. M., LATYSHEVA, V. I., SUDOVTSOV, A. I., MEL'NIKOV, V. I.

"On a Possible Reason for the High Critical Temperature of the Superconducting Compound $Nb_3Al_{0.8}Ce_{0.2}$"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 92-98 (from RZh--Radiotekhnika, No 5, May 71, Abstract No 5D548)

Translation: The authors plot the isotherms of the cross section of the segment of the phase equilibria diagram of the niobium-aluminum-germanium system for niobium-rich alloys (up to 27.5 atomic percent aluminum and germanium) at 1700 and 1000°C. It is shown that the isomorphic compounds of Nb_3Al and Nb_2Ge form a continuous series of solid solutions at these temperatures. The form of the region of homogeneity of the phase β-$Nb_3Al_xGe_{1-x}$ is studied. It is shown that in the Nb_3Al-Nb_3Ge system (i. e. in the cross section of the niobium-aluminum germanium system with a constant niobium concentration of 75 atomic percent) the only single-phase alloys are those which have a concentration of no more than 5-7 atomic percent (the above mentioned concentrations of germanium correspond approximately to a ternary compound with the formula $Nb_3Al_{0.8}Ge_{0.2}$). It is also shown that the critical temperature of the phase β-$Nb_3Al_xGe_{1-x}$ increases (apparently according to a

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PAN, V. M. et al., Probl. sverkhprovodyashch. materialov, Moscow, "Nauka", 1970, pp 92-98

parabolic law) with an increase in the germanium content in the phase under condition of retention of a high (at least stoichiometric, i. e. 25 atomic percent) total concentration of component B (i. e. %Al+%Ge). As soon as the total concentration of component B begins to decrease and becomes lower than the stoichiometric concentration, the critical temperature falls sharply. The form of the region of homogeneity of the phase β-$Nb_3Al_xGe_{1-x}$ determined in this work shows that the highest concentration of germanium at which stoichiometric composition of the phase is still realized (%Al+%Ge$\geq$25) is 5-7 atomic percent. Therefore it is clear that for this particular composition, which corresponds to the formula $Nb_3Al_{0,8}Ge_{0,2}$, the highest critical temperature should be and is observed. Six illustrations, bibliography of twenty titles. Authors' abstract.

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USSR

UDC 669.293.71.855.017.13

SVECHNIKOV, V. N., PAN, V. M., and LATYSHEVA, V. I., Institute of Metal Physics, Academy of Sciences UkrSSR

"Investigation of the Effect of Cerium on the Phase Composition and Some Properties of Niobium-Aluminum Alloys"

Kiev, Metallofizika, No 32, 1970, pp 28-33

Translation: A study was made of the effect of the most widespread rare-earth elements (cerium, lanthanum, yttrium, and praseodymium) on the mechanical properties of niobium, as well as the effect of one of them (cerium) on the phase composition and some properties of niobium-aluminum alloys. It was shown that alloying with cerium, lanthanum, yttrium, and praseodymium lowers the hardness of initial niobium by more than one and a half times, and the cold rolling of cast alloys with subsequent recrystallization annealing makes it possible to lower the hardness of initial niobium three times.

Isothermal sections of the triple niobium-aluminum-cerium

USSR

SVECHNIKOV, V. N., et al., Metallofizika, No 32, 1970, pp 28-33

system at temperatures of 1600°C and 1100°C were constructed. At the same time, a marked solubility of cerium was detected in the β and δ phases, amounting to 7.5 and 10 at.%, respectively, at 1100°C. With a rise in temperature cerium solubility in the β and δ phases is slightly lowered.

A monotonic decrease in the solidity of the α'' phase from 940 to 600 kg/mm^2 with an increase in the content of cerium in it, as well as a decrease in the solidity of the a-solid niobium-based solution with an increase in the content of cerium, was established.

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1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--X RAY DIFFRACTION STUDY OF MAGNESIUM SUPEROXIDE MG (O SUB2) SUB2 -U-

AUTHOR-(04)-BAKULINA, V.M., TOKAREVA, S.A., LATYSHEVA, YE.I., VOLNOV, I.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 158-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, SUPEROXIDE, MAGNESIUM COMPOUND, MAGNESIUM OXIDE, MAGNESIUM CARBONATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1937/0782 STEP NO--UR/0192/70/011/001/0158/0159

CIRC ACCESSION NO--AP0104228

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104228

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SAMPLES OF OXONIZED MGO SUB2 CONTG. 60PERCENT MG(O SUB2) SUB2, 20PERCENT MG(OH) SUB2, 10PERCENT MGO SUB2, AND 4-5PERCENT MGCO SUB3 WERE EXAMD. BY POWDER, PHOTOGRAPHIC METHOD (CAMERA DIAM. 86 MM, CU KALPHA) AT LIQ. N TEMP. THE LINES CORRESPONDING TO MG(O SUB2) SUB2 (C-A EQUALS 1.1, A EQUALS 11.44 ANGSTROMS), MG(OH) SUB2, AND MGO SUB2 WERE FOUND. THE LINES CORRESPONDING TO MGCO SUB3 WERE NOT VISIBLE.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THERMAL STABILITY OF MAGNESIUM PEROXIDE -U-

AUTHOR-(02)-VOLNOV, I.I., LATYSHEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1) 13-18

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, PEROXIDE, MAGNESIUM COMPOUND, HYDROXIDE, CHEMICAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0587 STEP NO--UR/0062/70/000/001/0013/0018

