

212 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125181

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF MN ON THE SOLUBILITY OF FE, CO, AND NI IN AL ALLOYS WAS STUDIED. THUS BY COOLING THE MELT AT 10 PRIME6 DEGC-SEC 0.5 WT. PERCENT FE OR 0.15 WT. PERCENT CO OR NI MAY BE FIXED IN THE CORRESPONDING BINARY ALLOYS; IN THE PRESENCE OF 1 WT. PERCENT MN, HOWEVER, THE NONEQUILIBRIUM SOLUBILITY OF FE, CO, AND NI IS INCREASED BY 50PERCENT. ON RAPIDLY COOLING TERNARY ALLOYS CONTG. 3-4 WT. PERCENT MN TOGETHER WITH FE, CO, OR NI, SUPERSATURATED SOLID SOLUTIONS DIFFERING FUNDAMENTALLY IN COMPOSITION FROM THE ORIGINAL MELT ARE FORMED. THE DECOMPOSITION OF AL-ME-FE SOLID SOLUTIONS TAKES PLACE IN TWO STAGES, THE FE SEPARATING FIRST AND LATER THE MN.

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acc.

No.

AP0049131

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0079

100845j Reaction of germanium and tin tetrachlorides with aluminumalkyl compounds. Antipin, L. M.; Stenizh, E. M.; Mironov, V. F. (USSR). *Zh. Obshch. Khim.* 1970, 40(1), 115-18 (Russ). The subject reactions were run in argon atm. GeCl_4 (18.5 g) and 10.9 g EtAlCl_2 in 5 hr at $100-5^\circ$ gave 66.8% GeCl_4 , 85% Et_2GeCl , and 1.1% Et_3GeCl_2 , with some EtGeCl_3 . Adding 59.8 g GeCl_4 to 35.4 g EtAlCl_2 and heating 4.5 hr at $90-100^\circ$ gave 11% GeCl_4 , 85.6% Et_2GeCl , 1.8% Et_3GeCl_2 , and some EtGeCl_3 . Similarly, 12.2 g ethylaluminum sesquichloride and 20.6 g GeCl_4 gave 41.2% GeCl_4 , 84% Et_2GeCl , 5.4% Et_3GeCl_2 and some EtGeCl_3 ; from equimolar amts. Et_2Al and GeCl_4 were obtained 80.2% Et_2GeCl and traces of the other chlorides. EtAlCl_2 and GeCl_4 gave 31.6% GeCl_4 , 85.6% Et_2GeCl , and traces of other chlorides. Heating GeCl_4 and Et_3Ge 18 hr, at 200° gave 80% Et_2GeCl_2 . Treating 10.1 g Et_3Al with 23.2 g SnCl_4 gave 36% Et_2SnCl and 5.9% Et_3SnCl . Adding 18.9 g SnCl_4 to 8.25 g Et_3Al at $10-20^\circ$, holding 2 hr, adding 30 ml CHCl_3 , heating 4.5 hr at $40-50^\circ$, then holding 12 hr gave 6.2 g solid, decompd. 230° , $(\text{Et}_2\text{SnO})_2$, SnCl_4 and Pr_3Al similarly gave 72.2% Pr_2SnCl and 8.1% Pr_3SnCl , SnCl_4 and iso- Bu_3Al similarly treated gave 74.3% iso- Bu_2SnCl and 17.6% iso- Bu_3Sn . SnCl_4 and Et_3AlCl gave 40.7% Et_2SnCl_2 , m. 82° . Since alkylation of GeCl_4 by Al compds. stops at Et_2GeCl if the Al compd. is used in deficient amounts, the formation of the other chlorogermanes must be attributed to disproportionation reactions. G. M. Kopolapoff

REEL/FRAME
19800937

dr 7

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SHRINKAGE AND THERMAL EXPANSION OF ORGANOSILICON COMPOUND POLYMERS
-U-
AUTHOR--(03)-KISELEV, B.A., STEPINA, I.A., ABLEKOVA, Z.P.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (3), 18-20
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS
TOPIC TAGS--THERMAL EXPANSION, SILOXANE, POLYMER BINDER, POLYMER
CROSSLINKING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0668 STEP NO--UR/0191/70/000/003/0018/0020
CIRC ACCESSION NO--AP0119576
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHRINKAGE OF ORGANOSILICON BINDERS, E.G., POLY(METHYLSILOXANES) (I), POLY(METHYLPHENYLSILOXANES) (II), AND POLY(PHENYLSILOXANES) (III), WAS STUDIED DURING HARDENING BY A THERMOMECH. METHOD (V. A. KARGIN, 1960). THE LINEAR EXPANSION COEFFS. (ALPHA) OF I, II, AND III WERE DETD. AS A FUNCTION OF TEMP. II AGES AT 200-400DEGREES FOR 10-100 HR HAD A SLIGHTLY LOWER ALPHA, PRESUMABLY DUE TO FURTHER CROSSLINKING.

