

UDC 8.74

USSR

KRISEVICH, V. S., KNOTYASHOV, E. N., Editors

"Economic Information Processing Program System for the Minsk-32 Computer"

Sistema program obrabotki ekonomicheskoy informatsii na EVM Minsk-32 (Economic Information Processing Program System for the Minsk-32 Computer), Mathematics Institute of the Belorussian SSR Academy of Sciences, Central Scientific Research and Technological Planning Institute of Organization and Techniques of Control, Minsk, 1972, 270 pp, ill., 60 k. (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V614K)

Translation: A library of programs is described for the Minsk-32 computer. This library is aimed at solving the economic information problems and it is designed for automation of standard information processing and automated control systems: data input, logical control and composition of the information from different carriers, sorting, correction of the information on magnetic tapes, printout of the data, editing, retrieval, duplication, logical processing of several data files, and so on. The library includes the economic information input programs from the punch tape and the punch cards, the economic information output program, the programs for sorting data on magnetic tapes and in the ready-access memory, the program for controlling the solution of the problems, the complex of programs for editing the input data, programs for processing write operations, printing out the data from magnetic tape, and so on. These programs use the software system of the Minsk-32 computer, but they

1/2

- 67 -

USSR

KRISEVICH, V. S., et al., Sistema programm obrabotki ekonomicheskoy informatsii na EVM Minsk-32, Mathematics Institute of the Belorussian SSR Academy of Sciences, Central Scientific Research and Technological Planning Institute of Organization and Techniques of Control, Minsk, 1972, 270 pp, ill., 60 k.

have not been introduced into this system as a result of divergence in the description of the data elements (raquisites).

2/2

USSR

UDC 538.4

KRISHBERG, R. R.

"Experimental Study of the Characteristics of an Induction Magnetohydrodynamic Machine Under Different Operating Conditions"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR -- Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 2, 1971, pp 84-87

Abstract: The experimental and calculated characteristics of a model of an induction MHD machine with a rotating conducting cylinder are compared in this paper. Formulas obtained under the assumption of a plane-parallel field in the nonmagnetic gap were used for the calculations. The theory of induction pumps in the plane-parallel approximation on which these formulas are based was developed for models for which disconnection of the magnetic circuit in the longitudinal direction and the phase asymmetry occurring as a result were not considered.

The comparison shows that the plane-parallel approximation formulas can be used for the given model in a wide range of magnetic Reynolds numbers. The maximum error does not exceed 10-15%.

1/1

- END -

L/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PROTEIN METABOLISM IN WHEAT DURING THE USE OF 2,4,D -D-
AUTHOR--(04)-KRISHCHENKO, V.P., KALININ, V.A., MAKHAJAD, M., CHERNYAYEV,
N.G.
COUNTRY OF INFO--USSR
SOURCE--AGROKHHIMIYA 1970, (5), 102-8
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--WHEAT, PROTEIN METABOLISM, PLANT GROWTH REGULATOR, CHLORINATED
ORGANIC COMPOUND, BENZENE DERIVATIVE, HERBICIDE, CHROMATOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0456 STEP NO--UR/0485/70/0001005701027/0108
CIRC ACCESSION NO--AP0134222

272 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134222

ABSTRACT/EXTRACT--(U) OP-0- ABSTRACT. 2,4,D DECREASED THE TOTAL CONTENT OF EASILY AND DIFFICULTY SOL. PROTEINS AND INCREASED THE PROPORTION OF MODERATELY SOL. PROTEINS IN WHEAT VEGETATIVE MASS. IN PROPORTION TO THE GROWTH OF TREATED WHEAT, THE HERBICIDE WAS OBSD. IN ALL THE PROTEIN FRACTIONS AND INCREASED IN THE DIFFICULTY SOL. PROTEINS AS THE TOTAL AMT. OF 2,4,D DECREASED. TEAE, CELLULOSE CHROMATOG. OF THE 11 SUBD SOL. PROTEIN FRACTION IN THE VEGETATIVE MASS OF PROTEIN FROM WHEAT INCORPORATING 2,4,D SHOWED THAT THE HERBICIDES WAS INCORPORATED INTO ONLY 1 SUBFRACTION.

UNCLASSIFIED

USSR,

ALIKHANYAN, A. I., ASATIANI, T. L., AVAKYAN, K. M., ZHIROVA, I. A.,
IVANOV, V. A., KRISHCHYAN, V. M., MATEVOSYAN, E. M.

"Measurement Accuracy of Charged Particle Pulses in Wide-Gap
Spark Chambers"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61,
No 4(10), Oct 71, pp 1273-1275

Abstract: The purpose of this article is to show how the accuracy of these pulse measurements can be improved. Corrections which must be made to achieve this accuracy are based on results obtained in an earlier paper (A. I. Alikhanyan, et al, 12-78 Mezhdunarodnaya konferentsiya po fizike vysokikh energiy -- Twelfth International Conference on High-energy Physics -- Dubna, 1964, 2, Atomizdat, 1966, p 503) and were derived from new equipment with better parameters. These involved a reduction in the total delay time of up to 250 ns for applying the high-voltage pulses to the chamber, a reduction of up to 2 ± 0.5 ns in the rise time of the high-voltage pulse, and a high degree of electric field uniformity at the edges of the chamber through the use of distributed resistances and capacitances. Tables of the characteristics of various types of chamber are given. Analysis of the errors shows that
1/2

HANYAN, A. I. et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61, No 4(10), Oct 71, pp 1273-1275

The measurement accuracy of the new equipment is limited by the optical distortion. A table of corrections for these distortions is provided. Gratitude is expressed to V. N. Semenyushkin, N. I. Novikov, A. F. Pisarev, Yu. V. Kulikov, I. N. Strunov, and I. N. Golutvin for performing the required experiments in the OIYaI (Joint Institute of Nuclear Research). The authors are associated with the Yerevan Physical Institute.

MEDICINE
Aerospace Medicine

USSR

KRISHKEVICH, I., Senior Inspector, Administration of Aviation Training and
Aviation Sport, Central Committee, DOSAAF

"How To Become Strong"

Moscow, Kryl'ya Rodiny, No 1, Jan 71, pp 30-31

Abstract: In reply to a reader who asked for advice on how to strengthen the body, the article presents a series of four types of exercises copied from the posters "Physical Training of Flying Personnel," prepared by the Publishing Bureau of the Defense Ministry of the USSR. The series includes exercises involving the use of weights such as dumbbells; exercises with resilient objects; exercises using the body; and exercises with an opposing partner. Experiments and special studies conducted by Soviet physiologists indicate that through such exercises muscular strength is increased by a factor of 2 to 3.5 or more. Metabolism and other body functions are improved also. For best results, the exercises must be performed regularly at a moderate and steady tempo, with respiration at a normal rate. Illustrations picturing the exercises printed accompany the article.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--13NOV70
 TITLE--A CONTROLLED FLEXIBLE BETA PROBE FOR CONTACT RADIOLOGY OF
 MALIGNANT NEOPLASMS OF THE LUNGS -U-
 AUTHOR--(03)-KRISHIAFOVICH, A.A., BUTORIN, YE.P., TSUREV, A.S..
 COUNTRY OF INFO--USSR K
 SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 6, PP 72-74
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--RADIOLOGY, NEOPLASM, LUNG, MEDICAL EQUIPMENT, DIAGNOSTIC
 EQUIPMENT
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3002/1519 STEP NO--UR/0214/70/015/006/0072/0074
 CIRC ACCESSION NO--AP0128914
 UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0128914
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CONTROLLED FLEXIBLE BETA PROBE
IS PROPOSED FOR CONTACT RADIMETRY OF MALIGNANT NEOPLASMS OF THE LUNGS.
THE DESIGN OF THE PROBE IS SUCH THAT IT COULD BE INTRODUCED INTO ANY
REGIONS OF THE BRONCHIAL TREE, LOBAR, SEGMENTAL AND SUBSEGMENTAL
BRONCHI. THE POSSIBILITY OF INSTRUMENTAL CONTACT WITH THE PATHOLOGICAL
FORMATION COULD BE USED FOR PURPOSES OF DIFFERENTIAL DIAGNOSIS OF
MALIGNANT AND BENIGN TUMORS OF THE LUNGS. FACILITY:
RENTGENOLOGICHESKIY OTDEL Leningradskogo Nauchno-Issled. Instituta
Tuberkuleza.

UNCLASSIFIED

USSR

UDC 624.07:534.1

KRISHTAL, M. A., GOLOVIN, S. A., ARKHIPOV, I. K., ROSTOVITSEV, N. M.,
GORDON, V. A.

"Determining Measures for Energy Scattering in the Excitation of Transverse Resonance Vibrations"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering Under Oscillations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 191-195 (From RZh-Mekhanika, No 3, Mar 73, Abstract No 3V269)

Translation: Semiempirical relationships are presented which make it possible to determine on the basis of amplitude-time curves obtained from vibrograms under the excitation of transverse resonance oscillations of the sample the decrements in vibrations for a given material (for different stresses) without specifying the mechanism for internal energy scattering. It is shown from the processing of results for three samples (copper, nickel, titanium) that the calculated decrements in vibrations under excitation of oscillations are considerably different from decrements obtained experimentally in studying damping of vibrations. Yu. G. Balakirev.

1/1

- 105

KRISHNAL, M.A.

RAW/12-1100/5-94-112 11

12-11-72

(5)

Uglow, A. A., A. A. Zhukov, A. N. Kobara, M. A. Krishnal, and M. Kh. Shorshorov. "Shift" of critical points under laser heating of carbon-iron alloys. TRKONM, no. 2, 1972, 3-8.

The "shift" of critical points in steel heated by a laser beam is analyzed. Allowance is made for nonuniform distribution of specific heat flux on the metal surface, and hence different volumetric heating rates. Under conditions of rapid heating and cooling rates, as important in micrographite determination of temperature within the metal after cutoff of the laser beam. Using a theoretical formula, numerical data were obtained for heating rates dT/dt in SHXN15 ferritic steel at various depths a and distances r from the center of a beam spot on the metal surface. Concentration coefficient $k = 80 \text{ cm}^{-2}$ was used in calculations of power density distribution on the surface. The calculated dT/dt versus r plots (Fig. 1) show that, at $a_0 = 0.2 \text{ mm}^2 \text{ w/cm}^2$, dT/dt

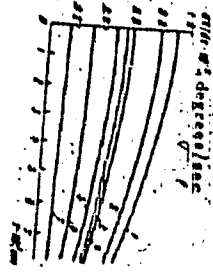


Fig. 1. Heating rate of SHXN15 steel by laser pulse of 0.5 millisecond width versus r . $a_0(\text{cm}) = 3 \cdot 10^{-3}$ (1), $2 \cdot 10^{-3}$ (2), $1 \cdot 10^{-3}$ (3), $5 \cdot 10^{-4}$ (4), 0 (5), $6 \cdot 10^{-3}$ (6), and $7 \cdot 10^{-3}$ (7).

USSR

UDC 669.017.620.18

BELOBRAGIN, YU. A., KRISHTAL, M. A., MOKROV, A. P., and STRELKOV, V. I., Tula

"Interdiffusion in the Iron-Nickel System During the Investigation of the Kirkendall Effect"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 108-113

Abstract: The Kirkendall effect was experimentally investigated on multilayer Fe-Ni specimens with passive marks located both on the welding surface and inside the metals at specific distances. The dislocations of the marks in the diffusion zone in the whole area of concentrations of the Fe-Ni system were tested. The results are discussed by reference to diagrams showing dislocations of the marks relative to the x-coordinate, the length variations of specimens as a function of time, and the distribution of non-equilibrium concentration of vacancies in the diffusion zone of the specimen. A sign change of the Kirkendall effect in the area of high Ni concentrations was observed in long-term annealing and at the maximal temperature to 1240°C, which is explained by the high diffusion mobility of Ni atoms. The development of a diffusion porosity from the Fe side (Frankel effect), resulting in an elongation of the specimen during annealing according to a parabolic rule, was observed. The non-equilibrium concentration of vacancies along the diffusion area is estimated. Four illustrations, 10 formulas, 11 biblio. refs.

