"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EVALUATING THE RESISTANCE OF TRANSPARENT PAINT AND VARNISH COATING TO COHESION AND ADHESION DEGRATION -U-

AUTHOR-(04)-AVILOV, G.V., LAVRENTYEV, V.V., SEREBRENNIKOV, A.I., UPENSKIY, V.I.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (1), 52-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PAINT, VARNISH, COHESION STRENGTH, PLASTIC FILM, METAL TO NONMETAL BONDING, POLYSTYRENE RESIN, POLYSILOXANE, SILICONE COATING, MATERIAL DEGRADATION, MECHANICAL FAILURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0426 STEP NO--UR/0303/70/000/001/0052/0054

CIRC ACCESSION NO--AP0119362

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSPARENT COATINGS WERE APPLIED TO A STRONG TRANSPARENT FILM. THE COATED FILM WAS DRAWN BACK AND FORTH UNDER TENSION OVER THE EDGE OF A STEEL BLOCK. THE APPEARANCE OF CRACKS IN THE COATING WAS RECORDED AUTOMATICALLY BY MEASURING THE RATIO OF TRANSMITTED TO REFLECTED LIGHT. THE NO. (N) OF PASSES WAS TAKEN AS THE FLEX DURABILITY. THE ADHESION DURABILITY WAS DETD. BY APPLYING PRESSURE ON THE FILM AT THE STEEL BLOCK EDGE WITH A DIAGONALLY PLACED RUBBER ROLLER. THIS REDUCED THE NO. OF PASSES TO N SUB1. THE DIFFERENCE (N MINUS N SUB1) WAS TAKEN AS THE COHESION STRENGTH OF THE COATING. THE FOLLOWING RESULTS ARE REPORTED (COATING N, N SUB1 GIVEN): POLYSTYRENE COTG. POLY(DIPHENYLSIOLANE), 44, 13; ORGANOSILICONE LACQUER (I) (UNPLASTICIZED), 9,4; PLASTICIZED I, 575, 125.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--TEMPERATURE DEPENDENCE OF THE COHESION COEFFICIENT FOR NEWLY FORMED CADMIUM SURFACES -U-

AUTHOR--UPITIS, G., MANIKS, I.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER. 1970, (1), 69-71

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CADMIUM, SURFACE AREA, COHESION STRENGTH, CONSTANT COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1321 STEP NO--UR/0371/70/000/001/0069/0071

CIRC ACCESSION NO--AP0106098

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106098

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THE COHESION COEFF. OF NEWLY FORMED CO SURFACES WAS INVESTIAGTED. AT SMALLER THAN 0.25 T SUBM, WHERE T SUBM IS THE M.P., NO RESIDUAL COHESION WAS FOUND; AT LARGER THAN 0.25 T SUBM IT INCREASED SUBSTANTIALLY WITH TEMP. THE TRANSITION BETWEEN THE 2 TEMP. RANGES WAS FOUND IN THE RANGE OF RECOVERY TEMPS. SIMILAR BEHAVIOR IS SUGGESTED FOR OTHER METALS OF HEXAGONAL STRUCTURE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 577.170.49

UPITIS, V., PAKALNE, D., and HOLLENDORFA, A. , Institute of Biology, Academy of Sciences Latvian SSR

"Little Investigated Trace Elements in Chlorella. II. Nickel"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, No 4 (285), 1971, pp 24-34

Abstract: A laboratory investigation of the effects of trace elements on Chlorella cultures revealed that the presence of nickel in the nutrient medium (0.01-30 mg/ml) exerts no stimulating effects. On the contrary, as the concentration of this trace element rises above 0.5 mg/ml, Chlorella growth is correspondingly suppressed and chemical changes develop in the cells: chlorophyll is partly destroyed, protein concentration decreases, and carbohydrate concentration increases. The toxic effects of nickel can be reduced by: adding the chelating agent Na_2EDTA to the nutrient medium; increasing the concentration of other trace elements; increasing the concentration of zinc (competes with nickel) to 1-5 mg/ml; or increasing the density of the Chlorella suspension.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC 614.31:615.285.7

UPOROVA, G. I., and SHTYLER, S. Yu., Smolenskaya Oblast Sanitary Epidemiological Station

"Determination of Residual DDT and Lindane in Foodstuffs"

Moscow, Voprosy Pitaniya, No 5, 1970, p 91

Translation: Our laboratory determines residual DDT and lindane in foodstuffs by the method of thin-layer chromatography proposed by the All-Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers, and Plastics (M. A. Klimenko and Z. F. Yurkova, Metody opredeleniya mikrokolichestv pestitsidov v produktakh pitaniya, pochve i vode [Methods for Determining Microquantities of Pesticides in Foodstuffs, Soil, and Water], 1965).

However, this method requires the presence of a special chamber with an exhaust device and a glass pulverizer to spray the chromatograms, a fact which detracts from its applicability in practical laboratories.

We concluded from experience that it is more convenient and simpler to apply silver nitrate to the chromatograms rather than a solution of

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UPOROVA, G. I., and SHTYLER, S. Yu., Voprosy Pitaniya, No 5, 1970, p 91

silver ammoniate in acetone.

The sorption mass is prepared as follows: 50 g of aluminum oxide is passed through a capron (polycaprolactam) sieve, mixed in a porcelain mortar with 5 g of medical gypsum, placed in a flask, 75 ml of 0.1% aqueous solution of silver nitrate added, and the mixture agitated until a homogeneous mass forms. The sorption mass thus prepared is applied to glass plates 9 X 12 cm in size and dried at room temperature for 18 to 20 hours. The plates must be stored in a dark place. After chromatography the plates are immediately irradiated with UV light (PRK-4 or PRK-2 lamp).

The analytical results obtained with the use of the suggested plates coincide completely with those produced by spraying them with a solution of silver ammoniate in acetone.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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USSR

UDC 669.046.5

SITNIKOV, V. F., VERKHOVTSEV, E. V., VASIL'YEV, N. Ye., ZHDANOVICH, K. K., and UPSHINSKIY, Ye. A.

"Development of the Technology for High-Quality Alloy Steel Making in Martin Furnace With Deoxidation and Alloying in Ladle With Liquid Alloy and Simultaneous Refining With Synthetic Slag"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS). (Collection of Works. Modern Problems of Steel Quality), (Moscow Institute of Steel and Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 250-252

Translation of Abstract: Results are presented on the joint treatment of martin steel in a ladle by liquid alloys and synthetic slags, resulting in a substantially increased assimilation of the alloying elements, in a high degree of desulfurization and dephosphorization, and in reduction of steel contamination by nonmetallic impurities. The quality of metal obtained is similar to that produced in electric furnaces. 2 tables.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 624.132.6:627.82.012.45(282.251.2)

ALEKSANDROVSKAYA, E. K., VASILEVSKAYA, L. A., GUSEV, Yu. N., URAKHCHIN, V. P., Engineers

"Results of Natural-scale Observations of Shifting of the Krasnoyarsk Dam and Its Rock Base"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 1, Jan. 1973, pp 17-23.

Abstract: Materials are presented from observations of the settling, horizontal shifting and tilting of the Krasnoyarsk Dam. The materials are analyzed. The measured displacements are used to determine the modulus of elasticity of the dam as a unit structure and the modulus of deformation of the rock base. The measured and calculated horizontal displacements are compared. Analysis and summarization of the materials of observation are used to produce a prediction concerning displacement of the top of the dam during its useful life. The extreme values of displacement can be looked upon in the first approximation as a criterion for safe operation of the structure, and the operating personnel can use them for further testing of the condition of the dam.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--USE OF AN EQUIVALENT ISOTHERMAL RETENTION INDEX FOR IDENTIFICATION IN GAS CHROMATOGRAPHY WITH LINEAR TEMPERATURE PROGRAMMING -U-

AUTHOR-(02)-GOLOVNYA, R.V., URALETS, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 679-80.

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GAS CHROMATOGRAPHY, ISOTHERM, TEMPERATURE TEST, ALDEHYDE, KETONE, CARBONYL COMPOUND, CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2106 STEP NO--UR/0062/70/000/003/0679/0680

CIRC ACCESSION NO--AP0125690

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 017 UNCLASSIFIED

CIRC ACCESSION NO--AP0125690 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUIV. ISOTHERMAL INDEX I SUBTC-BETA SUGGESTED EARLIER BY THE AUTHORS (1968) CAN BE USED FOR DEPENDABLE IDENTIFICATION OF SUBSTANCES IN GAS CHROMATOGRAPHIC ANAL. WITH LINEAR TEMP. PROGRAMMING. TABULATION OF INDEX VALUES WAS MADE FOR ALDEHYDES, 2,4 UNSATD. ALDEHYDES, 2 UNSATD. ALDEHYDES AND ME KETONES. IT WAS POSSIBLE TO IDENTIFY IN MIXTS. SUCH CARBONYL COMPOUNDS. AS HEXANAL, 2 HEXANONE, 2 PENTENAL, HEPTANAL, 2 HEPTANONE, AND RELATED COMPDS. UP TO C SUB11. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Microbiology

USSR

UDC 576.851.45.077.3:576.8.073.4

URALEVA, V. S., FETSAYLOVA, O. P., MYASNIKOVA, G. S., DASHKEVICH, L. V., and AZARTSEV, A. N., Rostov-na-Domu Scientific Research Antiplague Institute and Poltavskaya, Yaroslavskaya, and Orlovskaya Oblast Sanitary Epidemiological Stations

"Results Obtained by Means of Fluorescent Antibodies During Investigation of Natural Foci of Tularemia"