CIRC ACCESSION NO--AP0105570

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--19SEP70

CIRC ACCESSION NO--AP0105570

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MGO SUB2 TIMES H SUB2 O AND ANALOGS WITH VARYING CONTENTS OF H SUB2 O, AS WELL AS HYDRATES OF MG(OH) SUB2 WERE STUDIED THERMOGRAPHICALLY. SPECIMENS WITH UP TO 75PERCENT MGO SUB2 WERE INCLUDED. AT 110DEGREES THESE YIELD THE MAIN BULK OF H SUB2 O ADSORBED FROM THE MOTHER LIQUOR AND MGO SUB2 UNDERGOES A PARTIAL DECOMPN. WITH LOSS OF O AND FORMATION OF MG(OH) SUB2. THE RESULTING MIXT. OF MGO SUB2 AND MG(OH) SUB2 DECOMPS. EXOTHERMALLY AT 360 TO 75DEGREES WITH LOSS OF O AND FORMATION OF MGO. THE EXOTHERM IS CAUSED BY A COMBINATION OF THE REACTIONS: MGO SUB2 PLUS H SUB2 O YIELDS MG(OH) SUB2 PLUS H SUB2 O SUB2 AND H SUB2 O SUB2 YIELDS H SUB2 O PLUS 0.50 SUB2.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--FORMATION OF MAGNESIUM SUPEROXIDE MGO SUB2 SUB2 DURING THE REACTION OF MAGNESIUM PEROXIDE WITH OZONE -U-

AUTHOR-(04)-VOLNOV, I.I., TOKAREVA, S.A., BELEVSKIY, V.N., LATYSHEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--IZV AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 513-16

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNESIUM OXIDE, PEROXIDE, OZONE, LOW TEMPERATURE EFFECT, EPR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1549 STEP NO--UR/0062/70/000/003/0513/0516

CIRC ACCESSION NO--AP0125175

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125175

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MG PEROXIDES, PREPD. FROM MG(OH) SUB2 AND H SUB2 O SUB2 CONTG. SIMILAR TO 39PERCENT MGO SUB2, WERE OZONIZED IN SUSPENSION IN FREON-12 AT MINUS 100DEGREES. THE SOLN. TURNED BLUE WHEN O SUB3-O SUB2 WAS INTRODUCED; ADDN. OF THE MGO SUB2 SPECIMENT AT MINUS 100DEGREES FOLLOWED BY 1 HR HOLD AND WARMING TO MINUS 85DEGREES TO MINUS 65DEGREES, WHICH WAS THE OPTIMUM INTERVAL, RESULTED, AFTER MECH. TRANSFER OF THE SOLID PRODUCT, IN ISOLATION OF RATHER UNSTABLE (AT ROOM TEMP.) OZONIATION PRODUCTS. THESE CONTAINED SMALLER THAN OR EQUAL TO 60PERCENT MGO (SUB2) SUB2. THE INDIVIDUALITY OF THIS COMPN. WAS CONFIRMED BY EPR SPECTRUM. THERMAL ANAL. SHOWED THAT THE COMPD. IS STABLE UP TO ABOUT MINUS 290EGREES TO MINUS 350EGREES. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MAGNESIUM CHLORIDE HYDROGEN PEROXIDE WATER, MAGNESIUM SULFATE HYDROGEN PEROXIDE WATER,, MAGNESIUM NITRATE HYDROGEN PEROXIDE WATER, AND

AUTHOR-(02)-VOLNOV, I.I., LATYSHEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 552-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, MAGNESIUM CHLORIDE, HYDROGEN PEROXIDE, AQUEOUS SOLUTION, MAGNESIUM SULFATE, MAGNESIUM NITRATE, AMMONIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1721 STEP NO--UR/0078/70/015/002/0552/0558

CIRC ACCESSION NO--AP0115550

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0115550

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY WAS MADE TO DEVELOP A METHOD FOR PREPG. MG PEROXIDE. ISOTHERMAL (20DEGREES) SOLY. DIAGRAMS OF MGX-H SUB2-O SUB2-H SUB2 O (X EQUALS CL SUB2, SO SUB4, OR (NO SUB3)SUB2) AND OF NH SUB4 CL-H SUB2 O SUB2-H SUB2 O SYSTEMS ARE CONSTRUCTED. AT THE EXPTL. TEMP., MOL. ADDUCTS OF H SUB2 O SUB2 TO THE CORRESPONDING SALTS DID NOT FORM.

USSR

UDC 536.3

LATYYEV, L. N., CHEKHOVSKOY, V. Ya., and SHESTAKOV, Ye. N., Institute of High Temperatures of the Academy of Sciences USSR

"On a Methodical Characteristic in the Investigation of the Spectral Emissivity of Metal by High Temperatures"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 2, Mar-Apr 72, pp 423—425

Abstract: By measurements of the spectral emissivity of metals $\varepsilon(\lambda,T)$, an additional reflected emission flux (a), resulting from repeated reflections in the system specimen-sight glass, is considered, applicably to the most prevailing tube method. From formulas of the incident and reflected fluxes, a function for a is derived, showing that a increases with decreasing spatial angle Ω, increasing reflectiveness of the specimen, and approaching of the sight glass. As a limiting value, a can be equal to the reflection coefficient of the sight glass, which is 8—12 %. Strictly speaking, the derived expression for a holds true only for flat specimens, but it is also satisfied with practically sufficient exactness for cylindrical specimens. Two illustr., twelve formulas, five biblio. refs.

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