1/1

- 66 -

USSR

UDC 539.67

KRISHTEL, M. A., VYBOYSHCHIK, M. A., VODOP'YANOV, V. N., GOLOWIN, S. A.,
MOKROV, A. P., and GONCHARENKO, I. A.

"Dislocation Damping and Study of Dislocation Structure and Mobility Along the
Dislocation Tubes"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in
Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 85-90

Abstract: The effect of weakly soluble impurities and their mobility on
stress in surface layers and upon formation of a dislocation network before
the diffusion front is studied. The change in dislocation structure is
investigated by internal friction time dependence. At the same time, the addi-
tional impurities precipitation upon dislocations was considered in the recovery
process of Cu-La, Cu-Li, and Cu-B alloys. An increased dislocation density in
the diffusion zone was studied on an Fe-In system. Diffusion equations for
impurity atoms along the dislocation, its solution, and analysis are presented.
The described model works in dilute solutions with impurity concentrations less
than 0.05% and at temperatures lower than those corresponding to the formation
of Cottrell's atmospheres. 1 table. 5 figures. 3 references.

1/1

- 76 -

USSR

UDC 669.013:539.319

KRISHPAL, H. A., TITENSKIY, E. G., and NIKOL'SKIY, N. N., Dula Polytechnic
~~Institute~~

"Investigation of Temperature Dependences of Modulus of Elasticity and
Decrement of Vibrations for the Study of Phase Changes in Cast Irons"

Sb. nauchn. tr. Perm. politekhn. in-t (Collection of Scientific Works of
Perm' Polytechnic Institute), 1970, No 73, pp 45-48 (from *Edin-Metallurgiya*,
No 3, Mar 71, Abstract No 31896 by N. Fonshteyn)

Translation: The dynamic modulus of elasticity E and decrement of vibrations
 δ of white irons (2-3.2% C, 0.7-2.2% Si) were studied in the 20-1050° range.
A nonlinear decrease in E with temperature was found. The first inflection
on the curve $E = f(T)$ is treated as the recrystallization threshold and the
transition to the linear sector as the end of the eutectoid transformation.
The curve $\delta = f(T)$, which reveals a growth of internal friction with tem-
perature elevation, displays an inflection corresponding to the beginning of
the phase change and a relaxation maximum whose formation temperature is
treated as the completion of the transition. On the basis of results of $E =$
 $f(T)$ and $\delta = f(T)$ measurements during heating and cooling a conclusion is
reached on the effect of C and Si on the magnitude of the phase recrystal-
i/2

USSR

KRISHTAL, M. A., et al., Sb. nauchn. tr. Perm. politekh. in-t, 1970, No 73, pp 45-48

lization range. The value of the effective activation energy of the process responsible for formation of the maximum is 69,5000 cal/g-atom, which practically coincides with the activation energy of austenite self-diffusion (68,000-74,000 cal/g-atom). Two illustrations. Bibliography with three titles.

2/2

USSR

UDC 539.434:621.785.53:669.15-194.2

KRISHTEL, M. A., PONOMARENKO, YE. P., BELOV, YU. K. and MARKOV, A. P. (Tula Poly-
technic Institute Ukrainian Scientific Research Institute of Special Steels, Alloys
and Ferroalloys)

"Heat Resistance and Strength of Chromium-Plated Carbon Steels"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 60-61

Abstract: A study was made of the possibility of using carbon sheet steel
(obtained by contactless vacuum diffusion) under high-temperature (up to 1200°C)
conditions. The steel (St 3) has a surface-alloyed chromium (40-60%) layer 1.5-
2.2 mm thick. The tests were conducted on samples and industrial equipment oper-
ating under variable thermal cycle conditions. St 3 and KalBNLOT steel were com-
pared. The strength properties of St 3 containers at temperatures up to 1200°C
were found to be 2-4 times higher than those of KalBNLOT steel. St 3 steel is
recommended for use in equipment operating under load at high temperatures. 2
figures, 5 references.

1/1

1/2 040 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INTERNAL FRICTION IN TWO PHASE ALLOYS OF IRON WITH BORON AND IRON
DIBORIDE -U-
AUTHOR--(03)-KRISHAL, M.A., GELOVIN, S.A., SVOBODOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--FIZ. METAL METALLOVED. 1970, 29(3), 646-B
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--METAL INTERNAL FRICTION, IRON ALLOY, IRON COMPOUND, BORIDE,
BORON, HEAT RESISTANCE, EUTECTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0343 STEP NO--UR/0126/70/029/003/0646/0648
CIRC ACCESSION NO--AP0126099
UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126099

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THE INTERNAL FRICTION WAS STUDIED FOR THE FOLLOWING FE,B ALLOYS CONTG. 1.0, 1.45, 1.98, 3.06, 3.8, 5.0, 6.1, AND 8.83 WT. PERCENT B (THE LATTER COMPN. REPRESENTS THE DIBORIDE OF FE). IN 2 PHASE FE,B ALLOYS CONTG. SMALLER THAN OR EQUAL TO 6PERCENT B, 2 COUNTERACTING FACTORS DET. THE LEVEL OF THE HIGH TEMP. INTERNAL FRICTION: (1) THE BLOCKING ACTION OF FE SUB2 B AT BOUNDARIES OF ALPHA FE GRAINS; THIS EFFECT LOWERS THE HIGH TEMP. INTERNAL FRICTION, AND (2) THE LOWERING OF THE ALLOYS M.P. WITH INCREASING VOL. OF THE EUTECTIC; THIS EFFECT INCREASES THE HIGH TEMP. INTERNAL FRICTION. THE 2ND FACTOR WAS PREDOMINANT. AT A GIVEN TEMP., THE HIGHER THE INTERNAL FRICTION, THE LOWER WAS THE HEAT RESISTANCE OF THE ALLOY. THE STUDY ENABLED THE RELATIVE HEAT RESISTANCE OF VARIOUS FE,B ALLOYS TO BE EVALUATED. THE MAX. HEAT RESISTANCE AMONG HYPOEUTECTOIDAL ALLOYS WAS THAT OF AN ALLOY CONTG. SIMILAR TO 1PERCENT B.

FACILITY: TUL. POLITEKH. INST., TULA, USSR.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CHARACTERISTICS OF THE TEMPERATURE DEPENDENCE OF THE ELASTIC
MODULUS AND THE VIBRATION DECREMENT OF HIGH CARBON STEELS -U-
AUTHOR--(03)-KRISHTAL, M.A., TITENSKIY, G.G., NIKOLSKIY, N.N.
COUNTRY OF INFO--USSR *K*
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 442-445
DATE PUBLISHED----FEB70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ELASTIC MODULUS, TEMPERATURE DEPENDENCE, HIGH CARBON STEEL,
VIBRATION DAMPING, AUSTENITE, ALLOY PHASE TRANSFORMATION, HIGH
TEMPERATURE EFFECT/(U)U10 CARBON STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0342 STEP NO--UR/0126/10/029/002/0442/0445
CIRC ACCESSION NO--AP0129574
UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0129574
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THE ELASTIC MODULUS AND DAMPING DECREMENT OF C STEEL 1010 IN THE NORMALIZED STATE WERE STUDIED IN A STANDARD APPARATUS SPECIALLY ADAPTED TO FACILITATE MEASUREMENTS AT 1200DEGREESC. PARTICULARLY COMPLEX CHANGES IN THESE PARAMETERS AT HIGH TEMP. REFLECTED SMALL CHANGES TAKING PLACE IN THE STRUCTURE AND SUBSTRUCTURE OF THE AUSTENITE; IN THIS RESPECT THE METHOD HAD A MUCH GREATER SENSITIVITY THAN CONVENTIONAL TECHNIQUES. AN ANOMALOUS RISE IN THE MODULUS AT 1000-1050DEGREESC WAS ATTRIBUTED TO THE DISSOLUTION OF IMPURITIES (CARBIDES AND NITRIDES AT GRAIN BOUNDARIES).

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ELECTRON MICROSCOPE STUDY OF THE PRECIPITATION OF PHASES FROM A
SUPERSATURATED SOLID SOLUTION, OF BORON IN IRON -U-
AUTHOR--(03)-KRISHTAL, M.A., GONCHARENKO, I.A., SVOBODOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (8), 53-54
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ELECTRON MICROSCOPE, SOLID SOLUTION, IRON ALLOY, BORON
CONTAINING ALLOY, BORON INTENSIFIED STEEL, CRYSTAL DISLOCATION
CONTROL MARKING--~~NO~~ RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRADE--3005/0929 STEP NO--UR/0129/70/000/003/0053/0054
CIRC ACCESSION NO--AP0133018
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIFC ACCESSION NO--AP0133018

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES TAKING PLACE IN THE STRUCTURE OF ARMCO FE (QUENCHED FROM 725 AND THERMALLY AGED AT 200DEGREESC FOR VARIOUS PERIODS) AND IN THAT OF AN FE-B ALLOY (COOLED SLOWLY FROM 1000DEGREESC) AS A RESULT OF REARRANGEMENTS OF THE DISLOCATION STRUCTURE AND THE PRECIPITATION OF EXCESS PHASES FROM THE SUPERSATURATED SOLID SOLUTION WERE FOLLOWED IN THE ELECTRON MICROSCOPE. IN THE CASE OF THE ALLOY, BORIDES PRECIPITATED FROM THE SOLID SOLUTION AS A RESULT OF THE CHANGE IN SOLUBILITY ON COOLING WERE CLEARLY VISIBLE UNDER THE MICROSCOPE; THEY TENDED TO DEVELOP ALONG INDIVIDUAL DISLOCATIONS, GROWING PREFERENTIALLY IN THE (110) DIRECTION.

UNCLASSIFIED

172 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MECHANISM OF SECONDARY RECRYSTALLIZATION --U--
AUTHOR--(03)--CAVYDOV, YU.I., KRISHTAL, M.A., LERNER, M.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. OBRAB. MATER. 1970, (1), 114-18
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--CHEMICAL REACTION MECHANISM, CRYSTALLIZATION, TUNGSTEN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1980/0279 STEP NO--UR/0472/70/000/001/0114/0118
CIRC ACCESSION NO--AP0043554
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0048554

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE MECHANISM OF SECONDARY RECRYSTN. WAS STUDIED WITH COLD ROLLED W BY HEATING FOR 1 HR AT 100DEGREE INTERVALS BETWEEN 1600 AND 2200DEGREES. AT 1600-1700DEGREES, A STRUCTURE OF NEARLY EQUAL GRAINS, AV. DIAM. 20 MU, FORMED. CRYSTALS BEGAN TO GROW BY THE COALESCENCE OF SMALL GRAINS AT GREATER THAN 1800DEGREES. THE SHAPE OF ETCH PITS ON EACH SIDE OF THE VANISHING GRAIN BOUNDARY WAS DIFFERENT. THE NO. OF DISLOCATIONS, λ , IN A UNIT BOUNDARY LENGTH WAS CALCD. BY $\lambda \approx \frac{b}{\sin \theta}$, WHERE b IS THE BURGER'S VECTOR AND θ IS THE REORIENTATION ANGLE BETWEEN GRAINS. THE PROBABILITY OF THE BOUNDARY MIGRATION MECHANISM INCREASED WITH θ , WHEREAS THE PROBABILITY OF THE SCATTERING MECHANISM DECREASED. COLLECTIVE AND SECONDARY RECRYSTN. OCCUR SIMULTANEOUSLY. IN 1 HR AT 2200DEGREES THE GRAIN DIAM. DUE TO COLLECTIVE RECRYSTN. INCREASED 2 TIMES, WHEREAS THAT DUE TO SECONDARY RECRYSTN. INCREASED 30 TIMES.

