USSR

UDC 621.3.038.6

ZABORONOK, G. F., ZELENTSOV, T. I., RONZHIN, A. S., SOKOLOV, B. G.

"Electronic Melting of Metals"

Moscow, Elektronnaya plavka metallov (cf. English above), Revised edition, Metallurgiya, 1972, 348 pp (from Elektronnaya plavka metallov, pp 2-4)

Translation: The experience of Soviet and foreign researchers with respect to the development of the equipment and the technological process for melting metals by the method of electron bombardment is generalized in this book, and the work experience of the authors themselves is used. A study is made of the problems of the electron optical system, the electric power supply and the vacuum equipment of electron melting furnaces. Numerous data are presented on the studies of metals and alloys made by the method of electron bombardment and subjected to zonal purification. Some calculations are presented for the equipment to melt metals by electron bombardment, and variations in the chemical composition of metals and alloys during the melting process are illustrated. Some new prospects in the area of the application of the electron bombardment technique are investigated.

The book is intended for a broad class of engineering and technical workers of the research institutes, the design organizations and the nonferrous and ferrous metallurgical plants. It can be useful to students of the metallurgical and power engineering institutions of higher learning. There are 173 illustrations, 59 tables and a 199 entry bibliography.

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ZABORONOK, G. F., et al., Elektronnaya plavka metallov, Revised edition, Metallurgiya, 1972, 348 pp

Contents

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USSR

KURZON, A. G., MITYUSHKIN, Yu. I., YUSUPOV, E. I., and SOKOLOV, B. G.

UDC 621.438

"Investigation of Conventional Single-Row, Single-Row With Repeated Admission and Double-Row Supersonic Turbine Stages With Low-Rate Injection"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1971, pp 69-74

Abstract: The results are presented of a detailed experimental investigation of the efficiency of single-row supersonic stage with repeated admission and of its comparison with a double-row and single-row supersonic stages with low rate injection, at various operating conditions, characterized by values of injection rates $\leq$, degree of expansion $\pi_T = p_0^*/p_2$ and velocity characteristic u/c_{ad}. The basic data on all stages investigated are presented in a table. The comparison of experimental data obtained at $\leq \leq 0.11$ rate of injection shows that: 1) a repeated admission substantially increases the efficiency of a single-row supersonic stage with low rate of injection at $u/c_{ad} < 0.26$, and can be approached up to efficiency of double-row supersonic stage at other similar conditions; 2) a single-row stage with repeated admission at $u/c_{ad} > 0.16$ and $\pi_T > 14$ is more efficient than the double-row stage

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KURZON, A. G., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1971, pp 69-74

with the same rate of injection. This means that in cases when the simplicity of low power turbine construction, reduction in weight and production cost, and high reliability of turbine engine play a decisive role, the single-row with repeated admission can be considered a basic type of turbine stage for driving auxiliary mechanisms and compressors.

USSR

UDC 615.471:[614.777+628.19]074:543.42.062

SINEL'NIKOV, V. Ye., TIMAKHOV, O. N., ININ, Yu. S., IKONNIKOVA, S. V., GIKKEL', A. A., GONCHAROV, A. T., AFONIN, V. I., PERSIYANTSEVA, V. B., and SOKOLOV, B. K., Central Design Bureau and Pilot Plant, USSR Academy of Medical Sciences, Moscow and Institute of Biology of Inland Waters, USSR Academy of Sciences, Borok, Yaroslavl Oblast

"A Multipurpose Spectrofluorimeter to Study Natural and Polluted Water"

Moscow, Gigiyena i Sanitariya, No 1, 1973, pp 65-68

Abstract: The akva-MF spectrofluorimeter developed by the authors can be used for rapid determination of individual organic and mineral compounds present in water, for automatic regulation of fluorescent substances in a stream, for detection in lakes and seas of water masses differing in chemical composition and origin, and for study of the conversion and breakdown of compounds under the influence of biological and physicochemical factors. Analyses can be made in the laboratory, in the field, or on a research vessel. The spectrum of fluorescent compounds can be obtained directly at the sampling site. The apparatus is a single-beam recording spectrofluorimeter designed to function in the visible and UV regions of the spectrum. With the use of interchangeable attachments, it can record spectra of fluorescence, excitation, and phosphorescence in a solution as well as substances separated in chromatographic zones on paper.

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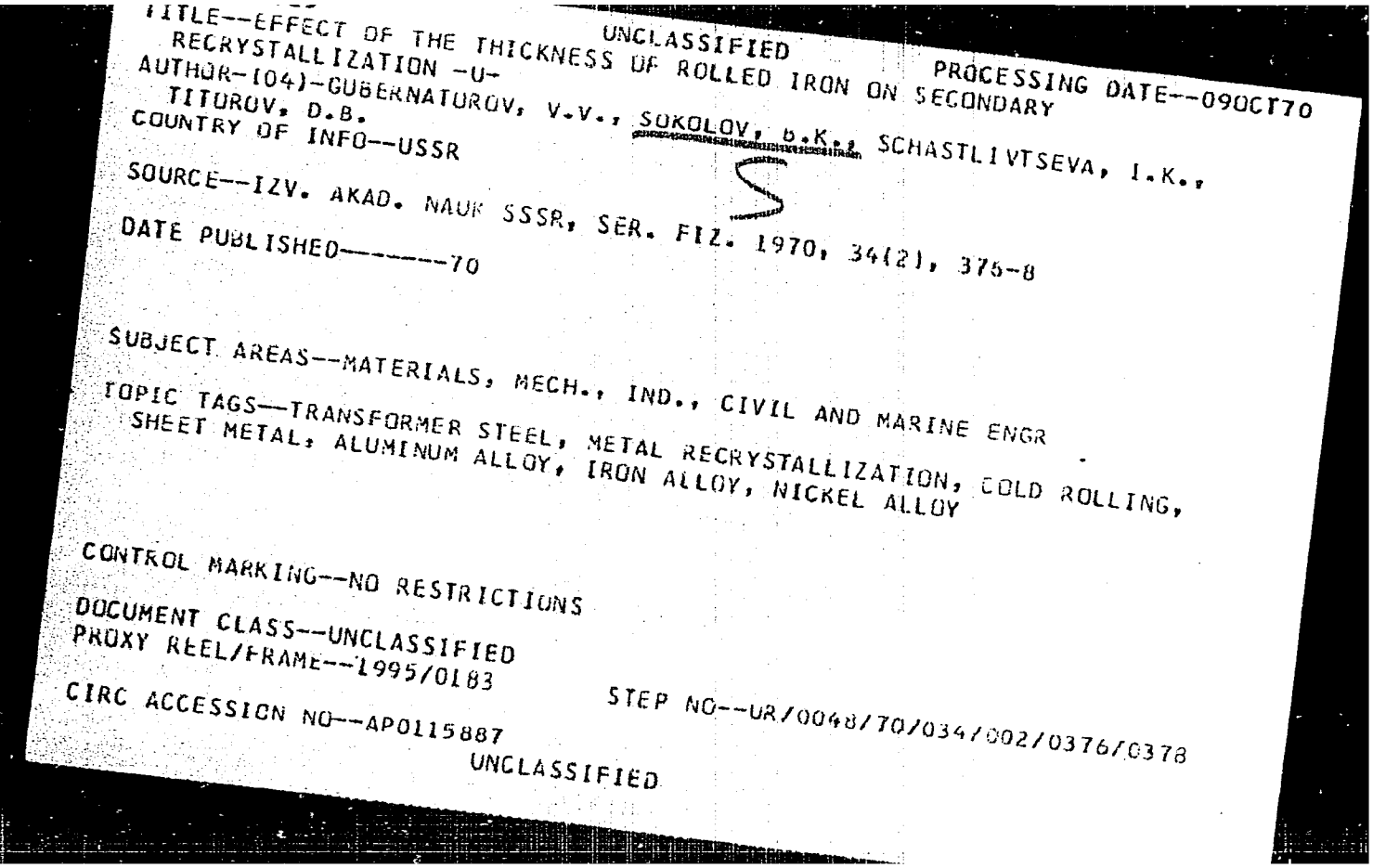


UNCLASSIFIED

TITLE--EFFECT OF THE THICKNESS OF ROLLED IRON ON SECONDARY RECRYSTALLIZATION -U- PROCESSING DATE--090CT70

AUTHOR-(04)-GUBERNATUROV, V.V., SOKOLOV, B.K., SCHASTLIVTSEVA, I.K., TITUROV, D.B.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 375-8

DATE PUBLISHED-------70

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

TOPIC TAGS--TRANSFORMER STEEL, METAL RECRYSTALLIZATION, COLD ROLLING, SHEET METAL, ALUMINUM ALLOY, IRON ALLOY, NICKEL ALLOY

CONTROL MARKING--NO RESTRICTIONS

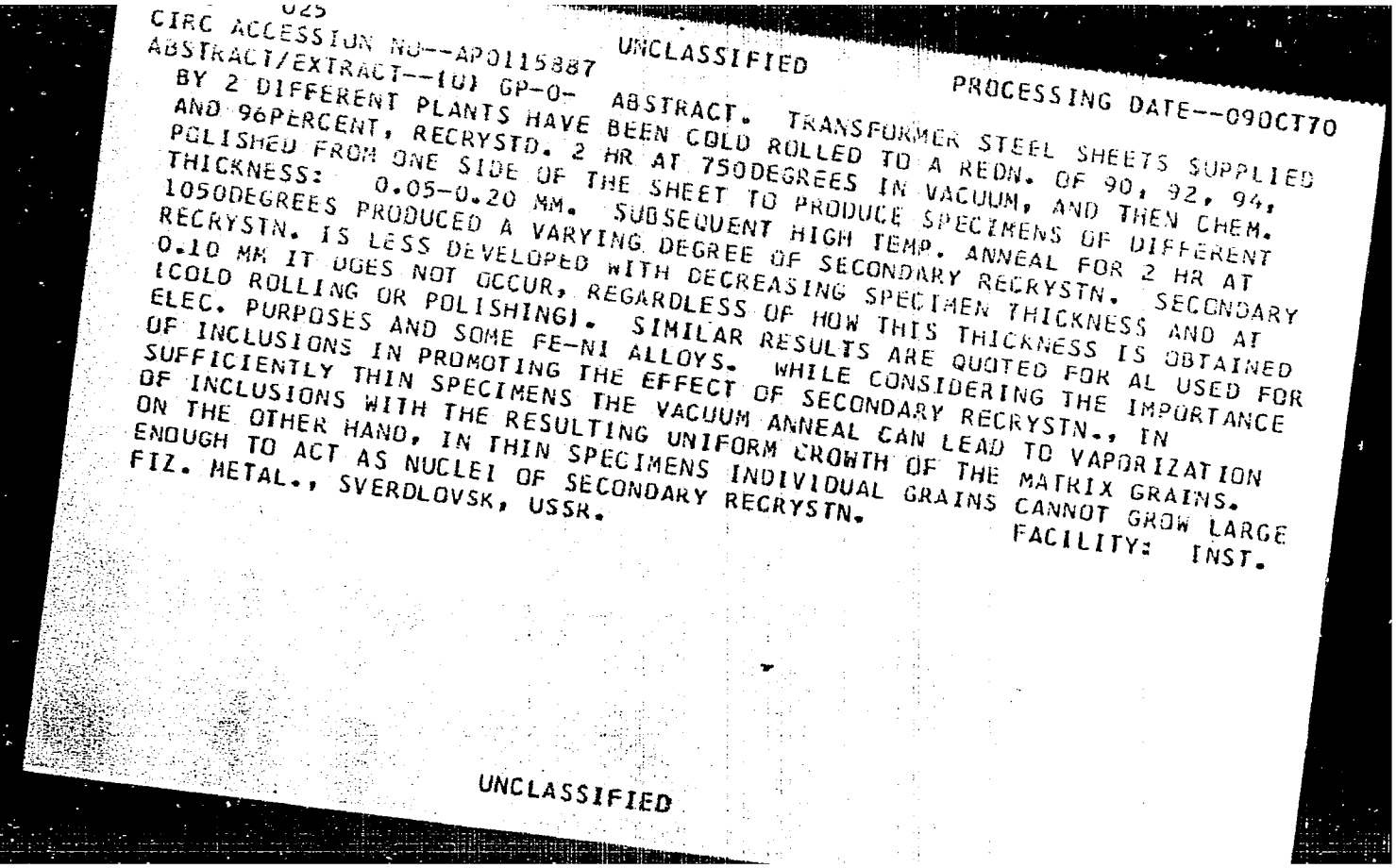
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0183

STEP NO--UR/0048/70/034/002/0376/0378

CIRC ACCESSION NO--AP0115887

UNCLASSIFIED



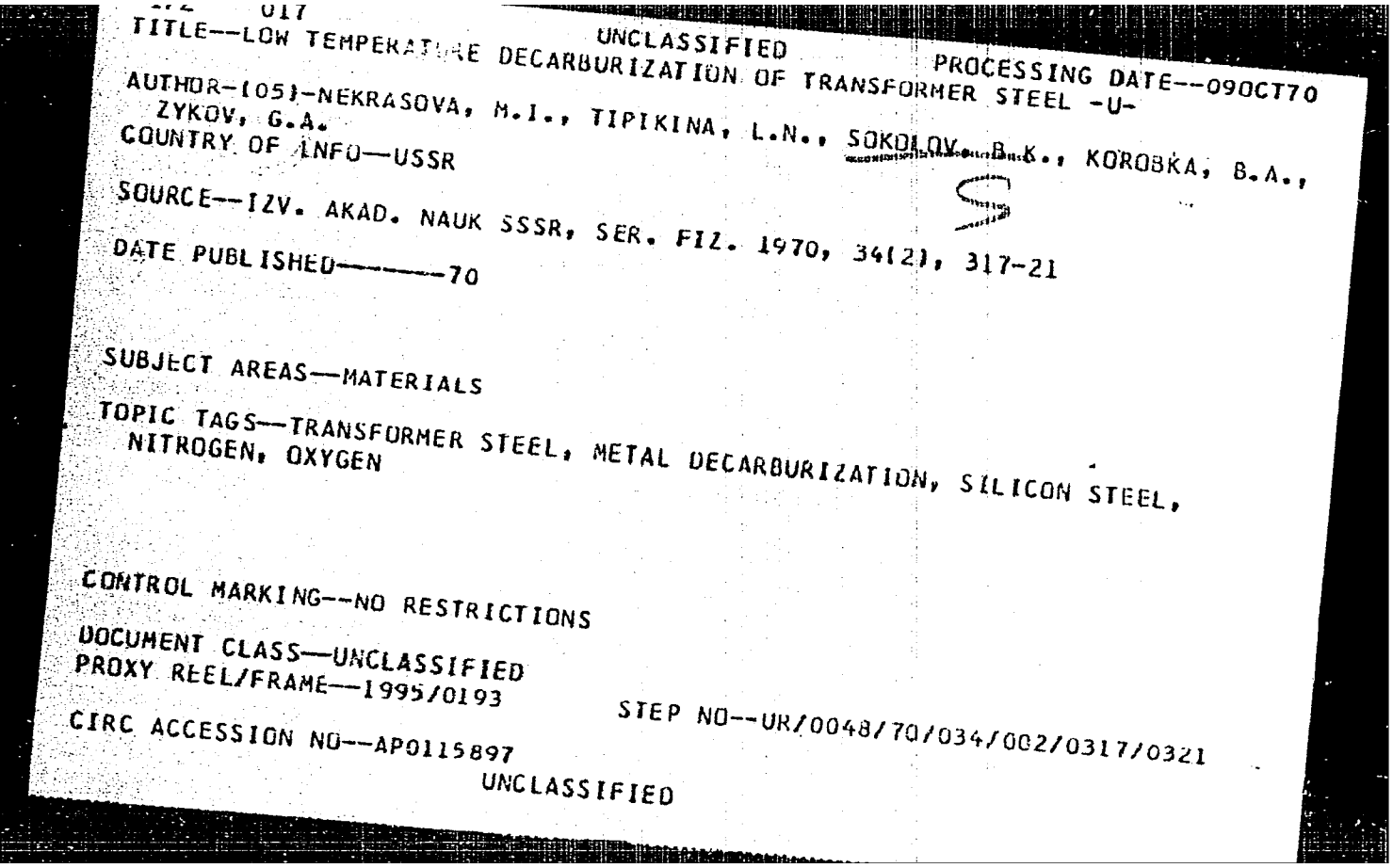
025

CIRC ACCESSION NO--AP0115887 UNCLASSIFIED PROCESSING DATE--090CT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSFORMER STEEL SHEETS SUPPLIED BY 2 DIFFERENT PLANTS HAVE BEEN COLD ROLLED TO A REDN. OF 90, 92, 94, AND 96PERCENT, RECRYSTD. 2 HR AT 750DEGREES IN VACUUM, AND THEN CHEM. POLISHED FROM ONE SIDE OF THE SHEET TO PRODUCE SPECIMENS OF DIFFERENT THICKNESS: 0.05-0.20 MM. SUBSEQUENT HIGH TEMP. ANNEAL FOR 2 HR AT 1050DEGREES PRODUCED A VARYING DEGREE OF SECONDARY RECRYSTN. SECONDARY RECRYSTN. IS LESS DEVELOPED WITH DECREASING SPECIMEN THICKNESS AND AT 0.10 MM IT DOES NOT OCCUR, REGARDLESS OF HOW THIS THICKNESS IS OBTAINED (COLD ROLLING OR POLISHING). SIMILAR RESULTS ARE QUOTED FOR AL USED FOR ELEC. PURPOSES AND SOME FE-NI ALLOYS. WHILE CONSIDERING THE IMPORTANCE OF INCLUSIONS IN PROMOTING THE EFFECT OF SECONDARY RECRYSTN., IN SUFFICIENTLY THIN SPECIMENS THE VACUUM ANNEAL CAN LEAD TO VAPORIZATION OF INCLUSIONS WITH THE RESULTING UNIFORM GROWTH OF THE MATRIX GRAINS. ON THE OTHER HAND, IN THIN SPECIMENS INDIVIDUAL GRAINS CANNOT GROW LARGE ENOUGH TO ACT AS NUCLEI OF SECONDARY RECRYSTN.

