

USSR

UTYAMYSHEV, R., Sotsialisticheskaya Industriya, 24 Nov 71, p 2

Analytical equipment is not yet of adequate quality, but even more importantly, industrial output of it does not meet medical needs. The problem of standard reagents for biochemical and other types of analysis is closely related. These are also in short supply at the present time, and comprise a serious obstacle to undertaking unification of diagnosis and treatment in Soviet medicine. In hospital organization, modern equipment makes possible the "industrialization" of numerous functions such as sterilization, transportation within the hospital, cleaning areas and various materials, and so on. There is much equipment that could be produced for hospitals, but is not now being turned out. Another area where the medical industry has been slow in applying the latest scientific developments is in new materials and electronic devices. Plastics, polymers, and corrosion resistant titanium steel can and should be used in medical and hospital equipment; furthermore, such important electronic breakthroughs as semiconductors and integrated microcircuits are still little used. In the future it will be necessary for the medical industry to clarify the matter of price formation in relation to needs and also to work toward unification of technical equipment and materials used in Soviet medicine. Lack of unification has led to substantial numbers of changes and

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UTYAMYSHEV, R., Sotsialisticheskaya Industriya, 24 Nov 71, p 2

modifications in specifications which are very inefficient. It is hoped that workers of the Soviet medical industry's many enterprises will soon provide the solutions to these problems so that Soviet people may live better.

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175 025

TITLE--ALGORITHMS OF HEALTH -U- UNCLASSIFIED

AUTHOR--UTYAMYSHEV, R.

COUNTRY OF INFO--USSR

SOURCE--MOSCOV, VECHERNYAYA MOSKVA, 4 FEB 70, P 2

DATE PUBLISHED--04FEB70

PROCESSING DATE--09OCT70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PUBLIC HEALTH, ALGORITHM, COMPUTER MEDICAL DIAGNOSIS, INFORMATION STORAGE AND RETRIEVAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1990/1058

CIRC ACCESSION NO--AN0109202

STEP NO--UR/9027/70/000/000/0002/0002

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2/5 025

CIRC ACCESSION NO--AN0109202
ABSTRACT/EXTRACT--(U) GP-0-

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PROCESSING DATE--09OCT70

PHYSICIANS, ENGINEERS AND PUBLIC HEALTH ORGANIZERS ASSEMBLED IN MOSCOW AT THE FIRST ALL UNION CONFERENCE OF THE USE OF COMPUTER EQUIPMENT AND MATHEMATICAL METHODS IN PUBLIC HEALTH AND MEDICAL RESEARCH. THE INTRODUCTION INTO THE NATIONAL ECONOMY OF MEANS OF COMPUTER EQUIPMENT AND AUTOMATED CONTROL SYSTEMS IS ONE OF THE MOST IMPORTANT TASKS DEFINED IN THE CC CPSU AND USSR COUNCIL OF MINISTERS DECREE. WHAT IS ITS URGENCY TO PUBLIC HEALTH? WHAT PROMISE DOES ITS SOLUTION OPEN UP FOR THE DEVELOPMENT OF MEDICINE? NOVOSTI PRESS AGENCY CORRESPONDENT E. GURBUNDVA SOUGHT OUT R. UTYAMYSHEV, HEAD OF THE ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF SURGICAL APPARATUS AND INSTRUMENTS, FOR THE ANSWERS TO THESE QUESTIONS. AN EVER INCREASING FLOW OF INFORMATION, REPORTS ON DISCOVERIES AND THE RESULTS OF HUNDREDS OF THOUSANDS OF EXPERIMENTS, MILLIONS OF VOLUMES OF BOOKS, RESOLUTIONS AND DECREES DEFINING THE LIFE OF VARIOUS BRANCHES OF THE NATIONAL ECONOMY, INUNDATES THE REPRESENTATIVES OF ANY SPHERE OF HUMAN ACTIVITY IN OUR ERA EACH YEAR. IN EACH SPECIFIC CASE, ONLY A SMALL PART OF THE INFORMATION IS NEEDED. IT IS A LABOR CONSUMING BUSINESS TO FIND, EVALUATE AND ANALYZE IT. SO PEOPLE ARE DELIBERATELY RESORTING WITH INCREASING FREQUENCY TO MACHINES TO SEEK OUT THE ANSWERS TO VARIOUS PROBLEMS. THE OPPORTUNITIES FOR USING THEM IN PUBLIC HEALTH ARE EXTREMELY BROAD, ESPECIALLY IN SOVIET PUBLIC HEALTH, WHICH IS A WELL DEVELOPED, CENTRALIZED MANAGEMENT SYSTEM IN WHICH THE STYLE OF WORK IS DICTATED BY THE NECESSITY OF TAKING EXTENSIVE SANITATION MEASURES.

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375 Q25

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ABSTRACT/EXTRACT--THE PLAN FOR THE FORTHCOMING FIVE YEARS OUTLINES ANNUAL PROVISION OF DISPENSARY SERVICES TO A POPULATION NUMBERING MANY MILLIONS OF PEOPLE, I.E., COMPREHENSIVE RESEARCH AND DISCLOSURE OF THE EARLY STAGES OF DISEASES. IN THE USSR, CONSTRUCTION OF MAJOR HOSPITAL COMPLEXES FOR 1,000 TO 3,000 PATIENTS HAS BEEN BEGUN. HOW TO EQUIP THEM, HOW TO SPEND THE MEANS ALLOCATED BY THE STATE, HOW TO ORGANIZE THE LABOR OF THE HUGE ARMY OF MEDICAL WORKERS? NATURALLY, IN ORDER TO SOLVE ALL THE FINANCIAL AND ECONOMIC PROBLEMS, IT IS NECESSARY TO FIND NEW APPROACHES TO THEM. "NEW" IS NOT EXACTLY THE RIGHT WORD. CENTERS FOR ADMINISTERING BRANCHES OF INDUSTRY WHICH HAVE ENLISTED THE AID OF ELECTRONIC COMPUTERS HAVE ALREADY BEEN CREATED, BUT THE SCALES AND FEATURES OF THEIR APPLICATION TO PUBLIC HEALTH ARE UNDOUBTEDLY NEW. AT THE ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF SOCIAL HYGIENE AND PUBLIC HEALTH ORGANIZATION IMENJ SEMASHKO, THE ORGANIZATION OF A MAIN COMPUTER CENTER OF THE USSR MINISTRY OF PUBLIC HEALTH HAS BEEN BEGUN. IT WILL PLAN VARIOUS TYPES OF MEDICAL AID TO THE POPULATION, SANITATION, ANTIEPIDEMIOLOGICAL MEASURES, WORK WITH PHARMACEUTICAL INSTITUTIONS, BUT THIS IS, NATURALLY, ONLY A SMALL PART OF THE TASKS WHICH CAN BE SOLVED WITH THE HELP OF ELECTRONIC COMPUTER EQUIPMENT. TODAY, WE HARDLY NEED PROOF OF HOW FAITHFUL AN ASSISTANT IT CAN BE FOR THE PHYSICIAN, FOR EXAMPLE, IN DETERMINING THE NATURE OF AN ILLNESS AND IN THE SELECTION OF TREATMENT TACTICS.

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ABSTRACT/EXTRACT--IN THIS AREA OF THE USE OF ELECTRONIC COMPUTER EQUIPMENT, TWO ENTIRELY INDEPENDENT FIELDS OF ENDEAVOR HAVE ALREADY DEVELOPED: THE USE OF MULTI PURPOSE MACHINES, SUCH AS THE "DNEPR" AND "MINSK" WHICH OPERATE USING ASSIGNED PROGRAMS, AND THE CREATION OF SPECIAL "SMALL" AUTOMATIC MACHINES ADAPTED FOR THE SOLUTION OF A PARTICULAR OR PARTIAL TASK. FOR EXAMPLE, TO DIAGNOSE DISEASES OF THE CARDIO VASCULAR SYSTEM. THEY CAN OPERATE USING VARIOUS PRINCIPLES. IN ANALYZING CARDIOGRAMS, THEY GROUP THE PATIENTS INTO: "HEALTHY," "ARRHYTHMIA," AND "CARDIO VASCULAR INSUFFICIENCY". GIVEN MASSIVE DISPENSARY FOLLOW UP, SUCH APPARATUS CREATES A TREMENDOUS SAVINGS IN PHYSICIAN TIME AND PERMITS HIM TO BE CONCERNED WITH TREATMENT ON A DEEPER LEVEL. ONE OF THE "SMALL AUTOMATIC MACHINES" CREATED UNDER THE LEADERSHIP OF LENINGRAD PROFESSOR, MIKHAIL TARTAKOVSKIY, PERMITS DIAGNOSING THE NATURE OF MYOCARDIUM INFARCT WITH A PRECISION OF UP TO 95 PERCENT. TRUE, IT PERMITS DETERMINING THE NUANCES OF THE ILLNESS WHEN IT IS ALREADY QUITE CLEARLY EXPRESSES SYMPTOMATICALLY. TO DIAGNOSE EARLIER, WE ARE NOW DESIGNING APPARATUS CAPABLE OF ANALYZING THE MOST SUBTLE BIOCHEMICAL DEVIATIONS, THOSE WITH WHICH THE ILLNESS BEGINS: CONTENT OF ENZYMES IN THE BLOOD, ITS ELECTROLYTIC COMPOSITION, AND ACID ALKALI BALANCE. THE PROBLEM OF RAPID AND PRECISE DIAGNOSIS IS ALSO OF GREAT ECONOMIC IMPORT. THE MAIN PORTION OF THE TIME A PATIENT STAYS IN A CLINIC IS OCCUPIED WITH DETERMINING THE NATURE OF HIS ILLNESS. USING MACHINES, A TWO WEEK INVESTIGATION CAN BE REDUCED TO ONE OR TWO DAYS.

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5/5 025

CIRC ACCESSION NO--AN0109202
ABSTRACT/EXTRACT--IT IS THEREFORE NO ACCIDENT THAT THE CREATION OF

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PROCESSING DATE--09OCT70

COMPUTER CENTERS IS ALWAYS PROPOSED FOR HOSPITAL COMPLEXES UNDER CONSTRUCTION. THEIR BASE IS AN ELECTRONIC COMPUTER WITH A DAY TO DAY MEMORY. BEING "MULTIPLE ADDRESS" IN NATURE, I.E., HAVING SEVERAL CHANNELS OF COMMUNICATIONS, IT CAN SOLVE ECONOMIC ADMINISTRATIVE AND INFORMATIONAL TASKS ONCE IT RECEIVES THE ASSIGNMENT: ANALYZE THE HISTORY OF THE DISEASE, DEFINE AND REGULATE THE PARAMETERS OF THE EXTERNAL MEDIUM, OBSERVE POST OPERATIVE PATIENTS. SIMILAR MACHINE CENTERS ALREADY EXIST IN THE MOSCOW INSTITUTES OF CLINICAL AND EXPERIMENTAL SURGERY, THE INSTITUTE OF SURGERY IMENI VISHNEVSKIY, AND IN INSTITUTES IN LENINGRAD, KIEV AND YEREVAN. THIS FRONT OF THE TECHNICAL REVOLUTION WHICH HAS BURST UPON MEDICINE HAS FORCED WORKERS IN MEDICINE TO REEVALUATE MANY OF THEIR ACCUSTOMED ATTITUDES, AS, FOR EXAMPLE, THEIR APPROACH TO STUDYING A PATIENT. THEREFORE, WE NOW HAVE THE PROBLEM OF THE BIRTH OF A NEW FIELD OF ENDEAVOR, MEDICAL METROLOGY, WHICH HELPS TO SOLVE THE PROBLEMS OF DOCTOR MACHINE RELATIONSHIPS, TO OUTLINE OCCUPATIONAL DISEASES AND THE OUTBREAKS OF EPIDEMICS, TO PREDICT PROSPECTS FOR THE CREATION OF AUTOMATED SYSTEMS OF MASS EXAMINATION OF THE POPULATION AND OF DIAGNOSING CARDIOVASCULAR AND CARCINOGENIC DISEASES.