UNCLASSIFIED

Computers: Digital

(4)

USSR

UDC: 681.325.5

TIMOFEYEV, B. B., SUKHOMLINOV, M. M., FERENETS, N. K., STEPKO, D. P.,
NIKITENKO, V. M., OVERKO, V. A., PRSHISOVSKAYA, T. A., LYFAR', I. N.

"A Specialized Digital Computer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki,
No 47, Dec 73, Author's Certificate No 408304, Division G, filed 23 Jun 70,
published 10 Dec 73, p 172

Translation: This Author's Certificate introduces a specialized digital computer which contains registers, counters, and a control module connected to the registers and to the overflow outputs of the counters. The device also contains adders, flip-flops, an auxiliary code formation module, coincidence gates, buffer circuits, and a cadence pulse circuit connected to the input of a circuit for obtaining digit potentials. The outputs of this circuit are connected to the inputs of the control module. As a distinguishing feature of the patent, the functional possibilities of the computer are extended by adding a circuit for isolating transition signals, a transition counter, and three auxiliary registers. The output of the transition counter is connected to the first input of the first adder,

1/3

USSR

TIMOFEYEV, B. B., et al., USSR Author's Certificate No 408304

whose output is connected to the input of the transition counter. The output of the first auxiliary register is connected to its input through the first coincidence gate, while the outputs of the second and third registers are connected through the second and third coincidence gates to the first inputs of the second and third adders whose outputs are connected to the inputs of the second and third registers respectively. The output of the second adder is connected through the fourth coincidence gate to the first input of the first buffer circuit. The second input of this buffer circuit is connected to the output of the first register, and the output of the buffer circuit is connected to the first input of the circuit for isolating transition signals. The second input of this circuit is connected to the output of the transition counter and, through the fifth and sixth coincidence gates, to the first inputs of the second and third buffer circuits. The outputs of these buffer circuits are connected to the second and third inputs, whose outputs are connected to the second inputs of the second and third adders respectively. The output of the circuits for isolating transition signals is connected through the seventh and eighth coincidence gates to the second inputs of the second and third buffer circuits respectively and, through the ninth coincidence gate,

2/3

- 40 -

4

USSR

TIMOFEYEV, B. B., et al., USSR Author's Certificate No 408304

to the input of the auxiliary code formation module whose output is connected to the third input of the second buffer circuit. The output of the third register is connected through the tenth coincidence gate to the set input of the flip-flop whose output is connected through the eleventh coincidence gate to the second input of the first adder.

3/3

USSR

UDC 541.127.128:547.241

LITVINENKO, L. M., TITSKIY, G. D., STEPKO, O. P., and KIRPENKO, N. P.,
Donetsk Branch of the Physical Organic Chemistry, Institute of Physical
Chemistry Imeni L. V. Pisarzhevskiy, Acad. Sc. Ukrainian SSR and Donetsk
State University

"Oxygen-Nucleophilic Catalysis of the Organophosphorus Acids With Amides.
The Effect of the Structure of the Catalyst and of the Acylated Arylamine
on the Catalytic Process"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1794-
1799

Abstract: The investigation was carried out on the structural effects of
N,N-dimethylamides of several phosphoric and phosphinic acids in respect to
their catalytic activity in the acylation reaction of various arylamines
with benzoyl chloride in benzene at 25°. Utilizing correlation analysis it
was shown that N,N-dialkylamides of the organophosphorus acids act as oxygen-
nucleophilic catalysts, analogously to phosphorus oxides.