FACILITY: INST. FIZ. METAL., SVERDLOVSK, USSR.

UNCLASSIFIED



UNCLASSIFIED

TITLE--LOW TEMPERATURE DECARBURIZATION OF TRANSFORMER STEEL -U-

AUTHOR-(05)-NEKRASOVA, M.I., TIPIKINA, L.N., SOKOLOV, B.K., KOROBKA, B.A., ZYKOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 317-21

DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TRANSFORMER STEEL, METAL DECARBURIZATION, SILICON STEEL, NITROGEN, OXYGEN

CONTROL MARKING--NO RESTRICTIONS

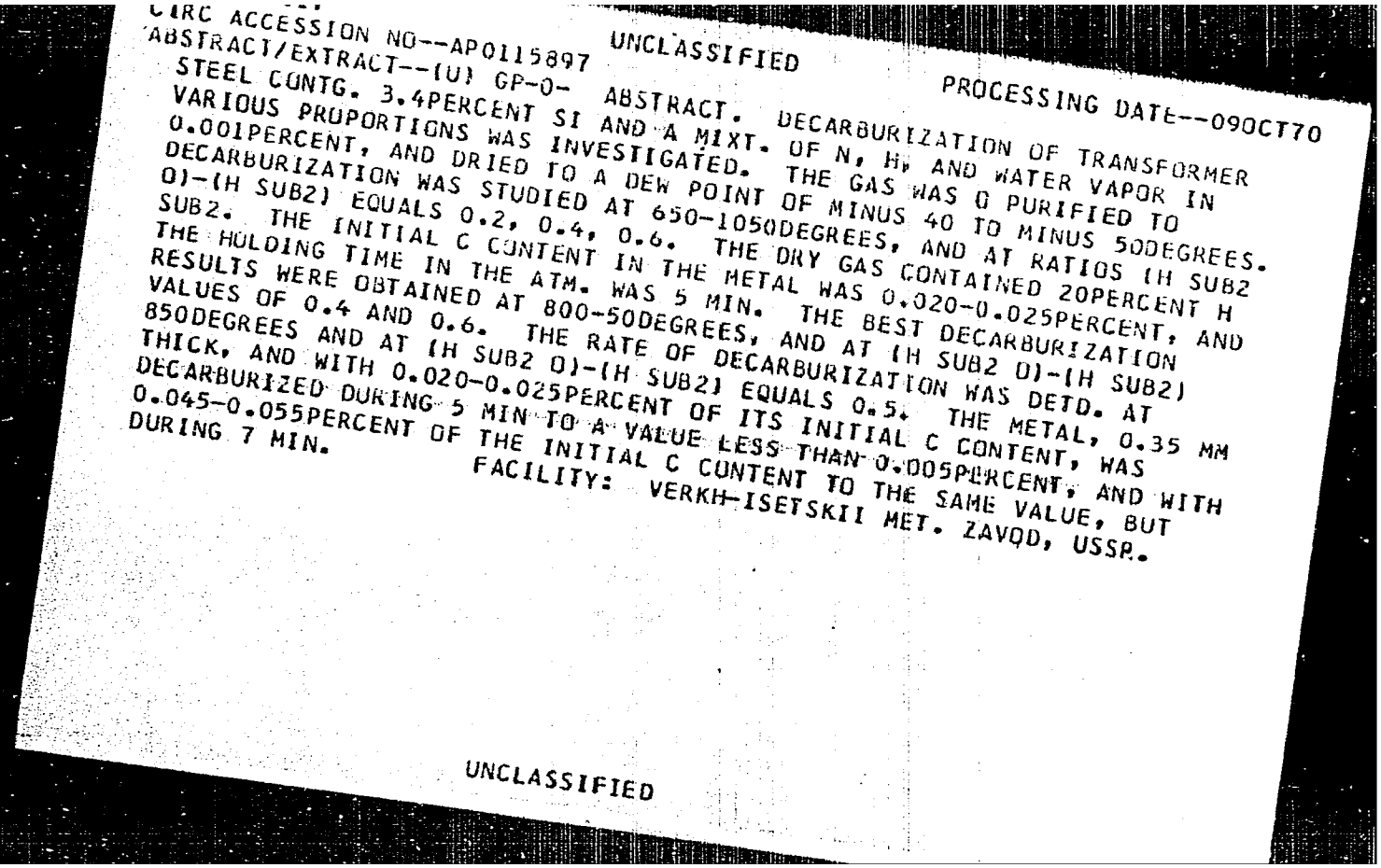
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0193

STEP NO--UR/0048/70/034/002/0317/0321

CIRC ACCESSION NO--AP0115897

UNCLASSIFIED



CIRC ACCESSION NO--AP0115897 UNCLASSIFIED PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DECARBURIZATION OF TRANSFORMER STEEL CONTG. 3.4PERCENT SI AND A MIXT. OF N, H, AND WATER VAPOR IN VARIOUS PROPORTIONS WAS INVESTIGATED. THE GAS WAS O PURIFIED TO 0.001PERCENT, AND DRIED TO A DEW POINT OF MINUS 40 TO MINUS 50DEGREES. DECARBURIZATION WAS STUDIED AT 650-1050DEGREES, AND AT RATIOS (H SUB2 O)-(H SUB2) EQUALS 0.2, 0.4, 0.6. THE DRY GAS CONTAINED 20PERCENT H SUB2. THE INITIAL C CONTENT IN THE METAL WAS 0.020-0.025PERCENT, AND THE HOLDING TIME IN THE ATM. WAS 5 MIN. THE BEST DECARBURIZATION RESULTS WERE OBTAINED AT 800-50DEGREES, AND AT (H SUB2 O)-(H SUB2) VALUES OF 0.4 AND 0.6. THE RATE OF DECARBURIZATION WAS DETD. AT 850DEGREES AND AT (H SUB2 O)-(H SUB2) EQUALS 0.5. THE METAL, 0.35 MM THICK, AND WITH 0.020-0.025PERCENT OF ITS INITIAL C CONTENT, WAS DECARBURIZED DURING 5 MIN TO A VALUE LESS THAN 0.005PERCENT, AND WITH 0.045-0.055PERCENT OF THE INITIAL C CONTENT TO THE SAME VALUE, BUT DURING 7 MIN.

FACILITY: VERKH-ISETSKII MET. ZAVOD, USSR.

UNCLASSIFIED

Automata

USSR UDC 51:801

SOKOLOV, B. M.

"Learnable System of Speech Flow Segmentation"

V sb. Metody vychisleniy (Computational Methods -- Collection of Works), vyp. 7, Leningrad, Leningrad University, 1971, pp 125-129 (from RZh-Matematika, No 5, May 72, Abstract No 5V592 by V. GUSHCHIN)

Translation: The article considers the problem of speech flow segmentation in automata that recognize the sounds of speech. Bits of speech flow of the same length arrive at the input of the automation from a microphone-detector-low-pass filter system in the form of a vector of the values of an envelope on a fixed subdivision.

An approach is suggested which involves preliminary learning by the automation in accordance with a training sequence. A learning algorithm is presented which is based on extrapolation of each component of the output vector by linearly independent functions defined on the set of input vectors.

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USSR UDC: 8.74

SOKOLOV, B. M.

"A Piecewise-Linear Decision Function in the Case Where a Large Number of Classes are to be Divided"

V sb. Metody vychisleniy (Methods of Computations--collection of works), vyp. 7, Leningrad, Leningrad University, 1971, pp 121-124 (from RZh--Kibernetika, No 6, Jun 72, Abstract No 6V571)

Translation: The author considers the method of least squares for teaching a recognition automaton which makes a decision for a large number of classes approximately but fairly rapidly. The method consists in the following. The function s(x) is given on the union of all classes of objects -- finite--dimensional vectors x. This function takes on identical values for objects of an instructional sequence of the same class, but assumes different values for objects from different classes. This function is replaced by one close to it which is a linear combination of known functions. In this connection, the set of coefficients of all the linear functions is disregarded. Constructed for each object is its own linear function which approximates the function s(x) in a fairly small neighborhood of this function.

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USSR

SOKOLOV, B. M., Metody vychisleniy, vyp. 7, Leningrad, Leningrad University, 1971, pp 121-124

The sphere $s(R_g; x_g)$ of fairly small radius R_g with center at point x_g is taken as such a neighborhood. The value of the linear function at the point x_g is then calculated and taken as the approximate value of $s(x)$ at this point. In this regard, the radius R_g is taken as small as possible, but such that a fairly large number of objects of the instructional sequence is covered by sphere $s(R_g, x_g)$. It is noted that a program was set up for the M-20 computer in which a radius R_g was selected for each object x_g such that m_q instructional objects fell within this sphere. The computer time on the M-20 for 50 objects was about ten minutes. V. Mikheyev.

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USSR

UDC: 621.315.5

SOKOLOV, B. P., BONDARENKO, E. A., YUSOV, Yu. P., VLASOV, L. G., Moscow Institute of Aviation Technology

"A Resistive Material"

USSR Author's Certificate No 283366, filed 22 Apr 69, published 22 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V461 P)

Translation: This Author's Certificate introduces a resistive material based on valence semiconductors made from salts of alkali-earth metals and ortho acids activated by a dopant in the form of metallic compounds. The material is distinguished by the fact that the range of ratings is extended and the stability of parameters is improved by using zinc orthosilicate as the base material and adding 2-4 percent by weight of manganese chloride as the dopant.

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USSR UDC: 621.317.73

KROTKOV, I. N., SOKOLOV, B. S.

"Measures of Inductance and Mutual Inductance of 1 nH-1 μH"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 42-45 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A297)

Translation: The authors have developed standards for small inductances and mutual inductances based on devices which are coaxial sections with end walls; an advantage of such devices is absence of the effect of eddy currents and the effect of proximity. Structural diagrams are given as well as computational formulas for a single-turn and multiple-turn inductance standard and for a mutual inductance standard; a design is given for a mutual inductance standard which assures a low temperature coefficient and high stability. A circuit is given for connecting a mutual inductance standard to check a four-terminal bridge. Four illustrations, bibliography of two titles. E. L.

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USSR

UDC 615.212.7+612.214.7.012.1:547.822.3

SOKOLOV, D. B., SYDYKOV, B. T., PRALIYEV, K. D., KURILENKO, V. M. and KHLIYENKO, Zh. N., Institute of Chemical Sciences Kazakh SSR Academy of Sciences, Alma-Ata and Novokyznets Scientific Research Chemical-Pharmaceutical Institute

"The Synthesis of Derivatives of Piperidine and Decahydroquinoline, Their Analgesic and Psychotropic Properties. I. On the Problem of the Relationship Between Structure and Pharmacological Activity of Some Isomeric Decahydroquinoline Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 7-10

Abstract: In order to study the applicability of the receptor theory, three stereoisomers of decahydroquinoline were synthesized. All were prodionates; one had an axial phenyl group and an axial methyl group at C_2, the second an equatorial phenyl and an axial methyl and the third had both equatorial. The structure of synthetic intermediates were established chemically, spectroscopically and by proton magnetic resonance. Analgesic activity was observed in mice and rats at dosages of 1/5 the LD_{50}, for electrical and mechanical stimuli in two esters and for thermal stimuli in one. The equatorial-

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SOKOLOV, D. B., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 7-10

equatorial isomer had no activity. However this compound and the equatorial-axial isomer exhibited antireserpine activity at doses of 1/5 to 1/10 the LD_{50}.

Marine and Shipbuilding

USSR S 629.123.56-181.2

SOKOLOV, D. G., RODIONOV, N. N. FRID, Ye. G.

"Plan For the First Soviet 150,000 Ton Deadweight Tanker"

Moscow, Sudostroyeniye, No. 4, 1970, pp 14-17.

Abstract: In order to increase the capacity of the Soviet merchant fleet for transportation of petroleum products, a 150,000 ton deadweight tanker has been planned. Planning-research work was performed during 1968-1969, including computerized studies using the Minsk-22 computer. The result is a plan for a 150,000 ton tanker, this deadweight being considered a good compromise between the desire for maximum possible weight to achieve greater economy and the necessity to limit size (and therefore weight) for reasons of maneuverability. The ship will be similar in design to such supertankers as the Tokyo Maru and Bergenhaven. It will use a 30,000 hp steam turbine power plant with intermediate steam superheating. This design was compared with two variations of diesel power, and found to be more economically effective. In order to improve maneuverability, two transverse passages, one each in bow and stern, are provided, through which water can be pumped to help turn the ship. The 8 meter diameter screw will have the variable pitch feature. Extensive space is provided in the crew living quarters for study, sports and recreation of the 34-36 man crew. The

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110018-3"

USSR

SOKOLOV, D. G., et al., Sudostroyeniye, No 4, 1970, pp 14-17

superstructure is designed to be usable without major design alteration in tankers of 100,000 to 300,000 tons deadweight. The basic dimensions of the tanker are to be as follows: length between perpendiculars 272 m, width 45.0 m, draft 17.0 m, side height 24.4 m, filling factor 0.830.

SOKOLOV, D.K.

Social Hygiene & Health

UDC: 614.253:378.661(049.3)

INSTRUCTION OF DEONTOLOGY AT A MEDICAL INSTITUTE

[Article* by Professor D.K. Sokolov, Chair of Social Hygiene and Public Health Organization (headed by Professor D.K. Sokolov), Chelyabinsk Medical Institute; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 9, 1972, submitted 14 March 1972, pp 64-65]

In our opinion, deontology is an educational discipline and, consequently, it should have its own subject as well as forms and methods of presentation. The distinctive feature of deontology as a subject is that one could hardly consider the view of docent Ya.S. Hinulin to be valid, with respect to the need of creating an interchair program for deontology. However, this is not enough. While preparing interchair programs on history of medicine, public health organization, and social hygiene for two years, we became convinced that this work is successful only when, concurrently with such a syllabus, an interchair curriculum is also developed which stands not only the concrete issues to be presented on a given chair, but also the time that is devoted for this purpose, as well as forms of study (seminars, lectures, etc).