UNCLASSIFIED

Plant Pathology

USSR

UDC 632.4

SEROVA, Z. Ya., and UTYRO, L. B., Department of the Physiology and Systematics of Lower Plants, Belorussian SSR Academy of Sciences

"Changes in Oxidative Phosphorylation in Rye Plants Infected With Rust"

Minsk, Izvestiya Akademii Nauk BSSR, No 4, 1971, pp 102-106

Abstract: Oxygen consumption and phosphorylation were studied in homogenates of mitochondria extracted from the leaves of the Partizan strain of winter rye infected with uredo spores of *Puccinia dispersa* Erkiss. et Henn. ATP-ase activity and formation of high-energy bonds per unit oxygen consumption increased in the stage of etiolation, but decreased in the stage of spore formation. On the basis of these and other findings, it is concluded that in the initial stage of the disease, the fungus needs high-energy bonds to develop micelles and spore-producing organs. After the growth cycle of the fungus is completed, it no longer needs ATP compounds, and its toxic effects on the host plant become manifest in damaged mitochondrial membranes, stimulated hydrolysis, inhibited synthesis, and a reduced P/O ratio.

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172 015
 UNCLASSIFIED
 TITLE--AGING OF REPEATEDLY REWORKED POLYPROPYLENE -U- PROCESSING DATE--20NOV70
 AUTHOR--(05)--SHISHOVA, I.S., UTYUGOVA, M.F., YUZHIN, V.M., MATVEYEVA,
 YE.N., SEMENTSOV, A.D.
 CCUNTRY OF INFO--USSR
 SOURCE--PLAST. MASSY 1970, (3), 39-40
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY, MATERIALS
 TOPIC TAGS--POLYPROPYLENE, PLASTIC INJECTION MOLDING, CHEMICAL STABILIZER,
 PHENYLENE, DIAMINE, ORGANIC SULFUR COMPOUND, PROPIONATE
 CTRL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3002/1377
 CIRC ACCESSION NO--AP0128777
 STEP NO--UR/0191/70/000/003/0039/0040
 UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128777
 ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. THE PHYDICOHEM. CHANGES OCCURING
 IN POLYPROPYLENE (I) DURING REPEATED INJECTION MOLDING AND THE
 EFFECTIVENESS OF STABILIZERS WERE INVESTIGATED. REPEATED INJECTION
 MOLDING AFFECTED ONLY THE MELT INDEX, BUT NOT THE MECH. PROPERTIES OF I.
 THE MOST EFFECTIVE STABILIZER SYSTEM WAS TOPANOL SA WITH DILAURYL
 THIODIPROPIONATE, WHEREAS MOLDED I ARTICLES WERE BEST STABILIZED WITH N,
 N', DI, BETA, NAPHTHYL, P, PHENYLENEDIAMINE.

UNCLASSIFIED

USSR

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UDC 578.087.8+577.472(26)

GITEL'ZON, I. I., LEVIN, L. A., SHEVYRNOGOV, A. P., FILIMONOV, V. S., ARTEMKIN, A. S., UTYUSHEV, R. N., and ZAGORODNIY, Yu. A.

U

"Measurement of Bioluminescence at Great Depths"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 3, 1970, pp 689-692

Abstract: The recording of bioluminescence appears to be the only convenient way at present of studying abyssal organisms directly in their habitat. To carry out such investigations, the Institute of Physics of the Siberian Department of the Academy of Sciences USSR developed a bathyphotometric device with autonomous power supply and recording of signals. Magnetic recording is used for the signals coming from the light receiver. The bathyphotometer consists of two hermetically sealed containers joined together. The larger one holds the light receiver, power supply, program control system, and recording apparatus, while the smaller one holds a flashing lamp with program control and power supply. Measurements made in December 1968, by the research vessel Vityaz' in the Sea of Japan at a depth of 7000-7200 m are briefly described.

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USSR

UDC: 681.2.087.92-932

VYZHELEVSKIY, B. V., POMYKAYEV, I. I., VLASOV, Ye. N., ~~IVAKIN, V. F.~~
GOL'DENBERG, F. M., KARCHEVSKIY, A. A., ZELENKOV, S. V.

"A Sine-Cosine Converter"

USSR Author's Certificate No 316110, filed 24 Apr 70, published 9 Nov 71
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,
Jul 72, Abstract No 7A111 P)

Translation: A patent has been granted for a sine-cosine converter distinguished by the fact that one end of each output winding of the rotor is connected to the input of an auxiliary phase-sensitive rectifier, while the other end is connected through a resistor to the input and output of the same rectifier. Laid around the perimeter of the back edge of the rotor is an excitation winding which is connected to a source of alternating current. The device acts as a vector plotter and coordinate transformer with DC and AC input signals. Either DC or AC output signals may be obtained as desired. The device can serve two servosystems simultaneously, one working on AC and the other on DC. Two illustrations.

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USSR

ISTAYEV, S. I., SEYTBEKOV, T., UVAKOV, A. B.

UDC 621.4/.6:533.6

"Experimental Study of the Hydrodynamics of a Spherical Jet Device"

V sb. Prikl. i teor. fizika, Vyp. 3 (Applied and Theoretical Physics. No 3 --
Collection of Works), Alma-Ata, 1972, pp 250-256 (from RZh-Mekhanika, No 3,
Mar 73, Abstract No 3B434)

Translation: The results of an experimental study of the hydrodynamics of a spherical jet device are presented. The effect of the position of the working nozzle and the length of the cylindrical mixing chamber on the injection coefficient of the device was established. An empirical relationship was obtained giving the injection coefficient of the spherical jet device as a function of the ratio of the diameter of the mixing chamber and the diameter of the working nozzle. Authors' abstract.

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USSR

UDC 616.981.42:636/-036.21

UVAROV, A. A. (deceased), Orenburg Medical Institute, Orenburg

"Dynamics of Brucellosis With a Prolonged Morbidity at Animal-Breeding Farms
Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 73, p 134

Abstract: The incidence of brucellosis, which was formerly high in Orenburgskaya Oblast' after introduction of the disease from the outside, has at present dropped to a much lower level as far as human infections are concerned, although outbreaks of the disease among animals were eliminated considerably later than those among humans. The incidence of human infections at sovkhoses was lower than that at kolkhozes, because a higher level of immunity had developed among workers at sovkhoses, who came into contact with larger herds of sheep, in which the infection was more widespread than in the smaller herds at kolkhozes. Furthermore, the sovkhos sheep were kept in herds during the winter lambing, a period in which the elimination of Brucellae was at a maximum, while the privately owned sheep at kolkhozes were kept in herds only in the summer, i.e., after the winter lambing was over and the elimination of Brucellae had dropped to a minimum.

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MEDICINE

Epidemiology

USSR

UDC: 616.981.42-036.2

UVAROV, A. A. Orenburg Medical Institute

"Dynamics of Brucellosis Infection at New Epidemic Foci"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 48, No 1,
Jan 71, pp 38-41

Abstract: Two distinct periods were observed in a study of the dynamics of sheep-goat brucellosis at 22 new foci: a latent period of 14 to 18 months and a period with acute manifestations of the infection, which lasted 2 to 3 months, which was characterized by abortions in animals and a high incidence of the infection in man. The epidemic process was found to develop during the second period of acute infections. The incidence of acute forms of the infections in man was characterized by a 3-month rise and a sharp drop at the end of the 5th month. At present, brucellosis has been completely eradicated in the Orenburg region; however this does not preclude a renewed occurrence and an existing potential danger for man in that region.

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USSR

UDC 669-157:669.15-194.56

UYAROV, A. I., ROMANOV, R. R., UKSUSNIKOV, A. N., and BUYNOV, N. N., Institute of Physics of Metals, Ukrainian National Center of the Academy of Sciences USSR

"Influence of Low-Temperature Aging Before High-Temperature Aging on the Mechanical Properties and the Structure of 40Kh4G18F Steel"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 4, Oct 73, pp 735-741

Abstract: The mechanical properties and the structure of 40Kh4G18F steel were experimentally investigated after different methods of heat treatment. The results are discussed by reference to diagrams showing the dependences of ultimate strength, yield limit, relative elongation, and relative narrowing at 650° and 700° at different aging conditions, and on the basis of isochronal hardness curves, hardness curves by isothermal aging at 700°, and electron microphotograph after aging. The processing according to the scheme hardening - low-temperature aging - high-temperature aging was found to give rise to a substantial increase in strength of 40Kh4G18F steel and, in certain cases, also in plasticity, if compared with only one high-temperature aging; the dispersion of separations was also increasing. A preliminary low-temperature aging before high-temperature aging influences effectively the increase of mechanical properties of steel, in which in aging the primary nuclei of the

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UVAROV, A. I., et al., Fizika Metallov i Metallovedeniye, Vol 36, No 4,
Oct 73, pp 735-741

hardening phase possess an equiaxial form and are capable of growing in aging.
The results make possible a selection of more optimum processing methods of
40Kh4G18F steel. Six figures, five bibliographic references.

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UVAROV, A. I.

(6)

EFFECT OF VARIOUS COMBINATIONS OF AGING AND DEFORMATION ON THE STRUCTURE AND MECHANICAL PROPERTIES OF E147B ALLOY

UDC 620.17:539.25

N. N. Buyurov, A. I. Uvarov, A. N. Ukraintsev, R. R. Romanova, R. A. Karakhanyan, and M. G. Oshpukov, Institute of the Physics of Metals, Ural Scientific Center of the USSR Academy of Sciences, submitted to press 18 June 1971; final version, 18 February 1972 pages 1251-1256

The effect of deformation performed after low-temperature aging before high-temperature aging on the structure and mechanical properties of alloy E147B was studied. Experimental data confirming the possibility of decreasing or preventing recovery in this alloy by means of moderate deformation between low-temperature and high-temperature agings were obtained. It was established that the use of treatment according to the following scheme: hardening--low-temperature aging--deformation (straining)--high-temperature aging leads to an essential increase of the mechanical properties in comparison with aging without deformation.

In reference: [1] the conclusion made earlier [2] that preliminary low-temperature aging before high-temperature aging must be effective in increasing the mechanical properties of alloys of the niobium type was experimentally confirmed. In these alloys the initial niobium precipitates in the low-temperature phase have an equiaxed form and are capable of their growth at low-temperature aging. Also, prolonged aging at low temperatures increases the stability of the nuclei for the Guinier-Preston zones and their larger quantity is preserved in subsequent high-temperature aging. Such double aging provides a large dispersivity of the precipitations and high strength properties in comparison with the dispersivity and strength of the alloy aged at an increased temperature. However, the minimum on isothermic curves of hardness in high-temperature aging testifies that a

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Уральск. АН УрО АС
№ 6, 1970*

(7)

considerable part of the G. P. zones [3] or the metastable nuclei [1] during recovery are dissolved or change their composition even in a case of prolonged preliminary low-temperature aging [4, 5]. According to data in reference [6], in E1437B alloy in recovery 34% of the precipitation phase is dissolved.

We may assume that if we prevent recovery in the transition from low-temperature aging to high-temperature aging, then we will obtain references [7-9], the effect of plastic deformation and greater strength. In the fact that part of the nuclei may be dissolved, and part stabilized. For example, the G. P. zones may shift to metastable precipitations in moderate deformations, the effect of the solution of the nuclei may be insignificant in comparison with the effect of stabilizing precipitation. If the alloys are strained after low-temperature precipitation. At temperature aging. As a result of this, recovery may be decreased because of the appearance of new nuclei due to the ones dissolved during deformation.

In this work we set ourselves the problem of studying the effect of deformation between low-temperature and high-temperature aging on the structure and mechanical properties of alloy E1437B.

The structure of the alloy was investigated by the fine-film electron-microscopic method. Measurements of hardness according to Vickers were performed. Measurements of hardness according to Vickers of annealing at 1030°C for eight hours and cooling in the air. Heat treatment of aging of 650-850°C for eight hours and cooling in the air. Variations of heat treatment the specimens were cooled at a rate of 100° per minute. The aging was accomplished at 700 and 850°. After different basically by 20%.

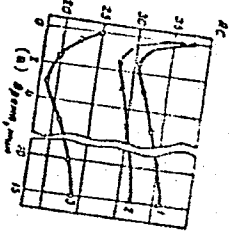


Figure 1. Hardness of alloy E1437B in isothermal aging at 850°: (1) after preliminary aging at 700° for ten hours and straining by 20%; (2) after preliminary straining by 20% at 700° for ten hours; (3) after aging at 700° for ten hours. (a) time, min.