Moscow, Laboratornoye Delo, No 1, 1973, pp 57-58

Abstract: Spleen, blood, lymph node, liver, and lung smear prints of 13 infected laboratory mice were treated with luminescent tularemia serum. A large number of brightly luminescent microbes were found in the samples of seven animals. Bacteriological investigations yielded tularemia pathogen from all 13 animals. Luminescent bodies resembling tularemia microbes were also observed in two additional mice infected with Dermacentor pictus ticks. However, no tularemia bacteria were isolated from these animals. It was established that smear prints of internal organs remain suitable for treatment with luminescent serum for up to 6 months if kept in a refrigerator and for up to 3 months if kept at room temperature. The method of contrasting specific luminescence yields good results only if bovine albumin tagged with fluorothiocyanate is used. Albumin tagged with isothiocyanate is ineffective.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Heat Treatment

USSR

UDC 538.245

VOROSHILOV, V. P., ZAKHAROV, A. I., KALININ, V. M., and URALOV, A. S., Institute of Precision Alloys, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, Ural State University imeni A. M. Gorkiy

"Effect of Plastic Deformation and Heat Treatment on Linear Thermal Expansion Coefficient and Magnetic Properties of Invar Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 5, 1973, pp 953-958

Abstract: Experiments were carried out with specimens made from $36NKh_1$ and $36NKh_2$ alloys which were subjected to homogenization at 1050°C for 100 hours. The linear thermal expansion coefficient (α) of these alloys reached its maximum value at 130-170°C and its minimum value at 25 and 270°C. The lowest value of α was observed for the specimen subjected to severe plastic deformation, and the highest was obtained with specimens subjected to tempering at 600°C for 5 hours, followed by cooling to 100°C for 90 hours. The plastic deformation of the alloy containing 36% Ni increased the magnetic susceptibility in the entire range of magnetic fields (up to 3000 oersted), as well as of magnetostriction. The increase in the magnetic susceptibility and magnetostriction of the paraprocess, and the decrease in the magnetization saturation as a function of plastic deformation of Ni-Fe alloys containing different amounts

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

VOROSHILOV, V. P., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 5, 1973, pp 953-958

of Ni is attributed to a disintegration of regions with a short-range order (types NiFe or $NiFe_3$) and to a static distribution of the iron atoms in solid solution.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC:669.2'620.179.16

URAL'SKIY, M. P.

"Nondestructive Testing of the Quality of Pipes and Bars"

Moscow, Tsvetnyye Metally, No 2, Feb 74, pp 65-74

Abstract: The status and immediate prospects of nondestructive methods of quality testing of bars of nonferrous metals are studied. Characteristics of automatic devices for ultrasonic testing of pipes and bars are presented in a large table. The operating principle of ultrasonic pipe testing devices and images of echo signals on the screen of a defectoscope, as well as the operating principle of induction-type defectoscopes are presented.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC 669.71.018.9.4

URAL'SKIY, M. P., and LAVROV, N. I.

"Development of Standard Specimens for Adjusting Apparatus Sensitivity Simultaneously With Immersion Checking of Round Ingots on Automated 'Splav (Alloy)-1' Device"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul VILSa (Technology of Light Alloys. Scientific and Technical Bulletin of All-Union Institute of Light Alloys), 1970, No 3, pp 74-78 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 G235 from the summary)

Translation: The authors consider the factors affecting the sensitivity of the apparatus for ultrasonic defectoscopy. Recommendations are given regarding the correction, simultaneously with the adjustment of apparatus sensitivity by reference to standard specimens with a flat surface, of the input of ultrasonic vibrations for checking ingots made of aluminum-base alloys. Two illustrations. One table.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC: 621.318.57:621.382

KUZNETSOV, B. V., URAL'SKIY, Yu. A.

"A Flip-Flop"

USSR Author's Certificate No 254564, filed 28 Jul 67, published 16 Mar 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A35 P)

Translation: This Author's Certificate introduces a transistorized flip-flop which has additional transistors (emitter followers) in feedback circuits. The bases of these transistors are connected to the collectors of the main transistors, and the emitters are connected through a resistor and AND-OR circuits to the common point of semiconductor diodes in the input AND-OR logic circuit in the opposite arm of the flip-flop. This type of flip-flop has lower dissipated power. One illustration. T. R.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--METHOD OF DETERMINING SELECTIVE ABSORPTION AND DISTANCES FROM DISPERSED CLUSTERS ON A COLOR MAGNITUDE DIAGRAM WHICH TAKES INTO ACCOUNT

AUTHOR--URANOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--ASTRONOMICHESKII ZHURNAL, VOL. 47, NO. 3, 1970, P. 560-565

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--STELLAR EVOLUTION, COLOR, STELLAR MAGNITUDE, PHOTOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO-----FD70/605012/C02 STEP NO--UR/0033/70/047/003/0560/0565

CIRC ACCESSION NO--AP0140261

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AP0140261 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A PROCEDURE FOR DETERMINING COLOR EXCESSES AND DISTANCE MODULI OF DISPERSED STELLAR CLUSTERS BY USING A COLOR MAGNITUDE DIAGRAM. THE PROCEDURE TAKES INTO ACCOUNT THE EVOLUTIONARY DEVIATIONS OF THE STARS FROM THE INITIAL MAIN SEQUENCE AND, CONSEQUENTLY, IS FREE OF THE SYSTEMATIC ERRORS WHICH OCCUR WHEN A STELLAR DIAGRAM IS SIMPLY COMPARED WITH A STANDARD MAIN SEQUENCE. THE ACCURACY OF THE RESULTS OF THIS PROCEDURE FOR A GROUP FO 36 STELLAR CLUSTERS IS COMPARABLE WITH THE ACCURACY OF THREE COLOR PHOTOMETRIC METHODS PROPOSED BY JOHNSON (1960), BECKER (1963), AND STARIKOVS (1968). THE RESULTS OBTAINED BY THIS PROCEDURE FOR THE IC 1359 AND NGC 1582 CLUSTERS ARE GIVEN. FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 669.71/41

URASOV, YU. I.

"Vacuum Zinc Extraction of Aluminum Alloys in an IAKD-6 Furnace"

V. sb. Vakuumn. protsessy v tsvetn. metallurgii (Vacuum Processes in Nonferrous Metallurgy -- Collection Works), Alam-Ata, "Nauka," 1971, pp 262-265 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract No 6G168)

Translation of Abstract: Results are given of the adoption and adjustment of the operation of an IAKD-6 induction furnace for zinc extraction of Al alloys. Optimum parameters for the process and technical-economical indices are determined. (One illustration)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Hematology

USSR UDC 615.381.011.3:552.13

KAVESHNIKOV, A. I., SETT, A. V., URATKOV, Ye. F., ORLOV, Ye. S., STRUCHKOVA, K. I., POLUSHINA, T. V., and SUSOVA, G. M., Department of Experimental Traumatology and Orthopedics, Central Institute of Traumatology and Orthopedics, Ministry of Health USSR, and Laboratory of Blood Substitutes and Fractionation of Blood Proteins, Central Institute of Hematology and Blood Transfusion, Moscow

"Changes in the Viscosity of Blood After Dilution with Different Blood Substitutes Under Hypothermia Conditions"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 1, 1971, pp 70-75

Abstract: Changes in the viscosity of blood were studied after dilution at different temperatures with the following solutions: Ringer Locke, glucose, polyglucine [form of dextran], rheopolyglucine, low-molecular weight dextran, and polyvinyl-pyrrolidone. The tabulated results can be used as a basis for selecting a blood substitute and degree of blood dilution in

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

KAVESHNIKOV, A. I., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 1, 1971, pp 70-75

relation to perfusion temperature. A mathematical formula is proposed for calculating the viscosity of the solution in blood dilution in relation to the hematocrit index, temperature and viscosity of the blood substitute. It is concluded that in case of normothermal perfusion or slight chilling, any of the solutions studied can be used. But under low-temperature conditions, when water moves from the interstitial and intracellular spaces, it is preferable to use rheopolyglucine, low-molecular-weight dextran, or low-molecular-weight polyvinylpyrrolidone because they decrease the viscosity of the perfusate more than the others.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 535.211:539.216.2

URAZALIYEV, U. S., UKRAINSKIY, YU. M., GOMAN'KOV, L. M., and GALKIN, B. D., Moscow

"Crystal Structure and Chemical Composition of Thin Permalloy Films Produced by Laser Radiation Pulses in a Free Generation Mode"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 73, pp 151-152

Abstract: The crystal structure and chemical composition of thin permalloy films, produced by laser pulse radiation in the mode of free generation, were investigated for films made in a vacuum of 10^{-4} torr using a ruby laser with a pulse energy of approximately 4 joule and pulse time of approximately 450 microseconds. The exceptionally high rate of deposition of the film from laser radiation was noted and the crystal structure of the film resulted from the high kinetic energy of the vaporized atoms and heating of the substrate in the deposition process. It was found that the vacuum efficiency was 1-2 orders higher in laser radiation than in vacuum thermal vaporization and cathode spraying. Two bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 661.1:542.65:539.23:539.24

DYMCHENKO, N. P., SHISHLYANNIKOVA, L. M., YERMAKOV, N. I., and URAZALIYEV, U. S., Moscow State Pedagogical Institute imeni V. I. Lenin and Moscow Oblast Pedagogical Institute imeni N. K. Krupskaya

"Electron-Optical and X-ray Diffractometric Study of St-50-1 Sital Substrate Structure"

Moscow, Neorganicheskiye Materialy, Vol 9, No 10, Oct 73, pp 1794-1797

Abstract: Electronography, electron microscopy, and x-ray diffractography were used to study phase composition and substructure of the surface layers in ST-50-1 sital substrates. It was found that sital films deposited on unheated substrate bases were quite different from those deposited on heated bases. For crystalline TiO_2 (rutile), a small size of coherent scattering regions and mean-square microdeformations were characteristics in the sital. In relation ot crystallographic direction, characteristic for crystalline TiO_2 in sital, anisotropy of the sizes of coherent scattering regions and magnitude of mean-square micro-deformations are pronounced. It was suggested that in the formation of thin films, the phase and microstructural heterogeneities of the sital surface layers are conducive to electrical defects and lead to a nonuniform distribution of electrical defects in the film condensates. Two figures, nine bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 666.1:542.65:539.23:543.422.8