Our many years of experience in teaching deontology and medical ethics confirm the opinion of Professor B.D. Petrov, that historical material constitutes a welcome opportunity to form the outlook and behavior of the future physician. One can arrive at such a conclusion on the basis of the following data. Issues pertaining to deontology and medical ethics should be known, to some extent, to the student even before he reaches the clinic. And it is only the course on history of medicine, offered to first and second year students that can become the basis for presenting these topics. We do not refer the prospects of a distant future, but the actual conditions that now exist.

In order to properly understand the subject of medical ethics and deontology, one should approach it from the historical point of view, as in the study of many other issues. V.I. Lenin wrote that the most important

*With reference to the article by N.G. Karlsen and I.I. Kosarev, Sovetskoye Zdravookhraneniye, No 4, 1971.

JPRS 57351
17 Oct 72

SOKOLOV, D. K.

UDC: 614.2(092)Belostotskiy

BIOGRAPHY OF IVAN STEPANOVICH BELOSTOTSKIY, OUTSTANDING PUBLIC HEALTH ORGANIZER IN THE URALS (ON THE OCCASION OF HIS 90TH BIRTHDAY) -DECEASED) 31 JAN 68

[Article by Professor D.K. Sokolov, Chair of Social Hygiene and Public Health Organization (headed by Professor D.K. Sokolov), Chelyabinsk Medical Institute; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1971, submitted 14 June 1971, pp 69-72]

The activities of Ivan Stepanovich Belostotskiy, one of the first public health organizers in the Urals, occupy a prominent place with respect to the foundation and development of public health in the Urals following the Great October Socialist Revolution.

I.S. Belostotskiy was born on 18 January 1882 to a poor peasant family in the village of Amvrosiyevka, Taganrogskiy Okrug. His childhood was a needy one. When barely 14 years of age he was compelled to earn his own living and became a lathe operator's apprentice at the Makeyev Pipe Casting Plant.

In tsarist times the lot of working adolescents was a difficult and sad one. Even in those years, Ivan Stepanovich gradually began to realize that there was only one road to a better life for the working people -- a revolutionary struggle with autocracy and eradication of the hired slave system. P.A. Moiseyenko, head of the "Northern Alliance of Russian Workers," and organizer of the well-known Morozov strike had some influence on the increased class consciousness of I.S. Belostotskiy.

In 1904, Ivan Stepanovich joined the ranks of RSDRP [Russian Social Democratic Workers' Party]. Since that time his entire life was linked with the Party. He was an active participant in illegal meetings and pursued revolutionary propaganda work among workers. For this he was fired from his job. Because of continuous persecutions he was compelled to move. In 1906, he moved to Petersburg. The speech of V.I. Lenin about the tactics of an active boycott against the State Duma, which he heard in the Lesgaft course classroom, made a deep impression on I.S. Belostotskiy.

At the instructions of the Party Ivan Stepanovich often spoke in Moscow, Baku, Mariupol', and other cities. While working at the Putilov Plant, he and

USSR UDC 546.45:543.27:543.544.25

DRUGOV, Yu. S., MURAV'YEVA, G. V., GRINBERG, K. M., NESTERENKO, G. N., SOKOLOV, D. N.

"Gas Chromatographic Method of Determination of Beryllium in Air"

Moscow, Zavodskaya Laboratoriya, No 11, 1972, pp 1305-1306.

Abstract: The authors have developed a gas chromatographic method for determination of microquantities of beryllium in the air at industrial enterprises, based on the formation of a volatile beryllium chelate with trifluoroacetyl acetone. A linear dependence of the signal of the detector on beryllium content is observed in the range of concentrations of 0.4 to $2 \cdot 10^{-5}$ mg/ml Be. The sensitivity of the determination is $1 \cdot 10^{-5}$ mg/ml Be.

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1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SUPERHIGH TEMPERATURE GAS CHROMATOGRAPHY -U-

AUTHOR--SOKOLOV, D.N.

COUNTRY OF INFO--USSR

SOURCE--J. CHROMATOGR. 1970, 47(3), 320-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--HIGH TEMPERATURE EFFECT, GAS CHROMATOGRAPHY, ZINC BASE ALLOY, CADMIUM CONTAINING ALLOY, BINARY ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0829 STEP NO--NE/0000/70/047/003/0320/0327

CIRC ACCESSION NO--AP0116358

UNCLASSIFIED

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0116358 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFICULTIES ENCOUNTERED IN GAS CHROMATOG. GREATER THAN 500DEGREES ARE DISCUSSED, WITH EMPHASIS ON DETECTOR SUITABILITY AND ON COLUMN CHEM. REACTIONS. PNEUMATIC DETECTORS ARE THE MOST SUITABLE AT ULTRAHIGH TEMPS. ZN, CD, AND HG WERE SEPD. WELL ON A GRAPHITE COLUMN AT 700-900DEGREES. TLCL AND CDI SUB2 WERE SEPD. WELL ON A 50PERCENT KCL-CHROMOSORB W COLUMN AT 800DEGREES WITH HE CARRIER GAS. HOWEVER, ZN WAS ADSORBED IRREVERSIBLY ON THE COLUMN AT SMALLER THAN OR EQUAL TO 950DEGREES. ZN-CD BINARY ALLOYS WERE ANALYZED DIRECTLY BY GAS CHROMATOG. ON A GRAPHITE COLUMN AT 800DEGREES WITH HE CARRIER GAS. RELATIVE ERRORS WERE SMALLER THAN 4.50EGREES.

FACILITY: INST. CHEM. PHYS., MOSCOW, USSR.

UNCLASSIFIED

USSR

GORYAYEV, M. I., and SOKOLOV, D. V.

"Accomplishments of the Division of the Chemistry of Natural and Synthetic Biologically Active Compounds"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

Abstract: In the last few years the Institute of Chemical Sciences has widened its studies in the field of natural substances, and as a result two more laboratories have come out of the Laboratory of Plant Chemistry, viz. the Alkaloid Laboratory and the Hydrolysis Laboratory, both located in Chimkent on the territory of the corresponding plants. Staff members of the Laboratory of the Chemistry of Natural Compounds have published about 400 scientific works. There has been significant quantitative and qualitative growth in laboratory personnel. About 70 candidates and doctors of sciences have defended or are preparing to defend dissertations, and 40 original developments are protected by USSR author's certificates.

USSR

GORYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

Essential oils of wild flora of Kazakhstan and Central Asia, mainly species of wormwood, have been studied by T. YE. SERKEBAYEVA and G. I. KROTOVA, V. S. BAZALITSKAYA, L. K. TIKHONOVA, R. A. YURINA and A. D. DEMBITSKIY, the Mongolian scientist SHATTAR and F. S. SHARIPOVA. The Laboratory of Plant Chemistry has determined the chemical composition of essential oils of many medicinal plants used in medicine. The results of this work are partially reflected in a three-volume work published on the chemistry of essential oils of the USSR and monographs on the chemistry of wormwood and junipers. In the last six years the laboratory has also studied a number of industrial essential oils for the Georgian Ministry of the Food Industry, the Alekseyevka and Kara-Balty Essential Oil Plants and in part for the Priluki Experimental Station (L. A. YEL'CHIBEKOVA and F. S. SHARIPOVA).

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USSR

GORYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

In the field of syntheses based on natural compounds, the laboratory for five years has been searching for new catalysts for the isomerization of α-pinen to camphene (R. A. YURINA, T. YE. SERKEBAYEVA, L. A. IGNATOVA, F. S. SHARIPOVA, L. K. TIKHONOVA, M. P. IRISMETOV). A number of wild plants have been studied for alkaloid content, the isolation and testing of new alkaloids for the purpose of obtaining growth drugs (V. P. YUR'YEV, I. R. LANGE, P. P. GLADYSHEV, K. A. SHCHUROV). The hydrolysis of vegetable raw material has been studied by M. G. PUGACHEV and A. I. POPOV. Work is under way on the biosynthesis of proteins based on n-paraffins of Mangyshlak petroleum. The Laboratory of Organic Synthesis has been studying the biosynthesis of enzymes (I. N. NAZAROV, G. S. LITVINENKO, N. G. PERMITINA, V. N. RAKCHEVA-KHOKHLOVA, ZH. I. ISIN, B. T. SYDYKOV, K. I. KHLUDNEVA, D.V. SOKOLOV, O. V. AGASHKIN). There have been extensive synthetic and other studies in the decahydroquinoline series (the Chair of Pharmacology

USSR

GORYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

of Alma-Ata State Medical Institute under the direction of G. I. SAMARINA, V. V. SOSNOVA, V. I. ARTYUKHIN, M. N. AKIMOVA, K. D. PRALIYEV).

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1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CONFIGURATION AND REACTIVITY OF SATURATED CYCLIC AND HETEROCYCLIC COMPOUNDS -U-

AUTHOR-(05)-LYUTS, A.YE., AGASHKIN, O.V., ARTYUKHIN, V.I., SOKOLOV, D.V., LITVINENKO, G.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 74-81

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MASS SPECTRUM, BENZENE DERIVATIVE, QUINOLINE, AMINE, AMIDE, CONJUGATE BOND SYSTEM, ISOMER, IONIZATION POTENTIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1660 STEP NO--UR/0360/70/020/001/0074/0081

CIRC ACCESSION NO--AP0100264

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100264

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MASS SPECTRA OF 4 ISOMERS OF 1 BENZOYL, 2 METHYLDECAHYOROQUINOLINE AT IONIZATION VOLTAGES OF 20 AND 70 V WERE OBTAINED. THE DISTRIBUTION OF POS. CHARGE BETWEEN N AND FRAGMENTS CONTG. BENZOYL IS AFFECTED BY THE STRUCTURE AND CONFIGURATION OF THE MOL. IN THE CASE OF ISOLATED BENZOYL AND AMINO GROUPS, POS. IONS CONTG. N PREVAILED. IN THE CASE OF AMIDES, THE POS. CHARGE WAS LOCALIZED IN FRAGMENTS CONTG. C SUB6 H SUB6 AND THE DEGREE OF LOCALIZATION INCREASED WITH INCREASED EFFICIENCY OF CONJUGATION.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--STEREOCHEMISTRY OF NITROGEN HETEROCYCLES. XXIII. ACETIC AND DIPHENYLACETIC ESTERS OF STEREOISOMERS OF

AUTHOR-(04)-KHLUDNEVA, K.I., SOSNOVA, V.V., SOKOLOV, D.V., LITVINENKO, G.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 43-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--STEREOCHEMISTRY, HETEROCYCLIC NITROGEN COMPOUND, ACETATE, QUINOLINE, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1901 STEP NO--UR/0360/70/020/002/0043/0047

CIRC ACCESSION NO--AP0123685

UNCLASSIFIED

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0123685 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO SYNTHESIZE THE TITLE ESTERS, THE HCL SALT OF EACH OF THE 5 MOST AVAILABLE STEREOISOMERS OF THE TITLE HETEROCYCLE WAS HEATED WITH AC SUB2 O AND ACCL, OR WITH PH SUB2 CHCOCL WITHOUT SOLVENT. THE SINGLE ISOMERS DIFFER IN THE ABSORBABILITY ON AL SUB2 O SUB3, WHICH IS AFFECTED BY THE MUTUAL CONFIGURATION OF THE RINGS AND THE SPATIAL ORIENTATION OF ME AND AC OR DIPHENYLACETYL GROUPS. THE R SUBF VALUES IN AN ELUTION WITH ET SUB2 O ON A THIN AL SUB2 O SUB3 LAYER RANGE FRM 0.09 TO 0.96 AND FROM 0.03 TO 0.85 WITH ACETIC AND DIPHENYLACETIC ESTERS, RESP.; EACH DIPHENYLACETIC ESTER IS ABSORBED MORE STRONGLY THAN THE RESP. ACETIC ESTER. THE POSITIONS AND SHAPES OF SOME ABSORPTION BANDS IN THE IR SPECTRA ARE INFLUENCED BY THE SPATIAL ORIENTATION AND CHARACTER OF THE ACYLOXY GROUP. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

GOROKHOV, Yu. P., SOKOLOV, G. A.

"On the Problem of Determining a Preventative Maintenance Schedule"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 149-160 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V604)

Translation: The paper deals with two problems involved in determining a preventative maintenance schedule which deviates the least from a "uniform" schedule in the sense of an assumed criterion. Authors' abstract.

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USSR

UDC 669.046.5

SOKOLOV, G. A., SERGEYEV, A. G., TSYKIN, L. V., ZAVRAZHIN, V. D., VERKHOVTSEV, E. V., VASIL'YEV, N. Ye., and D'YAKOV, S. I.

"The Effect of Vacuum-Slag and Two-Fold Slag Treatments on Electrical Steel Quality"

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 212-213

Translation of abstract: The effect of various outside-furnace steel treatments on desulfurization, contamination by nonmetallic impurities, and mechanical properties of various steels is considered. Data are given on the improvement of mechanical properties of structural alloy steels. 1 table.

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USSR S UDC 669.18:658.562

SOKOLOV, G. A., VERKHOVTSEV, E. V., KUNGUROV, V. M., SERGEYEV, A. G., VASIL'YEV, N. Ye., and VDOVIN, V. K., Lipetsk Branch of Moscow Institute of Steels and Alloys; Izhevsk Metallurgical Plant

"Refining Open-Hearth Steel With Synthetic White Slag"

Moscow, Metallurg, No 9, Sep 70, pp 17-19

Abstract: In searching for ways of cutting costs of liquid synthetic slags produced from the costly SiO_2 byproduct, this paper attempts to introduce new compositions of slags designed for out-of-the-furnace refining of steel. The new composition, comprising 45-55% CaO, 17-25% SiO_2, 5-10% MgO, 7-15% Al_2O_3, and 2-7% CaF_2, appears to possess the most favorable combination of physicochemical properties. Industrial treatment of 25KhN3A and 30KhGSA constructional open-hearth steels with synthetic slag of this composition reduced the sulfur content in the experimental steel by 55-70%. The final sulfur level in the treated steel was low and conformed with that of electric steel treated with lime-silica slag. The service characteristics of the experimental steel also appeared to reach the level of steels treated with standard liquid synthetic slags. White synthetic slag will make possible the production of top-quality steel at lower cost per charge. At the Izhevsk Metallurgical Plant the savings per ton of treated steel amounted to 2.2 rubles.

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USSR

UDC: 8.74

GOROKHOV, Yu. P. and SOKOLOV, G. A.

"A Problem in Defining the Prophylaxis Mode"

Moscow, V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technique and Programming--collection of works) No 7, 1972, pp 149-160 (from RZh--Matematika, No 8, 1972, Abstract No 8V604)

Translation: The authors consider two problems connected with defining a prophylaxis mode which departs least from "uniformity" in accordance with an accepted criterion. Authors' abstract

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USSR

UDC 621.791.927

SOKOLOV, G. F., State Union Scientific Research Technological Institute for Repair and Operation of Machine and Tractors and Agricultural Machines, Siberian Branch

"Vibrating Arc Metal Deposition With Flux-Cored Waire"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 70, pp 62-64

Abstract: Vibrating-arc metal deposition on cylindrical surfaces of worn-out parts of small diameter (30-50 mm) is considered. Flux-cored PP-1Kh12T-0, PP-25Kh5FMS-0, PP-U25Kh17T-0 wires 2.8, 2.6, and 3 mm in diameter were used. Experiments conducted on cylindrical samples 30 and 50 mm in diameter made of 45 steel showed that electrode vibration in combination with low voltage (16-18 v) makes it possible to build up items of small diameter (30-50 mm) with flux-cored wire (2.6-3 mm), and to minimize penetration and heating of the base metal. Figures show an oscillogram of the process, and the dependence of the welding deposite coefficient and wire expenditure on voltage, current, and deposition rate.

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USSR

UDC 681.325.3

SOKOLOV, G. G., MOKHOV, V. A., and BURKIN, N. I.

"A High-Speed Triode Analog-Digital Converter"

Tr. Leningr. In-t Aviats. Priborostr. (Works of Leningrad Institute for Building Aviation Machines), No 69, 1971, pp 81-85 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B377, by B. K.)