UNCLASSIFIED

1/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER
IN THE IRON CHROMIUM SILICON ALLOY SYSTEM -U-

AUTHOR-(03)-KRISHTAL, H.A., MOKROV, A.P., MYASNIKOVA, L.V.

COUNTRY OF INFO--USSR

K

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 59-65

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM STEEL, SILICON CONTAINING ALLOY, METAL DIFFUSION,
THERMODYNAMIC ANALYSIS, METAL SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1679

STEP NO--UR/0369/1070057002700597/1065

CIRC ACCESSION NO--AP0129049

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME GENERAL LAWS GOVERNING THE KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER ON CR STEELS IN THE COURSE OF SILICIZING (RESULTING IN THE FORMATION OF AN FE,CR,SI ALLOY) ARE PRESENTED. THE EFFECT OF CR ON THE SI DISTRIBUTION IS INDICATED AND THE KINETIC AND THERMODYNAMIC CONSTANTS FOR THE DIFFUSION OF SI IN THE FE,CR,SI SYSTEM ARE LISTED. THE RESULTS PRESENT A CLEAR PICTURE OF THE PROCESSES GOVERNING THE MUTUAL REDISTRIBUTION OF CR AND SI DURING THE SILICIZING OF CR STEELS AND HELP IN ESTIMATING THE MECHANICAL PROPERTIES OF THE SURFACE LAYER.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--2306170
TITLE--GAS PHASE REACTIONS FOR THE PREPARATION AND TRANSFORMATIONS OF
CHLORINATED ETHANES. CHLORINE INITIATED DEHYDROCHLORINATION OF
AUTHOR--(05)--KRISHAL, N.F., FLID, R.M., PINENOV, I.F., SOVIN, E.V.,
TREGER, YU.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 248-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHLORINATION, CHLOROETHANE, CHEMICAL KINETICS, CHEMICAL
REACTION RATE, CALCULATION, ACTIVATION ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1405 STEP NO--UR/0076/70/044/001/0248/0249
CIRC ACCESSION NO--AP0116852
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116852

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE REACTION IS A HALF ORDER REACTION WITH RESPECT TO CL AND C SUB2 H SUB2 CL SUB4. TO DET. THE KINETIC PARAMETERS, A SERIES OF EXPTS. WERE CARRIED OUT AT 350-425 DEGREES BY CHANGING (FOR EACH INVESTIGATED TEMP.) CL AND C SUB2 H SUB2 CL SUB4 AMTS. THE REACTION RATE CONSTS. WERE CALCD., AND A DIAGRAM WAS PRESENTED OF THE DEPENDENCE LOG K EQUALS F(1-T). THE ACTIVATION ENERGY WAS 23.8 KCAL-MOLE, AND THE COEFF. 6.67 TIMES 10 PRIME7 SEC PRIME NEGATIVE1.

FACILITY: INST. TONKOI KHIM. TEKHNOL. IM.
LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

172 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EFFECT OF THE NATURE OF THE ELECTRODE METAL ON THE SEPARATION
FACTOR FOR HYDROGEN ISOTOPES -U-

AUTHOR--(02)-TSYONSKIY, V.M., KRISHTALIK, L.I.

COUNTRY OF INFO--USSR

K

SOURCE--ELEKTROKIMIYA 1970, 6(2), 265-8

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ELECTRODE DESIGN, ISOTOPE SEPARATION, WAVE FUNCTION,
TRANSITION PROBABILITY, CHARGE DENSITY, ELECTRODE POTENTIAL, HYDROGEN
ELECTRODE, HYDROGEN ION, HYDROGEN DEUTERIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1983/1716

STEP NO--UR/0364/70/006/002/0265AD268

CIRC ACCESSION NO--AP0054558

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054558

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE ISOTOPE SEPN. FACTOR, S , OF H ON THE NATURE OF THE METAL WAS STUDIED. BASED ON A REPORT BY J. HORIUTI AND M. POLANYI (1935), THE DECREASE IN S WITH INCREASING CHARGE EXCHANGE IS ATTRIBUTED TO THE DECREASE IN THE POTENTIAL BARRIER AND THUS TO AN INCREASE IN THE TUNNELING PROBABILITY OF THE H ION. THE TRANSITION PROBABILITY INCREASES WITH THE DEGREE OF OVERLAPPING OF THE WAVE FUNCTIONS OF THE PROTON REFERRING TO THE STATES OF THE ADSORBED H AND THE HYDROXYONIUM ION. THIS TRANSFER PROBABILITY DEPENDS ON THE MASS OF THE H ION AND ON THE DISTANCE OF THE PROTON TRANSFER. THE CHANGE OF S WITH THE POTENTIAL CAN BE ATTRIBUTED TO THE POTENTIAL INCREASE; THE FORCE BY WHICH THE HYDROXYONIUM ION IS ATTRACTED TO THE SURFACE INCREASES, THIS DECREASING THE DISTANCE OF THE PROTON TRANSFER AND INCREASING THE OVERLAPPING OF THE WAVE FUNCTIONS. THE CURVES OF $S(\eta)$, WHERE η IS SURFACE CHARGE, SHOULD APPROACH THE CURVES $S(\eta H)$, WHERE ηH IS THE H OVERVOLTAGE, WHICH IS OBSD. IN EXPT. TOTAL COINCIDENCE DOES NOT TAKE PLACE, HOWEVER, SINCE S SHOULD INCREASE WITH BOND ENERGY OF H AND M, $E_{\text{SUBM-H}}$, OWING TO A DECREASE IN THE PROBABILITY OF PROTON TRANSFER. AT A GIVEN η , S DECREASES IN THE SERIES GA, HG, PB, AMALGAM TL, I.E. IN THE SERIES IN WHICH $E_{\text{SUBM-H}}$ DECREASES.

FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

Acc. No:

AP 0036758

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code:

UR 0068

6

78550k Preparation of pseudocumene and durenene by the isomerization and disproportionation of pseudocumene. Kolyandr, L. Ya.; Privalov, V. E.; Fomenko, G. M.; ~~Nikol'skiy, V. M.; Kravtsov, A. I.; Krasovskiy, V. A.; Kocherzin, V. A.; Khvatkov, V. M.; Kravtsov, A. I.; Bilym, L. M.; Grebinnik, Z. G. (Kadiev, S. Khim. Zavod, Kadievka, USSR). *Dokl. Akad. Nauk SSSR*, 1970, (1), 33-40 (Russ). 1,2,4-Me₃C₆H₃ (I) of 90-95% purity was prepd. by rectifying coke chem. solvents (20-35 and 10-20% Me₂C₆H₄, 4-6 and 3-5% m + p-EtC₆H₄Me, 15-17 and 10-12% 1,3,5-Me₃C₆H₃ (II), 1-1.2 and 0.7-0.9% o-EtC₆H₄Me, 16-18 and 12-14% I, 1-2 and 2-3% 1,2,3-Me₃C₆H₃, 2-6 and 1-3% satd. hydrocarbons, and 0 and 2-3% unsatd. compds.) on columns having 50 theoretical plates at a reflux no. of 60-100. Isomerization and disproportionation in the presence of 30% of an AlCl₃-I complex at 127° for 3 hr in exptl. app. yielded 4.00% C₆H₆, PhMe-satd. compds., 17.27% Me₂C₆H₄, 17.02% II, 35.09% I, and 10.71% durenene (III). Yields in plant runs were similar. Rectification of the II fraction on a lab. column having 75 theoretical plates at a reflux no. of 80-100 yielded II of 97.5% purity in 30.24% yield. After rectification to increase III concn. to 45.94% in the III fraction, recrystn. at 5 to -18° yielded III of ~82% purity and further recrystn. with 35% PhMe gave III of ~97% purity in ~85% yield (17% selectivity from I and 1.6% from the coke chem. solvent). Lucile S. Davison *~~

RB

7

REEL/FRA
19721671

7

USSR

UDC 518.5:681.3.06

KRISILOV, A. D., YANENKO, V. M., POPOV, A. A., YASINOVSKIY, M. A., SAPRYGIN, Y. G.

"The Problem of Algorithmization of the Differential Diagnosis of Rheumatism"

Kibernet. i Vychisl. Tekhn. Resp. Mezhved. Sb. [Cybernetics and Computer Engineering, Republic Interdepartmental Collection], No 7, 1970, pp 102-107, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V641 by the authors).

Translation: A list of characteristics is suggested for description of diseases being diagnosed, including, in addition to the symptoms, certain intermediate diagnostic information. The applicability is demonstrated and certain altered statistical decision rules are calculated by computer. Results are presented from machine differential diagnosis of five diseases and the direction of further work is noted.

1/1

USSR

UDC: 621.375

KRISILOV, Yu. D., TYNINYKA, A. N., VAULIN, V. Ye., Odessa Polytechnical Institute

"An Amplifier With Automatic Gain Control"

USSR Author's Certificate No 321919, filed 30 Jun 70, published 31 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7A74 P)

Translation: This Author's Certificate introduces an amplifier with automatic gain control which contains a bridge attenuator at the output with a nonlinear element across which the control voltage is applied. To extend the dynamic range of signals which can be amplified, a voltage phase-reversed by 180 degrees relative to the output voltage of the bridge is sent from the amplifier output through a capacitor to the tiepoint between the nonlinear element and one of the input arms of the bridge. One illustration.

1/1

- 9 -

USSR

UDC: 621.375:621.396.66(028.8)

VAULIN, V. Ye., KRISILOV, Yu. D., TARASOV, N. I., Odessa Polytechnical Institute

"A Device for Automatic Amplifier Control"

USSR Author's Certificate No 267704, filed 30 Aug 68, published 16 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D113 P)

Translation: This Author's Certificate introduces an amplifier AGC device which contains an AC reference voltage oscillator connected through an attenuator to the amplifier input, a subtraction stage which compares the level of the reference voltage from the amplifier output to the level of the reference voltage from the oscillator output and generates a gain control signal, and also a signal filter connected at the amplifier output. As a distinguishing feature of the patent, the device is designed for increased control depth and decreased instability of the amplification factor with a change in climatic conditions. The unit is equipped with an additional ring for gain control by automatically increasing the level of the high-frequency reference voltage. To this end, the output of the signal filter is connected through an amplitude detector to the controlling input of a stage with variable transmission ratio which is connected between the output of the reference voltage oscillator and the attenuator.

1/1

USSR

UDC 675.8:577.462(269.5)

KRISS, A. Ye., Institute of Microbiology, Academy of Sciences USSR

"Distribution of the Microbial Population (Heterotrophs) in Different Regions of the Southern Ocean"

Moscow, Mikrobiologiya, No 6, 1972, pp 1091-1098

Abstract: Study of the distribution of densities of the heterotrophic microbial population in relation to the hydrological structures of cross sections taken in the Southern Ocean at widely separated places over a period of 12 years revealed that waters of equatorial-tropical origin take part in shaping the hydrological structure of the Indian, Atlantic, and Pacific sectors of the Southern Ocean. They enter from the south at four levels in the surface, intermediate, deep-water, and bottom zones. The multilayer distribution of the heterotrophs caused by alternating waters of different origins is not a random phenomenon. Despite some differences in space and time, the main features of the hydrological structure in the various regions of the Southern Ocean are similar, indicating an underlying uniformity and constancy. However, the apparently well-defined and stable pattern is relative. Its quasistable nature is manifested by the differences in thickness, extent, and number of water layers that make up this hydrological structure.