USSR

UDC 541.14:661.882.2

IL'YENKO, V. S., UVAROV, A. V., and MIL'KO, V. I., All-Union Scientific Research and Design Institute of Titanium, Zaporozh'ye

"Determination of the Photochemical Activity of Pigmented Titanium Dioxide by the Method of Electron Paramagnetic Resonance"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1089-1090

Abstract: In this article a method has been developed for the spectral analysis of pig iron on the amount of impurities-modifiers of Bi, Sb, Pb, Sn, Al, Ti, Zn, V, Ce, and Cu. The ranges of detection are from 0.001 to 1.0%.

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IL'YENKO, V. S., et al., *Zavodskaya Laboratoriya*, Vol. 39, No 9, 1973,
pp 1089-1090

The table compiled by the authors gives a comparison of various samples as pertains to the results of determining the concentration of Ti^{3+} ions.

Since the sensitivity of electron paramagnetic resonance spectrometers is high it is possible to analyze samples of titanium dioxide with a low photochemical activity.

The article contains 1 table and 11 bibliographic references.

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024
 UNCLASSIFIED
 TITLE--INFRARED SPECTRA OF AMMONIA ADSORBED ON FLUORINATED ALUMINUM OXIDE
 AND ALUMINUM HYDROXIDE FLUORIDE -U-
 AUTHOR--(03)--BULGAKOV, D.V., UVAROV, A.V., AUTIPINA, Y.V.
 COUNTRY OF INFO--USSR
 SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 17-22
 DATE PUBLISHED--70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--ALUMINUM HYDROXIDE, IR SPECTRUM, GAS ADSORPTION, FLUORIDE, AMMONIA
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1993/0290
 CIRC ACCESSION NO--AP0113220
 STEP NO--UR/0076/70/044/001/0017/0022
 UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0113220
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT. THE IR SPECTRA OF NH SUB3 ADSORBED ON AL SUB2 O SUB3 (I), FLUORINATED AL SUB2 O SUB3 (II) (6.4 AT.PERCENT F), AND CATALYTICALLY ACTIVE AL HYDROXIDE FLUORIDE (III) (28.6 WT.PERCENT F) WERE STUDIED. SPECTRA OF I-III AFTER DESORPTION AT ROOM TEMP., 150, 250, 350, AND 550DEGREES ARE REPRODUCED. ABSORPTION BANDS OF COORDINATELY BONDED NH SUB3 WERE FOUND ON THE SURFACE OF ALL SAMPLES, AND BANDS OF NH SUB4 POSITIVE WERE PRESENT IN THE SPECTRA OF II AND III. I SAMPLES WERE FLUORINATED BY A PUBLISHED METHOD (CA 69, 30509 Q). THE IR STUDY SHOWED THE PRESENCE OF APROTIC ACIDIC CENTERS ON THE SURFACE OF I AND BOTH TYPES ON THE SURFACES II AND III. ADSORBED NH SUB3 BANDS OCCURRED AT 3100, 1580, 1550, 1497, AND 1455 CM NEGATIVE PRIME1, INDICATING THE INSTABILITY OF ADSORBED NH SUB3 MOLS. AND A POSSIBILITY OF THEIR REARRANGEMENT INTO DIFFERENT SURFACE FORMS. THE BANDS AT 1456 AND 1497 CM NEGATIVE PRIME1 WERE ATTRIBUTED (J. B. PERI, 1965) TO DEFORMATION VIBRATIONS OF NH SUB2 NEGATIVE, BUT THE PRESENT STUDY REVEALED NO ADDNL. BANDS IN THE REGION OF THE OH VALENCE VIBRATIONS TO SUPPORT THE REACTION NH SUB3 PLUS O PRIME2 NEGATIVE YIELDS NH SUB2 NEGATIVE PLUS OH NEGATIVE. IF, INDEED THESE BANDS ARE CAUSED BY DEFORMATION VIBRATIONS OF NH SUB2 NEGATIVE, THE MECHANISM FOR THE FORMATION OF NH SUB2 NEGATIVE IS DIFFERENT FROM THAT EXPECTED. THE APPEARANCE OF THE 3100-CM NEGATIVE PRIME1 BAND IS ATTRIBUTED TO THE INTERACTION OF NH SUB3 WITH THE SURFACE IONS OF AL PRIME3 POSITIVE, GIVING RISE TO NH SUB3 POSITIVE, WITH DEFORMATION VIBRATIONS AT 1580 CM NEGATIVE PRIME1.

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

UNCLASSIFIED

USSR

UDC 616.008.922.1.04-085.38

UVAROV, B. S., and NEFEDOV, V. N., Chair of Anesthesiology and Reanimation,
Military Medical Academy imeni S. M. Kirov, Leningrad

"The Effect of Transfusion Therapy in the Restorative Period Following Acute
Oxygen Starvation"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3,
May/June 73, pp 25-29

Abstract: Acute oxygen starvation was induced in 10 dogs by artificial ventilation of the lungs for 2-2.5 hrs with a gas mixture consisting of O₂ 8-9, CO₂ 3, N₂ 81-82%, while complete muscle relaxation was maintained by the administration of dilitin. This was followed by ventilation of the lungs with carbogen (O₂ 97, CO₂ 3%) for 1 hr. All dogs died within 10-15 min during the restorative period immediately following termination of hypoxia. The cause of death was ventricular fibrillation that occurred during a period of progressive hypotension. Fifteen dogs were treated in the same manner, except that they received an intravenous injection of the plasma substitute gelatinol (10-15 ml/kg at the rate of 20 ml/min) in addition to having the lungs ventilated with carbogen. Of these dogs, nine perished: one died 3 hrs, six 8 hrs, and two 20 hrs following hypoxia. Dogs which exhibited marked excitement before

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UVAROV, B. S. and NEFEDOV, V. N., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/June 73, pp 25-29

the experiment were more sensitive to hypoxia and died earlier. The injection of gelatinol led to an improvement of circulation, as shown by a reduction of myocardial ischemia, normalization of arterial pressure, and elimination or reduction of hypovolemia and hemoconcentration. The results showed that administration of the plasma substitute is essential for the restoration of normal blood circulation following acute hypoxia.

2/2

UVAROV, D. B.

WIND IN THE IONOSPHERE AND THE FORMATION OF THE SPORADIC E LAYER
UDC 551.510.535.4

Article by Candidate of Physical and Mathematical Sciences I. A. Andreyeva,
Doctor of Physical and Mathematical Sciences I. A. Katshev, V. P. Nesterov,
Candidates of Physical and Mathematical Sciences D. B. Uvarov and Yu. K.
Chasovitin, Institute of Experimental Meteorology, Moscow, U.S.S.R.,
Udskolovsk, Russian, No 2, 1972, submitted 17 December 1970, pp. 3-7

Three profiles of the wind velocity and direction in the lower atmosphere obtained by observation data on artificial noctilucent clouds on 16, 25 and 26 July 1968 at the artificial stud station are presented in this article. Some results of experimental checking of the theory of formation of middle latitude E_s ionospheric layer under the effect of wind shear are discussed.

An M-12 rocket with containers filled with a special mixture containing sodium was launched in the summer of 1968 in Volgograd to study the wind in the lower atmosphere. The experiments were performed on 16, 25 and 26 July at 2040 hours, 2030 hours and 0300 hours Moscow time, respectively.

The elongated noctilucent clouds formed were photographed synchronously from two points. The successive positions of the cloud photographed on 16 July are shown in the photograph in Figure 1. The procedure for processing these photographs is described in reference [3].

By the data obtained only the horizontal components of the wind velocity were determined. Obviously, the vertical components are small, and they could not be reliably established.

In Figure 2a we have the profiles of the horizontal wind velocity obtained in three experiments. The profiles of the horizontal wind velocity obtained by Kobzarev [9] and Blazont [7] by the data from numerous observations from artificial noctilucent clouds. The profile for 26 July has some differences.

JKW 05743
5 July 72

Acc. Nr.: AP0028771

Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 1,
pp 35-41

MEASUREMENTS OF WIND VELOCITY AND DIFFUSION COEFFICIENT BY
MEANS OF ARTIFICIAL LUMINOUS CLOUDS

L. A. Andreyeva, L. A. Katasev, D. D. Gerasimov

Results of measurements of wind velocity and direction and diffusion coefficients are given in the article, based on the observations of artificial luminous clouds. Experiments were made in autumn of 1967 and in spring of 1968 over the island Haise by means of injecting appropriate reagents from rockets at a height ranging from 121 to 172 km.

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KRYLOVA, YE. P., PONOMAREV, M. A., UVAROV, I. P., VINOGRADOV, L. N. and
SHIL'NIKOVA, R. A. UIC 628.1.034:628.175:628.3

"Ways of Improving the Quality Characteristics of Flotation Effluent"

Sb. tr. N.-1. in-t po probl. Kurskoy magnitn. anomalii (Collection of Works of
the Scientific Research Institute on Problems of the Kursk Magnetic Anomaly),
1969, No 5, pp 153-159 (from RZh-Khimiya, No 1(II), 10 Jan 70, Abstract No 1 I 491)

Translation: Research studies have established the following: 1) the use of water
recycling is advisable, since it permits an almost twofold reduction in the total
consumption of reagents without changing the qualitative indexes of flotation;
2) flotation tailings must be sent to the filtering unit, the filtrate fed to the
flotation head, and the cake stored in a special tailings storage area; and 3)
the odor of the effluent is not stable and after storage in an open reservoir for
a period of 6-7 days disappears completely.

Resume

1/1

USSR

UVAROV, L. A.

UDC 539.3.01

"On the Solution of One Plane Problem by Methods of Elasticity Theory and the Mechanics of Unbraced Discrete Media"

Tr. koordinats. sovesch. po gidrotekhn. (Works of the Coordination Conference on Hydraulic Engineering), 1972, No. 77, pp 65-68 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V52)

Translation: Solutions of the problem of determining the stress-deformation state of continuous and unbraced granular media from the action at the boundary of the half-plane of a semi-infinite vertical load, to which the weight of the water in the reservoir reduces, are considered. The solutions are arrived at by methods of elasticity theory and the mechanics of granular media. Author's abstract.

1/1

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1/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--APPARATUS FOR MEASUREMENT OF THE FREQUENCY OF BETATRON OSCILLATIONS OF THE 70 GEV ACCELERATOR BEAM --U--

AUTHOR--UVAROV, V.A.

COUNTRY OF INFO--USSR

SOURCE--(CERN TRANS 69-22) NTD 6826. 9P. CEP. CFSTI

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--BETATRON, OSCILLATION, GEV ACCELERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/1910

STEP NO--UR/0000/70/000/000/0001/0009

CIRC ACCESSION NO--AT0127311

UNCLASSIFIED

2/2 021

CIRC ACCESSION NO--AT0127311
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. A SYSTEM FOR THE RAPID MEASUREMENT OF THE FREQUENCY OF BETATRON OSCILLATIONS FOR THE 70 GEV ACCELERATOR AT IFVE IS DESCRIBED. THE SYSTEM IS BASED ON THE PRINCIPLE OF THE MEASUREMENT OF THE PERIOD OF EXCITED COHERENT OSCILLATIONS IN FRACTIONS OF THE REVOLUTION PERIOD OF THE PARTICLES. THE SYSTEM PERMITS A MEASUREMENT OF DELTA L WITH A PRECISION OF SIMILAR TO 10PERCENT FOR A BEAM DEFLECTION OF 2MM AT THE INTENSITY OF 10 PRIME10 F-P AND 0.2 MM AT 10 PRIME11. FACILITY: AKADEMIYA NAUK SSSR, MOSCOW. RADIOTEKHNICKESKII INSTITUT.

UNCLASSIFIED

USSR

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24

ADO, YU. M., ZHURAVLEV, A. A., LOGUNOV, A. A., MYAE, E. G., NAUMOV,
 A. A., PISAREVSKIY, V. YE., ROGOZINSKIY, V. G., TUSHABRAMISHVILI, K.
 Z., SHUKEYLO, I. A., BOYKO, S. N., KOMAR, YE. G., MALYSHEV, I. F.,
 MOZIN, I. V., MCHOSZON, N. A., MOZALEVSKIY, I. A., SPEVAKOVA, F. M.,
 STOLOV, A. M., TITOV, V. A., VODOP'YANOV, F. A., KUZ'MIN, A. A., KUZ'-
 MIN, V. F., MINTS, A. L., RUBCHINSKIY, S. M., UVAROV, V. A., GUTNER,
 B. M., ZALMANZON, V. B., PROKOP'YEV, A. I., and TEMKIN, A. S.