1/1

USSR

UDC 541.127.128:547.241

LITVINENKO, L. M., TITSKIY, G. D., and STEPKO, O. P., Donetsk Branch of the Physical-Organic Chemistry of the Institute of Physical Chemistry imeni L. V. Pizarzhevskiy, Acad. Sc. UkrSSR, Donetsk State University

"Phosphinic Acids as Bifunctional Catalysts in the Formation of Amide Bonds"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 5, Feb 72, pp 1127-1130

Abstract: Phosphinic acids may exhibit a bifunctional type of catalytic activity, analogously to carboxylic acids. This possibility was studied on the model of acylation of m-chloroaniline with acetic anhydride in benzene at 25°C. It was shown that in small quantities phosphinic acids substantially accelerated the reaction rate. Monofunctional compounds, such as m-nitrophenol, had no effect on the reaction. Quantitative comparisons have shown that phosphinic acids are as active as the carboxylic acids; their catalytic activity increases with increasing acidity. The catalytic activity of phosphinic acids is based on their ability to form cyclic transition complexes with amines which decompose into the final reaction products -- the amides and carboxylic acids.

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USSR

UDC 539.4

STEPNOV, M. N., GIATSINTOV, YE. V., SEREGIN, A. S. (Moscow),
Moscow Aviation Technological Institute

"A Statistical Analysis of the Fatigue Characteristics of Light Alloys for a Probabilistic Estimate of the Strength of Aircraft Structural Elements"

Kiev, Problemy Prochnosti, No 10, 1970, pp 38-42

Abstract: An analysis is made of the fatigue characteristics of light alloys, obtained in the testing of laboratory specimens; consideration is given to the possibility of using the fatigue characteristics for estimating the strength of parts with account taken of the statistical similitude criterion of fatigue destruction. 6 figures, 4 bibliographic entries.

1/1

USSR

UDC 669.71.017:539.43.01

STEPNOV, M. N., MIKLYAYEV, P. G., KOPNOV, V. I., KALUGINA, A. A., and
FOMIN, K. N.

"The Effect of Structural Microinhomogeneity on the Fatigue Resistance of the
D1 Alloy"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970,
pp 42-49, resume

Translation: A method is suggested for the quantitative rating of the
microstructure of aluminum alloys by the inhomogeneity of the microplastic
deformation. The relation between the inhomogeneity factor of microplastic
deformation and the fatigue resistance of rods and stampings of the D1 alloy is
demonstrated. Seven figures, one table, four bibliographic reference.

1/1

1/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--LAWS GOVERNING THE DISTRIBUTION OF CREEP STRENGTH, IN ALUMINIUM ALLOYS IN RELATION TO THE STUDY OF CREEP STRENGTH -U-

AUTHOR--(02)-BORODIN, N.A., ~~STEPANOV~~, M.N.

S

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB., 1970, 36, (3), 338-340

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STATISTIC ANALYSIS, CREEP STRENGTH, ALUMINUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0302

STEP NO--UR/0032/70/036/003/0338/0340

CIRC ACCESSION NO--AP0129534

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 019

CIRC ACCESSION NO--AP0129534
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PROBLEMS ARISING IN THE STATISTICAL ANALYSIS OF THE RESULTS OF CREEP TESTS ARE DISCUSSED WITH SPECIAL REF. TO THE CASE OF AL ALLOYS. THE DISTRIBUTION OF CREEP STRENGTH IN SERIES OF SUCH SAMPLES OBEYS NORMAL STATISTICAL LAW IF DUE ALLOWANCE IS MADE FOR THE UPPER AND LOWER THRESHOLDS OF SENSITIVITY. WITHIN CERTAIN LIMITS, HOWEVER, THE STATISTICAL ANALYSIS OF SUCH TESTS MAY BE CARRIED OUT ON THE BASIS OF A NORMAL LAW WITHOUT TAKING THESE THRESHOLD VALUES INTO CONSIDERATION. THE ERRORS INVOLVED IN THIS SIMPLIFICATION ARE CONSIDERED.

UNCLASSIFIED

72 054
UNCLASSIFIED
TITLE--APPLICATION OF METAL CERAMIC ALLOYS FOR HANDLING HIGH TEMPERATURES
AND PRESSURES -U- PROCESSING DATE--18SEP70
AUTHOR--(02)-STEPNOV, S.A., PANDY, V.S.
COUNTRY OF INFO--USSR S
SOURCE--MOSCOW, KUZNECHNO-SHTAMPOVOCHNOYE PROIZVOOSTVO, NO. 2, 1970, PP
43-44
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--ALLOY, DIE CASTING, CONSTRUCTION MATERIAL, HIGH TEMPERATURE
MATERIAL, CERMET PRODUCT, VACUUM TECHNOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/0272 STEP NO--UR/0182/70/000/002/0043/0044
CIRC ACCESSION NO--AP0100778
UNCLASSIFIED