1/1

- 12 -

USSR

UDC 577.472(26):576.851

KRISS, A. Ye., STUPAKOVA, T. P., and TSYBAN', A. V., Institute of Microbiology,
Academy of Sciences USSR

"Ecological and Geographic Patterns of Distribution of Heterotrophic Bacteria
in the Central Pacific"

Moscow, Mikrobiologiya, No 3, 1972, pp 542-549

Abstract: The quantitative distribution of heterotrophic bacteria was studied (by growing them on membrane ultrafilters) at different depths of the Pacific from the surface to the bottom. Samples were obtained at stations in all the geographic zones from the subarctic to the subantarctic. The density of the microbial population was found to decrease toward the Central Pacific, although remaining greater than in the corresponding regions of the Atlantic. This phenomenon is attributed to the many islands in the tropical Pacific lying near Asia and Australia which discharge large quantities of organic matter into the surrounding waters. The general pattern is for water layers of equatorial-tropical origin with a high content of heterotrophic bacteria to alternate with layers of arctic or antarctic origin possessing a low bacterial abundance.

1/1

USSR

UDC 576.851:577.472(269.42)

KRISS, A. Ye., Institute of Microbiology, Academy of Sciences USSR

"Quantitative Distribution of Heterotrophic Bacteria in Drake Strait"

Moscow, Mikrobiologiya, No 4, 1972, pp 733-738

Abstract: Microbiological studies carried out in 1971 in Drake Strait (between Cape Horn and South Shetland Is.) and adjoining waters showed that the density of the heterotrophic bacterial population was higher here than in the same latitudes elsewhere in the Atlantic, mainly in the surface layer. Below the surface layer (waters of equatorial-tropical origin) lies a narrow layer with few bacteria (Antarctic waters) and under it, in the thermocline zone, is a somewhat wider layer with a larger number of heterotrophs. From here to the ocean floor are waters (Antarctic) with a very low bacterial population. The flow of Antarctic water is regarded as a countercurrent to the flow of equatorial-tropical water, which appears to be a branch of the Brazil current.

1/1

- 5 -

USSR

UDC 576.8.093.6:577.472(28) + 576.8.01

KRISS, A. Ye.

"Achievements and Problems of Marine Microbiology"

Uspekhi mikrobiologii (Advances in Microbiology). No 7, 1971

Abstract: Data are presented on the quantity of heterotrophic microorganisms in ocean waters and on the ocean floor, on their species composition and ecological and geographic patterns of distribution in the oceans of the world. The author notes the total abundance of the microbial population and its biomass at different depths in some oceanic regions and gives rough calculations of the mineralizing activity of microorganisms in deep waters. Reference is made to problems pertaining to the use of microorganisms as indicators of various hydrological phenomena, specifically deep currents, and of stratification of the water masses of different origins.

1/1

- 87 -

USSR

UDC 576.8.095.12

KRISS, A. YE

"The Biological Effect of High Pressure"

Uspekhi Mikrobiologii, pp 128-152

Abstract: A review of the literature on the physicochemical effect of high pressure, the effect of high pressure on proteins and nucleic acids, the nature of changes in enzymatic activity under high pressure, and the effect of high pressure on viruses is presented. A significant place in the article is occupied by data from the literature and the author's own investigations on the resistance of microorganisms to high pressure and the effects of high pressure on metabolism in microorganisms.

2/8
//

1/2 010 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--VERTICAL DISTRIBUTION OF HETEROTROPHIC BACTERIA IN THE OPEN DEEP
WATER REGIONS OF THE BAIKAL LAKE -U-
AUTHOR-(02)-KRISS, A.YE., CHEBOTAREV, YE.I.
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 146-148
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERIA, MARINE BIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1403 STEP NO--UR/0220/70/039/001/0146/0148
CIRC ACCESSION NO--AP0109465
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109465

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

ABSTRACT. THE NUMBER OF HETEROTROPHIC BACTERIA WAS DETERMINED AT VARIOUS DEPTH FROM BOTTOM TO SURFACE AT SIX DEEP WATER STATIONS IN NORTHERN, SOUTHERN, AND MIDDLE REGIONS OF THE BAIKAL LAKE. AMONG 86 SAMPLES 65PERCENT CONTAINED 1-9 BACTERIA, 14PERCENT 10-83 BACTERIA AND 21PERCENT CONTAINED NO BACTERIA PER 40 ML WATER. HETEROTROPHIC BACTERIA WERE DISTRIBUTED IN WATER IN MICROZONAL FASHION BOTH VERTICALLY AND HORIZONTALLY; HIGH BACTERIAL NUMBERS AND ZERO VALUES WERE FOUND BOTH AT THE SURFACE AND AT THE BOTTOM.

UNCLASSIFIED

2/3 012

CIRC ACCESSION NO--AP0118841
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. THE KINETICS OF THE CATALYTIC REDN. OF MOLYBDATE TO MOLYBDENUM BLUE BY ASCORBIC ACID, WHICH CAN BE USED FOR P DETN., WAS STUDIED. THE REACTION PROCEEDS IN 3 STAGES WITH DIFFERENT REACTION RATES. THE 1ST STAGE CAN BE REPRESENTED BY THE REACTION $MPA + ASC \rightarrow MPB + SUB1 + OA$, WHERE MPA IS MOLYBDOPHOSPHORIC ACID, ASC IS ASCORBIC ACID, MPB SUB1 IS MOLYBDOPHOSPHATE BLUE, OA IS THE PRODUCTS OF ASCORBIC ACID OXID. MPB SUB1 CONC. IS PROPORTIONAL TO THE CONC. OF THE PHOSPHATE IONS IN THE BEGINNING OF THE REACTION. IN THE 2ND STAGE MPB SUB1 IS CONVERTED TO A CATALYTICALLY ACTIVE FORM MPB SUB2 BY INTRAMOL. REARRANGING OR BY AN INTERACTION WITH THE RESIDUAL MO(VI) OR WITH ONE OF THE OA. THE EQUATION CAN BE REPRESENTED AS $MPB + SUB1 + OA \rightarrow MPB + SUB2$. IN THE 3RD STAGE A 3RD MOLYBDENUM BLUE TYPE MB IS FORMED BY THE REACTION OF POLYMOLYBDATE WITH ASCORBIC ACID CATALYZED BY MPB SUB2: $MO(VI) + ASC + PMB + SUB2 \rightarrow MB + SUB4$. ALL 3 TYPES CAN BE USED FOR P DETN. BY MEASURING OF THE RATE OF THE 1ST REACTION; BY MEASURING THE ABSORBANCE; BY MEASURING THE TIME OF THE INDUCTION PERIOD; BY MEASURING THE RATE OF THE 3RD REACTION. THE KINETIC EQUATION OF THE 3RD REACTION STAGE WAS $O(MA) - DT = XC + SUB4(VI) + C + SUBASC + C + SUBP$, WHERE X IS THE SLOPE OF THE LINE PROPORTIONAL TO THE REACTION RATE. IT ALSO DEPENDS LINEARLY ON THE CONC. OF MOLYBDATE, ASCORBIC ACID AND $H + SUBO + PO + SUB4$. THE REACTION RATE HAS AN OPTIMUM IN THE PH RANGE 1.35-1.45; SULFATE IONS OR TEMP. DO NOT AFFECT THE RATE OF REACTION.

UNCLASSIFIED

3/3 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118841

ABSTRACT/EXTRACT--OPTIMUM CONDITIONS FOR DETN. OF TRACE AMTS. OF P BY THE
KINETIC METHOD ARE PH 1.4, 25DEGREES, MOLYBDATE AND ASCORBIC ACID CONC.
1 TIMES 10 PRIME NEGATIVE 2 M. THE SENSITIVITY OF THE DETN. BY THE 3RD
STAGE IS 1 TIMES 10 PRIME NEGATIVE 2 MUG P-ML. FACILITY: INST.
GEN. INORG. CHEM., KIEV, USSR.

UNCLASSIFIED

Heat Treatment

USSR

UDC 621.785:620.192.46:669.14.018.8 .

ZHELTOVA, G. A., BELINKY, A. L., KRISTAL, N. M., ADUGINA, N. A., All-Union Scientific Research and Design Institute of Chemical Machine Building

"Effect of Heat Treatment on the Tendency of OOKh16N15M3 Steel to Inter-crystalline Corrosion"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 12-15

Abstract: Production of OOKh16N15M3 steel in the form of chemical containers with 0.03% C (max) has been mastered and tested. Samples for metallographic studies and corrosion tests were quenched from 1100 and 1200°C with 30-minute soaks and repeated heating to 550-950°C every 50°C with 10 and 30-minute, and 1-, 5-, 10-, 50-, and 100-hour soaks. Nitric acid (65%) was used in the corrosion tests. It was found that heating at 550-950°C causes precipitation of carbides and chi-phase in OOKh16N15M3 steel and precipitation of carbides and the sigma- and chi-phases in OKj17N16M3T steel. With increased quenching temperature the regions of carbide and intermetallics precipitations for OOKh16N15M3 steel correspond to the long soaking times. Inter-crystalline corrosion was detected only after lengthy (not less than 10 hours) thermal action for OOKh16N15M3 steel causing precipitation of a continuous

1/2

USSR

ZHELTOVA, G. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov,
No 4, Apr 73, pp 12-15

network of carbides and chi-phase along the austenite grain boundaries, while for steel OKh17N16M3T this form of corrosion was observed after only four hours. The intercrystalline corrosion tendency for the investigated steels develops after a short soak at 700-850°C. The tendency of OKh17N16M3T steel and its weld joints is greater than for COOKh16N15M3 steel and knife corrosion is absent in COOKh16N15M3 steel when tested in nitric acid and in the medium of a synthesis column and the mixer for carbamide production. Four figures, 2 tables, 5 bibliographic references.

2/2

- 21 -

1/2 031

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--CORROSION RESISTANCE OF PURE AUSTENITIC STEEL OKH17N16M3T -U-

AUTHOR--(04)-BELINKIY, A.L., KRISTAL, M.M., ZHELTOVA, G.A., ADUGINA, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZASHCH. METAL. 1970, 6(1), 37-9

R

DATE PUBLISHED-----70

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

TOPIC TAGS--CORROSION RESISTANT STAINLESS STEEL, AUSTENITIC STEEL, ALLOY DESIGNATION, INTERGRANULAR CORROSION, CORROSION CRACKING, WELDING ELECTRODE, WELD JOINT, NITRIC ACID, UREA, OXIDATION, STEEL QUENCHING/(U)OKH23N28M3D3T STAINLESS STEEL, (U)OQOKH17N14M2 STAINLESS STEEL, (U)KH17N13M3T STAINLESS STEEL, (U)OKH17N16M3T STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FKAME--1990/1314

STEP NO--UR/0365/70/006/001/0037/0039

CIRC ACCESSION NO--AP0109398

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109398

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURE AUSTENITIC STEEL OKH17N16M3T CONTG. SMALLER THAN 0.08PERCENT C AND ITS WELDED JOINTS WERE MORE RESISTANT IN SOME CORROSIVE MEDIA (UREA, HNO₃ SOL³, ETC.) THAN STEEL KH17N13M3T TO GENERAL POINT, CREVICE, AND STRUCTURALLY SELECTIVE CORROSION. IN HIGHLY OXIDIZING MEDIA, STEEL OKH17N16M3T IS SUBJECT TO INTERCRYST. CORROSION; THEREFORE, EQUIPMENT MADE OF THIS STEEL FOR USE IN THESE MEDIA SHOULD BE QUENCHED AT 1100DEGREES AFTER MANUF. HIGH CORROSION RESISTANCE OF STEEL OKH17N16M3T WELDED JOINTS CAN BE OBTAINED BY USING, IN OXIDIZING MEDIA, THE OZL-20 AND KHL-1 ELECTRODE IN THE CASE OF ELEC. ARC WELDING, WHILE IN THE CASE OF AN ARC WELDING USE IS MADE OF THE WELDING WIRE 00OKH17N14M2 OR OKH23N28M3D3T; IN REDUCING MEDIA KHL-1 ELECTRODE OR THE WIRE OKH23N28M3D3T ARE USED. QUENCHING OF WELDED JOINTS IMPROVES THEIR RESISTANCE TO CORROSION CRACKING.
FACILITY: VSES. NAUCH.-ISSLED. INST. KHIM, MASHINDSTR., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.396.69.019.3

MALIKOV, I. M., KRISTALINSKIY, L. L.