"Some Results of the Overall Adjustment and Start-up of the 70-GeV
 Proton Synchrotron of the Institute of High-energy Physics"
 Moscow, Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

Abstract: The physical part of the plan for the 70-GeV proton syn-
 chrotron was executed by the Institute of Theoretical and Experimental
 Physics. The electromagnet with feed system, the vacuum chamber, and
 the injection devices were developed at the Scientific Research Insti-
 tute of Electrophysical Apparatus imeni D. V. Yefremov. The radio-
 electronic systems for acceleration process control and generation of

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USSR

ADO, YU. M., et al., Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

the accelerating field, as well as the radiotechnical measurement and beam observation systems, were developed by the Radiotechnical Institute of the Academy of Sciences USSR. "Tyazhpromelektroproyekt" [State Planning Institute for the Planning of Electrical Equipment for Heavy Industry] designed the general-purpose electrotechnical devices and cable connections. The plan for the construction complex of the accelerator was developed by the State All-Union Planning Institute. The construction of the accelerator was under the general supervision of the State Committee for the Use of Atomic Energy USSR. The adjustment of individual systems and the overall adjustment and start-up of the accelerator were carried out by the Institute of High-energy Physics and the developers of the accelerator systems. The basic beam work was done by the Institute of High-energy Physics with the participation of the Radiotechnical Institute. The construction of the accelerator was begun in 1960, and all the basic construction and assembly work was completed at the beginning of

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USSR

ADG, YU. M., et al., Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

1967. At the initial stage of construction, before the formation of the Institute of High-energy Physics in 1963, the work was coordinated by the Institute of Theoretical and Experimental Physics. The linear accelerator injector was started on 28 July 1967, the operation of the individual systems was adjusted by September 1967, and the physical start-up of the accelerator was accomplished on 14 October.

A description is given of the work done to adjust the annular electromagnet (including the electromagnet cooling and feed systems), the injection system (consisting of matching channel and injection device), the vacuum system, the radioelectronic system (including the accelerating field generation system, the acceleration process control system, and the radiotechnical measurement system), and the beam observation system (which provides for beam observation in the first revolution and during acceleration). In the physical start-up of the accelerator the main efforts were directed towards obtaining accelerated protons of the planned energy, and the problem of obtaining high

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ADO, YU. M., et al., Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

intensity of the accelerated proton was not raised.

The article gives a listing of the principal parameters of the proton synchrotron, as well as a schedule of the individual stages of the start-up of the accelerator. Photographs include a view of the part of the ring hall in the beam injection area and a general view of the hall of ignitron rectifiers.

4/4

1/3 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--COMPUTATION OF STAR OPACITY WITH ALLOWANCE FOR LIGHT ABSORPTION IN
SPECTRAL LINES, DETERMINING STAR OPACITY WITH ALLOWANCE FOR SPECTRAL
AUTHOR--(02)--NIKIFOROV, A.F., UVAROV, V.B.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL. 191, NO. 1, 1970, PP
47-49
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS, ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--STAR, MODEL, LIGHT ABSORPTION, SPECTRAL LINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0264 STEP NO--UR/0020/70/191/001/0047/0049
CIRC ACCESSION NO--AT0108571
UNCLASSIFIED

2/3 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0108571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ON THE OPACITY OF STELLAR MATTER MUST BE AVAILABLE FOR CONSTRUCTING STAR MODELS. UNTIL RECENTLY MANY AUTHORS HAVE FAILED TO TAKE THE ROSSELAND PATH INTO ACCOUNT, ALTHOUGH THE LATTER CAN BE REDUCED BY A FACTOR OF 3-5 DUE TO LINE ABSORPTION. THIS EFFECT OF DISCRETE DISCRETE TRANSITIONS ON STAR OPACITY CAN BE ATTRIBUTED TO THE PRESENCE WITHIN STARS OF ELEMENTS WITH RELATIVELY LARGER ATOMIC NUMBERS, FOR WHICH AT HIGH TEMPERATURES THERE IS A LARGER NUMBER OF STATES OF ATOMS WITH DIFFERENT DEGREES OF IONIZATION AND EXCITATION, AS WELL AS BROADENING OF SPECTRAL LINES. THE AUTHORS HAVE COMPUTED THE ROSSELAND PATH FOR A NUMBER OF ASTROPHYSICAL MIXTURES, TAKING PHOTON ABSORPTION IN SPECTRAL LINES INTO ACCOUNT. IN COMPUTING THE EFFECTIVE CROSS SECTIONS OF ABSORPTION AND SCATTERING OF PHOTONS UNDER STIPULATED PHYSICAL CONDITIONS IT IS NECESSARY TO FIND:

- 1) THE WAVE FUNCTIONS OF ELECTRONS OF THE DISCRETE AND CONTINUOUS SPECTRA AND THE ENERGY LEVEL OF BOUND ELECTRONS.
- 2) THE MEAN ELECTRON STATE OCCUPATION NUMBERS AND THE MEAN DEGREE OF IONIZATION OF MATTER.
- 3) THE PROBABILITY DISTRIBUTIONS OF DIFFERENT ELECTRON STATE OCCUPATION NUMBERS.
- 4) PROBABILITY DISTRIBUTION FOR DIFFERENT ELECTRIC FIELD STRENGTHS.
- 5) SPECTRAL LINE SHAPE AND POSITION.

THE AUTHORS DESCRIBE HOW EACH OF THESE PROBLEMS IS SOLVED. THE THREE MOST PERTINENT PAPERS IN THE LITERATURE ARE THEN COMPARED AND CRITICIZED (A. N. COX, STARS AND STELLER SYSTEMS, 8, 195, 1965. T. R. CARSON, ET AL., MONTHLY NOTICES ROYAL. ASTR. SOC., 140, NO. 4, 483, 1968. T. R. CARSON, ET AL., MONTHLY NOTICES, 141, NO. 4, 77, 1968).

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

3/3 022

CIRC ACCESSION NO--AT0108571

ABSTRACT/EXTRACT--IN THE COMPUTATION OF THE ROSSELAND PATH IN
ASTROPHYSICAL MIXTURES THE AUTHORS SOMETIMES OBTAIN VALUES DIFFERING
FROM CARSON'S BY A FACTOR OF MORE THAN 2 AND THEIR DATA ARE USUALLY
CLOSE TO THE RESULTS OBTAINED BY COX.

UNCLASSIFIED

USSR

UDC 536.248.2.001.5

LEBEDEV, P. D., BUYEVICH, A. V., GRIGOR'YEV, V. G., ROSINSKIY, A.Z.,
UVAROV, V. V., and SHKLOVER, L. L. u 2

"On the Question of Condensing Clean Vapor in Tubular Streams of Variable Cross Section"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Sekts. Promteploenergetiki. Podseks. Sushil'n i teploobmen. ustroistv (Reports of the Scientific-Technical Conference on Summaries of Scientific Research Work for 1968-1969. Industrial Thermal Engineering Section, Subsection on Desiccating and Heat Transfer Devices), Moscow Power Engineering Institute, 1970, pp 113-118 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G90)

Translation: For calculating the effect of variable cross sections of tubular stream in the formula for mean KTO (coefficient of thermal omission), for the case of condensing clean vapor in counterflowing horizontal tubes as proposed by L. D. Barman, a factor is introduced which is a function of vapor condensation level. Experiments have been made to determine the values of constants in the modified formula. Three figures, three references.

1/1

USSR

UDC 537.511.35:546.28

IVAROV, YE. F., CHUKICHEV, M.V.

"Investigation Of Radiation Defects In Silicon Doped With Gold And Phosphorus And Irradiated By Electrons And Neutrons"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Non-Metallic Crystals--Collection Of Works), Minsk, "Nauka i tekhn.," 1970, pp 81-90 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2827)

Translation: The effect of atoms of Au on the formation of radiation defects in n-type Si is investigated. Measurements of the recession velocities of carriers and the temperature dependence of the Hall coefficient show that the detection of Au in the nodes of the crystal lattice of silicon does not lead to significant changes of the effectiveness of introduction of radiation defects. A small increase is detected of the lifetime of unbalanced charge carriers in Si doped with Au with small doses of irradiation by electrons with an energy of 1 Mev and by reactor neutrons. It is shown that the principal changes of the voltampere characteristics of p-n junctions prepared from this material result from changes of the lifetime of unbalanced charge carriers. 4 ill. 1 tab. 6 ref. Summary.

1/1

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UNCLASSIFIED

PROCESSING DATE--02OCT70
-U-

TITLE--FLUTATION OF GOLD ORES BY A FROTH SEPARATION PROCESS

AUTHOR--(05)-ZELENOV, V.I., UVAROV, YU.P., GUREVICH, R.I., GORELOVA, A.V.,
KALASHNIKOVA, T.M.
COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(1), 88-9
DATE PUBLISHED-----70

u

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GOLD, ORE, QUARTZ, CHEMICAL SEPERATION, FLOTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0745

STEP NO--UR/0136/70/043/001/0088/0069

CIRC ACCESSION NO--AP0107287
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107287

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURPOSE OF THE PRESENT WORK CONSISTED IN DETG. WHETHER THE FROTH SEPN. TECHNIQUE CAN BE USED FOR THE SEPN. OF AU DRES. THE SEPN. WAS DONE ON A LAB. APP. MIXTS. OF AU AND QUARTZ POWDERS WERE SUBJECTED TO SEPN. WITH THE RESULTS OBTAINED BY MECH. PROCESSES. FLOTATION BY FROTH SEPN. IS BOTH FASTER AND MORE THOROUGH THAN MECH. FLOTATION. ALSO, EXTN. OF AU IS HIGHER BY THE FORMER PROCESS.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PROCESS FOR INTRODUCING DIPHENYLAMINE INTO LITHIUM GREASES -U-

AUTHOR--(05)-SHIOTANKO, E.A., UVAROVA, E.M., FUKS, I.G., VAYNSKTOK, V.V.,
SREKHTER, YU.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5) 23-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ANTIOXIDANT ADDITIVE, GREASE, LUBRICANT ADDITIVE,
DIPHENYLAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1947

STEP NO--UR/0318/70/000/005/0023/0025

CIRC-ACCESSION NO--AP0133791

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0133791
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFICIENCY OF PH SUB2 NH, AND
OXIDN. INHIBITOR FOR GREASES, WAS NOT AFFECTED BY THE METHOD OF
INTRODUCING THE ADDITIVE. THE OPTIMUM CONC. WAS 0.3-0.6 WT. PERCENT
PH SUB2 NH. FACILITY: MOSK. OPYT.--PROB. ZAVUD, MOSCOW, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SIMPLIFIED METHOD FOR MEASURING A SPECIFIC SURFACE BASED ON THE
PHYSICAL ADSORPTION OF GASES -U-
AUTHOR--(02)-UVAROVA, I.V., PANICHKINA, V.V. *u*
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(3), 306
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAS ADSORPTION, NITROGEN, TUNGSTEN, MOLYBDENUM, PALLADIUM,
IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1996/1887 STEP NO--UR/0032/70/036/003/0306/0306
CIRC ACCESSION NO--AP0118849
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118849

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

ABSTRACT. THE GAS ADSORPTION METHOD FOR
DETG. THE SP. SURFACE USUALLY REQUIRES 5-6 POINTS FOR THE CONSTRUCTION
OF THE ADSORPTION ISOTHERM. EXTENSIVE EXPTS. WITH THE ADSORPTION OF N
ON W, MO, PD, AND FE AT MINUS 195DEGREES SHOWED THAT RELIABLE RESULTS
ARE OBTAINED WITH THE ADSORPTION CURVE DRAWN FROM 1 POINT CORRESPONDING
TO THE FORMATION OF A MONOMOL. LAYER. FACILITY: INST. PROBL.
MATERIALOVED., KIEV, USSR.