2/2 054

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE PRESENTS SOME OF THE RESULTS OBTAINED FROM WORK DONE BY THE NII TRAKTORSEL'KHOZMASH (SCIENTIFIC RESEARCH INSTITUTE FOR AGRICULTURAL TRACTORS AND MACHINERY) ON THE APPLICATION OF REFRACTORY ALLOYS TO INSTRUMENTS FOR WORKING AT HIGH TEMPERATURES AND PRESSURES. SUCH MATERIALS ARE METAL CERAMIC COMPOSITIONS MADE BY PRESSING AND SINTERING IN A VACUUM. A TABLE IS GIVEN LISTING THE TYPE NUMBER OF THE ALLOY, THE COMPONENTS OF THE LATTER, AND ITS CHARACTERISTICS, TOGETHER WITH NOTES AS TO THE POSSIBLE USES INSTRUMENTS MADE OF IT CAN BE PUT TO. SOME DETAILS CONCERNING THE MANUFACTURE OF THESE ALLOYS, STEEL TYPE NUMBERS, THE TEMPERATURE, THE DURATION OF THE HEATING, ARE GIVEN. PLANTS SUCH AS THE CHELYABINSK AUTOMECHANICAL PLANT AND THE VOROSHILOVGRAD AUTOMOBILE VALVE PLANT IN WHICH DIES MADE OF SUCH ALLOYS ARE USED, ARE LISTED, AND DETAILS OF THE MATERIALS ARE PRESENTED. THE AUTHORS CONCLUDE THAT REFRACTORY ALLOYS ARE WIDELY APPLICABLE FOR DIE CASTING, AND THAT A SUBSTANTIAL IMPROVEMENT IN THE STABILITY OF DIES AND PUNCHES CAN BE MADE BY PROPER CHOICE OF ALLOY.

UNCLASSIFIED

Steels

USSR

UDC 539.11

KUPALOVA, I. K., and STEPNOV, Ye. M., All-Union Scientific Research Institute of Instruments

"Study of Conversions Occurring During the Process of Heating of Hardened High-Speed Steels"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1115-1119

Abstract: Using a high temperature X-ray chamber, the lattice parameters (a_α and a_γ) and spectral line widths (β_α and β_γ) and the α and γ phases were determined, as well as the quantity of residual austenite and separated dispersed M₂C, MC, and Co₇W₆ phases in types R18, R14F4, R9K10, ZV20K20KH4FM, and V20K25KH4M1FF steels hardened from the optimal temperatures. Measurement of the parameters was performed using an URS-501 diffractometer in Fe-radiation in the 26-30° angle interval (to calculate the percentage of residual austenite and area S of dispersed phase); in the 53-56° interval (to determine a_α and β_α), and in the 61-65° interval (to determine a_γ and β_γ). The percentage of residual austenite was calculated using a method providing $\pm 5\%$ accuracy. The line widths were determined by planimetry of areas. The lattice parameters

1/2

USSR

KUPALOVA, I. K., and STEPNOV, Ye. M., Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1115-1119

were calculated on the basis of the position of the diffraction line maximum with an accuracy of ± 0.002 kX. The temperature intervals for separation of hardening phases and conversion of residual austenite were determined in the 20-800° temperature range at a rate of 3°/min.

2/2

- 55 -

USSR

UDC 771.534.5:771.537:535.241.6

GOROKHOVSKIY, Yu. N., Doctor of Sciences, GRIGOR'YEV, A. G., IVANOV, A. M.,
STEPOCHKIN, A. A.

"New Sensitometric Devices"

Optiko Mekhanicheskaya Promyshlennost', No 3, 1972, pp 43-50.

Abstract: A review is presented of new devices for measurement of the properties of black-white and color photographic materials and evaluation of photographic images on these materials. The devices covered include the SR-21 recording densitometer, the SR-22 reflecting goniodensitometer, the SR-25 universal densitometer, the MD-2M recording microdensitometer, the PP-48 automatic projection granulometer and the RP-2M projection resolvo-meter. Basic technical characteristics, structural diagrams and photographs are presented for all of these instruments.

1/1

- 132 -

USSR

UDC: 535.853.673

+1

GOROKHOVSKIY, Yu. N., Doctor of Sciences, GRIGOR'YEV, A. G., IVANOV, A. M.,
SOROKIN, V. P., STEPOCHKIN, A. A.