"Improving the Reliability of Radio Parts"

Elektron. prom-st'. Nauch.-tekhn. sb. (Electronic Industry, Scientific and Technical Collection), 1971, No 4, pp 71-72 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5V299)

Translation: The example of MLT [varnished metal-film heat-resistant] resistors is used to perform a study aimed at the development and introduction of methods of improving the reliability of radio parts under mass production conditions as a result of improving the uniformity of the properties of the parts. On the basis of analyzing the existing production of resistors demonstrating the deficiencies of the technological process and the input control of the initial materials, measures were adopted to improve the production reliability. The bibliography has 7 entries.

1/1

- 75 -

USSR

UDC: 621.319.4

KRISTALINSKIY, L. L., STOLOV, L. A.

"Quantitative Indices of Reliability of Oxide-Semiconductor Capacitors as Functions of the Series-Connected Resistance"

Elektron. tekhnika, Nauchn.-tekh. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 4(21), pp 55-56 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V319)

Translation: One of the possible mechanisms of failures of oxide-semiconductor capacitors is analyzed. The failure rate is studied as a function of series-connected resistance. An analytical expression is found for this relationship. Resumé.

1/1

142 028 UNCLASSIFIED PROCESSING DATE--11DEC70.
TITLE--EFFECT OF ELECTRON DONOR COMPOUNDS ON BUTADIENE POLYMERIZATION IN
THE PRESENCE OF PI ALLYL NICKEL CATALYSTS -U-
AUTHOR--(05)--KRISTALNYI, E.V., OREKHOVA, N.V., ZABOLUTSKAYA, YE.V.,
GANTRAKHER, A.R., MEDVEDEV, S.S.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 836-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL REACTION KINETICS, BUTADIENE, POLYMERIZATION, METAL
CATALYST, NICKEL, TITANIUM CHLORIDE, CHEMICAL REACTION RATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1382 STEP NO--UR/0459/10/012/004/0836/0940
CIRC ACCESSION NO--AP0135056
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135056

ABSTRACT/EXTRACT--(U) GP-D- ABSTRACT. BUTADIENE WAS POLYMD. IN THE PRESENCE OF PI ALLYLNICKEL CHLORIDE (I) PLUS TlCl SUB4 AND ELECTRON DONOR ADDITIVES E.G., ME SUB2 S, ET SUB2 O, AND PHOME, IN ORDER TO DET. THE EFFECTS OF THE ADDITIVES ON THE POLYMN. RATE. ME SUB2 S INHIBITED THE POLYMN. RATE, BUT PHOME HAD THE OPPOSITE EFFECT. KINETIC STUDIES SUGGESTED THAT THE DONOR ADDITIVES ADDED TO I INSTEAD OF TlCl SUB4. FACILITY: FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--USE OF EMULSIONS OF SILICO ORGANIC COMPOUNDS IN VIROLOGICAL
PRACTICE -U-
AUTHOR-(04)-KRISTAPSON, M.ZH., RUMYANTSEVA, N.P., REZNIYEKS, A.A., ATRENA,
A.K.
COUNTRY OF INFO--USSR *K*
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 116-120
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TISSUE CULTURE, VIROLOGY, ORGANOSILICON COMPOUND, WHOLE BLOOD

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0065 STEP NO--UR/0402/70/000/001/0116/0120
CIRC ACCESSION NO--AP0103745
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13SEP70

CIRC ACCESSION NO--AP0103745

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE RESULTS OF TESTS OF NATURAL SILICO ORGANIC COMPOUNDS OR CILLOVANES FOR PRODUCTION OF NATIVE PLASMA FROM THE WHOLE BLOOD AND TESTS OF THEIR TOXICITY FOR TISSUE CULTURES.

89

UNCLASSIFIED

12

UDC 576.959.095.1:647.1.1.128

USSR

KRISTAPINS, N. ZH., SHANINPONA, N. P., KEMENYENS, A. M., and ADAMA, A. K., Institute of Microbiology imeni August Kirilovskaya, Academy of Sciences, Latvian SSR

"Use of Emulsions of Organosilicon Compounds in Virological Practice" Moscow, Voprosy Virusologii, No 1, 1970, pp 110-112

Abstract: A transparent, rapidly coagulating plasma was obtained from the blood of humans and some animals (horses, man) using a variety of siloxane emulsions. In some cases serum blood separated the plasma without centrifugation, simply by being allowed to stand in a refrigerator at 5° C. The plasma coagulated and acquired a jelly-like consistency. Clotting time in test tubes with silicone coating was considerably longer as compared with the control (1.9-12, 9-10, and more than 30 min for human, man's and horse's blood, respectively). In toxicity tests, plasma obtained with the use of silicones was added to cultures of human embryonic fibroblasts and chick embryos. In some cases cell suspensions were added directly to test tubes treated with silicones. No signs of degeneration or other significant changes were noted in the tissue cultures.

1/1

1/2 040 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--RADIATION COLLOIDAL CENTERS IN ALKALI METAL HALIDE CRYSTALS -U-

AUTHOR--KRISTAPSONS, YU.

K

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. 1970, (11), 34--9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--POTASSIUM CHLORIDE, SILVER, COPPER, THALLIUM, SODIUM CHLORIDE,
BROMIDE, NEUTRON IRRADIATION, RADIATION EFFECT, THERMAL STABILITY,
CRYSTALLIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0618

STEP NO--UR/0371/70/000/001/0034/0039

CIRC ACCESSION NO--A0105599

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMATION OF COLLOIDAL COLOR CENTERS IN CRYSTALS UNDER LARGE RADIATION DOSES WAS INVESTIGATED. KCL, NaCl, AND KBr CRYSTALS, BOTH NONACTIVATED AND ACTIVATED BY Ag, Tl, AND Cu, WERE GROWN FROM THE MOLTEN SALTS IN AIR. SAMPLES, IN THE FORM OF 7 TIMES 7 MM PLATES 0.2-0.5 MM THICK, WERE IRRADIATED IN A 2200-KW NUCLEAR REACTOR, AT 60 AND 160 DEGREES UNDER NEUTRON FLUXES OF 1.7×10^{11} NEUTRONS-CM² SEC AND OF 5.3×10^{12} NEUTRONS-CM² SEC. THE FOLLOWING CRITERIA WERE USED TO IDENTIFY THE COLLOIDAL BANDS: COINCIDENCE OF THE POSITIONS AND CONTOURS OF THE BANDS, WHICH WERE OBTAINED BOTH EXPTL. AND BY CALCNS. ACCORDING TO THE MIE FORMULA AND TO THE THEORY OF PLASMA RESONANCE; TEMP. INDEPENDENCE OF THE ABSORPTION BAND CONTOURS; COINCIDENCE OF BAND PARAMETERS WITH RADIATION INDUCED AND ADDITIVE COLORATION; GREATER THERMAL STABILITY OF THE COLLOIDAL ABSORPTION BANDS, CORRESPONDING TO THE COLOR CENTERS, AS COMPARED TO THE BAND STABILITY. IRRADN. OF THE KCl-Tl CRYSTAL SHOWED NO PEAKS IN THE UV SPECTRA. THE DEPENDENCE OF COLLOIDAL CENTER FORMATION ON THE RADIATION DOSE FOR KCl AND KCl-Ag CRYSTALS IS DISCUSSED. IN KCl-Ag, B, D, AND F CENTERS ARE FORMED AT LOW RADIATION DOSES. AT HIGHER DOSES, THE CONCN. OF B CENTERS DECREASES. UNDER IRRADN. AT 60 DEGREES, M CENTERS ARE FORMED, TOGETHER WITH THE B AND F CENTERS. IN KCl CRYSTALS IRRADIATED AT 60 DEGREES, F, M, AND R CENTERS ARE FORMED, WHILE AT 160 DEGREES ONLY THE F CENTER IS FORMED.

UNCLASSIFIED

USSR

UDC: 620.183:669.018.26

KOVALEV, A. I., KRISTI, Ye. N.

"The Method of Electrical Resistance in Studying Plastic Deformation Under Current"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 3, 27 Jul 73, pp 574-576

Abstract: A special investigation was made of the influence of current on the process of plastic deformation and electrical resistance. The experimental materials were technically pure metals -- copper, aluminum and nickel (in the annealed state). Specimens in the form of wires 1.5 and 3.5 mm in diameter were placed under tension at room temperature with and without current. Temperature was thermostatically control in distilled water or acetone. Resistance was measured on the R-306 and R-346 potentiometers. It was found that alternating and direct current have analogous effects on deformation, but alternating current is more effective. Periodically interrupted current is still more effective. Creep rate is most strongly affected by current at loads slightly above the yield stress. After deformation reaches a certain limit, **neither** current nor pulsations in current have any noticeable effect on creep rate.

1/1

USSR

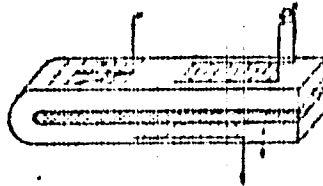
UDC 621.374.5

KARINSKIY, S. S., KOMAROV, V. G., MONDINOV, V. D., GOLIKOV, M. I., ROMANOV, L. N., KOMAROVA, I. S., KRISTININA, L. I.

"An Integrated Ultrasonic Single-Crystal Delay Line"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obratzy, tovarnyye znaki, No 15, May 71, Author's Certificate No 302808, Division H, filed 22 Sep 69, published 28 Apr 71

Translation: This Author's Certificate introduces an integrated ultrasonic single-crystal delay line for surface waves. The device contains a piezo-electric single-crystal acoustic line with a slot on one end which is filled with an absorber. The device also contains lattice-type two-phase receiving and transmitting converters. As a distinguishing feature of the patent, the delay time is increased by locating the converters on the upper and lower surfaces of the acoustic line, and by rounding the other end of the line with a radius of at least ten ultrasonic resonance wavelengths.



1/1

UDC 519.21

USSR

BRIKMAN, M. S. and KRISTINKOV, D. S.

"Canonical Expansion of Almost-Periodic Random Functions"

Metody i sredstva tekhn. kibernet. - Sbornik (Methods and Facilities in Technical Cybernetics - Collection of Works), Riga, No 8, 1970, pp 26-31 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V148 by R. Matveyev)

Translation: With reference to recent computer processing of their results, the authors describe and analyze formulas of the canonical (in the V. S. Pugachyov sense) expansion of random function $X(t)$ for which $E | X(t + \tau) - X(t) |^2 < \epsilon^2$ for all $|t| < N$.

USSR

UDC 62.53

KRISTINKOV, D. S., and PLAUDE, A. K., Riga Polytechnical Institute
"Adaptive Algorithms of Equivalenting"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR, No 2, 1970, pp 90-96

Abstract: This article discusses computer algorithms for approximating a differential equation in terms of an equation of lower order. The first section presents a brief explanation of the mathematical procedures involved. The basic procedure is to express the absolute value of the difference between the equation to be approximated and the approximating equation in terms of known and unknown parameters, find the extrema of this function where its partial derivatives are equal to zero, and examine each of the sets of solutions to find those combinations of unknown parameters which yield the minimum difference; this is the application of the Chebyshev criterion.