(2)

DYMCHENKO, N. P., SHISHLYANNIKOVA, L. M., YERMAKOV, N. I., URAZALIYEV, U. S
ZAUMYSLOV, YU. V., and MOCHALOV, A. I., Moscow State Pedagogical Institute
imeni V.I. Lenin and Moscow Oblast Pedagogical Institute imeni N. K. Krupskaya

"X-Ray Diffractometric Study of Grade St-50-1 Sital Substrate Phase Composition"

Moscow, Neorganicheskiye Materialy, Vol 9, No 10, Oct 73, pp 1791-1793

Abstract: Three batches of grade ST-50-1 sital substrates from industrial production were investigated as to reproducibility of phase composition from point to point on one substrate for each of the three batches, then on reproducibility of phase composition from substrate to substrate in the first, second, and third batches, respectively. Sital ST-50-1 is an oxide composition containing (in %): 60 SiO_3, 13 Al_2O_3, 9.5 MgO, 7.5 CaO, and 9.0 TiO_2. Careful analysis of the x-ray diffractograms revealed that, in addition to an amorphous phase, the ST-50-1 sital substrate has two other phases: TiO_2 in the form of rutile and $MgSiO_3$ (clinoenstatite). Reproducibility from substrate to substrate in a batch and from batch to batch was good. Three-hour heat treatments at 200, 400, and 600°C had no effect on sital substrate composition. One figure, one table, three bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 669.245:589.23

IVANOV, R. D., URAZALIYEV, U. S., TIKHONOV, A. A., SALANSKIY, N. M., and BUNAREV, V. I.

"Effect of Plasma on the Structure and Magnetic and Electric Properties of Thin Permalloy Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 256-262

Abstract: The effect of plasma and of physico-technological properties of the cathodic precipitation method on the structure and magnetic and electric properties of thin Permalloy films was experimentally investigated. The films were produced by atomization of the 79NM alloy. Their crystalline structure was investigated by methods of electron beam optics, and their chemical composition was tested by the x-ray fluorescence analysis method. The bombardment of the substrate surface by changed particles was found to produce a diversity in the microstructure of the film. The mechanism of forming precipitated cathodic films is in full agreement with thermodynamic principles for nonequilibrium statistical systems. Five figures, five bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC: 621.396.6-181.5

URAZALIYEV, U. S., IVANOV, R. D., GALKIN, B. D.

"Structure and Formation of Tantalum Thin Films Made by Electron Bombardment"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific and Technical Collection. Materials), 1970, vyp. 3, pp 116-117 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V259)

Translation: The authors give the results of a study of structures and conditions of formation of thin tantalum films made by vaporization using an electron beam. When tantalum is precipitated on cold substrates, the substrate material has no observable effect on the phase composition of the films. The film consists of α-tantalum and tantalum carbide. The film has a "labyrinthine" structure. Oriented crystallization of tantalum is observed with precipitation on heated substrates. The resistivity of the films decreases with an increase in substrate temperature. No β-tantalum is observed in the films. Electron bombardment of the substrate surface changes the conditions of film formation. I. M.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Thin Films

USSR UDC 537.523.5:621.79

IVANOV, R. D., TIKHONOV, A. A., UKRAINSKIY, YU. M., and URAZALIYEV, U. S., Moscow

"Microstructure, Phase, and Chemical Composition of Thin Permalloy Films As Affected by Cathode-Plasma Sputtering Conditions and Negative Space Charge on Substrate Surface"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 70, pp 61-68

Abstract: The authors obtained films on both flat and cylindrical substrates using an apparatus based on the three-electrode system principle, employing either a glow-discharge cathode or a cathode-plasma sputtering regime. Permalloy 79NM was used as the target, ultrapure xenon as the process gas. The structural properties and chemical composition of the films were studied by electron microscopy (size of the crystallites on the film surface), electron diffraction (phase composition of a film on the surface), x-ray diffraction analysis (phase composition and lattice spacing of phase components according to the film volume)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

IVANOV, R. D., et al., Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 70, pp 61-68

and x-ray fluorescence analysis (overall content of alloy components in a multicomponent target and film).

An increase in the target potential results in a sharp increase in the average crystallite size, as well as partially oriented crystallization of the films. Gamma-phase crystallites with {110} planes are parallel to the substrate surface. In addition to the gamma phase, a constant impurity in the films under all cathode-plasma sputtering conditions is antiferromagnetic NiO with a polycrystalline structure and a more highly dispersed microstructure than ferromagnetic gamma-phase crystals. There is a quantitative increase in NiO with increased target potential. There is a clearly pronounced tendency towards increased iron content with increased target potential. Iron enrichment of the ferromagnetic gamma phase takes place, the enrichment being more pronounced the more intensive the cathode-plasma sputtering regime. The pressure during the sput-

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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IVANOV, R. D., et al., Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 70, pp 61-68

tering process has a marked effect on the film dispersity, viz. the lower the pressure of the process gas and of the residual gases before letting in the process gas, the larger the crystallites. In cathode sputtering an inevitable result of the sputtering is a space charge on the surface of the isolated substrate. The charge potential was measured. It is shown that this charge reduces the rate of film deposition, affects the microstructure, and possibly promotes iron enrichment of the Permalloy films. The presence of oxide inclusions and the increased overall iron content of the film, especially the ferromagnetic gamma phase, cause increased coercive force and anisotropy field values and a positive magnetostriction sign.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UDC 539.216.2:621.318.1-539.313

IVANOV, R. D., [illegible], U. S., TIKHONOV, A. A., and BONDARENKO, Yu. G. (deceased)

"Internal Macro-Stresses in Thin Permalloy Films Produced by Cathodic Plasma Atomization"

Sverdlovsk, Akademiya Nauk SSSR, Fizika Metallov i Metallovedeniye, Vol. 30, No 1, Jul 70, pp 187-189

Abstract: An investigation was made of the internal macro-stresses in thin films of Permalloy produced by cathodic plasma atomization on glass base in an argon atmosphere. The stresses determined by the classical method for a flexible base are presented in curves characterizing their behavior in dependence from the primary bundle of argon ions. An increased base temperature increases the contribution of thermal stresses and decreases the residual stresses; an increase of the growing rate of the film affects an increase of structural macro-stresses. The Permalloy films show a layered structure, the layer number increases with increasing film thickness. Therefore, the [illegible] are determined basically by the first film layers.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Acc. Nr.: AP0045878

Ref. Code: UR0387

JPRS 50054

Rock Density at High Pressures

(Abstract: 'Study of Density of Rocks from Central Kazakhstan Under High Pressures," by M. P. Volarovich, A. K. Kurskeyev, A. I. Levykin, I. S. Tomashevskaya, I. L. Tuzova and B. M. Urazayev, Institute of Physics of the Earth, Academy of Sciences USSR, and Institute of Geological Sciences, Academy of Sciences Kazakh SSR; Moscow, Izvestiya Akademii Nauk SSR, Fizika Zemli, No. 1, 1970, pp. 46-51)

The density of rocks of various composition from Central Kazakhstan was determined at high pressures in the laboratory. Rock tests were at quasihydrostatic pressures up to 15 kb. The apparatus used made it possible to measure the velocities of elastic waves. The sample was compressed by hard-alloy pistons. Change in volume (from displacement of the piston) was determined simultaneously with measurements of the velocity of longitudinal waves. Change in density at different pressures was computed using the formula

$$\rho = \frac{\rho_0}{1 - \Delta V/V},$$

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where ρ_0 is the initial density of the sample in g/cm^3, $\Delta V/V$ is the volume decrement. Change in density was determined with an error of about 5 percent. Samples were selected along two deep seismic sounding profiles. Under the applied pressure density of all rocks increased. Density changes were greatest in the initial phase to 4 kb. Later the changes became less and the density-pressure curves flattened out. The greatest density changes were observed in samples of ancient metamorphosed rocks: schists, gneisses and porphyroids of more acidic composition for which the density changes at 15 kb attain 3.5 percent. The density of granites also changes rather sharply and increases continue to 15 kb. Relative density changes are dependent on initial density: the lesser the density at atmospheric pressure, the greater is the change when pressure is applied. The maximum changes in density for rocks of acidic composition are evidently caused by their greater inhomogeneity than for rocks of basic composition. Acidic rocks are also poorly preserved. Defects in the rock, largely microfissures, close under pressure and density at the attained pressures approaches an identical value for rocks of similar composition. For rocks of basic and ultrabasic composition the density change at pressures up to 15 kb does not exceed 2 percent, that is, the compressibility of rocks of acidic composition is greater than for basic

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rocks by approximately a factor of 1.5. Density is dependent primarily on chemical and mineralogical composition. Differentiation of rocks by density corresponds to their basicity. The density of sandstones at high pressures approaches the density of granodiorites. Tuff-diorites approach the density of diorites. The density of eclogites from northern Kazakhstan is less than the density of eclogites from other regions. The low density of eclogites in northern Kazakhstan can be attributed to the fact that they contain quartz (up to 15-20 percent). The results of studies of rock densities at high pressures can be used in the geological interpretation of geophysical data. The authors used such data in constructing a density cross section of the crust in central Kazakhstan.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--RECOVERY OF A TRAP PRODUCT ON THERMAL CRACKING APPARATUS -U-

AUTHOR-(03)-VARFOLOMEYEV, D.F., URAZAYEV, F.KH., STEKOLSHCHIKOV, M.N.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 7-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS

TOPIC TAGS--THERMAL CRACKING, LIQUID FUEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1950 STEP NO--UR/0318/70/000/005/0007/0008

CIRC ACCESSION NO--AP0133794

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 015 UNCLASSIFIED

CIRC ACCESSION NO--AP0133794 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TRAP MATERIAL CONTG. GREATER THAN OR EQUAL TO 20PERCENT WATER WAS HEATED TO 140-50DEGREES AND MIXED WITH OVERFLOW FROM A HIGH PRESSURE EVAPG. COLUMN AND THEN WITH CRACKING RESIDUE IN THE LOW PRESSURE EVAPORATOR. THE THROUGHPUT OF THE PLANT REMAINED CONST., GIVING STD. FUEL FROM THE CRACKING RESIDUE.