UNCLASSIFIED

1/2 036

UNCLASSIFIED

PROCESSING DATE--300CY70

TITLE--STUDY OF THE MAGNITUDE AND CHARACTER OF RESIDUAL STRESSES IN SHEETS OF STEEL USED IN ELECTRICAL APPARATUSES -U-

AUTHOR--(03)-KORZUNIN, G.S., TARASYUK, B.A., UVAROVA, M.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, SERIYA FIZICHESKAYA, FEBRUARY 1970, PP 281-288

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--STEEL SHEET, SHEET METAL, METAL STRESS, TECHNICAL STANDARD, METAL COMPRESSIBILITY, INTERNAL STRESS, STRESS RELAXATION, MAGNETIC ANISOTROPY, ELECTRIC STEEL, TRANSFORMER STEEL, HOT ROLLING, MAGNETIC PROPERTY, STRAIN GAGE, MAGNETIC COERCIVE FORCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1998/1314

STEP NO--UR/0048/70/000/000/0281/0288

CIRC ACCESSION NO--APO121811

UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121811

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MECHANICAL STRESSES OCCURRING DURING FORCED STRAIGHTENING OF SHEETS OF HOT ROLLED TRANSFORMER STEEL WITH NORMAL FINISHING OF THE SURFACE (ACCORDING TO GOST (GOVERNMENT STANDARD) 802-58) WERE DETERMINED BY MEANS OF STRAIN GAUGES AFFIXED TO VARIOUS PARTS OF ENTIRE SHEETS. WITH A PRESSURE OF 300 KG ON HALF OF A SHEET, COMPRESSION PREDOMINATES IN THE METAL, ATTAINING 500 KG-CM PRIME2 IN SOME SECTIONS. BY MEANS OF A MAGNETIC ANISOTROPY SENSOR, STRAIN GAUGES, AND A FORSTER OERSTED METER, THE AUTHORS DETERMINED THE MAGNITUDE AND CHARACTER OF THE DISTRIBUTION BY SHEET OF THE RESIDUAL STRESSES AND COERCIVE FORCE. AFTER THE TESTED SHEETS WERE OUT, RELAXATION OF THE STRESSES AND COERCIVE FORCE WAS OBSERVED. A LARGE INHOMOGENEITY OF INTERNAL STRESSES OF THE FIRST KIND AND OF THE H SUBC WAS INDICATED WITH RESPECT TO MAGNITUDE AS WELL AS ORIENTATION IN THE PLANE OF THE SHEET. AFTER CUTTING, THE STRAINS ARE REMOVED AND H SUBC DECREASES. THE QUANTITATIVE RESULTS OF THE MEASUREMENTS OF THE INTERNAL STRESSES AND COERCIVE FORCE WHEN THE SHEETS ARE CUT INDICATE THE POSSIBLE EXISTENCE OF A DIVERGENCE IN THE EVALUATION OF THE MAGNETIC PROPERTIES OF STEEL FOR ELECTRICAL APPARATUSES PRODUCED AS WHOLE SHEETS AND THOSE OF INDIVIDUAL SAMPLES. FACILITY: INSTITUTE OF THE PHYSICS OF METALS, USSR ACADEMY OF SCIENCES.

UNCLASSIFIED

USSR

u
KORZUNIN, G. S., TARASYUK, B. A., UVAROVA, M. P. (Institute of the Physics of Metals, USSR Academy of Sciences)

"Study of the Magnitude and Character of Residual Stresses in Sheets of Steel Used in Electrical Apparatuses"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, February 1970, pp 281-288

Abstract: Mechanical stresses occurring during forced straightening of sheets of hot-rolled transformer steel with normal finishing of the surface (according to GOST [Government Standard] 802-58) were determined by means of strain gauges affixed to various parts of entire sheets. With a pressure of 300 kg on half of a sheet, compression predominates in the metal, attaining 600 kg/cm² in some sections.

By means of a magnetic anisotropy sensor, strain gauges, and a Förster oersted meter, the authors determined the magnitude and character of the distribution by sheet of the residual stresses and coercive force. After the tested sheets were cut, relaxation of the stresses and coercive force was observed.

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USSR

KORZUNIN, G. S., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya,
February 1970, pp 281-288

A large inhomogeneity of internal stresses of the first kind and of the H_c was indicated with respect to magnitude as well as orientation in the plane of the sheet. After cutting, the strains are removed and H_c decreases. The quantitative results of the measurements of the internal stresses and coercive force when the sheets are cut indicate the possible existence of a divergence in the evaluation of the magnetic properties of steel for electrical apparatuses produced as whole sheets and those of individual samples.

2/2

USSR

UDC 681.178

PEREVERZEV, B. A., ShERSHAKOV, A. P., BROVKIN, V. A. and UVAROVA, N. G.

"A Device for Monitoring Breaks in a Sequence of Arriving Signals"

USSR Author's Certificate, Class H 04 1 13/12, No 339011, filed 24 July 70
published 8 June 72 (RZh-Avtomatika Telemekhanika i Vychislitel'naya Tekhnika,
No 3, Mar 73, Abstract No 3 A351P)

Translation: A device is proposed for monitoring breaks in a sequence of arriving signals. The device contains two polarized, dual-winding relays and an emergency relay. One of the outputs of the relay windings is connected to a buss of the power supply. The reliability of operation of the device is improved by the installation of a flip-flop, the counting input of which is connected to the other outputs of the windings of the polarized relays through divider diodes. The other output of the emergency relay winding is connected through the parallel connecting contacts of the polarized relays in series to the other buss of the power supply. One illustration,

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1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--3,3,DICHLORO,4,4,DIAMINODIPHENYLMETHANE -U-
AUTHOR--(03)-UVAROVA, N.N., KUNCHENKO, V.I., TIPIKIN, A.A.
COUNTRY OF INFO--USSR *u*
SOURCE--GER. OFFEN. 1,800,073
DATE PUBLISHED--21MAY70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, AMINE, BENZENE DERIVATIVE,
METHANE, POLYURETHANE RESIN, ORGANIC SYNTHESIS, CHEMICAL PATENT, RUBBER
VULCANIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1531 STEP NO--GY/0000/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128926
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128926

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

ABSTRACT. THE TITLE COMPO. (II), USEFUL AS

VULCANIZING AND HARDENING AGENT FOR URETHANE RUBBERS AND AS AN

INTERMEDIATE FOR DYES, WAS PREPD. BY CONDENSATION OF O,CLC SUB6 H SUB4

NH SUB2 WITH CH SUB2 O IN THE PRESENCE OF HCL IN TOLUENE, PHCL, OR CLCH

SUB2 CH SUB2 CL. THUS, 31PERCENT HCL WAS ADDED TO O,CLC SUB6 H SUB4 NH

SUB2 IN PHCL, H SUB2 O AT 20-50DEGREES, 37PERCENT HCHO WAS ADDED AT

60DEGREES WITHIN 2.5-3 HR, AND THE MIXT. WAS HEATED 5 HR AT 85DEGREES TO

GIVE 98.7PERCENT I.

FACILITY: SCIENTIFIC RESEARCH INSTITUTE OF

CHEMICALS FOR POLYMERIC MATERIALS.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--A STUDY OF THE ANTIGENIC STRUCTURE OF S YIELDS R FORMS OF
SALMONELLAE -U-
AUTHOR--(03)-STEPANOVA, L.K., UVAROVA, R.N., SERGEYEVA, N.S.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,
PP 14-19
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, ANTIGEN, POLYSACCHARIDE, ELECTROPHORESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1481

STEP NO--UR/0016/70/000/003/0014/0019

CIRC ACCESSION NO--AP0109541

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD OF IMMUNOELECTROPHORETIC ANALYSIS WAS APPLIED TO THE STUDY OF THE ANTIGENIC STRUCTURE OF SALMONELLAE IN THE PROCESS OF S YIELDS R DISSOCIATION. IT WAS SHOWN THAT WITH THE LOSS OF SPECIFIC O ANTIGEN THE ZONE OF PRECIPITATION PECULIAR TO THE PRINCIPAL COMPONENT OF THE O ANTIGEN, SLOWLY MOVING IN THE ELECTRIC FIELD, WAS LOST ON IMMUNOPHOREGRAMS. WITH THE CHANGE OF BACILLI FORM THE S TO R FORM THE RAPIDLY MOVING COMPONENT OF THE O ANTIGEN, WHICH WAS BUT WEAKLY MANIFESTED IN S FORMS, BECAME DISTINCT. THE ZONE OF R ANTIGEN PRECIPITATION WAS NOSPECIFIC, COMMON FOR ALL THE R ANTIGENS OF SALMONELLAE STUDIED. BOILING DID NOT DESTROY THE R ANTIGENS, THIS POINTING TO THEIR POLYSACCHARIDE NATURE. A SUPPOSITION WAS PUT FORWARD THAT THE PRECIPITATION ZONE OF R ANTIGENS SERVED AS A VISUAL MANIFESTATION OF THE STEM PORTION OF THE SALMONELLAE POLYSACCHARIDE.

UNCLASSIFIED

Acc. Nr: AP0043867

Ref. Code: UR 0016

PRIMARY SOURCE: U Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 2, pp 37-42

ISOLATION, PURIFICATION AND BIOCHEMICAL STUDY OF SURFACE ANTIGENS FROM S. STANLEY

P. Sh. Gashimova, R. N. Uvarova, L. K. Stepanova, K. K. Ivanov

The authors carried out a comparative biochemical analysis of superficial individual antigens of two representatives of salmonella, group B (S. stanley and S. paratyphi B). Antigens, isolated by water-salt extraction were purified and fractionated by gel filtration on Sephadex G-75 and G-200. The antigens represented phosphorylated protein-lipoid-polysaccharide complexes.

It was established that the qualitative composition of polysaccharide components of K-antigens was similar, and that polysaccharide components of O-antigens were also identical. One of the surface antigens — K-antigen contained galactose, glucose, xylose and traces of mannose, rhamnose and hexosamine, whereas O-antigen additionally contained a carbohydrate not present in the K-antigen. In difference from the polysaccharide of somatic O-antigen, surface O- and K-antigens of S. stanley and S. paratyphi B contained no heptose.

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REEL/FRAME
19770291

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USSR

UDC 669.71.017:669.785/788

GAVIDULLIN, R. M., ~~YAKUSHEV, V. A.~~, BOKATUYEVA, T. A., and UVAROVA, T. A.,
Moscow Aviation Technological Institute, Chair of the Science of Metals and
of the Heat Treatment of Metals

"Kinetics of Hydrogen Redistribution in Aluminum in the Process of Heat
Treatment"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya,
No 6, 1973, pp 114-119

Abstract: The duration of establishing the thermodynamic equilibrium between
the hydrogen concentration in the Al solid solution and its pressure in the
pores was calculated with the help of a hydraulic integrator assuming a con-
tinuous distribution of pores in the metal and an initial pore radius of
 $5 \cdot 10^{-6}$ cm. Derived formulas were used for the determination of the incubation
and the growing period of pores. The time-dependent relative change of the
pore radius is shown. For the investigated conditions of heat treatment at
400-600°, the duration of equilibrium achievement does not exceed two seconds.
The principal growing process of pores at heat treatment proceeds by the coale-
scence mechanism. The short period of hydrogen redistribution is of particular
1/2

USSR

GABIDULLIN, R. M., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1973, pp 114-119

use in specifying the mechanism of the development of internal defects in deformed aluminum alloys. Two figures, two bibliographic references, 16 formulas.

2/2

- 2 -

USSR

UDC 621.375.4.001.5:621.382.23.011.222

MOGILEVSKAYA, L.YA., TAMARCHAK, D.YA., UVBARKH, V.I., KHOUMTREV, YU.L.

"Possibility Of Decreasing Stabilization Bands With Synthesis Of Tunnel Amplifiers"

Radiotekhnika i elektronika, Vol XVII, No 3, Mar 1972, pp 549-555

Abstract: The possibilities are considered of decreasing the stabilization frequencies of tunnel amplifiers of various types with parallel tuning in which a tunnel diode is presented in the form of the frequency-independent parallel-connected parameters R_{eq} , C_{eq} . The results obtained are valid for dual circuits with series tuning with presentation of a tunnel diode in the form of a series-connected R'_{eq} , C'_{eq} . 6 fig. 5 tab. 4 ref. Received by editors, 11 Jan 1971.

1/1

- 1 -

USSR

UDC: 8.74

UYEMOV, A. I., ZUYEV, Yu. I.

"Problem Situations in Systems Studies"

Kiev, Obshch. teoriya sistem--sbornik (General Theory of Systems--collection of works), 1972, pp 115-120 (from RZh-Matematika, No 10, Oct 73, abstract No 10V797 by S. Berkovich)

Translation: A problem situation assumes certain knowledge which is required for filling "unfilled places". Abstracting from psychological aspects, in particular, value orientations which are important for integral understanding of the problem situation, the paper examines the typology of problems in systems analysis studies. Such a typology can be obtained by correlating the logic characteristics of available data with the logic characteristics of the unknown data. As a logical means in development of the typology of problems in systems analysis studies, the authors use categories which define the system: i.e., the categories of things, properties, and relations.