Translation: A three-bit analog-digital converter having a conversion cycle length of 0.5 microseconds is described. The converter is constructed according to a bit-by-bit coding scheme. Comparison of the voltage being measured and a standard voltage is carried out with the help of tunnel diodes, which control transistorized keys. Diagrams of an analog-digital converter are given for the case of conversion of analog signals having positive and negative polarity. The input resistance of the converter is equal to 75 ohms; the maximum voltage of the input signal is 1 volt; the working range of changes in temperature is from -10° C to +40° C. 2 illustrations, 4 titles in bibliography.

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USSR

UDC 621.514.57(088.8)

SOKOLOV, G.G., CHUBUKIN, A.V.

"Single-Phase Inverter"

USSR Author's Certificate No 261545, filed 22 March 67, published 25 May 70 (from RZh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 3B559P)

Translation: The invention pertains to a bridge single-phase thyristorized inverter, the output voltage of which is controlled with the aid of pulse-width modulation. The reverse semiconductor diodes are connected to the anti-parallel operating thyristors. With the object of expanding the range of control, the shaper of quenching pulses is supplied with two transformers, the secondary winding of each of which is connected through the reverse semiconductor diodes mentioned above to the corresponding pair of thyristors of the bridge, operating in phase. 1 ill. I.R.

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USSR

UDC 615.217.34.012.1+615.217.34.015.4

SOKOLOV, G. P., VITOLIN', R. O. and GILLER, S. A., Institute of Organic Synthesis, Academy of Sciences Latvian SSR, Riga

"The Synthesis and Pharmacological Properties of Hydrochlorides and Methiodides of Aminomethyl Derivatives of 2-[diphenyl (oxy)methyl]-1,3-Dioxolane"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 10-15

Abstract: Five pairs of cis-trans isomers of 1,3-dioxalone derivatives of diphenylglycolaldehyde were synthesized. The diethyl acetal of diphenylglycolaldehyde was transacetylated with racemic 1-O-n-tosylglycerine, treated with secondary amines at temperatures to 150°, and precipitated as hydrochlorides or methiodides. Proton magnetic resonance spectra of these compounds were said to show that proton shielding or deshielding on the anisotropic groups can be used to determine structural conformation. While none of the compounds possessed nicotinolytic properties, they all had muscarinolytic properties in mice and peripheral cholinolytic activity in isolated guinea pig intestine. Hydrochlorides had greater central activity than methiodides, and dimethylamine and diethylamine derivatives were more active than heterocycles. Cis isomers were found to be more effective than trans.
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USSR

UDC 615.216.5:547.484.451].012.1

SOKOLOV, G. P., KIMENIS, A. A., VEVERIS, M. M., and GILLER, S. A., Institute of Organic Synthesis, Academy of Sciences Latvian SSR, Riga

"The Synthesis and Curariform Properties of Quaternary Ammonium Derivatives of Cyclic Acetals of Levulinaldehyde and Levulinic Acid"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 3, 1973, pp 8-13

Abstract: Studies were conducted on the curariform properties of quaternary ammonium derivatives synthesized from levulinaldehyde in a manner analogous to that employed for succinaldehyde, except that 2-methyl-2,5-dimethoxytetrahydrofuran was used in the reaction. Quaternary ammonium derivatives of levulinic acid were obtained by reacting 3-(2'methyl-4'-chloromethyl-1',3'-dioxolanil-2') propionic acid with secondary amines, with the initial formation of the corresponding salt and, on gradual heating from 100 to 150°, the Cl atom on the chloromethyl group was replaced by an amino group. The salt was separated from the concomitantly formed hydrochloride salt of the secondary amine by dissolving it in ethyl acetate, and then reacting it with chloroethylamines. A diiodomethylate derivative of levulinaldehyde showed the greatest curariform activity of the deivatives that were obtained which, in cats, exceeded that of D-tubocurarine 2-fold, but was 11-fold less than that of dioxonium. The duration

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SOKOLOV, G. P., et al., Khimiko-Farmatsevticheskiy Zhurnal, No 3, 1973, pp 8-13

of action of these derivatives was also very short, presumably due to inactivation by pseudocholinesterase. Biological evaluation of the derivatives on cats showed that they possessed either depolarizing, antidepolarizing, or mixed type of curariform activities.

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USSR

UDC 615.216.5:547.461.81.012.1+615.216.5:547.461.81]
015.4

SOKOLOV, G. P., KRUMINS, A. M., KRUSKOP, D. K., KLUSHA, V. YU., and GRINBERG, S.A.,
Institute of Organic Synthesis, Acad. Sc. LatvSSR, Riga

"Synthesis and Pharmacological Properties of Sebacic Aldehyde Cyclic Diacetals"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 2, Feb 72, pp 10-14

Abstract: Sebacic aldehyde was synthesized by catalytic reduction of sebacyle dichloride over palladium in xylene and without isolation was immediately converted to the diacetal by reacting it with ethyl orthoformate, from which the cyclic diacetal was obtained by transacetylation with glycerine-α-monochlorohydrine in toluene. Heating the cyclic diacetals with pyrrolidine or dimethylamine gave quaternary salts which were eventually converted to the dijodides. The cyclic diacetals show myonesin-like properties exceeding the activity of succinaldehyde, but showing lower toxicity. The quaternary salts exhibited high curare-like activity, their action resembling closely that of succinaldehyde derivatives.

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USSR

UDC 599.742.4

SOKOLOV, A. S., and SOKOLOV, I. I.

"Some Characteristics of the Organs of Locomotion of River and Sea Otters as a Function of Their Mode of Life"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody Novaya Seriga, Otdel Biologicheskiy, Vol 75, No 5, Sep/Oct 70, pp 5-17

Abstract: As a result of both their common origin and their aquatic mode of life, the river otter (Lutra lutra) and sea otter (Enhydra lutris) have many similar morphological features (streamlined body, shortness of the extremities, webbed feet). However, their organs of locomotion differ somewhat because each species swims in a different fashion. The sea otter makes oscillatory movements of the entire body, with the tail and hind flippers serving as a means of propulsion. The river otter swims by making paddle-like movements of the extremities, the tail functioning mainly as a rudder and stabilizer. The river otter is less specialized and can move with equal facility on land and in water, using the same groups of muscles. The sea otter has largely lost the ability to move on land, since the body musculature rather than the muscles of the extremities is involved in its swimming.

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USSR

UDC 591.1.15

SOKOLOV, I. I.

"Total Spinal Cord Phospholipid Content and Metabolism After Radiation Lesions"

Soderzhaniye i obmen obshchikh fosfolipidov spinnogo mozga pri luchevom porazhenii (cf. English above), Redkollegiya zh. Radiobiologiya AN SSSR (Editorial Board of the Journal Radiobiologiya, Academy of Sciences USSR), Moscow, 1971, 10 pp, bibl. 16 refs. (No 25555-71 Dep.)(from RZh-Biologicheskaya Khimiya, No 10, May 71, Abstract No 10 F1133 from the resume)

Translation: In cats exposed to single whole-body irradiation (1200 r), the phospholipid content of the lumbar thickening of the spinal cord decreased on days 2 and 6 to 7. The rate of incorporation of P^{32} and intensity of phospholipid phosphorus metabolism increased on day 2 and decreased on day 6 to 7.

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SOKOLOV, I. V.

CHARACTERISTICS OF THE METHOD FOR REGISTERING THE INDICES OF PHYSIOLOGIC FUNCTIONS ON THE 'SOYUZ-9' SPACESHIP

[Article by V. A. Talavrinov, A. G. Zeronin, I. V. Sokolov and V. F. Turchaninova; Moscow, Aktual'nyye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 265-267]

The great duration of flight by the "Soyuz-9" spaceship made it particularly important to prevent changes of the skin under the ECG electrodes.

Physiologic information aboard the "Soyuz-9" spaceship was registered using the same medical monitoring apparatus as during previous flights of the "Soyuz" ships, described earlier (Yu. G. Nefedov, L. I. Kakurin, et al., 1970), but a number of improvements were introduced into the system of physiologic sensors and the method for its use due to the considerable lengthening of flight duration.

During the flight we registered the electrocardiogram (ECG) in the "DS" lead, seismocardiogram (SCG), pneumogram (PG) and pulse rate of each of the crew members. All the physiologic sensors and electrodes were attached to the bodies of the cosmonauts by elastic fabric straps.

The most important of the improvements in the method for using the physiologic sensors were:

1) the cosmonauts themselves put on and took off the system of physiologic sensors; 2) every day, in cases of continuous wearing of the ECG electrodes, they were moved to other parts of the skin in such a way that on each of the skin sectors designated for this purpose the electrode was present for one day and the skin was free of it for three days. The cosmonaut himself processes the skin with a degreasing fluid, applies the current-

JPRS 56,499
14 JULY 72

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110018-3"

SOKOLOV, Ye. I.

JPRS 56,495

14 July 72

150

EVALUATING THE FUNCTIONAL CAPABILITIES OF THE BODY UNDER THE COMBINED INFLUENCE OF EXTREMAL FACTORS

Article by Ye. I. Sokolov, A. Ya. Tizul, Yu. S. Adamovich and V. P. Kuznetsov, Moscow, Aktual'nyye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 326-327

In order to evaluate the functional and adaptive capabilities of the body it is now customary to use different various kinds of spaceflight (hypokinesia, isolation, hypoxia, accelerations, change in diurnal rhythm, etc.). Study of the influence of these factors on the dynamics of body adaptation is most frequently accomplished with but exposure to a single factor.

In order to ascertain the capability of the body to adapt, applicable to an evaluation of tolerance and reliability of body functions to prolonged space flights, a study was made of the nervous, cardiovascular, endocrinal, immunobiologic and other systems during a 60-day experiment in which six subjects in the age group 28-36 years participated. The experiment involved five stages: 11 days -- collecting background data; two days -- restructuring of the rhythm with four-hour cycles of work, rest and sleep; five days -- confortation period; twelve days -- climatic hypokinesia; eleven days -- study of the afterorrect (dynamics of restoration). During the period of 12-day hypokinesia there was a 48-hour restructuring of the diurnal rhythm of three subjects (first group) during the first two days of hypokinesia and another three subjects (second group) during the last two days of hypokinesia.

During the experiment we detected definite changes in functioning of the nervous system, manifested in a lability of autonomic reflexes, frequently exceeding the limits of

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UDC 535.338

SOKOLOV, I. V.

"Interference Effects in Secondary Radiation Spectrum of an Impurity Crystal"

Leningrad, Vestnik Leningradskogo Universiteta, No 16, Seriya -- Fizika i Khimiya, Issue 3, Aug 71, pp 39-47

Abstract: The article discusses interference effects using the example of a hot luminescence spectrum: i.e., the spectrum for emission from a nonequilibrium vibrational state. The impurity is modeled by a two-level electron system which interacts with a localized vibration. Optical excitation of the system is considered, as well as relaxation of local photons as a result of their decay into pairs of crystalline photons. In order to detect the narrowing of lines, a supplementary class of perturbation theory diagrams has to be taken into consideration. The graphic method of perturbation theory developed by PEUKER and TRIFONOV is used. "Nondiagonal" graphs are considered. Spectrum formulas are obtained which indicate the narrowing of lines in the hot luminescence spectrum, as well as the merging of hot luminescence and Raman lines under certain conditions.

The author thanks Ye. D. Trifonov for the suggested problem and useful comments.

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USSR

SOKOLOV, I.V.

UDC 621.385.633(088.8)

"Cathode Of BWT With Transverse Magnetic Field"

USSR Author's Certificate No 255419, Filed 5 May 56, Published 19 Mar 70 (from RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A179P)

Translation: A cathode is proposed for a BWT with a transverse magnetic field. With the object of expanding the range of application of the tube's power, the lateral surface of its cathode cylinder is divided by two slots parallel to the axis of the cylinder into two parts, insulated from one another with respect to direct current.

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USSR

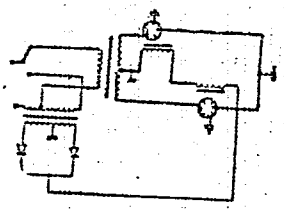
UDC 621.373.432

MASHIN, B. G., SOKOLOV, I. V., VODYANITSKIY, V. I., ZHERNOVENKOV, S. I.

"Superhigh-Frequency Magnetron Oscillator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 38, Patent No 270002, Filed 1 Aug 67

Translation: This Author's Certificate introduces a superhigh-frequency oscillator using magnetrons introduced by Author's Certificate No 193468. The new oscillator is distinguished by the fact that to improve its reliability, a double halfperiod rectifier is connected in series with the windings of the electromagnet. This rectifier contains two gates and the secondary winding of the auxiliary transformer, the primary winding of which on inclusion of the oscillator is completely connected to the circuit terminals; and in the operating mode, it is connected to its smaller section via the primary winding of the power transformer by a switch.



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USSR

MALINOV, L. S., SOKOLOV, K. N., KOROTICH, I. K. and ZANNES, A. N.

"Influence of Alloying Elements and Heat Treatment on Hardening of Low-Nickel Martensite-Aging Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 6, Nov-Dec 73, pp 24-26

Abstract: The study of low-nickel martensite-aging steels performed showed that they are a promising structural material with a good combination of mechanical properties. The best properties are those of steels types 00Kh2N5MFYu and 00Kh2N5MFDYu. The nature of hardening in the steels studied is similar to the hardening of high-nickel martensite-aging steels. It results from dispersion hardening of the carbon-free martensite. Softening of the steels is related to loss of the coherent bonding between intermetallides and the martensite matrix, coagulation of intermetallides and the processes of polygonization and recrystallization of the matrix.

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USSR

UDC 669.112.3

PEREVERSEVA, YE. G., SOKOLOV, K. N., KUDRYAVTSEVA, L. N., and GRISHKO, V. F., Zhdanov Metallurgical Institute

"Effect of Arsenic on the Diffusion of Carbon in Austenite and Ferrite of Low-Carbon Steel"

Moscow, Izvestiya Vysshikh Uchebenykh Zavedeniy -- Chernaya Metallurgiyam No 2, 1970, pp 110-113

Translation: A study was made of the effect of arsenic on the diffusion of carbon in austenite and ferrite. It was established that arsenic increases the rate of carbon diffusion in these structural constituents. With an increase in the content of arsenic from 0 to 1%, the activation energy of St. 3 steel in austenite changes from 35,900 to 31,600, respectively, and in ferrite -- from 18,800 to 16,00 cal/g-atom.

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USSR

UDC 669.15:194.66.046

TUYAKHOV, V. N., SOKOLOV, K. N., LEONT'YEV, B. A., and FAYNBERG, V. B. (deceased)

"Effect of Annealing System on the Structure and Properties of 08kp Steel"

Metallurgicheskaya i Gornorudnaya Promyshlennost', No 2, 1971, pp 29-30

Abstract: The effect of the heating rate and annealing temperature on the properties of 08kp steel were studied. The heating rate had little effect on the structure and mechanical properties of the steel. Optimum annealing temperature was 700°C; at temperatures above 725°C, strength characteristics improved, but perlite structures appeared and an increase in the difference in grain size was noted. A maximum change in structure and mechanical properties was observed during the first three hours of exposure to 700°C. Increased cooling velocities after annealing increased the stability characteristics, but had no substantial effect on the size of the ferrite granules and the separation character of the structurally free iron carbide.

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USSR

UDC: 669.189:621.746.7.001

BORISOV, V. T., VINOGRADOV, V. V., DUKHIN, A. I., MANOKHIN, A. I., MATVEYEV, YU. YE., SOKOLOV, L. A. and SHISHKOV, V. T., (Moscow)

"Applicability of the Quasi-Equilibrium Two-Phase Zone Theory to the Description of Ingot Crystallization"

Moscow, Izvestiya Akademii nauk SSSR, Metally, no 6, Nov-Dec 71, pp 104-109

Abstract: Increasing the requirements on metal quality necessitates more intimate knowledge and in-depth analysis of the fine points of alloy crystallization phenomena. Noteworthy, in this case, is the study of the quasi-equilibrium two-phase zone of an alloy -- a region in which thermal, diffusion, and other processes accompanying the formation of the ingot's structure take place. This study is an attempt to test the applicability of the theory to computer analysis of the crystallization of a metal ingot. Described is a crystallizer designed for the study of thermal conditions in the two-phase zone of an ingot for crystallization at both low and high cooling rates. A mathematical arrangement is proposed characterizing a crystallizing ingot in terms of the new theory. The correlation of the theoretical results with the experimental data indicates that the proposed

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110018-3"

USSR

BORISOV, V. T., et al, Izvestiya Akademii nauk SSSR, Metally, no 6, Nov-Dec 71, pp 104-109

mathematical model provides both qualitative and quantitative patterns of the thermal and other real conditions of ingot crystallization. (2 illustrations, 13 bibliographic references).