FACILITY: UFIMSK. NPZ, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 615.214:547.349

RAZUMOV, A. I., LIORDER, B. G., ZAIKONNIKOVA, I. V., URAZAYEVA, L. G., and TARZIVOLOVA, T. A., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Studies in the Series of Phosphinic and Phosphinous Acid Derivatives. LXXXVIII. Synthesis of Diallylphosphinic Acid Esters and Amides and Their Biological Activity"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 12, Dec 72, pp 24-28

Abstract: Addition of diallylphosphinic acid (I) with vigorous stirring to a toluene suspension of respective alcohols or amines, followed by a 3 hr reaction at 100° produced the desired esters and amides upon cooling. The following $(C_3H_5)_2P(:O)R$ products were obtained: R, b.p.°, d_4^{20}, and n_D^{20} being reported: $OCH_2CH(CH_3)_2NH_2 \cdot HCl$, -, -, -; $OCH_2(CH_2)_7CH_3$, 145-6/0.07 mm, 0.9467, 1.4660; $OCH_2(CH_2)_{10}CH_3$, 156-7/0.07 mm; 0.9301, 1.4670; $N(CH_2CH_2)_2CH_2$, 112-4/0.05 mm, 1.0279, 1.5600; $N(CH_2CH_2)_2O$, 132-4/0.05 mm 1.0950, 1.5100; $N(C_3H_7)_2$, 117-9/0.04 mm, 0.9535, 1.4810; and $N(C_4H_9)_2$, 124-6/0.04 mm, 0.9376,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

RAZUMOV, A. I., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 12, Dec 72, pp 2 -28

1.4770. Propargyl ester of diallylphosphinic acid -- the most active agent -- was prepared by mixing the acid chloride of (I) with the alcohol and triethylamine in ether and stirring for 4 hrs. The product boiled at 97-8°/0.06 mm, d_4^{20} = 1.0529, and n_D^{20} = 1.4900. Acid chloride of (I) added to 3-aminobutanol-1 in 200 ml of dichloroethane followed by a 2 hr reaction at 60°, removal of the dichloroethane, addition of sodium alkoxide in absolute ether yielded 3-aminobutyl ester of (I) after centrifugation and repeated filtration; b.p. 173-6°/ 10^{-4} mm, d_4^{20} = 1.0466, n_D^{20} = 1.4900.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 534.134:624.156

URAZBAYEV, M. T., KOKONKOV, Yu. N., and VALIYEV, M. A.

"Oscillations of the Structure Foundation About Vertical Axis Taking into Account the Ground Inertial Seismic Forces"

Tashkent, Izvestiya Akademii Nauk Uz SSR, No 6, 1970, pp 24-30

Abstract: With the mathematical model being analyzed the foundation is represented by a vertical axis cylinder of given radius and height, the ground is represented by an elastic layer of given thickness and infinite radius resting on a rigid sublayer representing the rock formation. As to the connection between the elastic layer and the rigid sublayer, two cases are considered: the case of the elastic layer fastened to the rigid sublayer and the case of elastic layer sliding on the rigid sublayer as would occur with subsurface water. A structure of a given moment of inertia is mounted on the foundation.

The angle of rotation of the foundation due to a given inertial torque is determined. This angle does not change with the decrease of the elastic layer thickness. It increases with the rise of subsurface water and with the decrease of stiffness of the elastic layer.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 669.187.045.31

KLYUCHAREV, V. YE., URAZGIL'DEYEV, A. KH., AGEYEV, P. YA., and SOBOLEV, YU. V.,
Leningrad Polytechnica Institute

"Characteristics of the Behavior of Gases in the Crystallization of Ingots of Kh18N9-Type Steel with Titanium"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 3, 1973, pp 43-46

Abstract: An experimental study was made of the change in concentration of hydrogen, nitrogen, and oxygen in the crystallization process of OKh18N10T steel ingots weighing 3.2 and 13.7 tons. The metal was smelted in a 40-ton basic electric arc furnace. The pouring was from above through an intermediate funnel. Samples of the metal were taken with the help of a closed quartz pipette from three levels on the central zone of the ingot during 1-2.5 hrs of crystallization. The behavior of H, N, and O during crystallization is discussed by reference to diagrams characterizing their concentration change. The results of the experiments indicate the possibility of eliminating nitrogen from steel by deoxidizing the metal with titanium. Three figures, two bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Acc. Nr: AP0046016 Abstracting Service: 5/70 INTERNAT. AEROSPACE ABST. Ref. Code: UR0198

A70-23290 # Influence of creep and aging of the material on the stressed state at holes in a plate (Vliianie polzuchesti i stareniia materiala na napriazhennoe sostoianie vozle otverstii v plastine), G. N. Savin and K. U. Urazoil'diev (Akademiia Nauk Ukrainskoi SSR, Institut Mekhaniki, Kiev, Ukrainian SSR). *Prikladnaia Mekhanika*, vol. 6, Jan. 1970, p. 51-56. 6 refs. In Russian.

Analysis of the stress concentration at a circular hole in a plate whose material is subject to creep and aging, on the basis of the basic equations in Arutiunian's (1952) hereditary elasticity theory of aging materials. A solution to the problem is obtained by reducing these equations to Volterra integral equations of the second kind for the stress tensor components, under the assumption that the Poisson ratio is constant.

V.P.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--EFFECT OF KILLING TECHNOLOGY ON THE PROPERTIES OF A STEEL WITH REDUCED HARDENABILITY -U-

AUTHOR--ASTROV, YE.I., LOGANOV, M.I., URAZOVA, V.A., CHICKHANOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2) 55-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NONMETALLIC INCLUSION, KILLED STEEL, ALUMINUM CONTAINING STEEL, STEEL MANUFACTURE PROCESS, STEEL HARDENING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1291 STEP NO--UR/0129/70/000/002/0055/0057

CIRC ACCESSION NO--AP0106072

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UNCLASSIFIED

CIRC ACCESSION NO--AP0106072 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO METHODS OF KILLING WERE USED: (1) DEEP KILLING IN THE FURNACE WITH FERROSILICON, FERROTITANIUM, AND AL; (2) DEEP KILLING IN THE FURNACE WITHOUT SI, BUT WITH AL AND FERROTITANIUM. SI, WITH ADDNL. PORTIONS OF AL, WERE INTRODUCED INTO THE LADLE THE STEEL WAS KILLED. TO EXCLUDE THE EFFECT OF CHEM. COMPN. OF THE STEELS ON HARDENABILITY, ALL OF THE EXPTL. MELTS WERE COMPOSED OF SINGLE CHEM. COMPNS. HARDENABILITY WAS DETD. BY ROCKWELL HARDNESS ALONG END QUENCHED CYLINDRICAL SPECIMENS. MELTS, DEEP KILLED WITHOUT SI, WITH SI ADDED TO THE LIQ. STEEL FOLLOWED BY AL AND FERROTITANIUM, SHOW LOWER HARDENABILITY AND CONTAIN LESS AMTS. OF O AND NONMETALLIC INCLUSIONS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 615.355:577.155.2]:615.281.8

NOVOKHATSKIY, A. S., YERSHOV, F. I., and URBAKH, V. Yu., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Antiviral Action of Ribonuclease"

Moscow, Voprosy Virusologii, No 1, 1973, pp 13-16

Abstract: Chick embryo fibroblast cultures were tested for viral infectiousness and hemagglutinating activity and for interferon 24 hours after infection by 5-10 plaque-forming units/cell of Venezualan equine encephalomyelitis virus. There was approximately linear direct correlation between the dose of pancreatic ribonuclease added to the culture and the suppression of infectiousness, hemagglutinating activity, and interferon production, with significant suppression occurring at doses as low as 0.25 mg/ml. Statistical treatment of experimental data indicated that the degree of suppression of all three indexes can be determined on the basis of information on just one of the indexes. The results support the suggestion that RNA-ase inhibits viral activity and interferon production by suppressing cellular protein synthesis. It is concluded that pancreatic RNA-ase is an effective virus-controlling compound, especially when administered together with interferon.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 612.821-06:[612.825.261-089+615.21

URYBAYEV, Yu. V. and GAMALEYA, A. A., First Moscow Medical Institute imeni I. M. Sechenov

"Pharmacologic Analysis of Disturbances of Purposeful Behavior in Intact and Lobectomized Dogs"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 2, 1973, pp 14-16

Abstract: In experiments on dogs with stable conditioned reflexes in a situation involving a choice between either of two different reinforcements (bread and water), chlorpromazine administered to intact animals disrupted their reaction to the stimuli, whereas in lobectomized animals it resulted in more organized and purposeful behavior, i.e., they responded more "logically" to which influence, thirst or hunger, was dominant. In another series of experiments, amphetamine administered to intact dogs elicited a type of behavior comparable to that observed after lobectomy. The reaction to amphetamine was similar but more pronounced in the lobectomized animals. It would appear, therefore, that the frontal lobes exert an inhibitory effect on the adrenergic and especially reticular subcortical structures in the establishment of purposeful behavior.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--YTTERBIUM 169 LEVELS ARISING DURING THE DECAY OF LUTETIUM 169 -U-