1/1

- 59 -

USSR

UDC: 51:621.391

UYEMOV, A. I.

"On the Problem of Defining the Concept of a System and System Parameters in Ternary Description Language"

Kiev, Prom. kibernetika--sbornik (Industrial Cybernetics--collection of works), 1971, pp 248-255. (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V591)

[No abstract]

1/1

- 40 -

1/2 048 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--CORROSION RESISTANCE OF MOLYBDENUM COATINGS PREPARED BY CONTACT
MELTING -U-
AUTHOR--~~UELSKIY, A.A.~~, BICHUYA, A.L., GARASIN, YU.A., CHAYEVSKIY, M.I.
COUNTRY OF INFO--USSR U
SOURCE--FIZ. KHIM. MEKH. MATER. 1970, 5(6), 704-8
DATE PUBLISHED-----70

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

TOPIC TAGS--CORROSION RESISTANCE, MOLYBDENUM, METAL COATING, HYDROCHLORIC
ACID, ALLOY DESIGNATION, NICKEL ALLOY, NITRIC ACID, SULFURIC ACID,
TITANIUM STEEL, CHROMIUM NICKEL STEEL, LEAD ALLOY, BISMUTH ALLOY,
EUTECTIC/1U1E1437B NICKEL ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0623

STEP NO--UR/0369/70/005/005/0704/0708

CIRC ACCESSION NO--AP0105602

UNCLASSIFIED

2/2 048

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105602

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESISTANCE TO CORROSION AND FATIGUE OF A CR-NI-TI STEEL AND OF ALLOY EI 437B WAS IMPROVED BY A MO COATING APPLIED BY CONTACT MELTING. THE CORROSION RESISTANCE OF THE STEEL WAS TESTED IN 10PERCENT HCL AND IN 80PERCENT H SUB2 SO SUB4. TWO KINDS OF MO COATED SPECIMENS WERE TESTED, ONE OBTAINED BY DIFFUSION METHOD AND THE OTHER BY MELTING. IN THE CORROSIVE SOLN. THE SPECIMENS COATED WITH MO BY EITHER METHOD WAS MORE RESISTANT THAN UNPROTECTED STEEL. HOWEVER, THE DIFFUSION COATED SPECIMEN WAS MORE RESISTANT. FOR HIGH TEMPS. THE MO COATING APPLIED BY FUSION IS PREFERABLE. THE MO COATING ON ALLOY EI 437B HAD NO EFFECT ON THE CORROSION IN 30PERCENT HNO SUB3 AND ALMOST NONE ON THE HEAT RESISTANCE OF THE ALLOY AT 1050DEGREES. IT PROVED VERY RESISTANT IN PB-BI EUTECTIC AT 700DEGREES.

UNCLASSIFIED

USSR

UDC 620.193.013:669.295

UZBEKOV, A. A., RISKIN, I. V., LADOZHINA, Z. I. and TOMASHOV, N. D.

"Study on the Corrosion of Titanium Alloyed With 0.2% Palladium in Hydrochloric Acid Using the Radioactive Tracer Method"

Moscow, Zashchita metallov, Vol 8, No 1, Jan-Feb 72, pp 8-14

Abstract: The study of palladium dissolution rate at various stages of corrosion conducted on a titanium alloy with 0.2% palladium in both aerated and deaerated 20% solutions of hydrochloric acid using the radioactive tracer method indicates that the transfer of palladium into the solution takes place at room temperatures. Rotating the specimen increases the transfer rate of palladium into solution and decreases its amount on the surface which is apparently related to the mechanical removal of some of the palladium from the specimen's surface. The study of the kinetics of palladium transfer to both aerated and deaerated solutions indicates that palladium transfer to the aerated solution ceases on passivation while the transfer to a deaerated solution continues for the entire period of active dissolution of the alloy. It is suggested that the ionization of palladium

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USSR

UZBEKOV, A. A., et al, Zashchita metalloy, Vol 8, No 1, Jan-Feb 72, pp 8-14

from the Ti-0.2% Pd alloy begins only with the loss of contact of the palladium particles (or Ti_2Pd intermetallides) with the surface of the alloy and the subsequent displacement of their potential toward the positive side. A schematic diagram of the experimental equipment is presented. (4 illustrations, 1 table, 14 bibliographic references).

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- 12 -

1/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--SERVICE OF CHROMIUM SPINEL FORSTERITE CERAMICS IN UPTAKES OF ROOFS
OF SLAG POCKETS AND REGENERATORS OF OPEN HEARTH FURNACES -U-
AUTHOR--(04)-UZBERG, A.I., BRON, V.A., VYDRINA, ZH.A., BESPAMYATNYKH, V.I.

COUNTRY OF INFO--USSR

u

SOURCE--OGNEUPORY 1970, 35(2), 23-31

DATE PUBLISHED-----70

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

TOPIC TAGS--SPINEL, OPEN HEARTH FURNACE, CHROMIUM COMPOUND, CERAMIC
MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0890

STEP NO--UR/0131/70/035/002/0023/0031

CIRC ACCESSION NO--AP0118059

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118059

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

ABSTRACT. CR SPINEL FORSTERITE (I) CERAMICS WERE FOUND ON EVALUATION TO BE SUITABLE AS REPLACEMENT FOR MAGNESITE CHROMITE (II) LININGS. THE USE OF I WAS EXPECTED TO ECONOMIZE THE PROCESS. THE POSSIBLE CRYSTALLOGRAPHIC AND CHEM. CHANGES OCCURRING DURING SERVICE (REVERSIBLE REDN. OF FE SUB2 O SUB3, RECRYSTN. OF FORSTERITE, CHROMITE, AND SILICATE PHASE) IS DISCUSSED.

FACILITY: VOST. INST. OGNEUPOR, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UZDALEV, A. I., SOLYANOVA, O. N.

UDC 539.3

"Bending of a Biaxial Plate by a Load Distributed Along the Contour"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 59-62 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V185)

Translation: An approximate solution is given for the problem of the transverse bending of a thin doubly connected plate rigidly fastened along the circular inner contour on the basis of the small parameter method. The inner contour is a curved rectangle. The external load (generalized intersecting forces) is applied along the outer contour. The quantity characterizing the deviation of the outer contour of the plate from a circle is used as the small parameter. The results of numerical calculations are given for specific plates. G. A. Van Fo Fy.

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- 29 -

1/2 026
UNCLASSIFIED
TITLE--THERMAL STRESS CONCENTRATION IN AN ORTHOTROPIC PLATE WITH A SQUARE HOLE -U-
AUTHOR--UZDALEV, A.I., YURYEVA, A.A.
COUNTRY OF INFO--USSR
SOURCE--PRIKLADNAIA MEKHANIKA, VOL 6, FEB. 1970, P 86-92
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--STRESS CONCENTRATION, THERMAL STRESS, THERMAL PROPERTY, FLAT PLATE, HOLE IN STRUCTURE, ELASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1328
CIRC ACCESSION NO--AP0106105
STEP NO--UR/0198/70/006/000/0096/0092
UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0106105

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE THERMAL STRESS CONCENTRATION IN AN INFINITE PLATE OF CONSTANT THICKNESS WEAKENED BY A SQUARE HOLE WITH ROUNDED CORNERS. THE PLATE MATERIAL IS ORTHOTROPIC WITH RESPECT TO ITS ELASTIC AND THERMAL PROPERTIES. THE DIMENSIONS OF THE HOLE ARE SMALL COMPARED TO THE AREA OF THE PLATE. THE PLATE IS FREE OF SURFACE AND BODY FORCES. THE STRESSES ARE INDUCED BY HEATING THE EDGES OF THE HOLE. THE TEMPERATURE IS CONSTANT OVER THE PLATE THICKNESS AND IS ZERO AT INFINITY. THE ANALYTIC FUNCTIONS OF COMPLEX VARIABLES DEFINING THE TEMPERATURE AND STRESS DISTRIBUTIONS ARE OBTAINED IN THE FORM OF A SERIES IN POWERS OF A SMALL PARAMETER CHARACTERIZING THE DEVIATION FROM A CIRCULAR HOLE. A FORMULA FOR STRESSES AT POINTS ON THE CONTOUR OF THE HOLE IS PROPOSED. THE RESULTS ARE ILLUSTRATED BY A PRACTICAL EXAMPLE.

UNCLASSIFIED

USSR

UDC 539.3.01

UZDALEV, A. I., SEREBRYAKOVA, L. M.

"Stress State in an Elliptical Plate With an Opening in the Presence of Heat Exchange With the Medium"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 150-154 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V69)

Translation: The thermoelastic stressed state of an isotropic plate free of volumetric and surface loads and weakened by a circular opening is considered. The nonuniform heating of the plate is determined by the given constant, but different temperatures at the edges surrounding the plate. Independence of the mechanical and thermophysical characteristics of the material from temperature is assumed. Known functions (temperature and stress-state components) are given in the form of series of certain structures based on powers of the parameter characterizing the ellipticity of the external contour of the plate. Numerical results are given. I. A. Motovilovets.

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1/2 026

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--THERMAL STRESS CONCENTRATION IN AN ORTHOTROPIC PLATE WITH A SQUARE HOLE -U-

AUTHOR--UZDALEV, A.I., YURYEVA, A.A.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MEKHANIKA, VOL 6, FEB. 1970, P 86-92

DATE PUBLISHED-----70

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

TOPIC TAGS--STRESS CONCENTRATION, THERMAL STRESS, THERMAL PROPERTY, FLAT PLATE, HOLE IN STRUCTURE, ELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1328

STEP NC--UR/0198/70/006/000/0086/0092

CIRC ACCESSION NO--AP0106105

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--A0106105
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT. DISCUSSION OF THE THERMAL STRESS CONCENTRATION IN AN INFINITE PLATE OF CONSTANT THICKNESS WEAKENED BY A SQUARE HOLE WITH ROUNDED CORNERS. THE PLATE MATERIAL IS ORTHOTROPIC WITH RESPECT TO ITS ELASTIC AND THERMAL PROPERTIES. THE DIMENSIONS OF THE HOLE ARE SMALL COMPARED TO THE AREA OF THE PLATE. THE PLATE IS FREE OF SURFACE AND BODY FORCES. THE STRESSES ARE INDUCED BY HEATING THE EDGES OF THE HOLE. THE TEMPERATURE IS CONSTANT OVER THE PLATE THICKNESS AND IS ZERO AT INFINITY. THE ANALYTIC FUNCTIONS OF COMPLEX VARIABLES DEFINING THE TEMPERATURE AND STRESS DISTRIBUTIONS ARE OBTAINED IN THE FORM OF A SERIES IN POWERS OF A SMALL PARAMETER CHARACTERIZING THE DEVIATION FROM A CIRCULAR HOLE. A FORMULA FOR STRESSES AT POINTS ON THE CONTOUR OF THE HOLE IS PROPOSED. THE RESULTS ARE ILLUSTRATED BY A PRACTICAL EXAMPLE.

UNCLASSIFIED

USSR

UDC 546.821:669.295:543.53

UZEKOV, A. A., AKALAYEV, G. G., RISKIN, I. V., and LIKHOBABIN, V. A.

"Application of Neutron Activation Analysis for Determination of Some Micro-impurities in Titanium and the Study of Their Behavior in the Process of Corrosion"

Moscow, Zavodskaya Laboratoriya, Vol 38, No 7, 1972, pp 816-818

Abstract: W, Au, Mn, Cu, Mo, Na, and Ta were detected in specimens of technically pure titanium by using the method of nondestructive neutron activation analysis. Quantitative determination in titanium samples weighing 7-10 mg and irradiated with 3.10^{13} neutr/cm²-sec for 22 hr yielded $1.10^{-2}\%$ W, $6.10^{-7}\%$ Au, $3.10^{-2}\%$ Mn, $1.5 \cdot 10^{-2}\%$ Cu, $2.10^{-2}\%$ Mo, and $7.10^{-4}\%$ Ta. The possibility was investigated of using the Sc⁴⁷ radioisotope formed in the reaction Tl⁴⁷ (n,p) Sc⁴⁷ for determining the content of titanium in its alloys, as well as for studying the corrosion of titanium. Two tables, 2 figures, 4 references.