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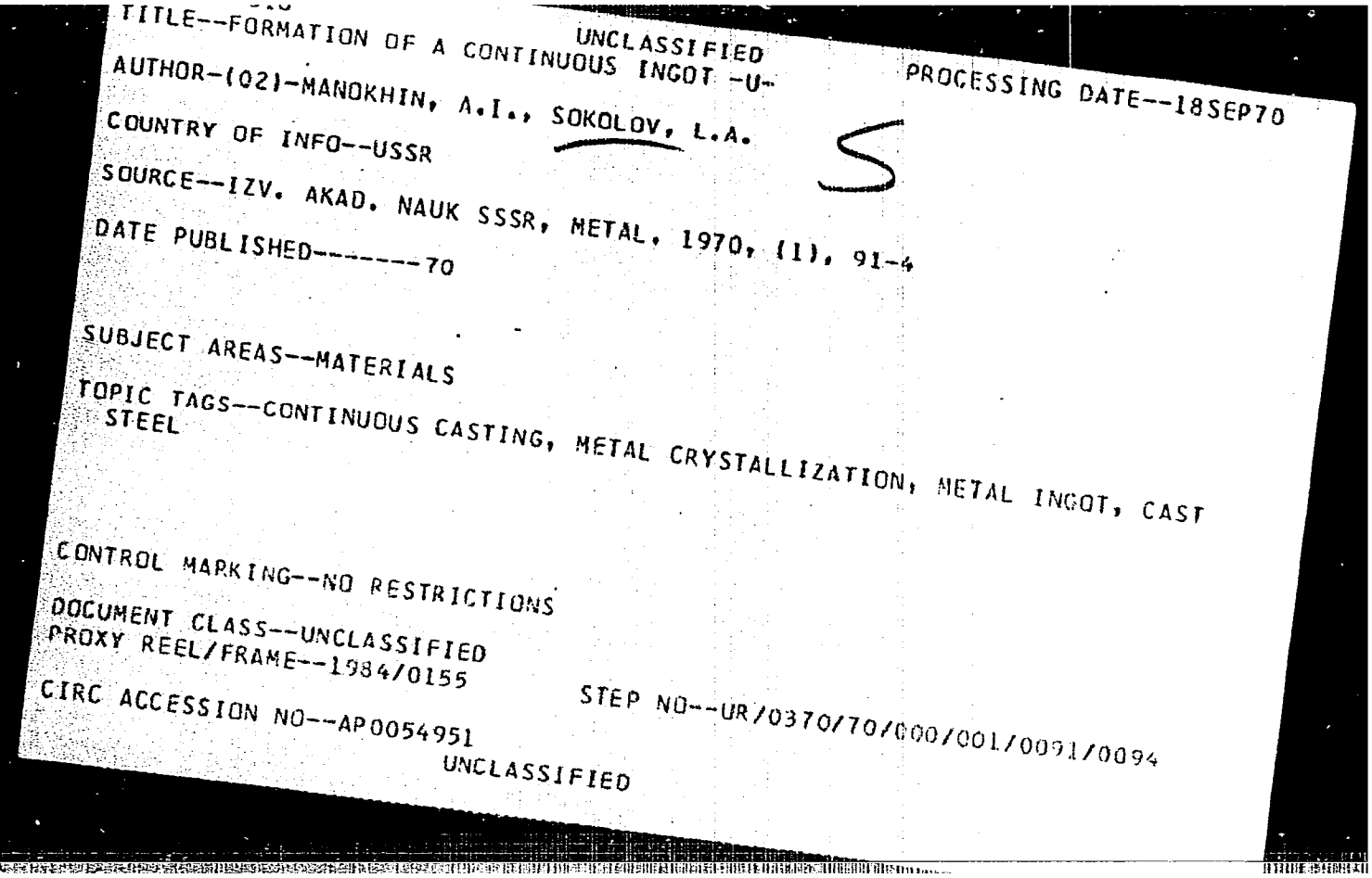


UNCLASSIFIED

TITLE--FORMATION OF A CONTINUOUS INGOT -U-

PROCESSING DATE--18SEP70

AUTHOR-(02)-MANOKHIN, A.I., SOKOLOV, L.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL, 1970, (1), 91-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CONTINUOUS CASTING, METAL CRYSTALLIZATION, METAL INGOT, CAST STEEL

CONTROL MARKING--NO RESTRICTIONS

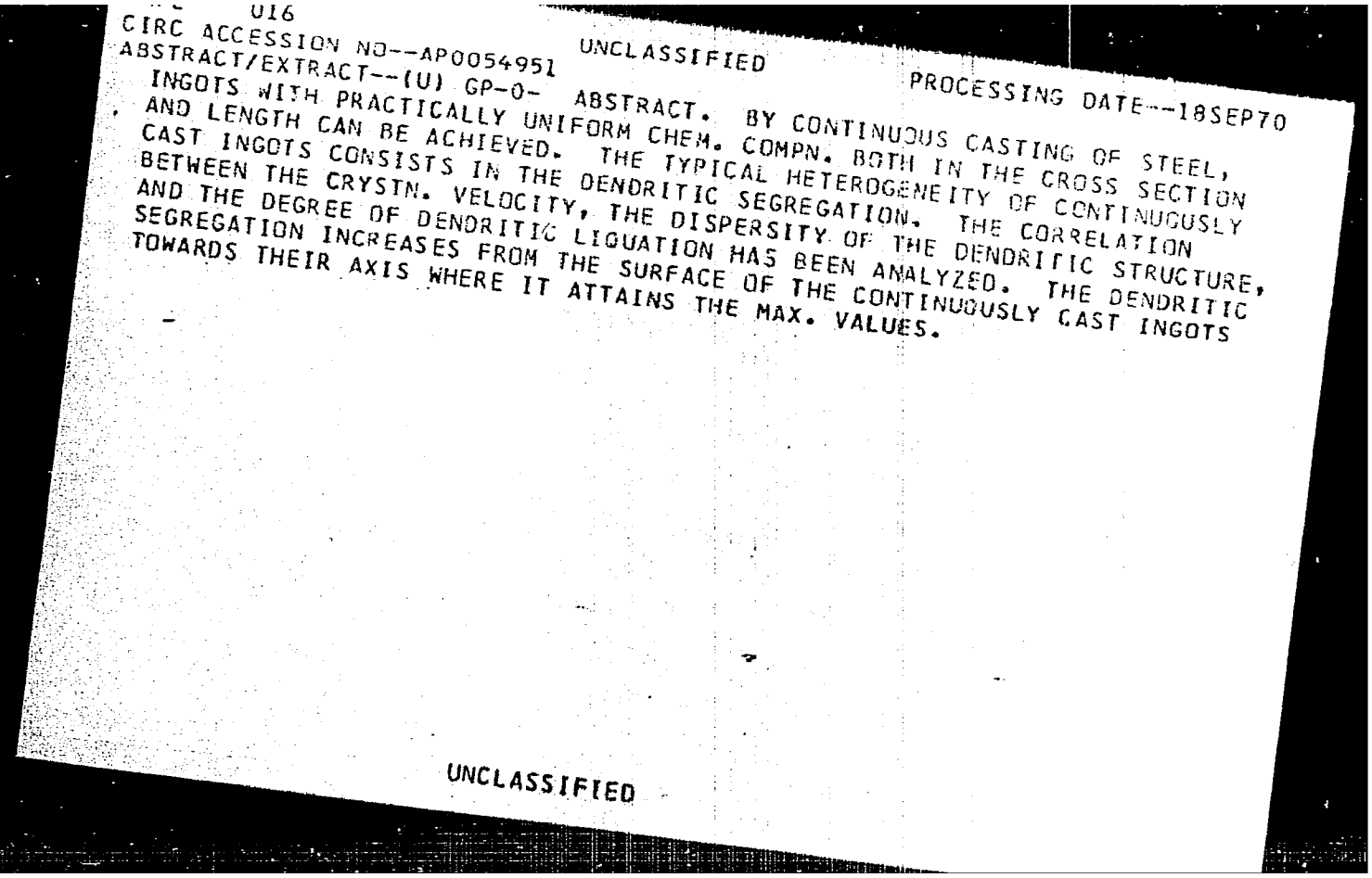
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0155

STEP NO--UR/0370/70/000/001/0091/0094

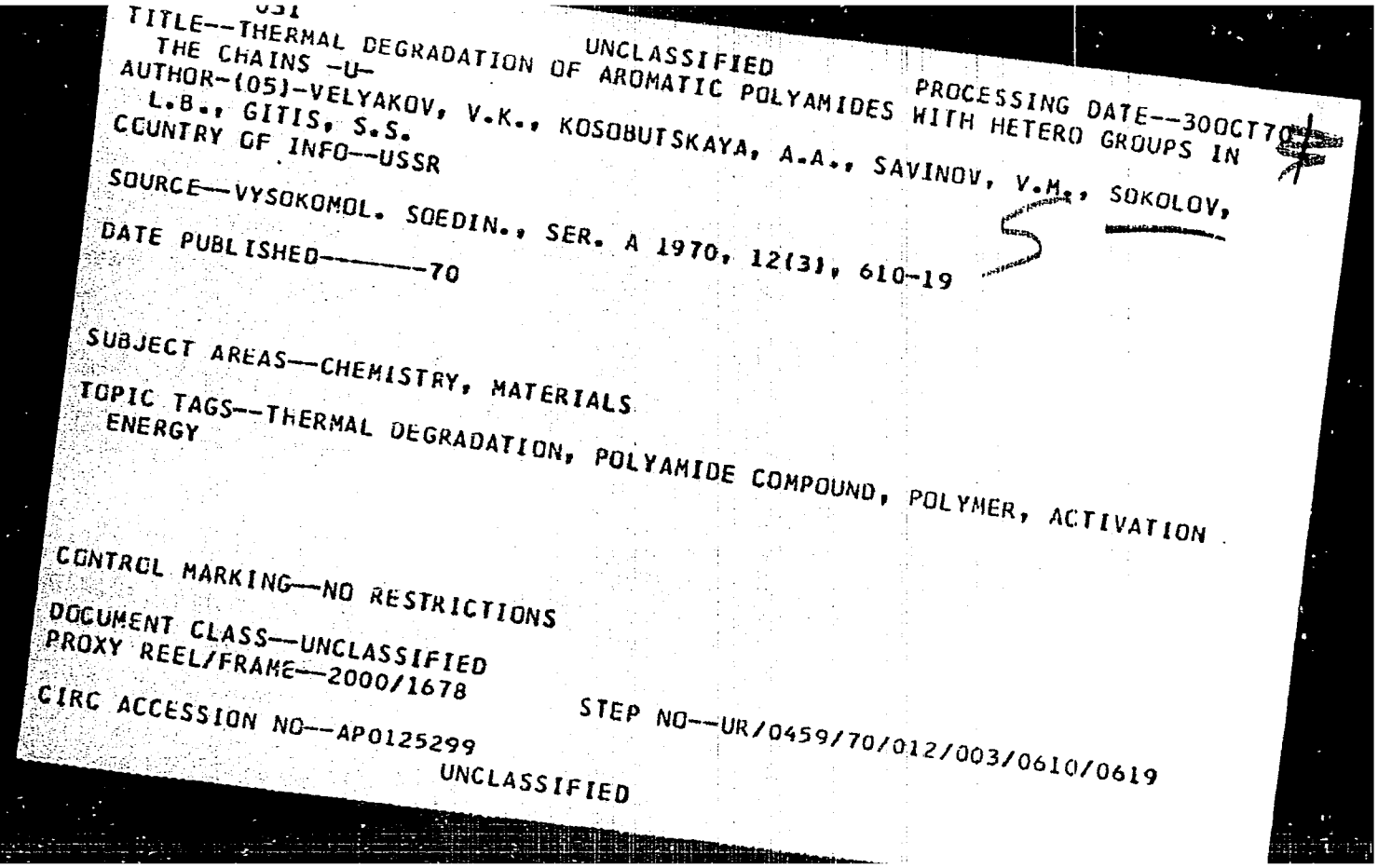
CIRC ACCESSION NO--AP0054951

UNCLASSIFIED



U16
CIRC ACCESSION NO--AP0054951 UNCLASSIFIED PROCESSING DATE--18SEP70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY CONTINUOUS CASTING OF STEEL, INGOTS WITH PRACTICALLY UNIFORM CHEM. COMPN. BOTH IN THE CROSS SECTION AND LENGTH CAN BE ACHIEVED. THE TYPICAL HETEROGENEITY OF CONTINUOUSLY CAST INGOTS CONSISTS IN THE DENDRITIC SEGREGATION. THE CORRELATION BETWEEN THE CRYSTN. VELOCITY, THE DISPERSITY OF THE DENDRITIC STRUCTURE, AND THE DEGREE OF DENDRITIC LIQUATION HAS BEEN ANALYZED. THE DENDRITIC SEGREGATION INCREASES FROM THE SURFACE OF THE CONTINUOUSLY CAST INGOTS TOWARDS THEIR AXIS WHERE IT ATTAINS THE MAX. VALUES.

UNCLASSIFIED



031 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THERMAL DEGRADATION OF AROMATIC POLYAMIDES WITH HETERO GROUPS IN THE CHAINS -U-

AUTHOR-(05)-VELYAKOV, V.K., KOSOBUTSKAYA, A.A., SAVINOV, V.M., SOKOLOV, L.B., GITIS, S.S.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(3), 610-19

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

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--THERMAL DEGRADATION, POLYAMIDE COMPOUND, POLYMER, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1678

STEP NO--UR/0459/70/012/003/0610/0619

CIRC ACCESSION NO--AP0125299

UNCLASSIFIED

2/2 031 UNCLASSIFIED

CIRC ACCESSION NO--AP0125299 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DEGRADATION IN AIR OF AROMATIC POLYAMIDES WAS STUDIED. THE AMTS. OF THE POLYMERS CONVERTED TO GASES IN 30 MIN AT THE DECOMPN. TEMPS., THE ACTIVATION ENERGIES OF THE DEGRADATION AT 410-20DEGREES AND 440--60DEGREES, THE TEMPS. AT WHICH 20PERCENT OF THE GEL FRACTION REMAINS, AND THE TEMPS. AT WHICH THE VISCOSITY IS REDUCED TO 0.5 OF ITS ORIGINAL VALUE IN 30 MIN ARE GIVEN. HETERO GROUPS IN THE POLYMER MOLS. LOWER THE THERMAL OXIDATIVE RESISTANCE IN THE ORDER CH SUB2 LARGER THAN S LARGER THAN CO LARGER THAN O LARGER THAN SO SUB2 LARGER THAN OR EQUAL TO CF SUB2 CF SUB2.

FACILITY: VLADIMIR. NAUCH.-ISSLED. INST. SIN. SMOL, VLADIMIR, USSR.