AUTHOR-(04)-BONCHOSMOLOVSKAYA, N.A., GRIGORYEV, YE.P., LIPTAK, J., URBANEC, J.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 12-28

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR ENERGY, YTTERBIUM ISOTOPE, LUTETIUM ISOTOPE, RADIOACTIVE DECAY SCHEME, TRANSITION RADIATION, GAMMA TRANSITION, NEUTRON BOMBARDMENT, DEUTERON INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0278 STEP NO--UR/0048/70/034/001/0012/0028

CIRC ACCESSION NO--AP0105352

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UNCLASSIFIED

CIRC ACCESSION NO--AP0105352 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LU FRACTION SEPD. BY CHROMATOG. FROM TA TARGET IRRADIATED WITH 660-MEV P WAS STUDIED WITH 6 AND 12 CM PRIME3 GE(LI) DETECTORS WITH RESOLN. OF 4.5 AND 5.5 KEV, RESP. LINES (127) IN THE ENERGY RANGE 24.2-2300 KEV WERE TABULATED TOGETHER WITH THEIR INTENSITIES REFERRED TO THE 1184.5 KEV LINE AS THE STD. A DETAILED DECAY SCHEME IS PRESENTED. THE PRIME169 YB GAMMA BANDS WITH GROUND LEVELS SEVEN HALVES PLUS (633), ONE HALF MINUS (521), FIVE HALVES MINUS (512), FIVE HALVES MINUS (523), THREE HALVES MINUS ((521) PLUS (521) SUBVIBR PLUS ...), (512) SUBGAMMA,VIBR PLUS ONE HALF MINUS (510), FIVE HALVES PLUS (642), THREE HALVES PLUS ((651) PLUS (633) SUBVIBR) ARE DISCUSSED IN DETAIL IN TERMS OF THEIR OCCURENCE DURING (N, GAMMA), (D,P), (D,T) REACTIONS, AND BETA TRANSITIONS, THEIR MULTIPOLARITY, AND RELATIVE PROBABILITY. ALSO DISCUSSED ARE THE 960.4-KEV, SEVEN HALVES PLUS, SEVEN HALVES MINUS (514), 1449.7 MINUS, AND 1462.8-KEV LEVELS AND LEVELS WITH ENERGY LARGER THAN 1500 KEV. THE 1070.6-KEV TRANSITION (E0 PLUS E2) WAS ASCRIBED TO DEESCITATION OF A BETA VIBRATIONAL LEVEL. ACCORDING TO LOG FT VALUES 3 TYPES OF BETA DISINTEGRATION OF PRIME169 LU WERE FOUND.

FACILITY: OB'EDIN. INST. YAD. ISSLED., DUBNA, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--USE OF A TWO SECTIONED COLUMN DURING AN ANALYSIS OF C SUB6- C SUB8 AROMATIC HYDROCARBONS BY GAS LIQUID CHROMATOGRAPHY -(U-

AUTHOR-(02)-YEROFEYEV, B.V., URBANOVICH, I.I.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 99-100

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE, TOLUENE, XYLENE, ISOMER, CHEMICAL ANALYSIS, LIQUID CHROMATOGRAPHY, GAS CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0709

STEP NO--UR/0419/70/000/001/0099/0100

CIRC ACCESSION NO--AP0113573

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

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2/2 011

CIRC ACCESSION NO--AP0113573 UNCLASSIFIED PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COLUMN CONSISTING OF A SECTION (1.8 M) WITH 20PERCENT 7,8 BENZOQUINOLINE ON CELITE C 22 (0.18, 0.25 MM) AND A 1.5 M LENGTH WITH 20PERCENT DINONYLPHTHALATE (TUBE DIAM 3MM) WAS USED AT 78DEGREES WITH 60 ML H- MIN AS CARRIER GAS AND FLAME IONIZATION DETECTOR; THE SAMPLE SIZE WAS 1-3MUL. FOR STABILIZATION OF THE STREAM OF H IT WAS LEAD THROUGH A CU CAPILLARY (12 M BY 0.25 MM INSIDE DIAM.).6 SUB6 H SUB6, PHME, PHET, P, M, AND O SYLENES ARE ALL WELL SEPD. AND APPEAR IN THE ORDER GIVEN IN EQUIVALENT 40 MIN. IF THE ORDER OF THE COLUMNS IS REVERSED, PHET, P, AND M SYLENE APPEAR AS ONE PEAK.

FACILITY: INST. FIZ ORG. KHIM., MINSK, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--REACTIVE CHANGES IN THE NERVE ELEMENTS OF THE SOFT TISSUES IN THE ORAL CAVITY IN DISEASES OF THE ALIMENTARY TRACT -U-

AUTHOR-(02)-URBANOVICH, L.I., KISELEVA, A.F.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 29-31

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DUODENUM, LESION, LIVER DISEASE, NERVE DEGENERATION, DIGESTIVE SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0095 STEP NO--UR/0511/70/049/003/0029/0031

CIRC ACCESSION NO--AP0120795

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0120795 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF MORPHOLOGICAL STUDY OF NERVE ELEMENTS OF THE SOFT ORAL TISSUES IN 42 PATIENTS OUT OF 176 SUFFERING FROM ALIMENTARY DISEASES (CHRONIC HYPO AND HYPERACIDIC GASTRITIS, COLITIS, ENTERITIS, COMPLICATED GASTRODUODENAL ULCERS, INFLAMMATION OF THE LIVER AND BILE DUCTS). THERE WERE REVEALED REACTIVE, DYSTROPHIC AND DESTRUCTIVE CHANGES OF THE NERVOUS TISSUE. THE EXTENT, RAPIDITY OF DEVELOPMENT AND DEPTH OF THE REFERRED TO LESIONS ARE DIRECTLY RELATED TO THE DURATION AND SEVERITY OF THE PRINCIPAL AFFECTIONS. FACILITY: KAFEDRY TERAPEVTICHESKOY STOMATOLOGII I PATOLOGICHESKOY ANATOMII KIEVSKOGO MEDITSINSKOGO INSTITUTA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 576.851.31.06

(2)

MARAMOVICH, A. S., VEYDE, A. A., SARDAR, Ye. A., MAKAROVA, A. P., SHVETSOVA, R. I., and URBANOVICH, L. Ya., Irkutsk Antiplague Institute of Siberia and the Far East

"Determination of the Cholerogenic Properties of Vibrios in Newborn Rabbits"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 59-64

Abstract: Study of 65 vibrio strains from different sources in newborn rabbits (considered a suitable model for testing the pathogenicity of a given cholera vibrio strain for man) showed that all the cholera strains could produce the typical syndrome of cholerogenicity, whereas the nonagglutinable vibrios could not do so except for occasional strains (Heiberg's group 1) isolated from human beings in cholera foci. The main signs of cholerogenicity are marked dilatation of the lumen of the large intestine filled with a light transparent fluid and marked hyperemia of the small intestine containing a viscous yellow fluid throughout. Cholerogenicity was regularly observed after intra-intestinal infection of 9-to 12-day-old rabbits with doses ranging from 10^3 to 10^6 vibrios/100 g of weight. Smaller doses generally failed to elicit any reaction.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 616.931.092.9-085.37

URBANOVICH, L. Ya., KHUNDANOV, L. Ye., and SHERSHNEV, P. A., Irkutsk, Antiplague Institute of Siberia and the Far East

"Combined use of Cholera Vaccine and Anticholera Serum Globulin in Experimental Cholera"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, No 9, Sep 70, pp 14-17

Abstract: The results of a study of the combined use of cholera vaccine and anticholera serum globulin to confer immediate and lasting protection against cholera are presented. The experiments were carried out on white mice. Anticholera serum globulin was obtained by fractionation with ethanol in cold. Analysis of the composition of anticholera serum protein and its globulin fractions by electrophoresis showed that they contain a high percentage (65-76%) of gamma-globulin fraction, a fact which explains the high rate of survival of experimental animals. Single subcutaneous injection of the mixture of cholera vaccine and anticholera serum globulin protected the animals from cholera infection for one to 21 days. When the anticholera serum globulin was injected alone, its effect lasted only for two weeks after administration, while cholera vaccine

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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URBANOVICH, L. Ya., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, No 9, Sep 70, pp 14-17

became effective at a later period. Toxidity was manifested in tissue dehydration, engorgement of intestine with fluids, and dystrophic changes in the liver.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 028 UNCLASSIFIED

TITLE--LOCAL STRESSES IN A SHELL DUE TO CONCENTRATED LOADS AND HEAT PROCESSING DATE--13NOV70

SOURCES -U-

AUTHOR-(02)-URBANOVICH, N.V., CHERNYSHEV, G.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA TVERDOGO TELA, MAR.-APR. 1970, P. 83-93. 9 REFS. IN

DATE PUBLISHED-------70

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

TOPIC TAGS--METAL STRESS, SHELL STRUCTURE, BIBLIOGRAPHY, STRESS CONCENTRATION, APPROXIMATE SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0344

STEP NO--UR/0484/70/000/000/0083/0093

CIRC ACCESSION NO--AP0124101

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UNCLASSIFIED

CIRC ACCESSION NO--AP0124101 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DERIVATION OF APPROXIMATE SOLUTIONS FOR SHELLS OF BOTH POSITIVE AND NEGATIVE (ZERO) CURVATURES UNDER THE ACTION OF CONCENTRATED FORCES AND MOMENTS. THE SOLUTIONS BEING VALID ONLY IN THE NEIGHBORHOOD ARE DETERMINED. THE EFFECT PRODUCED ON THE SHELL BY HEAT SOURCE CONCENTRATED AT A POINT IS CONSIDERED. LOCAL STRESSES IN THIS CASE ARE SHOWN TO BE EQUIVALENT TO THE STRESSES DUE TO A CERTAIN CONCENTRATED FORCE. PARTICULAR STRESS IS PLACED ON OBTAINING CALCULATION RESULTS WHICH ARE USEFUL IN ANALYZING THE STRESS STATES IN SHELLS WITH CURVATURES OF DIFFERENT SIGNS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Acc. Nr: AP0043671