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- 2 -

General

USSR

UZHANSKIY, Ya. G.

"The Second All-Union Conference on Population Control
Biosynthesis and Biophysics"

Moscow, Uspekhi Sovremennoy Biologii, Vol 71, No 1, 1971, pp 137-
139

Abstract: This conference was held in Krasnoyarsk at the
Institute of Physics, USSR Academy of Sciences, on 26 June-
6 July 1969. One of the most thoroughly discussed topics was
the mechanisms controlling cellular systems in live bodies.
Most investigations were done on blood, because this cellular
system lends itself best to the study of the restitution of a
cell population after disruption of the normal balance. New,
detailed information was presented, and an attempt was made to
synthesize the separate details into a cybernetic system which
would also be applicable to other population groups. This
ambitious task required the cooperation of specialists in bio-
logical and clinical sciences as well as mathematicians and
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USSR

UZHANSKIY, Ya. G., Uspekhi Sovremennoy Biologii, Vol 71, No 1, 1971, pp 137-139

engineers; 72 persons in all. To mention a few highlights, hypoxia is no longer believed to be a factor directly stimulating erythropoiesis; it accelerates blood destruction and formation of metabolites which stimulate erythropoiesis. The reserve erythropoietic power is five times greater than the normal. The time required to restore the hematocrit after a hemorrhage depends on the balance between the accelerated hematopoiesis and the accelerated hemolysis. The spleen participates in the formation of a compound which inhibits hematopoiesis. The functional state of skeletal muscles is one factor determining the total blood volume. There are significant biochemical differences between erythrocytes produced and matured at a normal rate and those formed during intensified erythropoiesis. Hematological research methods and equipment were discussed in a separate section.

2/2

1/2 028
TITLE—NEW DATA CONCERNING UNCLASSIFIED THE ACTION MECHANISM OF HYPOXIA ON PROCESSING DATE—30OCT70
ERYTHROPOIESIS -U-
AUTHOR—UZHANSKIY, YA.G. *U*
COUNTRY OF INFO—USSR
SOURCE—PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 3, PP 3-8
DATE PUBLISHED—70
SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS—HYPOXIA, ERYTHROPOIESIS, BONE MARROW, OXYGEN METABOLISM, LIPID
METABOLISM
CONTROL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—3001/1924
CIRC ACCESSION NO—AP0127325
STEP NO—UR/0396/70/014/003/0003/0008
UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0127325
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. ENHANCED ERYTHROPOIESIS IN HYPOXIA IS NOT ASSOCIATED WITH DIRECT EFFECT OF THE LATTER ON THE BONE MARROW; INCREASED ERYTHROPOIESIS REQUIRES AN ADEQUATE SUPPLY OF OXYGEN TO THE HAEMOPOIETIC TISSUE. ACCORDING TO THE DATA OF POLAROGRAPHIC STUDIES, ADAPTATION OF THE ORGANISM TO HYPOXIA IS ACCOMPANIED BY INCREASED OXYGEN UPTAKE BY THE BONE MARROW; PO SUB2 APPROACHES THE NORMAL LEVEL, AND THERE IS AN INCREASED EFFICACY OF RESPIRATION (BY THE EVIDENCE OF PHOSPHORYLATING OXIDATION OF THE BONE MARROW MITOCHONDRIA). ERYTHRODIERESIS IS ELEVATED, AND FORMATION OF PHYSIOLOGICALLY ACTIVE PRODUCTS OF ERYTHROCYTE BREAKDOWN, STIMULATING ERYTHROPOESIS, INCREASES WITH ENHANCED BLOOD PEGENERATION. LIPID METABOLISM OF THE BONE MARROW, ALTERS, ERYTHROPOETIC SUBSTANCES OF THE BLOOD PLASMA STIMULATE THE LIPOLYTIC ENZYMES IN IT. STIMULATION OF ERYTHROPOESIS IS ACCOMPANIED WITH INCREASED SYNTHESIS OF ALL THE TREE CLASSES OF RNA IN THE BONE MARROW.

UNCLASSIFIED

USSR

UDC 577.1.615.7/9

UZHDAVINI, E. R.

"Toxic Properties of 2-methylthiophene"

V sb. Khimiya seraorgan. soyedin., soderzhashchikhsya v neftiyakh i nefteproduktakh (Chemistry of Organosulphur Compounds Contained in Petroleum and Petroleum Products -- collection of works), Vol 9, Moscow, Vyssh, shkola, 1972, pp 572-576 (from RZh-Biologicheskaya Khimiya, No 10, 1973, Abstract No 10F2125)

Translation: It was established that on inhalation of 2-methylthiophene (I) by mice its LD_{50} is 11.5 (8.9-14.8) mg/liter, and on internal administration to the stomach LD_{50} is 1.46 (1.2-1.7 g/kg. On internal administration of I to rats all the animals (4-6 in a group) died from a dose of 6 g/kg. Acute I intoxication causes reversible changes in the liver function and the peripheral blood picture. On administering a 0.2 LD_{50} dose of I (0.4 g/kg, intraperitoneal) to rats with different time intervals, the I detoxication rate was calculated as 33 mg/kg/hour which indicates the weak cumulative properties of I. Similarly to thiophene, I has a narcotic effect. The threshold con-

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USSR

UZHDAVINI, E. R., Khimiya
chikhsya v neft'yakh i nefteproduktakh, Vol 9, Moscov, Vyssh, shkola, 1972,
pp 572-576 seraorgan. soyedin., soderzhash-

centrations of I affecting the activity of the central nervous system were
established by the indexes of spontaneous motor activity and orientation in a
labyrinth. The threshold concentrations were ~1 and 0.07 mg/liter res-
pectively on inhalation by mice and rats.

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- 50 -

USSR

UDC: 621.791.947.55:546.212(260)

BEYDER, B. D., Candidate of Technical Sciences, PROSVIRIN, A. P., Engineer,
EZROKHIN, A. B., Engineer, and UZILEVSKIY, YU. A., Engineer.

"Plasma-Arc Cutting in Sea Water"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 73, pp 52-53

Abstract: The authors determine the requirements for a plasma cutting torch which can work in sea water. A cutting torch is tested which can ensure the reliable parting of hull grades of steel up to 40mm thick in sea water with a salinity of 20 percent at a depth of 10m. The cutting is done at a current of 500-520amp and an arc voltage of 120-140v. The cutting rate of the plasma-arc is 2-5 times greater and the productivity is 3-8.5 times greater than is the case with electro-oxygen cutting.

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1/2 028

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--REACTIONS OF PROTON PHOTOTRANSFER IN NONAQUEOUS SOLUTIONS -U-

AUTHOR--(03)--KUZMIN, M.G., UZHINOV, B.M., CHAN, D.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 475-80

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, PHOTON, NAPHTHOL, DIETHYLAMINE, THERMODYNAMIC CHARACTERISTIC, CYCLOHEXANE, COMPLEX COMPOUND, EXCITED STATE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1991

STEP NO--UR/0368/70/012/003/0476/0480

CIRC ACCESSION NO--AP0132252

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0132252
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT. THE TITLE PROCESS WAS STUDIED SPECTROPHOTOMETRICALLY AND SPECTRO FLUORIMETRICALLY BY USING THE 2,NAPHTHCL, ET SUB2 NH SYSTEM IN ETOH, CYCLOHEXANE, AND C SUB6 H SUB6. THERMODYNAMIC VALUES ARE GIVEN FOR THE VARIOUS SYSTEMS. THE RESULTS INDICATE THAT IN NONPOLAR CYCLOHEXANE A H-BONDED COMPLEX RESULTS IN THE EXCITED STATE, WHEREAS IN C SUB6 H SUB6 AND ETOH ION PAIRS AND DISSOC. IONS, RESP., ARE FORMED.

UNCLASSIFIED

172 016

TITLE--EFFECT OF THE TYPE OF ADHESIVE AND THE MODIFICATION OF RUBBERS ON
THE BONDING STRENGTH OF RUBBER CORD SYSTEMS -U-
AUTHOR--(05)--OCSTYAN, M.S., UZINA, R.V., SHVARTS, A.G., TONANOVA, A.I.,
FROLIKOVA, V.G.
COUNTRY OF INFO--USSR

UNCLASSIFIED

PROCESSING DATE--16OCT70

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SOURCE--KAUCH. REZINA 1970, 29(2), 29031

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ADHESIVE, BONDING STRENGTH, METHACRYLIC ACID, RESORCINOL,
FORMALDEHYDE, CARBOXYLATE RUBBER, PYRIDINE, LATEX, CORDAGE, MOTOR
VEHICLE TIRE, STATISTIC ANALYSIS/(U)FR12 RESORCINOL FORMALDEHYDE,
(U)SK01 CARBOXYLATE RUBBER, (U)DSVP15 VINYL PYRIDINE LATEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1993/0388

STEP NO--UR/0138/70/029/002/0029/0031

CIRC ACCESSION NO--AP0113306

UNCLASSIFIED

2/2 016

CIRC ACCESSION NO--AP0113306

UNCLASSIFIED

PROCESSING DATE--16OCT70

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

ABSTRACT. COMPUTER ASSISTED STATISTICAL ANAL. OF A SET OF PLANNED EXPTS. GAVE THE OPTIMUM AMTS. OF MODIFIER RU-1, METHACRYLIC ACID (I), AND FR-12 (RESURCINOL HCHO RESIN) IN CARBOXYLIC LATEX SKD-1 AND LATEX DSVP-15 CONTG. VINYL PYRIDINE GROUP. THE OPTIMUM FILLER AMTS. GIVE THE HIGHEST BONDING STRENGTH BETWEEN THESE LATEXES (WHEN CURED) AND THE TIRE CARCASS CORDS. THE RESULTS ARE PRESENTED IN THE FORM OF THE REGRESSION EQUATIONS AND GRAPHS. FACILITY: NAUCH.-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

1/2 007
 UNCLASSIFIED
 PROCESSING DATE--04DEC70
 TITLE--FORMATION OF A CHARGE TRANSFER COMPLEX DURING THE REACTION OF
 1, BENZYL, 3, CARBAMOYL PYRIDINIUM CHLORIDE WITH THIOCYANATE ION -U-
 AUTHOR--(03)-UZIYENKO, A.B., VOLOSHCHUK, V.YE., YASNIKOV, A.A.
 COUNTRY OF INFO--USSR
 SOURCE--UKR. KHIM. ZH. 1970, 36(4), 367-8
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--THIOCYANATE, BENZENE DERIVATIVE, PYRIDINE, CHLORIDE, COMPLEX
 COMPOUND
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY FICHE NO----FD70/605019/C02 STEP NO--UR/0073/70/036/004/0367/0368
 CIRC ACCESSION NO--AP0140915
 UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140915

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

ABSTRACT. THIOCYANATE FORMS A CHARGE

TRANSFER COMPLEX WITH 1-BENZYL-3-CARBAMOYLPIRIDINIUM CHLORIDE IN ALL THE SOLVENTS INVESTIGATED. NO ADDN. TO FORM A DIHYDRONICOTINAMIDE DERIV.

WAS OBSD. THE FOLLOWING DATA ARE REPORTED SOLVENT, LAMBDA IN NM, E SUBT EQUALS H SUBNU IN KCAL-MOLE NEGATIVE PRIME1, Z IN KCAL-MOLE, EXTINCTION COEFF. IN L.-MOLE NEGATIVE PRIME1 CM NEGATIVE PRIME1, FORMATION CONST. IN L.-MOLE NEGATIVE PRIME1 GIVEN. (FORMULAS SHOWN ON MICROFICHE).

FACILITY: INST. ORG. KHIM., KIEV, USSR.

UNCLASSIFIED

1/2 021

TITLE--THERMAL STRENGTHENING OF ROLLED METALS -U-

UNCLASSIFIED

PROCESSING DATE--30OCT70

AUTHOR--(05)--STARODUBOV, K.F., UZLOV, I.G., SAVENKOV, V.YA., POLYAKOV,
S.N., BORKOVSKIY, YU.Z.