UNCLASSIFIED

1/2 042 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RHEOLOGICAL PROPERTIES OF POLY M, PHENYLENEISOPHTHALAMIDE -U-

AUTHOR-(04)-FOMENKO, L.N., GERASIMOV, V.D., KUZNETSOV, G.A., SOKOLOV, L.B.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 27-30

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYMER RHEOLOGY, POLYPHENYENE RESIN, AMIDE, SHEAR STRESS, VISCOMETER, MACROMOLECULE, MOLECULAR WEIGHT, HYDRODYNAMIC PROPERTY, CRYSTALLIZATION, VISCOUS FLOW

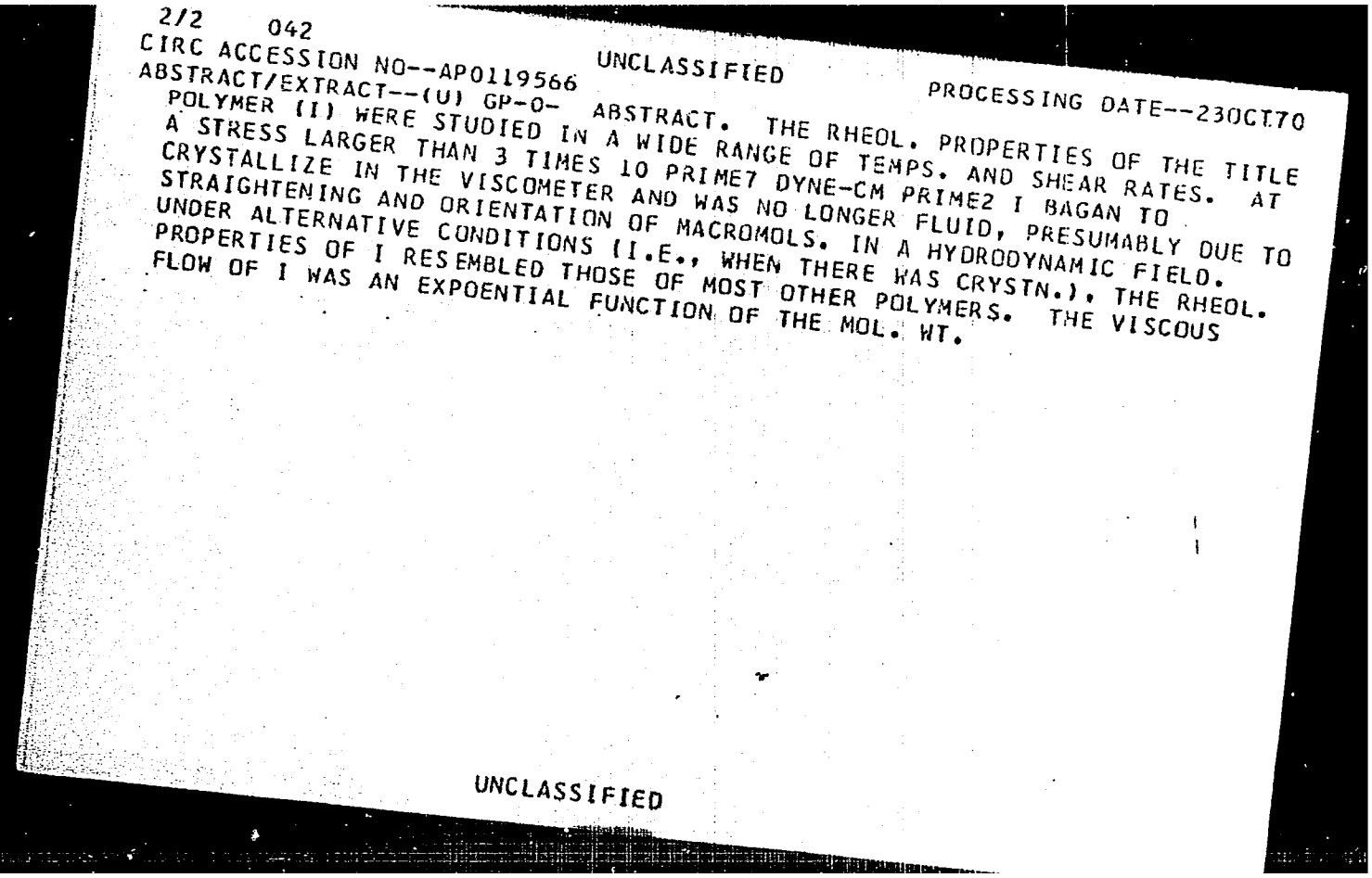
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0658 STEP NO--UR/0191/70/000/003/0027/0030

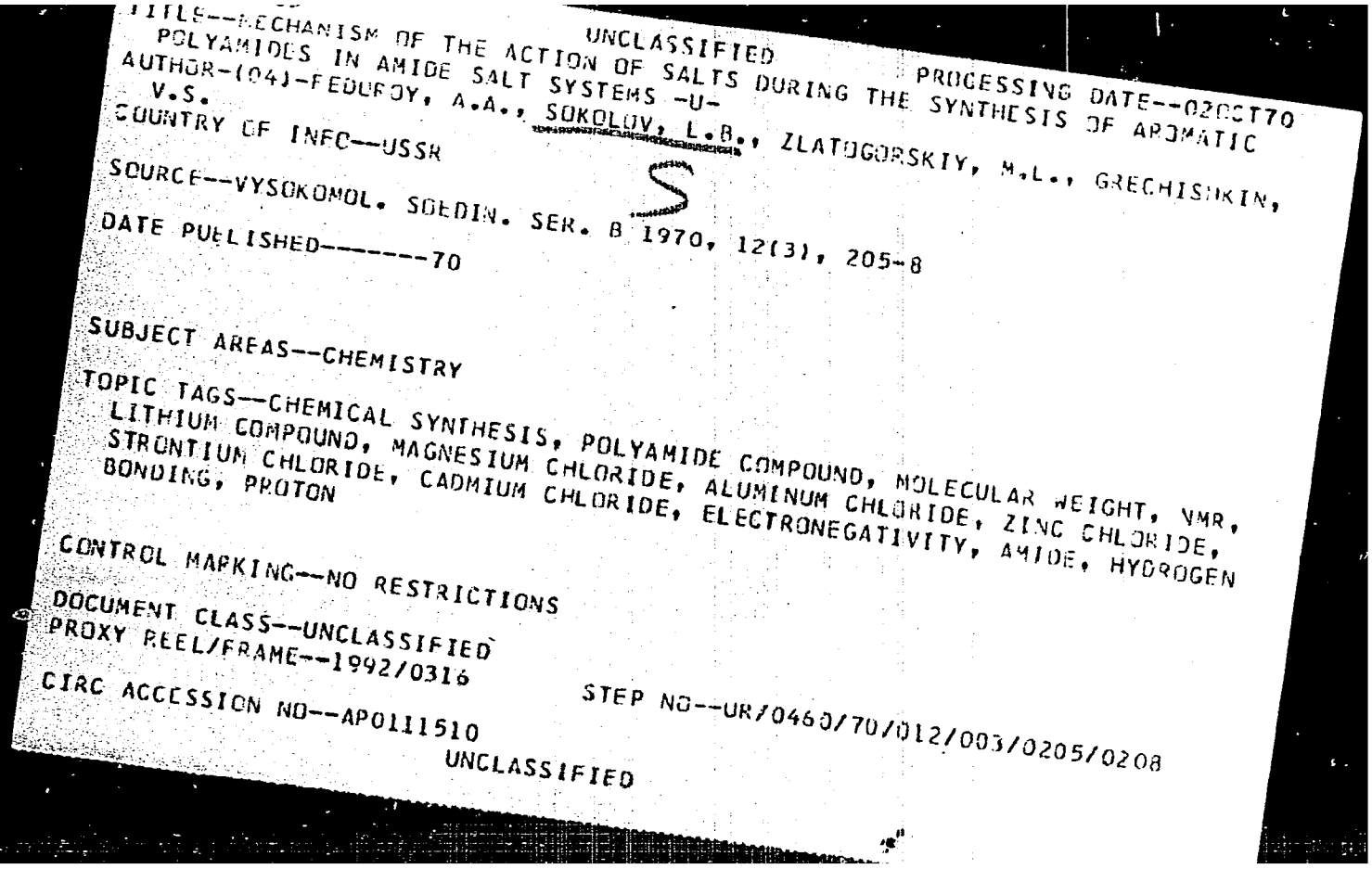
CIRC ACCESSION NO--AP0119566

UNCLASSIFIED



2/2 042 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0119566
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RHEOL. PROPERTIES OF THE TITLE POLYMER (I) WERE STUDIED IN A WIDE RANGE OF TEMPS. AND SHEAR RATES. AT A STRESS LARGER THAN 3 TIMES 10 PRIME7 DYNE-CM PRIME2 I BAGAN TO CRYSTALLIZE IN THE VISCOMETER AND WAS NO LONGER FLUID, PRESUMABLY DUE TO STRAIGHTENING AND ORIENTATION OF MACROMOLS. IN A HYDRODYNAMIC FIELD. UNDER ALTERNATIVE CONDITIONS (I.E., WHEN THERE WAS CRYSTN.), THE RHEOL. PROPERTIES OF I RESEMBLED THOSE OF MOST OTHER POLYMERS. THE VISCOUS FLOW OF I WAS AN EXPOENTIAL FUNCTION OF THE MOL. WT.

UNCLASSIFIED



UNCLASSIFIED

TITLE--MECHANISM OF THE ACTION OF SALTS DURING THE SYNTHESIS OF AROMATIC POLYAMIDES IN AMIDE SALT SYSTEMS -U-

PROCESSING DATE--02OCT70

AUTHOR-(04)-FEDOROV, A.A., SOKOLOV, L.B., ZLATOGORSKIY, M.L., GRECHISHKIN, V.S.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN. SER. B 1970, 12(3), 205-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, POLYAMIDE COMPOUND, MOLECULAR WEIGHT, NMR, LITHIUM COMPOUND, MAGNESIUM CHLORIDE, ALUMINUM CHLORIDE, ZINC CHLORIDE, STRONTIUM CHLORIDE, CADMIUM CHLORIDE, ELECTRONEGATIVITY, AMIDE, HYDROGEN BONDING, PROTON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

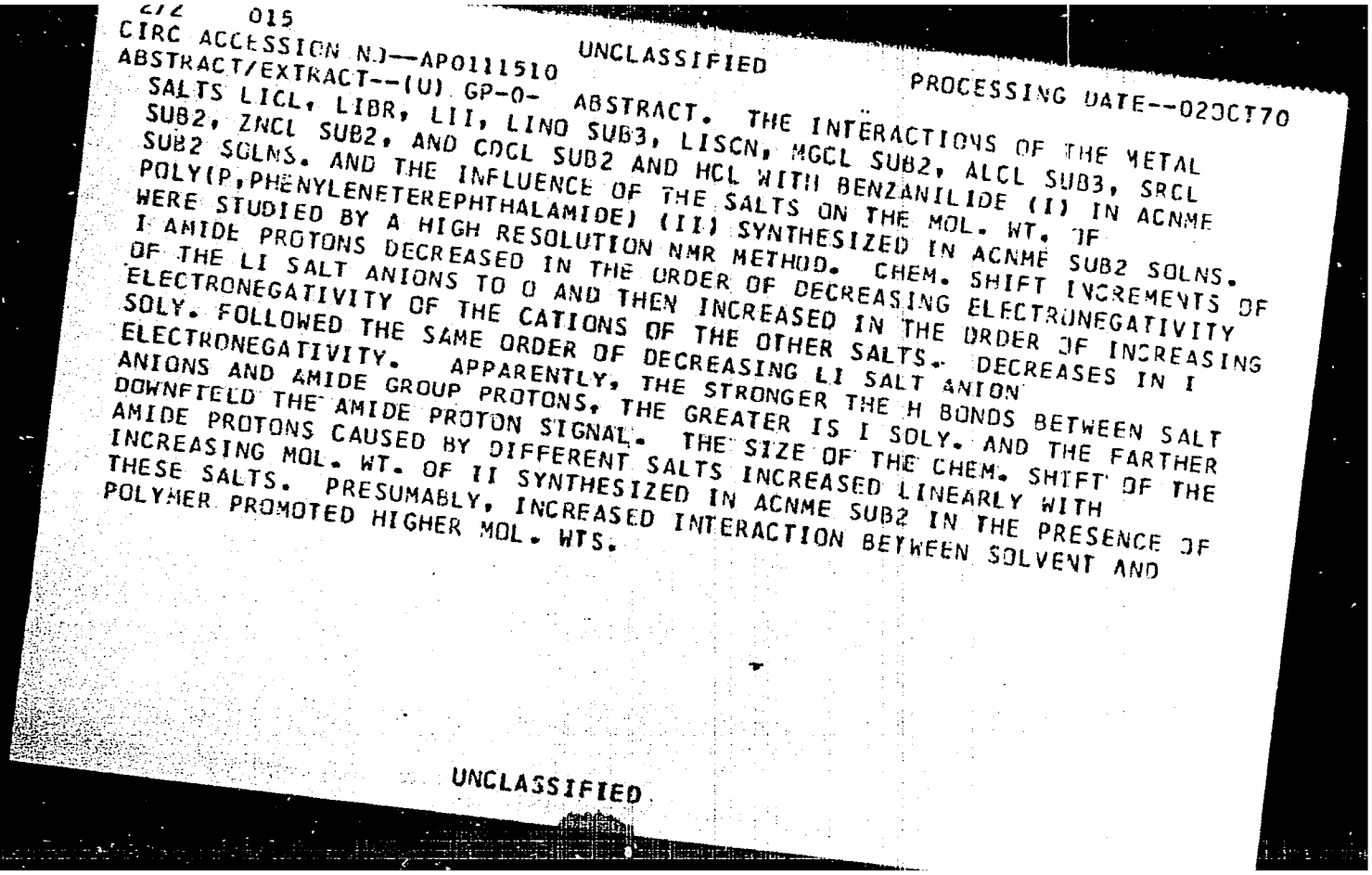
PROXY REEL/FRAME--1992/0316

STEP NO--UR/0460/70/012/003/0205/0208

CIRC ACCESSION NO--AP0111510

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110018-3"



272 015
UNCLASSIFIED
CIRC ACCESSION NO--AP0111510 PROCESSING DATE--02OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTIONS OF THE METAL SALTS LICL, LIBR, LII, LINO SUB3, LISCN, MGCL SUB2, ALCL SUB3, SRCL SUB2, ZNCL SUB2, AND COCL SUB2 AND HCL WITH BENZANILIDE (I) IN ACNME SUB2 SOLNS. AND THE INFLUENCE OF THE SALTS ON THE MOL. WT. OF POLY(P,PHENYLENETEREPHTHALAMIDE) (II) SYNTHESIZED IN ACNME SUB2 SOLNS. WERE STUDIED BY A HIGH RESOLUTION NMR METHOD. CHEM. SHIFT INCREMENTS OF I AMIDE PROTONS DECREASED IN THE ORDER OF DECREASING ELECTRONEGATIVITY OF THE LI SALT ANIONS TO O AND THEN INCREASED IN THE ORDER OF INCREASING ELECTRONEGATIVITY OF THE CATIONS OF THE OTHER SALTS. DECREASES IN I SOLY. FOLLOWED THE SAME ORDER OF DECREASING LI SALT ANION ELECTRONEGATIVITY. APPARENTLY, THE STRONGER THE H BONDS BETWEEN SALT ANIONS AND AMIDE GROUP PROTONS, THE GREATER IS I SOLY. AND THE FARTHER DOWNFIELD THE AMIDE PROTON SIGNAL. THE SIZE OF THE CHEM. SHIFT OF THE AMIDE PROTONS CAUSED BY DIFFERENT SALTS INCREASED LINEARLY WITH INCREASING MOL. WT. OF II SYNTHESIZED IN ACNME SUB2 IN THE PRESENCE OF THESE SALTS. PRESUMABLY, INCREASED INTERACTION BETWEEN SOLVENT AND POLYMER PROMOTED HIGHER MOL. WTS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110018-3"

USSR

UDC: 539.434:669.29/73

MAGIDOV, M. B., SHETULOV, D. I., and SOKOLOV, L. D., Dzerzhinsk Branch, All-Union Scientific Research and Design Institute of Chemical Machinery (NIIKhIMMASh)

"Feasibility of a Correlation Between the Slopes of Fatigue and Strengthening Curves as Exemplified by Titanium, Zinc, and Cadmium"

Minsk, Izvestiya Akademii nauk BSSR, Seriya fiziko-tekhnicheskikh nauk, No 1, 1972, pp 38-42

Abstract: The feasibility of an inverse correlation between the coefficients of strengthening during static strain and the slope of fatigue strength manifest in metals with a body-centered cubic lattice has been studied on Ti, Cd, and Zn. The imperfect packing energies of the test metals are given as 10, 150, and 270 erg/cm^2, respectively. The tests included rotary bending, tensile to rupture, and microstructural changes with fatigue. Use was made of the method of least squares to plot fatigue and strengthening curves. It is demonstrated that the slopes of the fatigue curves are steeper the higher the imperfect packing energies, i.e., in the sequence: Ti, Cd, and Zn. The slopes of the strengthening curves of these metals are in the reverse order: Zn, Cd, Ti. The data indicate that metals with good

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USSR

MAGIDOV, M. B., et al, Izvestiya Akademii nauk BSSR, Seriya fiziko-tekhnicheskikh nauk, No 1, 1972, pp 38-42

performance for fatigue (namely Ti) show a flat fatigue curve, a steep strengthening curve, and inhibited lateral slip. On the other hand, metals with poor fatigue properties (Cd, Zn) have a steep fatigue curve, a flat strengthening curve, and well-developed lateral slip. The properties of Cd and Zn are additionally analyzed relative to their imperfect packing energies. (5 illustrations, 9 bibliographic references).