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 2, pp 641-646

Ref. Code: UR 0056

DETERMINATION OF THE ENERGY OF INTERACTION BETWEEN ATOMIC POSITRONIUM AND MOLECULES OF THE MEDIUM

S. I. Urbanovich

The possibility of determining the magnitude of the energy of interaction between the hydrogen-like positronium atom and molecules (atoms) of the surrounding medium is considered on basis of spectroscopic data relating to energy level shifts. The method proposed is also employed for describing the hyperfine structure level shifts in other atoms such as tritium, muonium etc. The magnitudes of the interactions mentioned are determined by taking into account available experimental data. The method is applied with the aim of verifying for describing the Stark effect of the hydrogen atom ground state.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

UNCLASSIFIED

TITLE--HIGH PRESSURE BALLOONS MADE FROM GLASS FIBER REINFORCED PLASTICS -U

PROCESSING DATE--09OCT70

AUTHOR-(05)-BIGULA, B.A., GUMENYUK, V.S., KARAMASH, N.P., KRISTUK, A.A., URBANSKIY, S.V.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 149-52

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HIGH PRESSURE, BALLOON, GLASS FIBER, REINFORCED PLASTIC, MATERIAL DEFORMATION, MECHANICAL STRENGTH, TEST METHOD/(U)HC55 6 250 GLASS, (U)EF64 REINFORCED PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0025

STEP NO--UR/0374/70/006/001/0149/0152

CIRC ACCESSION NO--AP0114425

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UNCLASSIFIED

IRC-ACCESSION NO--AP0114425 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSTRUCTION OF A FLATTENED ELLIPSOID BALLOON PREPD. FROM HC55-6-250 GLASS REINFORCED EFB-4 IS DESCRIBED. DEFORMATION, STRENGTH, AND CYCLIC TESTING DATA ARE GIVEN.

FACILITY: INST. MEKH., KIEV, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 547.836:542.942.4

PROSTAKOV, N. S., GAYVORONSKAYA, L. A., URBINA, G. A., EMERUVA, P. D., and NAKANISI, T., Friendship Between Peoples University imeni Patris Lumumba, Moscow

"2-ω-Hydroxyalkyl-3-Methylindano[2,1-c]Piperidine"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 5, 1972, pp 666-668

Abstract: In order to obtain physiologically active preparations of partially hydrogenated azafluorenes for systematic stereochemical studies, investigations were commenced on sodium reduction of 3-methyl-2-azafluorene (I) in an alcoholic solution. Of the four possible isomers of 3-methylindano[2,1-c] piperidine (II) that could have been expected, only two were actually formed: one isomer was a liquid (IIa) with a b.p. of 115°C, and the other a crystalline substance (IIb) with a m.p. of 81.5-83°C. IR spectra confirmed the structure of II and indicated hydrogen bonding between the molecules involving the -NH group. This mixture of the II isomers was employed for the synthesis of 2-ω-hydroxyalkyl-3-methylindano[2,1-c]piperidines which are of pharmacological interest. Ethylene and butylene chlorohydrins were used for the alkylation of II in the presence of KI and K_2CO_3, and chromatographic analysis of the products revealed the formation of 2-β-hydroxyethyl-3-methyl-indano[2,1-c] piperidine (III) and 2-δ-hydroxybutyl-3-methylindano[2,1-c]piperidine, respectively.

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USSR

PROSTAKOV, N. S., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 5, 1972, pp 666-668

Each of the latter two compounds existed in the form of two isomers which apparently corresponded to the two isomers of II. The IR spectra of III showed a wide absorption band at 3420 cm^{-1} which represents the involvement of the -OH group in intermolecular hydrogen bonds, and an intense absorption at 1600 cm^{-1} corresponding to the C-O bond of the primary alcohol. Subsequent communication shall deal with the sterochemistry of the geometric isomers of II.

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UDC: 547.7/.8

YASINSKAS, L., URBONAS, A., and AVULITE, A.

"Synthesis and Properties of Derivatives of 4-Methyl-5-Alkyl-2-Thiouracyl"

Nauchn. tr. vyssh. uchebn. zavedeniy LitSSR. Khimiya i khim. tekhnol. (Scientific Works of Higher Educationsl Institutions of the Lithuanian SSR. Chemistry and Chemical Technology), No 10, pp 81-84, 1969 (Translated from Referativnyy Zhurnal Khimiya, No 2, 25 Jan 70, Abstract No 2 Zh371)

Translation: 6-Oxy-4-methyl-5-R'-2-X-pyrimidines (III X = SCH_2COR) were produced from 4-methyl-5-alkyl-2-thiouracyl (I) and $ClCH_2CONR_2$ (II). 56 mmol (II) are added to a solution of 50 mol (I), 50 mmol EtONa in absolute alcohol, boiled 3-4 hours (in the case of aliphatic and heterocyclic (II) -- 5-6 hours), NaCl is separated, a portion of the solvent is distilled away and (III) is separated /given are R, R', empirical formula, yield in %, m.p. in °C (alcohol)/: NEt_2, Me, $C_{12}H_{19}N_3O_2S$, 61, 141.5-2.5; piperidyl, Me. $C_{13}H_{19}N_3O_2S$, 42, 189-90; morpholinyl, Me, $C_{14}H_{17}N_3O_3S$, 50, 196-7; NHPh, Me, $C_{14}H_{15}N_3O_2S$, 71, 245.5-246.5; NHC_6H_4 Me-p, Me, $C_{15}H_{17}N_3O_2S$, 72, 250, 5-1.5; NHC_6H_4Me-m, Me, $C_{15}H_{17}N_3O_2S$, 71, 224-5; NHC_6H_4OMe-p, Me, $C_{15}H_{17}N_3O_3S$, 71, 239.5-40.5; NEt_2, Et, $C_{13}H_{21}N_3O_2S$ 70.5,

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USSR

YASINSKAS, L., et al, Referativnyy Zhurnal Khimiya, No 2, 25 Jan 70, Abstract No 2 Zh3 71

157-158.5; piperidyl, Et, $C_{14}H_{21}N_3O_2S$, 40.5, 170-1.5; morpholinyl, Et, $C_{15}H_{19}N_3O_3S$, 43, 165-6.5; NHPh, Et, $C_{15}H_{17}N_3O_2S$, 73, 217-8; NHC_6H_4Me-p, Et, $C_{16}H_{19}N_3O_2S$, 75, 215-6; NHC_6H_4Me-m, Et, $C_{16}H_{19}N_3O_2S$, 81, 220-1; NHC_6H_4OMe-p, Et, $C_{16}H_{19}O_3SN_3$, 83, 2 23.5-4; NEt_2, Pr, $C_{14}H_{23}N_3O_2S$, 70, 131-2; piperidyl, Pr, $C_{15}H_{23}N_3O_2S$, 52, 173-4; morpholinyl, Pr, $C_{16}H_{21}N_3O_3S$, 58, 167-8; NHPh, Pr, $C_{16}H_{19}N_3O_2S$, 73, 212-2.5; NHC_6H_4Me-p, Pr, $C_{17}H_{21}N_3O_2S$, 95, 220-2; NHC_6H_4Me-m, Pr, $C_{17}H_{21}N_3O_2S$, 83, 219-20.5 (MeOH); NHC_6H_4OMe-p, Pr, $C_{17}H_{21}N_3O_3S$, 81, 221.5-3 (MeOH).

N. Vasil'yev

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USSR

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UDC 621.382:621.317.799

URBONAS, V. P., EYDUKAS, D. YU.

"Device for Measurement of the Rectification Factor of Ultrafast Acting Diodes"

V sb. Radioelektronika. T 5 (Radio Electronics--Collection of Works. Vol 5), Kaunas, 1969, pp 145-151 (from RZ--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7B357)

Translation: The method of construction is described for a measurer of the rectification factor of fast-acting semiconductor diodes. The block diagram and the principle circuit of the device are described for the frequency range to 3 GHz. Summary

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

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UDC 621.382:621.317.799

NEVERAUSKAS, A. V., URBONAS, V. P., EYDUKAS, D. YU.

"Measurer of Diode Switching Charge"

V sb. Radioelektronika. T. 5 (Radio Electronics--Collection of Works. (Vol.5), Kaunas, 1969, pp 159-166 (from RZh--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7B359)

Translation: The method of measurement is based on determination of the amount of charge entering the exterior circuit during switching of semiconductor from the forward state to the reverse. The principal circuit is presented of a transistorized device for measurement of the switching charge in the 3-1000 nancoulomb range with a 10-percent percision. 3 ref. V.K.

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USSR UDC 621.382:621.317.799

URBONAS, V. P., EYDUKAS, D. Yu.

"Determination of Measurement Errors of the Lifetime of Minority Charge Carriers in Semiconductor Diodes"

V sb. Radioizmereniya. Materialy Nauchno-tekhn. konferentsii, 1969 (Radio Measurements. Materials of a Scientific-Technical Conference, 1969 -- Collection of Works), Vil'nyus, 1969, pp 175-178 (from RZh-Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B521)

Translation: The paper shows that it is possible to find the lifetime of minority charge carriers by measurements of the critical frequency of rectification during a high level of the sinusoidal signal and of the magnitude of the barrier capacitance. Various reasons are considered for the origin of errors during detection of the lifetime by such a method. The effect of all these reasons on the measurable magnitude of the lifetime is calculated by the charge method for models of semiconductor diodes, in which during the limiting phase all the stored charge is dissipated from the base. The maximum random relative error and the relative systematic error are found. The errors connected with the incompatibility of an assumed model with a real semiconductor diode are not taken into account. Yu. P.