Since an analytic application of this criterion is impeded by the fact that the extrema cannot be clearly expressed, as well as by the difficulty of linearizing the sets of partial differential equations involved, an algorithmic approach is presented. The procedure is to approximate the function by a finite power series, using Chebyshev's condition that the best uniform approximation is found when the weighted difference between the series and the function reaches its modulus maximum at least $n+2$ times, alternating

1/1

USSR

KRISTINKOV, D. S. Izvestiya Akademii Nauk Latvyskoy SSR, No 2, 1970 pp 90-96

sign, where n is the number of terms in the series. Once the coefficients of the series' terms have been determined from this condition, the approximating differential equation is found by substituting the series directly in the approximating equation, equating the coefficients for identical exponents. The errors introduced in the transition from the series to the approximating equation are reduced by changing the arbitrary constants, using a random search technique in the parameter space; i.e., varying each parameter in a randomly selected direction and retaining the change if the function to be minimized is reduced or abandoning it if the function is not reduced.

A block diagram of the algorithm is provided, showing three stages: 1) find the formula for the desired power series; 2) substitute the series in the corresponding differential equation, finding its coefficients by a method which these same authors have previously described in No 5 of this journal for 1969; 3) vary the arbitrary constants, seeking a minimum.

There are five references, all to Soviet works.

2/2

1/2 052 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--HIGH PRESSURE BALLOONS MADE FROM GLASS FIBER REINFORCED PLASTICS
-U-
AUTHOR--(05)--BIGULA, B.A., GUMENYUK, V.S., KARAMASH, N.P., KRISTUK, A.A.,
URBANSKIY, S.V.
COUNTRY OF INFO--USSR
SOURCE--MEKH. POLIM. 1970, 6(1), 149-52
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--HIGH PRESSURE, BALLOON, GLASS FIBER, REINFORCED PLASTIC,
MATERIAL DEFORMATION, MECHANICAL STRENGTH, TEST METHOD/ (U)HC55 6 250
GLASS, (U)EF64 REINFORCED PLASTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0025 STEP NO--UR/0374/70/006/001/0149/0152
CIRC ACCESSION NO--AP0114425
UNCLASSIFIED

2/2 052

UNCLASSIFIED

PROCESSING DATE--090670

CIRC ACCESSION NO--AP0114425

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

FACILITY: INST. MEKH., KIEV, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--MICROSTRUCTURE OF IRON POWDER MOLDDINGS IN RELATION TO THE MOLDING
 METHOD -G-
 AUTHOR--(04)-DURLOBEYEV, YU.G., KRITIN, D.I., ZHERDITSKY, N.T., PROTSEKOV,
 V.T.
 COUNTRY OF INFO--USSR
 SOURCE--PENKSHKOVAYA MET., APR. 1970, (4), 39-43
 DATE PUBLISHED-----70

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

TOPIC TAGS--IRON POWDER, POWDER METAL MOLDING, POWDER METAL PROPERTY,
GRAIN STRUCTURE, INTERNAL STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/TAPE--3006/0635

STEP NO--08/0220/70/000/004/00397/0043

CIRC ACCESSION NO--AP0134397

UNCLASSIFIED

272 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0154397

ABSTRACT/EXTRACT--(U) CONF- ABSTRACT. THE MICROSTRUCTURE OF FE POWDER
MOULDINGS PRODUCED UNDER STANDARD STATIC AND DYNAMIC CONDITIONS WAS
STUDIED AND CORRELATED WITH THE PARAMETERS OF THE MOULDING PROCESS.
THUS MATERIALS SUBJECTED TO STATIC AND DYNAMIC MOULDING PROCESSES MAY
DIFFER CONSIDERABLY IN MICROSTRUCTURE AND PHYSICOMECHANICAL PROPERTIES,
EVEN IF THE FINAL POROSITY IS OF THE SAME ORDER. THESE DIFFERENCES ARE
ATTRIBUTED TO DIFFERENCES IN THE STRESS AND STRAIN DISTRIBUTION IN AND
BETWEEN THE INDIVIDUAL GRAINS AS CONFIRMED BY HARDNESS MEASUREMENTS.

UNCLASSIFIED

Acc. Nr. **AP0041405**

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code
UK 0000

5

KRITSKAYA II

71799q Structure of the product from reaction of an equimolar mixture of 1- and 2-bromomethylnaphthalenes with enneacarbonyliron. A new π -complex with a trimethylenemethane-type ligand. Nesmeyanov, A. N.; Astukhova, I. S.; Zol'nitskaya, G. P.; Kritskaya, I. I.; Struchkov, Yu. I. *Dokl. Akad. Nauk SSSR*, Moscow, USSR, *J. Chem. Soc. D* 1970, (11), 85 (Eng).
 X-ray diffraction study shows that the reaction product of an equimol. mixt. of 1- and 2-bromomethylnaphthalenes with $Fe(CO)_9$ is a π -complex with a trimethylenemethane ligand, which constitutes a part of the 2-naphthylmethyl group, the latter being alkylated in the 4-position of its coordinated benzene ring by the 1-naphthylmethyl radical, which does not participate in coordination with the Fe. The complex is monoclinic with space group $P2_1/c$ with cell dimensions a 8.36, b 17.63, c 13.73 Å, β 95°, d , 1.40, and $Z = 4$.
 DSJN]

1/1

1 di

REEL/FRAME
19751270

USSR

UDC 548.520+535.429

K
KRITSKAYA, V. K., and MARGISOV, A. V., Institute of Metallurgy and Metal Physics,
Institute of I. P. Bardin

"Anomalous Behavior of Carbon Atoms at Low Temperatures in Electron-Irradiated
Martensite"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jan 79, pp 1293-1294

Abstract: A study of the anomalous behavior of carbon atoms at low temperatures in electron-irradiated martensite is presented. It is shown that the degree of tetragonality of the martensite lattice decreases sharply after irradiation and cooling for 1 min in the temperature interval -40 to -50° . The observed phenomenon of low-temperature change of the parameter of the martensite lattice of carbon steel is not related to the change of the concentration of carbon in the solid solution, but is due to the redistribution of carbon in the lattice of the solid solution -- discontinuous transition of carbon atoms from octahedral pores, distributed along the tetragonal axis c , into defects produced by irradiation. The presence, in the lattice of irradiated martensite, of a fairly large quantity of pinholes, stimulates the transition of atoms from one position of the lattice to others which are more favorable from an energy standpoint. The authors thank Academician G. V. Karayanzov and A. G. Khachatryan for their interest in the work and for discussing the results, and L. I. Ivanov and L. N. Bystrov for permitting the irradiation of the specimens.

1/1

USSR

UDC 681.327.12

ZUSMAN, V. G. KRITSKIY, D. R., BITT, V. V., Experimental Scientific Research Institute of Metal-Cutting Machine Tools

"A Device for Reading out Information from a Punched Tape"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotki, Tovarnyye Znaki, No 8, 1970 p 138, Patent No 264818, filed 9 Mar 67

Abstract: This Author's Certificate introduces a device for reading out information from a punched tape. The unit contains feed and take-up cartridges, readout photocells, and a drive. As a distinguishing feature of the patent, the device is simplified and provision is made for operation with either a ring-type or open punched tape. The take-up cartridge contains a split spring ring with a diameter equal to that of the inner ring of the feed cartridge. Pressed against this ring from the inside is a roller with its axle connected to two levers. One of these levers is connected by its axis to the cartridge housing, while the other lever is connected to a spring-return rod and is located in a cavity perpendicular to the axis of rotation of the cartridge.

1/1

USSR

UDC 577.11

KRITSKIY, G. A., and ALEKSANDROV, S. V., Bakh Institute of Biochemistry,
USSR Academy of Sciences

"Diagnosis of Radiation Lesions From the Level of Blood Nucleic Acids"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 3, 1973, pp 728-731

Abstract: A small and precisely measured volume of blood is mixed with a hemolyzing substance (e.g., saponin) and centrifuged, after which the supernatant is decanted to remove the hemoglobin. The nucleic acids are extracted from the leukocyte sediment with perchloric acid. The extract is examined with a spectrometer in ultraviolet light at three wavelengths. The decrease in content of nucleic acids and the index characterizing change in the quantity of admixtures in the extract are calculated from the extinctions. The method reveals statistically significant changes shortly after irradiation starting with doses from 2 r and higher. Abnormalities increase with the size of the dose. The procedure requires 0.5 to 1.5 ml of blood per sample and takes 1 to 2 hours. The proposed method can supplement existing ones (e.g., determination of serum proteins, creatine) that are not as sensitive to very low radiation doses.

1/1

Molecular Biology

USSR

UDC 577.11

KRITSKIY, G. A., BATISHCHEV, A. I., ALEKSANDROV, S. V., FEDOROV, N. A., and
ABRAMOV, R. Ye., Institute of Biochemistry imeni A. N. Bakh, Academy of
Sciences USSR, Moscow

"Comparative Characteristics of Nucleotide Blocks of DNA After Radiation Injury
and in Leukemia"

Moscow, Doklady Akademii Nauk SSSR, No 1, 1972, pp 233-236

Abstract: DNA was isolated from bone marrow of Wistar rats irradiated at 500 r and from spleens of C₅₇B₁₆ mice 6 days after induction of L₁₂10 leukemia. Determination of the pyrimidine nucleotide blocks of the DNA by paper chromatography revealed good separation of most of the spots, 7 and 8 in particular. The changes in distribution of the pyrimidine nucleotide blocks were found to be the same in both DNA's. There was a significant increase in the relative content of spot 10 material compared with the total content of the material of all the spots as well as a maximum decrease in the nucleotide blocks corresponding to chromatographic spot 7. The destruction of these portions of DNA resulted in an increase in the amount of material corresponding to spots 8 and 10. The similarity of the changes in nucleic acids produced by irradiation and leukemia may account for the increased frequency of tumors and especially leukemias after exposure to ionizing radiation.

1/1

UDC 8.74

USSR

KRITSKIY, S. P., KOZ'MINA, I. V.

"The KI-System of Translator Planning"

V sb. Razrabotka translyatorov (Development of Translators--collection of works), Rostov-na-Donu, Rostov University, 1972, pp 58-79 (from MEh-Kibernetika, No 12, Dec 72, Abstract No 12V457)

Translation: A study was made of the syntactically controlled processing of texts with a complex "language" structure including comparison of the processing plan, its encoding in the form of the files of tables, the compilation of the control algorithm and semantic subprograms. The advantage of the language proposed by the author (for recording the text processing plan) is the fact that the plan is written in the terms in which it is conceived. The proposed system can serve as a basis for planning and designing various translators.

1/1

USSR

UDC 8.74

KRITSKIY, S. P.

"Continuation of Translation after Detecting Syntactic Errors"

V sb. Razrabotka translyatorov (Development of Translators--collection of works), Rostov-na-Donu, Rostov University, 1972, pp 80-107 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V461)

Translation: The syntactically oriented translator cannot function correctly when an error is detected in the input text. Avoiding such an error presents great difficulties and is solved for each input language separately.

The general method of continuing the translation which does not depend on the specific language is described. An algorithm is presented which has sufficient power for application in real translators.

1/1

KRITSKIY, Ye. I.

Medical Science

SOME PATTERNS OF CHANGE IN SPECIALTY IN THE COURSE OF MEDICAL PRACTICE

UDC: 614.111.012.013

Article by Ye. I. Kritskiy, Candidate of Medical Sciences, All-Union Scientific Research Institute of Social Hygiene and Public Health, Moscow. *Trudy Vsesoyuznogo Nauchno-Issledovatskogo Instituta Obshchestvennoy Gygieny i Epidemiologii*, 1973, No. 1, pp. 17-21.