2/2

TECHNICAL TRANSLATION

FSTC-HT-23- 503-71

ENGLISH TITLE: DEFORMABILITY OF NEODYMIUM AS A FUNCTION OF TEMPERATURE DEFORMATION RATE

FOREIGN TITLE: DEFORMIRUEMOSTI NEODIMA VFUNKTSII TEMPERATURY I SKOROSTI DEFORMATSII

AUTHOR: V. A. Skudnov, L. D. Sokolov and A. N. Gladkikh

SOURCE: IZVESTIYA AKADEMII NAUK BSSR, SERIYA FIZIKO-TEKHNICHESKIKH NAUK, No. 2, 1969, pp. 114-116

Translated for FSTC by ACSI

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USSR

Steels

SOLENOV, V. M. and SOKOLOV, L. D., Gor'kiy Polytechnic Institute

UDC 669.15-194:669.24'295:620.17

"Low-Temperature Strength of Kh18N9T Austenitic Steel"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, No 1, 1972, PP 152-155

Abstract: This study concerns the strength characteristics of Kh18N9T austenitic steel within -196 to +600°C, at strain rates from 10^{-3} to 10^{-1} sec^{-1}. The steel's chemical composition was: 0.07% C; 1.20% Mn; 0.44% Si; 0.30% P; 0.014% S; 0.46% Ti; 9.24% Ni; 17.30% Cr. The experiment used the uniaxial compression system on cylindrical specimens. The experimental data show an increased deformation resistance at low temperatures (-196 to +200°C) and at high deformation ratios. The results indicate support of the "martensitic" theory of strengthening Kh18N9T austenitic steels for the low-temperature region. For temperatures ranging from 300 to 600°C the higher stresses are related to the thermally activated mechanism of dislocation blocking by "atmospheres" of intrinsic chromium atoms. (3 illustrations; 10 bibliographic references).

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USSR

UDC 539.4

SOLENOV, V. M., SKUDNOV, V. A., SOKOLOV, L. D., GLADKIKH, A. N., Gor'kiy Polytechnical Institute, Gor'kiy

"Study of the Temperature-Rate Dependence of the Strength and Plasticity Characteristics of Lutecium"

Kiev, Problemy prochnosti, No. 8, Aug 71, pp 61-63

Abstract: A technique is described for studying the effect of temperature-rate factors on the strength and deformation characteristics of lutecium. The lutecium sample in this case had the following chemical composition: Lu -- 95.72 wt. %; Er -- 0.25, Tu -- 3.5, Ib <0.1, Ca -- 0.4, Fe -- 0.025, Cu <0.005. Samples for stretching had a diameter of 1.5 mm and a working length of 8 mm, and samples for sag tests had a diameter of 1.5 mm and a height of 0.25 mm. Experiments were conducted at temperatures of -80, 110, 304, 497, 689, and 882°C and at various deformation rates ($4 \cdot 10^{-3}$, $2 \cdot 10^{-2}$, $2 \cdot 10^{-2}$ sec^{-1}); destruction tests were conducted at temperatures of -80, 304, 497 and 689°C with a deformation rate of $2 \cdot 10^{-2}$ sec^{-1}. Samples were deformed in an argon medium and the experiments were conducted after holding for 10-15 min at a given temperature.

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SOLENOV, V. M., et al, Problemy prochnosti, No. 8, Aug 71, pp 61-63

The device used for the sag tests is described. Graphs of the deformation of lutecium at different temperatures and rates of deformation show that the strength rises with a drop in temperature and with an increase in the deformation rate. The temperature dependence of the stress σ shows a nonmonotonic graph with a hump at the deformation aging temperature. The studies showed the possibility of the plastic working of Lu over a wide temperature range by using soft deformation techniques. It is noted that a purer metal should have even higher plasticity.

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USSR

UDC: 539.43

SHETULOV, D. I., MAGIDOV, M. B., MYASNIKOV, A. M., SHIBAROV, V. V., and SOKOLOV, L. D., Gor'kiy

"Study of Hardening in the Process of Fatigue in Some Pure Metals"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 165-169

Abstract: Earlier research has shown that the capacity of metals to resist varying stresses is inversely related to their capacity to harden under static stress. The coefficient of hardening is determined by the slope of the stress-strain curve (hardening curve). The slope of the fatigue curve demonstrates the capacity of materials to resist varying stresses "better" or "worse". The value of the slope of the hardening curve varies inversely with the packing defect energy (γ), while the slope of the fatigue curve is a direct function of γ. Described here is an attempt to correlate both of these characteristics. The metals involved in the study were Al, Cd, Zn, Cu, Fe, and Ti. The experimental results indicate that the inclinations of the fatigue curves to the X-axis correlate with the packing defect energy (γ), i.e., the higher the γ, the steeper the slope. The slope of the fatigue curves is related to the slope of the hardening curves, i.e., the flatter the slope of the fatigue curve, the steeper the hardening curve.

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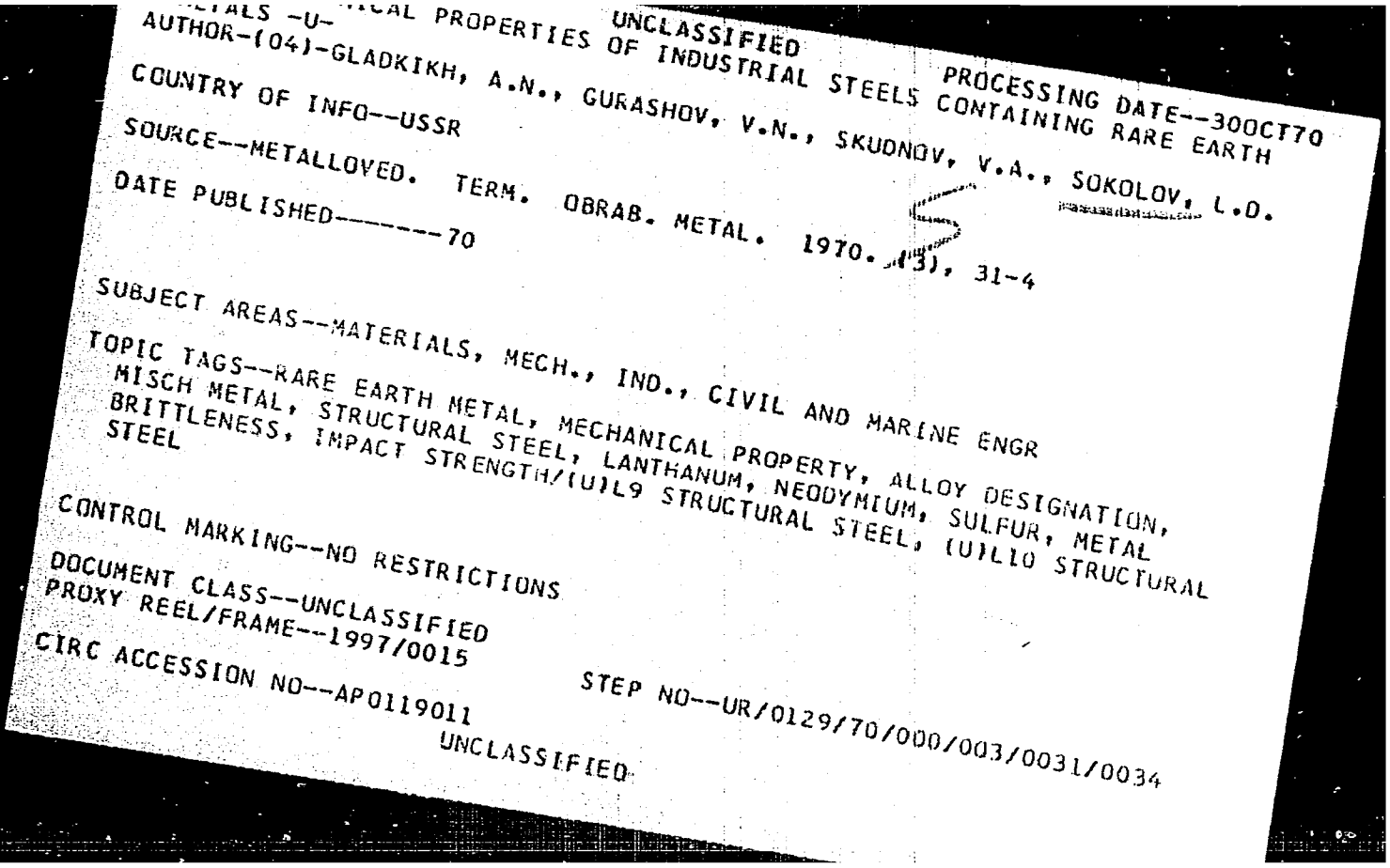

UNCLASSIFIED PROCESSING DATE--30OCT70

...ETALS -U- ...ICAL PROPERTIES OF INDUSTRIAL STEELS CONTAINING RARE EARTH

AUTHOR-(04)-GLADKIKH, A.N., GURASHOV, V.N., SKUDNOV, V.A., SOKOLOV, L.D.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (3), 31-4

DATE PUBLISHED-------70

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

TOPIC TAGS--RARE EARTH METAL, MECHANICAL PROPERTY, ALLOY DESIGNATION, MISCH METAL, STRUCTURAL STEEL, LANTHANUM, NEODYMIUM, SULFUR, METAL BRITTLENESS, IMPACT STRENGTH/(U)L9 STRUCTURAL STEEL, (U)L10 STRUCTURAL STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0015

CIRC ACCESSION NO--AP0119011 STEP NO--UR/0129/70/000/003/0031/0034

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0119011
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEELS L9 AND L10 WITH ADDED RARE EARTH ELEMENTS (FE-CE, MISCH METAL, ND, LA, AND LA OXIDES) WERE MELTED ON A LAB. SCALE AND UNDER INDUSTRIAL CONDITIONS. ON THE LAB. SCALE THE DEOXIDN. WAS CARRIED OUT WITH FE-SI, AND SI-CA. THE RARE EARTH ADDITIVES WERE INTRODUCED AT THE BOTTOM OF A LADLE BY MEANS OF A ROD DURING THE TAPPING OPERATION AT 1560-90DEGREES. INGOTS WERE FORGED INTO RODS, DIAM. 20 MM. INDUSTRIAL MELTS WERE PRODUCED IN AN ELEC. FURNACE, DEOXIDIZED IN THE SAME WAY AS IN LAB. EXPTS. ALL SPECIMENS WERE NORMALIZED AT 910-40DEGREES, THEN QUENCHED AT 880-900DEGREES, AND TEMPERED AT 650DEGREES. THE INTRODUCTION OF RARE EARTH ELEMENTS RESULTS IN THE LOWERING OF THE CRIT. TEMP. OF BRITTLENESS, AND IN THE INCREASE OF IMPACT AND CYCLIC STRENGTH. THE INTRODUCTION OF 0.15-0.20PERCENT RARE EARTH ELEMENTS CAUSED A DECREASE (BY 27PERCENT) OF S CONCN. IN STEEL L9. THIS WAS PARTICULARLY EFFECTIVE WITH FECE AT 0.3PERCENT LEVEL. INCREASE OF RARE EARTH ELEMENTS ADDN. TO GREATER THAN 0.20PERCENT CAUSED A DETERIORATION OF STEEL PROPERTIES.
FACILITY: GOR'K. POLITEKH. INST., GORKI, USSR.

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133009

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF RARE EARTH METALS ON THE MECHANICAL PROPERTIES OF C AND ALLOY STEELS WERE STUDIED. THE INTRODUCTION OF RARE EARTH ELEMENTS INTO ANY OF THE STEELS REDUCED THE CRITICAL BRITTLENESS TEMP. AND RAISED THE IMPACT STRENGTH (TOUGHNESS); IT ALSO TENDED TO RAISE THE FATIGUE STRENGTH. THE INTRODUCTION OF 0.2PERCENT RARE EARTH METALS INTO ONE TYPE OF INDUSTRIAL STEEL REDUCED THE S CONTENT BY NEARLY 30PERCENT. A STILL GREATER EFFECT ON S CONTENT WAS ACHIEVED ON INTRODUCING 0.3PERCENT; HOWEVER, FROM GENERAL CONSIDERATIONS 0.2PERCENT CONSTITUTED THE NORMAL LIMIT.

UNCLASSIFIED

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UDC 669.873:539.3

USSR

SKUDNOV, V. A., SOKOLOV, L. D., and GLADKIKH, A. N., Gor'kiy

"Nature of Thallium Deformability"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 117-118

Abstract: The temperature dependences of the fatigue limit (σ^-), the relative elongation, and the contraction at two rates of deformation ($\dot{\varepsilon}$), as well as of index n, calculated by the formula

$$n = \frac{\log \frac{\sigma_2}{\sigma_{B1}}}{\log \frac{\dot{\varepsilon}_2}{\dot{\varepsilon}_1}}$$

of thallium (99.998 wt. %) are shown. The dependences are of a nonmonotonous

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USSR

SKUDNOV, V. A., et al, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 117-118

character. A plasticity failure is observed, which with an increase on the order of the rate of deformation, shifts to an area of higher temperatures, at 0.25-0.30 of thallium melting temperature. The nature of the change in the plasticity index according to temperature correlates well with the high-speed index according to durability.

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USSR

UDC 620.17:669.14.018.29

GLADKIKH, A. N., GURASHOV, V. N., SKUDNOV, V. A. and SOKOLOV, I. D. (Krasnoye Sormovo Plant, Gor'ki Polytechnic Institute)

"Mechanical Properties of Industrial Steels with Rare Earth Metals"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 3, 1970, pp 31-34

Abstract: An investigation was made of the effect of the addition of rare earth metals on the properties of 50G, Kh17N2, 09G2, 08KP, U7, U13, 60S2, and 18KhGSN2M steels (L9 and L10). Ferrocerium, neodymium, lanthanum, and lanthanum oxides were used as alloying additives. Laboratory and industrial samples of steels were normalized at 910-940°C, then hardened at 880-900° and tempered at 660-680°. Mechanical properties were investigated at -196 to 900°C, and at various strain rates. The results are presented in graphs, which show the effect of various rare earth metals on ductility. They show that: the addition of rare earth metals lowers the brittleness critical temperature, while the ductility and cyclical strength of steels increase; the sulfur content decreases; and the addition of more than 0.20% of rare earth metals impairs the steel properties. 5 figures.