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USSR

UDC 621.382:621.317.799

URBONAS, V. P., EYDUKAS, D. Yu.

"The Question of Measuring the Charge of Switching Diodes"

V sb. Radioizmereniya. Materialy Nauchno-tekhn. konferentsii, 1969 (Radio Measurement. Materials of a Scientific-Technical Conference, 1969 -- Collection of Works), Vil'nyus, 1969, pp 179-182 (from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B522)

Translation: It is shown that during measurement of small charges of switching diodes by the detector method, the parameters of the exciting pulse influence the magnitude of the measurable charge, because the duration of the transient process in the semiconductor diode becomes comparable with the duration of the front of the pulses. A calculation of the switching process in the diode is conducted by the charge method, and graphs are constructed which make it possible to evaluate the effect of the duration of the switching pulse and the precision of measurement of the switching charge. Graphs are also obtained which make it possible to find the necessary duration of the pulse front, which assures the necessary precision of measuring the switching charge of a given magnitude. The

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URBONAS, V. P., et al., V sb. Radioizmereniya. Materialy Nauchno-tekhn. konferentsii, 1969 (Radio Measurement. Materials of a Scientific-Technical Conference, 1969 -- Collection of Works), Vil'nyus, 1969, pp 179-182 (from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B522)

results obtained are compared with experimental data; it is shown that for a real semiconductor diode the precision of measurement of the switching charge is somewhat lower than that calculated according to the graphs presented. Yu. P.

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UDC 669.15-194118'14.018

USSR

LEYKIN, I. M., LITVINENKO, D. A., and URDCHENKO, A. V.

Proizyodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

Translation of Introduction: For a long time the main structural material for the production of weldments was low-carbon steel (types St. 3, St. 2, etc.), characterized by guaranteed but low strength, high ductility, and good engineering properties, including weldability. The relatively low price of this steel, which does not contain special alloying elements, was also significant. Despite the merits of low-carbon steel, it has a number of shortcomings of which the most important are relatively low strength, low resistance to brittle fracture, and increased sensitivity to mechanical hardening. The last two properties are determined to a significant extent by the degree of metal deoxidation (rimmed, semi-killed, and killed); even the best of these -- killed low-carbon steel -- is characterized by low values of impact strength at minus temperatures, which limits it application in a number of cases. Intensive research in recent years has indicated that with the use of special technological processes (regulated rolling, thermal hardening, etc.) or by introduction of modifiers (niobium, vanadium, etc.) it is possible to noticeably improve the qualitative properties of low-carbon

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USSR

LEYKIN, I. M., et al., Proizyodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

steel, including its resistance to brittle fracture. The shortcomings of low-carbon steel can be overcome by changing over to low-alloy steels (steels with increased strength) the increased strength and resistance to brittle failure of which can be achieved by the addition of alloying elements and refinement of structure.

Although the first attempts abroad at the use of low-alloy steels as a structural material were made in the last century (1898), in essence the main development and increase in the production volume of these steels in the modern sense have occurred in the last 15-20 years. In the first stage these steels, used in the unwelded version, were characterized by high carbon content (up to 0.35%) and a relative high percentage of alloying elements (2-3% Ni, 1.25% Si (max), and 1.5% Mn (max). One of the first low-alloy steels was steel F ($\leq$0.25% C, $\leq$1.5% Si, $\leq$1.2% Mn). Modern weldable low-alloy steels of increased strength have been developed in the past 30 years. In this same period of time the use of domestic low-alloy steels for bridge and ship construction (steels 30G, 20G2, etc.) was started, although the broad development of good weldable low-alloy steels has taken place since

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USSR

LEYKIN, I. M., et al., Proizyodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

the post-war years (1947). Since this time, the scientific research institutes and metallurgical plants have significantly expanded the assortment of low-alloy steels, mastered the technology of their production, and organized the series supply of rolled products to a wide circle of consumers. These metal-consuming branches of the economy (main pipeline construction, transportation and highway machine-building, automobile manufacturing, commercial construction, etc.) are being rapidly developed. For example, in the past five years more than two million tons of high-strength low-alloy steel has been produced for construction purposes out of a total volume of 20 million tons of metal-construction works. The metallurgical industry is introducing new capacities and technological improvements in all sections of the metallurgical allotment to facilitate production of rolled products with high qualitative indices which exceed the best samples of foreign standards.

The specific weight of low-alloy steel in the overall smelting of steel in our country grows continuously. In 1960 the percentage of low-alloy steel amounted to 5.8%, in 1965 -- 7.6%, and in 1969 -- 9.1%. In the period from

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USSR

LEYKIN, I. M., et al., Proizyodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

1955 to 1970 the volume of production of low-alloy steel increased 16.8 times. At the present time the metallurgical industry produces a wide assortment of low-alloy rolled products. The distribution of low-alloy steels produced in the Soviet Union in 1970 is characterized by the following data for rolled products: large grade 7.3%; medium and small grade 45.5% (mainly steel for reinforced concrete); shaped and curved shapes 4.9%; thick sheet 18.2%, thin sheet 0.4%, and strip 23.7%. The distribution as to alloying is as follows: manganese steel 27.95%, structural Si-Mn steels 15.65%, and strip steel 40.9%; Cr-Si-Mn steel 3.55%, Cr-Si-Ni-Cu steel 5.9%, others -- 6.05%.

Manganese and Si-Mn steels make up the main mass of low-alloy steels in our country. This is explained by the existence of large natural resources of raw material for obtaining the corresponding ferroalloys and their relatively low cost.

Thus, the cost of one ton of steel in ingots upon adding 0.1% Mn is increased only 35 kopecks, 0.1% Si -- increased by only 42 kopecks, 0.1% Cr -- by 50

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LEYKIN, I. M., et al., Proizvodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

kopecks, and nickel -- by 3 rubles, 60 kopecks, copper -- by 83 kopecks, vanadium -- 7 rubles, 40 kopecks, niobium -- 21 rubles, and titanium by 2 rubles, 50 kopecks.

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LEYKIN, I. M., et al., Proizyodstvo i Svoystva Nizkolegirovannykh Staley (Production and Properties of Low-Alloy Steels), Moscow, Izd-vo "Metallurgiya," 1972, 256 pp

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USSR UDC 621.357.5.035:621.70.027(088.8)

ABAYDULIN, G. U., URETSKIY, R. A., and KOCHESHKOVA, I. I.

"APparatus for the Electrochemical Treatment of Metals"

Author's Certificate No 338342, filed 21 Oct 70, published 15 Jun 72 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L288P)

Translation: A device is patented for the electrochemical treatment of metals which is in the shape of a drum having a regulator for the flow of the process solution, electric driving gear, a power supply, a pipe for the delivery of the process solution, a bath, and a pump. It is improved in that in order to increase the efficiency and the technological possibilities of the instrument, along the axis of revolution of the barrel is located in a mobile chamber having throttled openings directed towards the zone of the treatment of the piece.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC 62-752:621.317.757

URETSKIY, Ya. S., CHABDAROV, SH. M., SAPAROV, V. I., and LEONT'YEV, V. V.

"Controlling the Spectrum of Simulated Random Vibrations"

Vibratsion. tekhnika No 2 -- V sb (Vibration Engineering. No 2 -- Collection of Works), Moscow, 1970, pp 57-63 (from RZh-Metrologiya i Izmeritel'naya tekhnika, No 2, Feb 71, Abstract No 2.32.654)

Translation: The deficiencies of industrially manufactured series-operation spectral analyzers used for vibration tests are investigated. The following conclusions are drawn: the equipment used permits measurement of spectra of relatively simple form; in the presence of a dip in the spectral characteristic, the spectral analyzers do not permit reliable measurements of its parameters. The deeper and better quality the dip, the higher the measurement error. There are 3 illustrations and a 5-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC 619:576.851.55:576.809.33

URGUYEV, K. R., KIRILLOV, L. V., LYUBICH, F. D., LAVCHENKO, Ye. G., PANFILOV, I.D. and PLESKIKH, A. S.

"Toxin Formation by Cl. perfringens in a Casein-Pancreatic Nutrient Medium"

Moscow, Veterinariya, No 2, Feb 73, pp 39-40

Abstract: A study was made of the cultivation on a casein-pancreatic medium of Cl. perfringens, type D, that causes infectious entertoxemia of sheep and is used as a component part in the preparation of a concentrated polyvalent vaccine used against braxy, infectious enterotoxemia, and malignant dropsy of sheep as well as dysentery of lambs. On enzymatic hydrolysis of the casein at 42°C for 20-30 min, the medium, which contained 25% yeast water and 1% millet, had a high content of all peptide fractions, which form the principal source of N in toxin synthesis. The accumulation of epsilon-toxin was 4-6 times greater than in other media (e.g., Hottinger's medium). The formation of toxin was related to the content in the medium of albumoses with a high and medium molecular weight and depended on the amine coefficient of the medium (the ratio of non-protein N to the total amine N). The highest toxigenicity (20,000-24,000 Dim/ml) was obtained at an amine coefficient in the 0.72-0.75 range.

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USSR

URGUYEV, K. R, et al., Veterinariya, No 2, Feb 73, pp 39-40

At increasing values of the coefficient to 0.91 and higher, the toxin content dropped sharply (to 4,000-6,000 Dlm/ml). The higher the content of free amino acids and the lower that of peptide fractions, the lower was the concentration of the toxin formed.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ROLE OF COMPOUND NUCLEUS IN THE NUCLEON SCATTERING PROCESS -U-

AUTHOR-(02)-ZARESKIY, D.F., URIN, M.G.