The distinctive feature of development of modern society is the exceptional progress of science and technology. Progressing scientific and technological changes lead to further differentiation of medico-biological sciences.

The process of increasing specialization is a universal law of development of modern medical science. Practical medicine is also coming to fructify leading to specialization of medical practice.

Due to the increase in medical personnel and specialization thereof significant success has been obtained in public health services. By virtue of the increase in overall number of physicians and in number of specialists the people have been better supplied with medical care. As a result as well as specialized care, there have also been some changes in structure of medical personnel with respect to special fields. For example, in 1940, 63 percent of all physicians were specialized in the main fields (with the exception of the sanitary and epidemiological group); in 1965, including physiotherapists and infectious), pediatricians, surgeons (including traumatologists and infectious), pediatricians, surgeons (including traumatologists, orthopedists, and urologists), and obstetricians-gynecologists. Therefore, the number of physicians in these fields began to decline gradually, constituting 53.7 percent in 1950, 56.4 percent in 1965, and 58.1 percent in 1970. At the same time the share of physicians in narrow specialties (with the exception of stomatologists and dentists), phlebologists, venosurgeonologists, dermatologists and dermatovenerologists, psychiatrists, otorhinolaryngologists, and others -- rose from 27.7 percent in 1940 to 36.8 percent in 1970.

Special mention should be made of the decrease in share of internists from 31.3 percent in 1940 to 23.3 percent in 1970, obstetricians-gynecologists from 7.9 to 7.2 percent, and physicians of the sanitary and epidemiological.

JPRS 57875
2 Jan 73

USSR

UDC 621.396.677(02) 6

ARDAB'YEVSKIY, A. I., VOLKOV, O. A., VOSKRESENSKIY, D. I., GOSTYURHIN, V. L., GRANOVSKAYA, R. A., GRINEVA, K. I., KRITSYN, V. A., MYAKISHEV, B. YA., FILIPPOV, V. S., CHEBYSHEV, V. V.

"Microwave Antennas and Devices. Calculation and Design of Antenna Arrays and their Radiating Elements. Textbook for Students at the Radiotechnical Specialized Institutions of Higher Learning"

Antenny i ustroystva SVCh. Raschet i proyektirovaniye antennykh reshetok i ikh izluchayushchikh elementov. Uchebn. posobiye dlya stud. radiotekhn. spets. vyzov (cf. English above), Moscow, Soviet Radio, 1972, 320 pp, ill., 75 k. (from RZh-Radiotekhnika, No 6, Jun 72, Abstract No 5B32K)

Translation: Methods of calculating the basic parameters of antenna arrays with electric rocking of the radiation pattern and frequency and commutation methods of controlling the radiation pattern are discussed. A study is made of the structure of the optimal arrays with Dolf-Chebyshev distribution, the design of irised-wave guide and horn arrays and also methods of calculating the array elements: dielectric, rod, spiral, horn and director antennas.

1/1

USSR

ZUBOV, V. V., KRIVANDIN, V. A., MASTRYUKOV, B. S.

"Study of Spectral Radiation Characteristics of Heat-resistant Materials"

Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Chernaya Metallurgiya,
No 9, 1972, pp 155-157.

Abstract: Calculation of spectral characteristics is hindered by the absence of sufficiently reliable data on the degree of blackness for most materials used at high temperatures, particularly alloys used to manufacture electric resistance furnace heaters. In this work, alloys Kh20N80, OKh27Yu5A and Kh18N25S2 were studied, using specimens $8 \times 30 \times 2$ mm preliminarily ground, then oxidized in air at $1,000^{\circ}\text{C}$ for 6 hours. The spectral degree of blackness was measured using the direct radiation method. Analysis of the results produced shows that the spectral degree of blackness and function $\epsilon_{\lambda} = f(\lambda)$ differ significantly for the three alloys, due to the differences in chemical composition and thickness of oxide films formed. The work indicates that the radiation properties of oxidized heat-resistant alloys are determined to a significant extent by the chemical composition and thickness of oxide films formed on their surfaces. The influence of these factors on the spectral function will be studied in later works.

1/1

UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 025

TITLE--CHANGE IN THE SIZE DISTRIBUTION OF CARBON BLACK PARTICLES DURING

THEIR COMPLETE COMBUSTION -U-

AUTHOR--(03)-BERNER, G.YA., SOROKIN, A.S., KRIVANDIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(3), 167-70

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CARBON BLACK, COMBUSTION, ELECTRON MICROSCOPY, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1544

STEP NO--UR/0148/70/013/003/0167/0170

CIRC ACCESSION NO--AP0125170

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125170

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE C BLACK WAS COMBUSTED UNDER VARIOUS TEMP. AND TIME CONDITIONS IN AN ELEC. FURNACE (20 MM DIAM., 0.25-0.50 M LONG). THE INITIAL CONC. OF THE C BLACK WAS 8.3 G-M PRIME3 OF THE GASEOUS PHASE, THE CONTENT OF FREE O I-6PERCENT. THE NO. AND SIZE OF THE C BLACK PARTICLES WERE FOUND BY PHOTOGRAPHING WITH ELECTRON MICROSCOPE AND FURTHER ENLARGING OF THE NEGATIVES (THE TOTAL ENLARGEMENT TIMES 6000). INCREASING THE TEMP. AND COMBUSTION TIME, SHIFTS THE MAX. OF THE DISTRIBUTION CURVES TO A SMALLER PARTICLE SIZE AND AT THE SAME TIME THE CONTENT OF THE MOST FREQUENT PARTICLES, THE RATIO OF THE FINE AND COARSE GRAINED PARTICLES, AND THE AV. PARTICLE DIAM. ARE CHANGED. THE AV. PARTICLE DIAM. IS NOT RECOMMENDED AS A SUFFICIENT CHARACTERISTIC OF THE COMBUSTION PROCESS. FACILITY: MUSK, INST. STALI SPLAVOV, MUSCOW, USSR.

UNCLASSIFIED

USSR

UDC 627.838(088.8)

KRIVCHENKO, G. I., OSTROUMOV, S. N.

"Spillway Unit for Pressure Water Holding Structures"

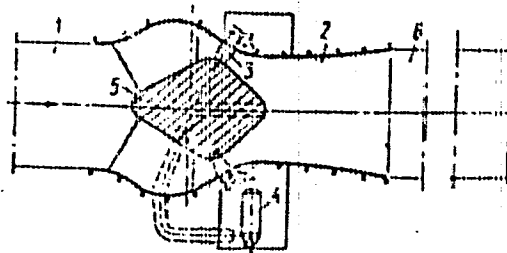
USSR Author's Certificate No 271382, filed 15 Mar 68, published 18 Aug 70,
(from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D163P)

Translation: The purpose of the patented spillway structure is exclusion of cavitation phenomena and extinguishing of the kinetic energy of the flow. The device consists of an underwater gate 1 (see the figure), the gate chamber 2 with rotating vanes 3 mounted on it which are driven by the mechanism 4 located between the deflector 5 and the gate chamber 2. By rotating the vanes 3, the flow is circulated from the chamber 2 to the outlet gate 6 of circular cross section. In the gate there is gradual extinguishing of the flow energy in a rectilinear section 25 and more gate diameters long. The circulation of the flow in the outlet gate 6 creates excess pressure on its inside surface and in the vane zone 3 of the gate, which excludes the occurrence of cavitation phenomena. An annular gate for decreasing flows, unloading the vane guides when the spillway is not in operation and facilitating inspection and repair can be located in front of the guide vanes 3. There are two illustrations.

1/2

USSR

KRIVCHENKO, G. I., et al., USSR Author's Certificate No 271382, filed 15 Mar 68, published 18 Aug 70



2/2

USSR

UDC 621.311.21.001.42.001.57

KRIVCHENKO, G. I., ARSHENEVSKIY, N. N., KVIATKOVSKAYA, Ye. V.

"Studies of the Nonsteady State Operating Conditions of Hydroelectric Power Plants"

Sb. tr. po gidrotekhn. i gidrostr-vu. (Collected Works on Hydroengineering and Hydropower Construction), Moscow, Nauka Press, 1970, pp 192-205 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 D133)

Translation: The procedure for calculating the tangent processes and selecting optimal hydroturbine regulating conditions was improved on the basis of natural and model studies of the behavior of hydroturbines in a broad range of operating conditions, including running up and running down. In a number of cases, application of this procedure permits proof of the possibility of constructing closed-delivery conduits without UR with inertial constants up to 4-6 seconds and more. Examples of hydroelectric power plants are presetted (Nurek, Charvak, Kuban'-Kalauskiya, and others) providing a basis for doing away with UR. In selecting the turbine regulating conditions and designating the limiting rate of variation of opening of the distributor, it is proposed that the turbine characteristics be used considering the
1/2

USSR

KRIVCHENKO, G. I., et al., Sb. tr. po gidrotekhn. i gidrostr-vu. (Collected Works on Hydroengineering and Hydropower Construction), Moscow, Nauka Press, 1970, pp 192-205 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 D133)

hydraulic impact for the given law of variation of the opening with time. As applied to the underground version of the Toktogul Hydroelectric Power Plant, a procedure is described for determining the instantaneous pressure diagrams under the runner during the entire process of nonsteady state operating conditions. The diagrams obtained make it possible to establish the deep vacuum regions for individual points in time. For hydroelectric power plants with long closed delivery conduits a procedure and research results are presented with respect to establishing the possible deviations caused by the nonstationarity of the operating conditions. For hydroelectric power plants with adjustable blade turbines, variation of the direction of the axial force on the runner, occurrences of deep vacuum under the top of the turbine and the possibility of discontinuity of the flow beyond the distributor and the runner and significant accelerating rpm are considered. There are 45 illustrations and an 18-entry bibliography.

2/2

USSR

UDC 58.08:562.285.1:632.4

KRIVCHENKO, V. I., SHCHELKO, L. G., and TIMOSHENKO, Z. V., All-Union Research Institute of Plant Growing imeni N. I. Vavilov

"A Method of Evaluating Barley Resistance to Stony Smut and Oat Resistance to Loose Smut"

Leningrad, Mikologiya i Fitopatologiya No 6, 1971, pp 523-525

Abstract: The coats of barley and oat seeds are bruised with an RT-1 tissue grinder and then inoculated with suspensions of the agents of smut. The treated seeds are dried at room temperature and kept for 20 to 40 days in a cool place (5 to 12°C, 60 to 90 percent humidity). The seeds are planted at the usual time in two rows 1.25 m long. An infected standard is placed after every 20 inoculated seeds. The Hannchen (K-4104) and Vantage (K-18504) barley varieties and the L'govskiy 1026 (K-10790) and Anthony (K-8054) oat varieties are used as standards because of their high susceptibility of smut. If the standard shows an attack rate of more than 50 percent, the experimental seeds can be used to characterize the degree of resistance. The latter is assessed both from the percentage of affected ears and from the percentage of diseased plants.