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1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--HEAT RESISTANCE PROPERTIES OF CERTAIN PURE METALS -U-

AUTHOR--SOKOLOV, L.D., SOLENOV, V.M., SKUDNOV, V.R., SHNEYIBERG, A.M., GLADKIKH, A.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, METALLY, MAR. APR. 1970 P. 181-189

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--DIAMOND, CRYSTAL LATTICE STRUCTURE, HEAT RESISTANT METAL, PLASTIC DEFORMATION, INTERNAL STRESS, THERMAL EFFECT, LANTHANUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0339 STEP NO--UR/0370/70/000/000/0181/0189

CIRC ACCESSION NO--AP0108637

ZZZZZZZZZZZZ UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0108637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE RESISTANCE TO UNIAXIAL DEFORMATION AND OF THE PLASTIC PROPERTIES OF POLYCRYSTALLINE LANTANIDES AND OTHER METALS SUBJECTED TO COMPRESSION AND TENSION AT DIFFERENT TEMPERATURES AND STRAIN RATES. IT IS FOUND THAT FOR EQUAL HOMOLOGOUS TEMPERATURES AND STRAIN LEVELS, THE SENSITIVITY TO CHANGES IN THE TEMPERATURE AND STRAIN RATE INCREASES WITH AN INCREASE IN THE STACKING FAULT ENERGY AND A DECREASE OF THE LATTICE COORDINATION NUMBER ACCORDING TO THE SEQUENCE FCC, HCP, BCC, AND DIAMOND TYPE LATTICE.

ZZZZZZZZZZZZ UNCLASSIFIED

USSR

UDC 669.76:79

SOKOLOV, L. D. (Editor), SKUDNOV, V. A., SOLENOV, V. M., GLADKIKH, A. N., SHETULOV, D. I., SHNEYBERG, A. M., GUSLYAKOVA, G. P., and DMITRIYEV, N. P.

Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

Translation of Annotation: A study is made of the mechanical properties (deformation resistance, plasticity, fatigue, creep, and stress-rupture strength) of rare and other metals, and their dependence on temperature and deformation rate. Characteristics of strain hardening, the stress and plasticity dependencies on temperature and deformation rate parameters, and other experimental data are discussed on the basis of the theory of defects and other contemporary concepts regarding the type of bonds in crystals.

The book is intended for scientists, engineers, and technicians at institutes, design institutions, nonferrous metallurgy plants, machinebuilding plants, and power engineering stations. It can also be useful to aspirants and students in higher educational institutions.

Table of Contents

USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

4/4

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE PROBLEM CONCERNED WITH THE TIMELY DIAGNOSIS OF CANCER OF THE STOMACH -U-

AUTHOR-(05)-VASILENKO, V.KH., SOKOLOV, I.K., RAPOPORT, S.I., TSODIKOV, G.V., SMOLSKIY, B.G.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 9-20

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, CANCER, RADIOGRAPHY, BIOPSY, DIAGNOSTIC MEDICINE, STOMACH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0915 STEP NO--UR/0497/70/048/003/0009/0020

CIRC ACCESSION NO--AP0126574 UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126574

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEX EXAMINATION (ROENTGENOLOGICAL, GASTROSCOPY, AIMED GASTROBIOPSY AND CYTOLOGY) PERFORMED IN 475 PATIENTS SUFFERING FROM GASTRIC DISEASES PREOPERATIVELY REVEALED CANCER IN 62 OUT OF 65 CASES. THE AUTHORS REPORT ON 12 CASES OF EARLY PREOPERATIVE RECOGNITION OF CANCER OF THE STOMACH THANKS TO THE USE OF AIMED GASTROBIOPSY AND CYTOLOGY. IT IS DEEMED EXPEDIENT TO INTRODUCE NEW PRINCIPLES IN THE APPROACH TO THE PROBLEM OF RECOGNITION OF EARLY CANCER, IN WHICH DECISIVE SHOULD BE BIOPSY INVESTIGATION OBTAINED DURING AIMED GASTROSCOPY; HOWEVER AT THE SAME TIME CLINICAL DATA IN THE DIAGNOSIS OF EARLY CANCER ARE RARELY PRACTICAL.

FACILITY: VSESOYUZNYY NAUCHNO-ISSLED. INSTITUT GASTROENTEROLOGII, MINISTERSTVA ZDRAVOOKHRANENIYA, SSSR, MOSKVA.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--GASTROSCOPY IN THE DIAGNOSIS OF GASTROINTESTINAL HEMORRHAGES -U-

AUTHOR-(05)-STRUCHKOV, V.I., SOKOLOV, L.K., LUTSEVICH, E.V., BELOV, I.N., RYSHIKOV, V.N.

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2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054204

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CARRIED OUT GASTROSCOPIC INVESTIGATION IN 101 PATIENTS SUFFERING FROM GASTROINTESTINAL HEMORRHAGE OF DIVERSE ETIOLOGY. AN EARLY COMPLEX (CLINICO ROENTGENO ENDOSCOPIC) INVESTIGATION ENABLED TO REVEAL THE ORIGIN OF HEMORRHAGE IN 92 PATIENTS. ONLY ENDOSCOPICALLY THE SOURCE OF HEMORRHAGE WAS DISCLOSED IN 36 CASES. OF PARTICULAR IMPORTANCE ARE INVESTIGATIONS INVOLVING THE EMPLOYMENT OF NEW DESIGNS OF GASTROFIBROSCOPES WITH A DEVICE FOR CONTROLLED FLEXION OF THE DISTAL END OF THE APPARATUS AND AIMED BIOPSY. THE AUTHORS ARE OF THE OPINION THAT THE DATA DERIVED ARE PROOF OF THE EXPEDIENCY AND EFFECTIVENESS OF USING EMERGENCY GASTROSCOPY AT THE PEAK OF GASTROINTESTINAL HEMORRHAGE OR AT EARLY PERIODS AFTER ITS CESSATION. THE REFERRED TO EXPERIENCE TESTIFIES TO THE FACT THAT GASTROSCOPY IN GASTRIC HEMORRHAGE DOES NOT AGGRAVATE THE STATE OF PATIENTS. THE HAZARD OF GASTROSCOPY IN HEMORRHAGES IS EXAGERATED.

UNCLASSIFIED

USSR

UDC 619:616.988.43:576.807.7

SOBKO, A. I., PROKHOROV, V. N., SOKOLOV, L. N., and KOSHETSYAN, E. G., All-Union Scientific Research Institute of Foot-and-Mouth Disease

"Antigenic Properties of Foot-and-Mouth Disease Virus Concentrated by Means of Polyethyleneglycol"

Moscow, Veterinariya, No 5, May 73, pp 67-68

Abstract: On being concentrated by precipitation with 10% polyethyleneglycol (mol. wt. 6000), lapinized foot-and-mouth disease virus of types O, A, and C and subtypes O_1 and A_{22} retained its antigenic properties. Upon inactivation of the concentrated virus with 0.2% beta-propiolactone, highly effective type-specific complement-fixing and precipitating antigens of types O, A, and C and subtypes O_1 and A_{22} were obtained. These antigens were suitable for the complement fixation and diffuse precipitation reactions.

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USSR UDC 619.611.9-022.6+636.1+636.2+636.4+636.52/.58

SOBKO, A. I.; SIDOROV, I. V.; SOKOLOV, L. N.; BELOKON, I. K.; OVCHARENKO, I. V.

"Determination of the Optimum Dose of Foot-and-Mouth Disease Saponin Aluminum Hydroxide Formol Vaccine for Swine"

Vladimir, V sb. Yashchur. T. 1 (Foot-and-Mouth Disease, Vol 1 -- Collection of Works), 1970, pp 69-71 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.572 by A. Musin)

Translation: Three experiments in swine immunization were conducted with different variants and different doses of the vaccine. Single immunization does not guarantee stable immunity. Double administration of the same vaccine (20 and 40-50% immunizing doses for guinea pigs) with an interval of 14 days) produced a high level of immunity in 100% of the 6-10 month-old pigs.

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SOKOLOV, M.

"Barriers to the Flu"

Alma-Ata, Kazakhstanskaya Pravda, 14 Feb 70, p 4

Translation: A flu epidemic, everyone knows, has struck several European countries, including our own. The danger it presents should neither be exaggerated nor minimized. The flu is variable and treacherous, and the effects are not always mild.

Many people think the flu is a trifling disease and they try to fight it on their feet. But often they don't succeed. We all know that resistance to other diseases diminishes when we become sick. Often the flu itself produces serious complications. It adds, for example, more persons to the ranks of those suffering from cardiovascular diseases. Common sense and experience tell us to abandon harmful heroism. A person with the flu (especially in the acute period) should stay in bed for his own health and for the sake of others.

The disease is hard to control because of the frequency with

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SOKOLOV, M., Alma-Ata, Kazakhstanskaya Pravda, 14 Feb 70, p 4

which the virus changes. The most important variants at the present time are the A and B viruses. Unfortunately, a person who recovers from the flu caused by, let us say, the A virus, is not immune to an infection caused by the B virus, and vice versa. Moreover, three varieties, A-A, A_1 and A_2, produce similar diseases, but they do not create immunity to each other. That is why outbreaks or major epidemics occur almost freely from time to time in all countries and continents. They strike people whose immunity at the particular time is too low to ward off the attack of the invisible organisms. Another reason for the relatively frequent recurrence of influenza is that immunity proper does not last very long.

Can anything be done about the flu? It can, although only within limits. Timely and widespread use of the available anti-epidemic and hygienic-sanitary measures, together with specific prophylactic agents, can substantially reduce the range of an epidemic, make the course of the disease milder, and decrease the number of complications.

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It should be remembered that everyone who has the flu very quickly becomes a spreader of the infection, that is, he is dangerous to those around him. That is why early diagnosis and isolation of all those with the disease is so important. This is a task for the community. It is up to the physician, of course, to make the diagnosis, but he must be brought into the picture quickly. You must see the doctor! It is extremely important that sick children be "fished out" of schools, kindergartens, nurseries, and apartment houses. Teachers, parents and the community in general can be of inestimable help in this matter. If a child doesn't feel well, complains of headache, and eats poorly, it would be criminal, one might say, to send him to school or anywhere else where there are other children, especially during a flu outbreak. As soon as there is a suspicion (I stress suspicion, not certainty!) that the child has the flu, he should be isolated. Children are particularly susceptible to this infection and they suffer from it severely. Why then subject them to extra danger by taking them with you to the movies, stores, or on buses unless it is urgently necessary to do so?

The observance of health measures helps to prevent the flu.

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When you sneeze or cough, cover your mouth and nose with a handkerchief, even at home. When taking care of a sick person, carefully follow the rules: wash your hands every time, wear a mask, disinfect the dishes, air out the room very frequently. Sunlight, even in the winter, and absolute cleanliness are the enemies of our virus enemies. Industrial premises and places where people gather should also be frequently and thoroughly ventilated.

One of the time-tested means of preventing the disease is immunization with live attenuated vaccine. This vaccine alone reduces the incidence more than twofold and even more when combined with other measures. In addition, the course of the disease is milder and the complications are fewer in vaccinated persons.

As an outbreak spreads, the responsibility of health activists and insurance officials increases. Their duty is to see to it that sick persons do not work but get treatment at home, that the above-mentioned sanitary-hygienic measures by systematically implemented.

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SOKOLOV, M., Alma-Ata, Kazakhstanskaya Pravda, 14 Feb 70, p 4

Surely, there is no other disease in which the urge to self-treatment is so great as in the flu. At the time of an outbreak the ranks of self-styled "physicians" suddenly increases. These good-for-nothing medical men give advice tested by "experience", frequently about the alleged curative properties of antibiotics. The harm done by all household "methods" of therapy is great. The first indicator of it is a further increase in the number of complications. The antibiotics are always harmful. Use them at your own risk.

Medical science is continuing its vigorous search for effective means of preventing and treating influenza. New agents have been found (interferon, amantadine) which are now undergoing clinical trials. The mechanism of action of these substances has been elucidated, the existing influenza vaccine is being improved, and new vaccines are being developed.

It is no easy job to combat influenza. This pernicious infection does not warn when it is coming. It is all the more important tp play for time in order to be able to use the available protective agents and thereby do one's bit to erect additional barriers to the spread of influenza.
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USSR

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UDC 621.762.01

MITIN, I. I., KIRILLOV, O. D., KHAVSKIY, N. N., SOKOLOV, M. A., YAKUBOVICH, I. A., PREOBRAZHENSKIY, N. N.

"Problem of Using Sound Vibrations in Powder Metallurgy"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultrasound in Metallurgical Processes — collection of works), Moscow Steel and Alloys Institute, 67, Moscow, 1972, pp 147-149 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G387)

Translation: The prospects for using sound vibrations in powder metallurgy are demonstrated. 4-entry bibliography.

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USSR

UDC 621.762.2:669.5

MITIN, I. I., SOKOLOV, M. A., KHAVSKIY, N. N., PREOBRAZHENSKIY, N. A., YAKUBOVICH, I. A., KIRILLOV, O. D.

"Obtaining Zinc Powder by an Acoustic Eddy Disperser"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultrasound in Metallurgical Processes -- collection of works), Moscow Steels and Alloys Institute, 67, Moscow, 1972, pp 149-151 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G403)

Translation: A new procedure is described for obtaining finely dispersed Zn-powder from a melt using an eddy acoustic pneumatic atomizer. Two illustrations.

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USSR

UDC 621.762.002.5

MITIN, I. I., KHAVSKIY, N. N., SOKOLOV, M. A., KIRILLOV, O. D., YAKUBOVICH, I. A., PREOBRAZHENSKIY, N. A.

"Acoustic Vortex Disperser to Obtain Finely Dispersed Metal Powders"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultrasound in Metallurgical Processes -- collection of works), Moscow Steels and Alloys Institute, 67, Moscow, 1972, pp 171-173 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 4G424)

Translation: A description of an acoustic eddy atomizer used to obtain finely dispersed metal powders is presented. One illustration.

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UDC: 621.396.61

SOKOLOV, M. F., ZAYENTSEV, V. V.

"Analysis of the Stability of an Amplifier With Distributed Gain Based on Power Transistors"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics--collection of works), Voronezh, 1970, pp 18-21 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D293)

Translation: The authors analyze the stability of amplifiers with distributed gain based on power transistors with regard to the energy parameters and the capacitance of the collector junction in the feedback circuit. The limits of operational stability are determined. Two illustrations, bibliography of three titles. M. S.

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UDC 577.858.27.095.51.095.14

SOKOLOV, M. I., and MYASNIKOVA, I. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Mutagenic Action of Ultraviolet Rays on Fowl Plague Virus. Selection and Characterization of Some Properties of Plus and Minus UV-Mutants"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 453-458

Abstract: The nature of UV mutagenesis was studied on the model of Lp^+ (large-plaque) fowl plague virus growing in chick embryo fibroblast culture. When subjected to 200 ergs/mm^2, the rate of S^--mutant appearance in intracellular reproducing colonies increased 10-fold over that of the wild virus. Such mutations were found to be reversible after several passages. All S^--mutants displayed reduced reproductive activity at optimum (37°C) and higher and lower temperatures (32°, 40°). However, differences in response to temperature, in erythrocyte agglutinating ability, and response to triprotamine sulfate separated these mutants into 3 groups: Group 1 -- lowest reproductive rates at all temperatures, loss of ability to agglutinate chick and rat erythrocytes (minus mutants), no response to triprotamine sulfate; group 2 -- reproduce at 32 and 37°C but not at 40°C, added ability to agglutinate mouse erythrocytes, in addition to those of chicks and rats

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SOKOLOV, M. I. and MYASNIKOVA, I. A., Voprosy Virusologii, No 4, Jul/Aug 72, pp 453-458

(plus mutants), no response to triprotamine sulfate; group 3 -- reproductive rates intermediate to those of groups 1 and 2, maintained ability to agglutinate chick and rat erythrocytes, reproduction inhibited by agar polysaccharides and plaque formation stimulated by protamine sulfate. Intracellular mutations probably arise due to simple replacement of nitrogenous bases. Mutants arose in extracellular (intact) wild colonies subjected to 1,000 and 1,500 ergs/mm^2 only after 2 or more passages, dissociating into colonies with large and small plaques. Late development of S^--mutants in this case suggests heterozygotic dissociation of the large-plaque phenotype and prolonged mutagenesis.

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SOKOLOV, M. I.

Pochemu Voznikayut Epidemii Grippa (Why Flu Epidemics Occur), Moscow, "Meditsina," 1971, 32 pages

Translation: Annotation: The brochure contains a short report on flu epidemics in the 20th century, reveals the causes of their periodic occurrence, describes the sources of infection and ways of spreading the flu, and gives a physician's advice on medical treatment and preventive treatment of the flu in the family, children's institutions and in enterprises. The brochure is intended for a wide readership.

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