COUNTRY OF INFO--USSR

SOURCE--(TEKHICHESKOYE UPROCHNENIYE PROKATA) MOSCOW. METALLURGIYA. 1970.
367 pp

DATE PUBLISHED-----70

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

TOPIC TAGS--CHEMICAL COMPOSITION, METAL ROLLING, METAL HEAT TREATMENT,
STEEL HARDENING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1462

STEP NO--UR/0000/70/000/000/0001/0367

CIRC ACCESSION NO--AM0121908

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AM0121908

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

ABSTRACT. TABLE OF CONTENTS: INTRODUCTION

7. CHAPTER I THERMAL STRENGTHENING OF ROLLED METALS (THE THERMOMECHANICAL AND THERMAL MACHINING OF ROLLED METALS UNDER CONDITIONS OF MASS PRODUCTION) 14. II THE TECHNOLOGY OF THERMAL STRENGTHENING OF ROLLED METALS 37. III THE CHEMICAL COMPOSITION OF STEEL FOR THERMAL STRENGTHENING 190. IV THE STRUCTURE OF THERMALLY STRENGTHENED STEEL 7. V THE PROPERTIES OF THERMALLY STRENGTHENED STEEL 248. LITERATURE 358. INFORMATION IS GIVEN ON THE THEORY OF THERMAL AND THERMOMECHANICAL TREATMENT APPLICABLE TO STRENGTHENING ROLLED METALS FROM LOW CARBON, MEDIUM CARBON AND ALSO LOW ALLOY STEEL. THE BOOK IS DESIGNED FOR A WIDE RANGE OF TECHNICAL ENGINEERS AT INSTITUTES, METALLURGY PLANTS, ENTERPRISES OF THE BUILDING INDUSTRY, MACHINE CONSTRUCTION.

UNCLASSIFIED

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AUTHOR-- AKHMATOV, S., CORRESPONDENT

NEWSPAPER-- PRAVDA UKRAINY, JANUARY 10, 1970, P 1, COLS 1-4, AND P 2, COLS 2-4

ABSTRACT-- THE ARTICLE IS A BRIEF BIOGRAPHICAL PROFILE OF ZOT IL, ICH NEKRASOV, DIRECTOR OF THE DNEPROPETROVSK INSTITUTE OF FERROUS METALLURGY /APPOINTED IN 1952/, LAUREATE OF THE LENIN AND STATE PRIZES, HERO OF THE SOVIET UNION AND MEMBER OF THE UKRAINIAN ACADEMY OF SCIENCES. HE WAS ELECTED CORRESPONDING MEMBER OF THE UKRAINIAN ACADEMY OF SCIENCES IN 1951. IT WAS ON HIS SUGGESTION THAT THE INSTITUTE OF FERROUS METALLURGY WAS RELOCATED FROM KIEV TO DNEPROPETROVSK WHERE ITS STAFF GREW TO 1,200 PEOPLE. IN ADDITION TO BEING DIRECTOR OF THE INSTITUTE, NEKRASOV HEADS THE DEPARTMENT OF IRON METALLURGY. A. P. CHEKMARÉV, K. E. STARODUBOV, V. D. CHEKHRANOV, I. G. IZLOV, A. V. PRAZDNIKOV, AND YU. N. TARAN ARE MENTIONED AS HIS COLLEAGUES.

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USSR

UZLOV, S. T.

"Effect of Prolonged and Short-Term Acceleration on an Elastic-Plastic System"

Tashkent, Tashkent. zemletryas. i vopr. seysmostoykogo str-va
(Tashkent Earthquake and Problems of Earthquakeproof Construction),
Fan Press, 1970, pp 109-117 (from RZh-Mekhanika, No 11, Nov 70,
Abstract No 11V499)

Translation: This article contains the results of studying the motion of an elastic-plastic single-mass oscillator with a bilinear characteristic. Various versions of the characteristics distinguished by the angles of inclination of the linear sections are investigated. Two cases corresponding to prolonged and short-term accelerations are investigated. The spectra of the reaction of the investigated systems are constructed. It is demonstrated that in the case of prolonged acceleration the shift of the elastic-plastic system exceeds the shift of an elastic system. In the case of short-term loading, the reaction of the elastic-plastic

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USSR

VZLOV, S. T., Tashkent. zemletryas. i voopr. sevsmostovkogo str-va,
Fan Press, 1970, pp 109-117

system is always reduced. The minimum magnitude of the reaction of the elastic-plastic system in the case of a prolonged loading effect is observed for equality of the limiting elastic reaction to half the maximum dynamic reaction of the linear system. The reaction of the elastic-plastic system drops most intensely during the initial stage of appearance of the plastic properties.

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USSR

UZLOV, S. T.

UDC 539.374

"Potential Energy of Inelastic Systems with One Degree of Freedom"
V sb. Seysmostoykost' zdaniy i sooruzh. (Earthquakeproofness of Buildings
and Structures -- Collection of Works), Tashkent, 1970, pp 353-357
(from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 V419)

Translation: This article contains a study of the nature of variation of the potential energy of an elastic-plastic single-mass oscillator under seismic effects. The deformation diagram is approximated by two rectilinear segments. The numerical solution of the differential equation is found using a digital computer for oscillators with different initial periods and relations of the angles of inclination of the bilinear characteristics. Quadratic forms are constructed for the energy characteristics of motion, and these characteristics are analyzed.

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USSR

UZLOV, S. T.

UDC: 624.131.43+539.21.084-492.3

"Vibrations of a Nonlinear Oscillator Under the Effect of the Accelerogram of an Eight-Point Earthquake"

V sb. Seysmostoykost' zdaniyi sooruzh. (Seismic Stability of Buildings and Structures--collection of works), Tashkent, 1970, pp 358-367 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9V589)

Translation: The paper gives the results of analysis of the motion of an elastoplastic one-mass oscillator subjected to seismic action in the form of the accelerogram of an actual earthquake. The relationship between the restoring force and displacement is approximated by a bilinear curve with reinforcement. The authors consider a number of modifications of systems distinguished by the angles of slope of the rectilinear segments and ratios of the limiting elastic reaction to the maximum reaction of an elastic linear system. The "M-20" digital computer is used for solving the equation of motion by the Runge-Kutta method. The spectra of accelerations and displacements of these systems resulting from the solution are given. The results of analysis of the motion of these systems are presented. It is noted that the most appreciable increase in deformations of all elastoplastic systems is observed in the region of short periods of free oscillations. Bibliography of four titles. Ya. M. Ayzenberg.

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USSR

ZHDANOV, YU. A., and UZLOVA, L. A.

UDC 547.455+547.446+547.241

"Phosphorane From 1,3-Dibromopropanone and Syntheses Based on This Process"
Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 759-762

Abstract: Phosphoranes with a halogen at the first carbon atom -- compounds not obtainable by using the Wittig reaction -- were prepared by reacting symmetrical dibromoacetone with triphenylphosphine in a basic solution, yielding $\text{BrCH}_2\text{COCH} = \text{P}(\text{C}_6\text{H}_5)_3$. The reaction of this compound with the aldehyde form of sugars resulted in the formation of α, β -unsaturated compounds of the form $\text{BrCH}_2\text{COCHCH-R}$. The bromoketones reacted with thiourea to form C-glucosylated thiozols. Under rigorous conditions the obtained phosphanes usually react with active aldehyde groups forming cyclic "sugar" phosphanes. Identity of the products was confirmed by IR spectra. Preparative procedures are given.

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USSR

UDC 547.454:548.813

UZLOVA, L. A., GLEBOVA, Z. I., and ZHDANOV, Yu. A.

"Reactions of α -Haloketoses With Triethyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484

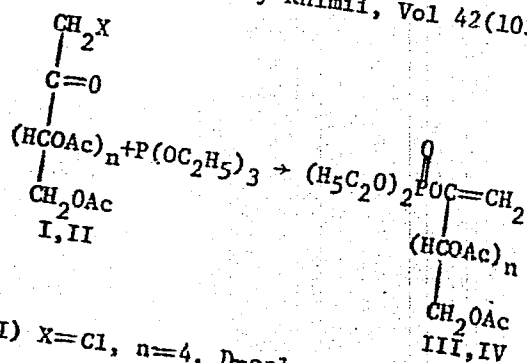
Abstract: The authors studied the reaction between triethyl phosphite and ketose halides. It was found that acetylated 1-halode-1-desoxyuloses 1-chloro-1-desoxy-3,4,5,6,7-penta-0-acetyl-D-galactoheptulose (I) and 1-bromo-1-desoxy-3,4,5,6-tetra-0-acetyl-L-fructose (II) react with triphenyl phosphite to form vinyl phosphates (III, IV);

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UZLOVA, L. A., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484



(I) X=Cl, n=4, D-galacto; (II) X=Br, n=3, L-arabino.

Reaction of 1-iodo-1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactose with triethyl phosphite gives 1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactose.

USSR

UDC 547.454:548.813

ZHDANOV, YU. A., UZIOVA, I. A., Rostov-on-Donz State University,
Rostov, Ministry of Higher and Secondary Specialized Education RSFSR
"The Carbon-Phosphorus Bond in Carbohydrates"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, p 2138

Abstract: The Arbuzov rearrangement was carried out with carbonyl forms of aldoses, acyl chlorides of aldonic acids and the di-chloroanhydride of tetraacetylmucic acid. 1-Hydroxyphosphinic acids are stable compounds while the esters of α -ketophosphinic acids are unstable. The synthesized compounds show the following IR bands 1748-1754 (C:O of complex esters), 1649-1700 (free C:O), 1246-1281 (P:O), and 1002-1042 (P-O-C).

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1/2 008

TITLE--SYNTHESIS OF BRANCHED SUGARS WITH OLEFIN BONDING --U-
UNCLASSIFIED PROCESSING DATE--30OCT70

AUTHOR--(04)--ZHDANOV, YU.A., UZLOVA, L.A., LESKINA, L.P., GAVRILENKO, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 666-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SACCHARIDE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2001

CIRC ACCESSION NO--AP0127396

STEP NO--UR/0079/70/040/003/0666/0669

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127396
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. KETO-L-SORBOSE PENTAACETATE (I)
AND PH SUB3 P:CHAC HEATED 20 HR IN C SUB6 H SUB6 GAVE

4, ACETOXYMETHYL, 5, 6, 7, 8, TETRA-O-ACETYL, 3, 4, DIDEHYDRO, 1, 3, 4,
TRIDEOXY-L-XILO-OCTULOSE, A SYRUP. SIMILAR REACTION WITH PH SUB3 P:CHBZ
GAVE 3, ACETOXYMETHYL, 4, 5, 6, 7, TETRA-O-ACETYL, 1, C, PHENYL,
2, 3, DIDEHYDRO, 2, 3, DIDEOXY-L-XILO-HEPTULOSE, A SYRUP, (ALPHA) PRIME20
SUBD MINUS 10.8 DEGREES. SIMILARLY WAS PREPD. ITS 1, C-P-ANISYL ANAOLG
(I): A SYRUP, (ALPHA) PRIME20 SUBD MINUS 14.7 DEGREES;
2, 4, DINITROPHENYLHYDRAZONE M. 171-3 DEGREES. I AND PHNNH SUB2 HEATED 1
HR IN ACOH GAVE 71 PERCENT 3, P-ANISYL,
1, PHENYL, 5, (L-XILO, 1, 2, 3, 4, TETRAACETOXYBUTYL), 2, PYRAZOLINE, A SYRUP.
HEATING KETO-L-SORBOSE WITH PH SUB3 P:CHCO SUB2 ME IN CHCL SUB3 17 HR
GAVE 21 PERCENT ME 3, ACETOXYMETHYL, 4, 5, 6, 7, TETRA-O-ACETYL,
2, 3, DIDEOXY, 2, 3, DIDEHYDRO-L-XILO-HEPTONATE, SYRUP, (ALPHA) PRIME20 SUB3
MINUS 12.2 DEGREES. 2, 3, 4, 5, DI-O-ISOPROPYLIDENE-ALDEHYDO-L-ARABINOSE AND
PH SUB2 P:CICO SUB2 ME1CH SUB2 CO SUB2 ME HEATED 5 HR IN CHCL SUB3
YIELDED 73 PERCENT ME
2, 3, 4, TRIDEOXY, 3, 4, DIDEHYDRO, 5, 6, 7, 8, DI-O-ISOPROPYLIDENE, 3,
METHOXYCARBONYL-L-ARABINO-OCTONDATE, SYRUP, (ALPHA) PRIME19 SUBD MINUS
8.6 DEGREES.
FACILITY: ROSTOV.-NA-DONU GOS. UNIV.
ROSTOV-CN-DCN, USSR.

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