1/1

USSR

UDC 632.4.633.11

RIGINA, S. I., and KRIVCHENKO, V. I., Division of Immunity, All-Union Institute of Plant Growing in honor of N. I. Vavilov, Leningrad

"Physiological Specialization of *Erysiphe graminis* DC. f. sp. *tritici* Marchal"

Leningrad, Mikologiya i Fitopatologiya, Vol 5, No 1, 1971, pp 42-47

Abstract: Infection with *Erysiphe graminis* DC. f. sp. *tritici* Marchal occurs in the USSR wherever wheat is grown, causing considerable damage. Effective chemical agents for the control of infection with this fungus do not exist; therefore varieties of wheat that are resistant to the infection must be developed. Five physiological races of the fungus were isolated at the Pushkino Laboratories of the All Union Institute of Plant Growing from the local population of *E. graminis* f. sp. *tritici*. These races (14, 16, 19, 32, and 35) were tested on an assortment of wheat varieties. The wheat varieties Ulka, Normandie, Halle Stamm 13 471, and Kolbenstephan 111 were resistant to infection with all five races of the fungus. These varieties of wheat are of interest as donors of resistance genes in selection. Correlation of the data obtained with those given in the literature and based on use of similar assortments of wheat varieties for differentiation made it possible to deter-

1/2

USSR

RIGINA, S. I., and KRIVCHENKO, V. I., Mikologiya i Fitopatologiya, Vol 5,
No 1, 1971, pp 42-47

aine the distribution of 39 physiological races of *E. graminis* f. sp.
tritici in Germany (GDR and FGR), Scandinavia, England, Yugoslavia, Italy,
and the USSR.

2/2

- 37 -

USSR

UDC 582.001.4:582.285.12:633.11

KRIVCHENKO, V. I., All Union Institute of Plant Growing named N. I. Vavilova,
Leningrad

"Physiological Specialization and Distribution of Races of *Ustilago tritici*
(Pers.) Jens. in the USSR"

Leningrad, "Nauka" Mikologiya i Fitopatologiya, Vol 4, No 2, 1970, pp 157-158

Abstract: More than ten years of study of the types, races, and distribution of *Ustilago tritici*, *U. nuda*, *U. violacea*, *U. tritici-aestivi*, and *U. tritici-dacti*, the varieties of smut fungus, are presented. These pathogens were tested on many varieties of wheat grown in the USSR, and the degree of their pathogenicity was determined. Since chlamydospores of *Ustilaginaceae* are diploid, and have a sexual phase in the host characterized by haploid union and production of complementary sexes, they do not provide the basis for physiological classification. Of utmost importance to phytopathologists is a functional or specialized classification, which at the present time is based on the pathogenicity of the fungus. The distribution and virulence of the pathogens on many varieties of wheat were studied, the penetration of mycelia into the embryo was observed and the effect of the fungus on the corymb and the bud were used to establish 28 races, which are given in a table. Many classifications of phenotypes were unstable and untenable; whereas the classification based on pathogenicity proved stable and reliable for a period of 20 years.

USSR

UDC 632.911:582.285.11:633.1

KRIVCHENKO, V. N., All-Union Institute of Plant Cultivation imeni N. I. Vavilov,
Leningrad

"Suitable Methods for Estimating the Incidence of Smut on Cereal Crops"

Leningrad, Mikologiya i Fitopatologiya, No 4, 1972, pp 351-353

Abstract: The incidence of smut on grains is usually determined either by counting the number of healthy and diseased ears or by counting the number of healthy and diseased plants. In an experiment involving the inoculation of over 500 wheat, barley, and oat plants with *Tilletia caries*, *Ustilago tritici*, *U. hordei*, *U. avenae*, and *U. nuda*, the different counting methods produced different results mainly because only a few of the ears of the weakly and moderately susceptible plants became affected. The author suggests that the ear-counting method is preferable in determining the resistance of a plant variety because it yields a weighted average incidence of infection common to a variety or specimen. The plant-counting method is less useful because it does not take into account the resistance of the particular variety. However, it is particularly suitable for studying the resistance of hybrids of different generations, i.e., for purposes of breeding the most resistant families and strains.

1/1

USSR

UDC 669.15-194.3:621.793:543.422

KRIVCHIKOVA, E. L., VASYUTINSKIY, B. M., and KOSTILITSA, T. V.

"Application of Local Spectral Analysis in Studying Heat-Resistant Coatings on Kh25N20S2 Steel"

Moscow, Zavodskaya Laboratoriya, Vol 36, No 9, 1970, pp 1065-1068

Abstract: A study was made of two types of heat-resistant coatings on type Kh25N20S2 austenitic steel obtained by vacuum-condensation calorizing and chromizing. The distribution of Al, Cr, Ni, Fe, and Si with respect to depth of the calorized layer was investigated by the method of local spectral analysis with the application of a line and point source. A comparative estimate of the two methods on the basis of experimental data showed good agreement. During the process of depositing Al and Cr on Kh25N20S2 steel a significant concentration of these elements are formed in the surface layers, and this promotes an increase in heat resistance of the steel. Comparison of the local spectral analysis data with microstructural and X-ray micrographic studies showed the possibility of discovering the basic structural components in the diffusion zone of the steel.

1/2

USSR

KRIVCHIKOVA, E. L., et al, *Zavodskaya Laboratoriya*, Vol. 06, No. 9, 1970, pp 1065-1068

The advantages of the method of analysis using a line light source are its localization, shallow depth of penetration, and the possibility of determining the concentration by any point; consequently, it reveals a continuous picture of variation of the concentration with respect to depth of the coating. However, the layer method of analysis has greater sensitivity and accuracy, and where it is necessary to analyze small admixtures and high localization is not required (~5-10 microns), it is more expedient to use a point source of excitation of the spectrum.

2/2

- 5 -

Beryllium

USSR

UDC 535.211:539.37

PAPIROV, I. I., AVOTIN, S. S., KRIVCHIKOVA, E. P., and KORNICHENKO, L. A.

"Deformation of Single Beryllium Crystals Subjected to Laser Radiation"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar/Apr 73, pp 147-148

Abstract: Samples were produced by zone melting, and after grinding and electropolishing were subjected to laser pulses of $\sim 10^{-3}$ sec. duration at 0.6940 μ wavelength. The irradiation surface had orientation (0001) and (11 $\bar{2}$ 0). Optical and electron microscope analysis showed extensive plastic deformation around the crater produced by a focused laser beam. The plastic deformation was characterized mainly by presence of twin crystals oriented at 60 and 120° with respect to the circular zone (0.5-1 mm wide) formed around the crater. The presence of tetrahedral twin crystals indicates the complex nature of the plastic deformation. Dendrite structure was also observed around the crater, and it was formed mainly by twin crystals of various sizes. A transverse glide of dislocations from the basal plane (0001) to the prismatic (1010) was also observed. There were many small craters around the large crater, the nature of which remains unexplained. The whole picture of deformation differed markedly from that observed during a static deformation.

1/1

USSR

UDC 621.375.8

KRIVCHIKOVA, E. P., DEMIN, V. S.

"Use of Laser for Atomic Absorption Analysis"

Minsk, Zhurnal Prikladnoy Spektroskopii, No 4, Apr 71, pp 592-596.

Abstract: The authors studied the spectra of ruby, alundum and high-chrome steel alloyed with manganese, nickel and silicon by spectrography of the plasma streams formed upon application of a pulse of laser light. The spectra consisted of a continuous background, against which the absorption and emission lines could be seen. The absorption lines primarily belong to neutral and singly ionized atoms with excitation energies of 5-7 eV. In the steel, manganese, nickel and silicon were determined in the 0.1-1% concentration interval, chromium -- in the 9-17% concentration interval.

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SPECTROSCOPIC STUDY OF THE ADSORPTION OF SODIUM OLEATE ON MINERALS
-U-
AUTHOR--(02)-VAINSHENKER, I.A., KRIVELEVA, E.D.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 790-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROSCOPY, SODIUM COMPOUND, CALCIUM FLUORIDE, ADSORPTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1895 STEP NO--UR/0076/T0/044/003/0790/0792
CIRC ACCESSION NO--AP0118857
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0118857
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRUM OF NA OLEATE
ADSORBED FROM AQ. SOLN. ON CAF SUB2 DIFFERS FROM THAT OF THE SALT IN
SOLN., IN THE REGION 1500-1800 CM PRIME NEGATIVE1.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INFRARED SPECTRAL FEATURES OF OLEATES IN THE LONG WAVE REGION -U-
AUTHOR--(02)-VAINSHENIER, I.A., KRIVELEVA, E.D.
COUNTRY OF INFO--USSR
SOURCE--OBOGASHCH. RUD. 1970, 15(1-2), 104-5
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, IRON COMPOUND, OLEIC ACID, ORGANOCALCIUM
COMPOUND, ORGANOLITHIUM COMPOUND, ORGANOCOPPER COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/CDB STEP NO--UR/0549770/015/01-70106/0105

CIRC ACCESSION NO--AP0140272

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140272
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IR ABSORPTION SPECTRA OF FE(III),
CU, CA, LI AND NA OLEATES HAVE BEEN MEASURED AT 200-700 CM NEGATIVE
PRIME. FE(III) OLEATES EXHIBIT OCTAHEDRAL RATHER THAN TETRAHEDRAL
COORDINATION.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ON THE EFFECT OF WATER TEMPERATURE AND SALINITY ON THE FORMATION OF
THE OCEAN CURRENTS AT THE EQUATOR -U-
AUTHOR--KRIVELEVICH, L.M.
COUNTRY OF INFO--USSR
SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 3, PP 406-412
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--OCEAN TEMPERATURE, SALINITY, MOTION EQUATION, EQUATION OF
STATE, OCEAN CURRENT, SEA WATER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1868 STEP NO--UR/0213/70/010/003/0406/0412
CIRC ACCESSION NO--AP0129228
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0129228

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE JOINT SOLUTION OF THE DYNAMIC EQUATIONS OF MOTION, HEAT TRANSFER AND SALT DIFFUSION WITH A SIMULTANEOUS USE OF THE EQUATION OF STATE OF THE SEA WATER HAS YIELDED THE VALUES OF VELOCITY, TEMPERATURE AND SALINITY FIELDS IN THE EQUATORIAL PLANE. THE EFFECT OF SALINITY AND THE QUADRATIC TERMS IN THE EQUATION OF STATE ON THE FORMATION OF THE CURRENT SYSTEM AT THE EQUATOR IS INSIGNIFICANT. THE COMPUTED ZONAL VELOCITY FIELD CHARACTERIZED BY A DEEP OCEAN COUNTERCURRENT IS A QUALITATIVE REFLECTION OF THE REAL PICTURE OBSERVED AT THE EQUATOR. FACILITY: ATLANTICHESKOYE OTDELENIYE INSTITUTA OKEANOLOGII IM. P. P. SHIRSHOVA AN SSSR.

UNCLASSIFIED

USSR

UDC 615.43:535.242+547.944/945

NIKOLAYEVA, A. G., PROKOPENKO, A. P., and KRIVENCHUK, P. Ye., Zaporozh'ye Medical Institute; Khar'kov Scientific Research Institute of Pharmaceutical Chemistry

"Spectrophotometric Determination of Alkaloids of the β -Carboline Series in the Bark of *Elaeagnus Angustifolia*"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 6, 1970, pp 708-711

Abstract: The authors describe a spectrophotometric method of determining the amount of 1-methyl- β -carboline (harman) and 1-methyl-1,2,3,4-tetrahydro- β -carboline (tetrahydroharman) in the bark of *Elaeagnus angustifolia* (the Russian olive). It was found that harman in concentrations of 0.1-1 μ g per 100 ml and tetrahydroharman in quantities of 0.5-2.4 μ g per 100 ml conform to Bouguer-Lambert-Beer light absorption. The mean relative error of the method lies in the range of ± 0.82 - $\pm 1.05\%$. The alkaloids were extracted from the plant material by ethanol, and the content of harman and tetrahydroharman was determined after separation by thin-layer chromatography. Experimental studies show that the predominant alkaloid during the budding stage is tetrahydroharman, and that the concentration of this alkaloid then gradually decreases, reaching a minimum in the fruit-bearing stage. The concentration of harman increases toward the end of vegetation.

1/1