U

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(2), 361-72

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--COMPOUND NUCLEUS, NUCLEON INTERACTION, NUCLEAR SCATTERING, EXCITED NUCLEUS, NUCLEAR ENERGY LEVEL, RADIOACTIVE DECAY, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1049 STEP NO--UR/0367/70/011/002/0361/0372

CIRC ACCESSION NO--AP0110739

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0110739 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCITATION OF COMPED. NUCLEUS LEVELS IN THE N SCATTERING PROCESS IS CONSIDERED BY USING THE METHOD OF ATTENUATION THEORY. MICROSCOPIC INTERPRETATION OF TRANSMISSION COEFFS. IS GIVEN BASED ON THE INTRODUCTION OF A REAL OPTICAL POTENTIAL AND OF THE WIDTH OF ONE PARTICLE STATE DECAY TO THE LEVELS OF THE COMPD. NUCLEUS. THE EXPRESSION FOR THE DIAGONAL ELEMENT OF THE SCATTERING MATRIX IS OBTAINED FOR THE CASE OF OVERLAPPING LEVELS IN THE COMPD. NUCLEUS. FACILITY: MOSK. INZH. FIZ. INST., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THEORY OF ISOBARIC ANALOG RESONANCES -U-

AUTHOR-(02)-KURLYANDSKIY, A.S., URIN, M.G.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(3), 545-55

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR ISOBAR, NUCLEAR RESONANCE, NUCLEAR STRUCTURE, NUCLEAR REACTION, PROTON INTERACTION, COMPOUND NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1069 STEP NO--UR/0367/70/011/003/0545/0555

CIRC ACCESSION NO--AP0110759

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110759

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF STUDYING ISOBARIC ANALOG RESONANCES, WHICH PROVIDE DATA BOTH ON THE STRUCTURE OF THE NUCLEAR STATES AND ON THE MECHANISM OF NUCLEAR REACTIONS, IS DISCUSSED. A DESCRIPTION OF ISOBARIC ANALOG RESONANCES IN THE REGION OF NONOVERLAPPING LEVELS OF A COMPD. NUCLEUS, IS GIVEN. FORMULAS FOR AVERAGING OVER THE FINE STRUCTURE COMPONENT CROSS SECTIONS OF (RHO, RHO PRIME) AND (RHO, ETA) REACTIONS TAKING INTO ACCOUNT 2 POSSIBLE MIXING MECHANISMS OF ANALOG AND COMPD. NUCLEAR STATES, WERE OBTAINED. THE RESULTS ARE COMPARED WITH THE RESULTS OF OTHER AUTHORS AND THE DIFFERENCES ARE DISCUSSED. FACILITY: MOSK. INZH.-FIZ. INST., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF SINTERING PROCESS PARAMETERS ON PELLET QUALITY AS STUDIED BY A FACTOR METHOD UNDER INDUSTRIAL CONDITIONS -U-

AUTHOR-(05)-SHARYGIN, D.A., ONISHCHENKO, A.E., RYABOKON, F.A., NESTEROV, G.S., URIN, V.D.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 105-7

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--IRON OXIDE, SULFUR, DESULFURIZATION, INDUSTRIAL PRODUCTION, HIGH TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1950 STEP NO--UR/0133/70/030/002/0105/0107

CIRC ACCESSION NO--AP0115758

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0115758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF TEMP. OF THE PREHEATING ZONE, THICKNESS OF THE PELLET LAYER, TIME IN THE FIRING ZONE, AND SPECIFIC GAS CONSUMPTION ON THE CRUSHING STRENGTH OF PELLETS, THEIR FEO AND S CONTENTS, THE DEGREE OF DESULFURIZATION, AND THE PROPORTION OF SMALLER THAN OR EQUAL TO 5-MM FINES WERE STATISTICALLY INVESTIGATED, USING PRODUCTION DATA. AFTER DETG. THE REGRESSION COEFFS., THE CORRESPONDING VALUE OF THE QUALITY PARAMETER, Y, CAN BE GIVEN AS Y EQUALS B SUBO PLUS PRIMEK SIGMA B SUBI X SUBI PLUS PRIMEK SIGMA SUBI SMALLER THAN J B SUBIJ X SUBI X SUBJ, WHERE B IS THE COEFF. OF REGRESSION AND X ARE INDEPENDENT VARIABLES. ANAL. OF THE DATA OBTAINED PERMITTED AN IMPROVEMENT OF PELLET PREPN. BY SELECTING CORRESPONDING TREATMENT PARAMETERS. PLANT RESULTS CHECKED THE ACCURACY OF THESE PREDICTIONS. FACILITY: SOKOLOVSKO SARBAISKII GORNOOBOGAT. KOMB., USSR.

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USSR U UDC 539.374

MATVEYEV, YU. M., URIN, YU. L., SITNIKOV, L. L., MAKOVETSKIY, V. A., LASHEVICH, V. I.

"Depth of Penetration of Platic Deformation for Transverse Sag of Cylinders"

V sb. Trubn. proiz-vo Urala (Tubing Production of the Urals--collection of works), Vyp. 1, Chelyabinsk, 1969, pp 113-120 (from RZh-Mekhanika, No 3, March 1970, Abstract No 3V439)

Translation: An experimental determination was made of the degree of reduction at which the plastic region penetrates to the billet center when there is transverse shrinkage of solid cylinders between parallel plates. The polarization-optical method with the deposition of optically sensitive coatings on the billet undergoing, made of lead and aluminum, and the coordinate network method were used. A method of interpreting experimental results and of determining the boundary of the plastic deformation zone is presented. The experimental layout is described. In the course of the study, a comparison was made of the dimensions of the plastic zones obtained from the isochrome pattern and from analysis of results of measuring deformation of the coordinate networks. Isochrome patterns obtained from the shrinkage of lead cylindrical billets are included. A graph of variation in depth

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USSR

MATVEYEV, YU. M., et al., Trubn. proiz.-vo Urala, Vyp. 1, 1969, pp 113-120 (from RZh-Mekhanika, No 3, March 1970, Abstract No 3V439)

of plastic deformation penetration with variation in relative reduction is given for lead and aluminum specimens for the plane-stressed and plane-deformed states. The effect of unloading and repeated loading on dimensions of the plastic region for transverse shrinkage of cylinders has been established.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 546.33:547.468.32.024'212

BIKHMAN, B. I., URINOVICH, E. M., KIREEVA, A. YU., SHUGAL, N. F., DYATLOVA, N. M. (All-Union Scientific Research Institute of Chemical Reagents and Especially Pure Chemical Substances (IREA)

"Study of Hydroxyethylindenediphosphonic Acid and Its Sodium Salt"

Moscow, Zhurnal Neorganicheskoi Khimii, vol 18, No 9, Sept 1973, pp 2406-2409

Abstract: The trisodium salt of hydroxyethylindenediphosphonic acid was prepared by adding NaOH to an aqueous solution of the free acid (synthesis of acid is referenced) in distilled water, cooled by ice. Chemical analysis of the salt verified its elemental composition, and IR absorption spectra confirmed the structure of the free acid and the salt. Potentiometric titration showed two protons in the salt and five in the acid. The acid loses its water of crystallization (0.5 H_2O) in one step at 76°C, while the salt loses 2 molecules at 116°C and the other 2.5 at 190°C. In aqueous solution the salt has a neutral pH and is recommended as a complexing agent at this pH.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC [661.7:547.297.2]+661.718.1

KOLPAKOVA, I. O., KABACHNIK, 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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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR UDC 547.241.07

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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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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

Coatings

USSR

UDC 669.14:621.746.328

BUDNIK, N. M., LYAKH, Yu. A., MESHCHERYAKOV, V. M., TROITSKIY, V. K., BOGATIKOV, Ye. N., URINSON, A. I., and KHOKHLOV, V. M., Taganrog Metallurgical Plant; Rostov-on-Don Institute of Agricultural Machinery

"Increasing the Resistance of the Lining of Steel-Teeming Ladles"

Moscow, Metallurg, No 8, Aug 70, pp 31-33

Abstract: The resistance of the lining of steel-teeming ladles may be increased by heat-resistant protective coatings applied by the plasma method. The powder to be sprayed passes through a high-temperature zone (10,000-20,000°C) and strikes the surface in a plastic state. The powder particles, possessing high kinetic energy, sinter and form a homogeneous high-quality dense coating of adequate thickness. In most cases it is necessary to heat the surface. Aluminum oxide with a particle size of 80-100 microns was used as the protective coating. The technology of the plasma spraying of Al_2O_3 on chamotte brick is described and the technological parameters were determined. Maximum cohesive strength with the brick was obtained at a 0.4-0.6 mm coating thickness. The aluminum oxide coating applied by the plasma method appears to be double the lining's resistance of steel-teeming ladles under service conditions. The yearly savings per 50-ton ladle at the Taganrog Metallurgical Plant amount to 2,650 rubles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420006-2

USSR

UDC 621.391.3

MIZIN, IGOR' ALEKSANDROVICH; URINSON, LEONID SAVEL'YEVICH; KHRAMESHIN, GENNADIY KUZ'MICH

"Information Transmission In Networks With Switching Of Traffic"

Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy (cf. English above), Moscow, Izd. "Svyaz'," 1972. 320 pp. ill. 141 ref. 1 r 51 k.

Abstract In the book problems are considered on the construction and operation of information networks (IN) with switching of traffic. Initial data are determined for the planning and for the totality of the indices of the effectiveness of functioning of an IN. A description of a model of an IN is given as well as the principles of construction of the primary elements of the network-- channels of data transmission and units for switching traffic.

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USSR

MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz'," 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz'," 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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USSR

MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz'," 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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