"A High-Sensitivity Recording Microdensitometer"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 11, Nov 70, pp 33-37

Abstract: The article is a description of the design and construction of an instrument developed by the authors -- the MD-2 high-sensitivity two-beam recording microdensitometer. The instrument is based on a compensation circuit with a single light source and a single photomultiplier as the receiver. The measuring element is a fixed gray scale placed in the same beam as the object to be measured. A diagram of the optical system is given as well as a block diagram of the densitometer as a whole. The machine output is a standard 275-mm chart recorder. The recording scale may be varied from 1:1 to 1:2000 in ten steps. The device can be used to measure optical densities up to 4.0 with a precision of ± 0.01 density unit on a field of 500 square microns or more. The authors thank A. P. Grammatin for calculating the optical system of the microdensitometer in his laboratory, and also A.A. Barentseva for her participation in testing the experimental model of the instrument.

1/1

USSR

UDC 537.311.33:546.26/289

AFANAS'YEV, V.N., STEPOVIK, A.P., TUTUROV, YU.P., FILIMONCHEVA, P.I.

"Measurement Of The Lifetime Of Carriers In Germanium And Silicon During Neutron Irradiation"

Fiz. i tekhn. poluprovodnikov (Physics And Technology Of Semiconductors), 1971, 2, No 6, pp 1067-1073 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B19)

Translation: It is experimentally established that the radiative constant in Ge and Si during neutron irradiation with an energy of 14 Mev is decreased with a reduction of temperature. 6 ref. Summary.

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STEPOVIK, N.V.

JRS 57517
15 NOV 72

- 54 -

UDC 616-026:972.1.64-092.0-07:616.33-073.7
RESULTS OF ELECTROCARDIOGRAM DURING CLIMBING OF MOUNTAIN PEAKS OF
HYOMIA IN A PRESSURE CHAMBER
Article by N. V. Stepovik, Moscow, Kosmicheskaya elektrodinamika i fiziologiya,
Moskva, Vol. 6, no. 3, September-October 1972, pp. 35-38, submitted for
publication 27 September 1972

Abstract: Sixty pilots (20 healthy subjects, 20 with gastric disorders, and 20 with autonomic system diseases) were examined. The examinations were made using the combination square procedure and the results were processed by the dispersion analysis method. The decline in electrocardiographic amplitude after altitude changes experiments was used as a representative index. It was demonstrated with a high significance level (over 95%) that the representative index was affected to the greatest extent (76.6%) by the type of gastric peristalsis: normal, excitable, achronic, inhibitory or inert. The index depended to a much lesser degree on the disease of the test subject (6.5%), the number of previous tests (2.8%), and the time of means (2.7%). A comparison of similar types of gastric peristalsis of healthy persons and pilots with gastric and autonomic nervous system diseases revealed differences in electrocardiographic indices.

The motor function of the stomach under hypoxic conditions in pressure chamber tests was earlier studied in acute and chronic experiments on animals and also by the balloon-hydrographic and radiocardiographic methods (van Lier, et al.; Crisler and van Lier, 1950, 1951; A. N. Kruglyi; M. L. Evdymova, 1940, 1948). N. A. Sobakin proposed the method of electrocardiography from the surface of the human body, tested by a number of authors (I. G. Kiseil'nikov, et al.).

He examined 60 pilots during the time of tests in a pressure chamber ("altitude" 5,000 m, time 30 minutes, without use of oxygen). The electrocardiogram (ECG) was registered using an ICC-4M electrocardiograph.

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UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--INITIATED CRACKING OF NEOPENTANE -U-

AUTHOR--(03)-STEPUKHOVICH, A.D., KOSYREVA, R.V., MALTSEVA, L.YE.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL, 1970, 11(1), 16-25

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL CRACKING, PENTANE, ETHYLENE OXIDE, METHANE, HYDROGEN, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1985/1430

STEP NO--UR/0195/70/011/001/0016/0025

CIRC ACCESSION NO--AP0101520

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 020

CIRC ACCESSION NO--AP0101520

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

ABSTRACT. A COMPARATIVE STUDY OF PRODUCTS OF INITIATION OF THERMAL CRACKING OF NEOPENTANE (I) BY ETHYLENE OXIDE (II) WAS STUDIED AT 425-75DEGREES-20-140 MM, AND 1-9PERCENT II. CH SUB4, ISO-BUH, AND H (LOW CONC.) ARE THE MAIN PRODUCTS OF THE CRACKING. THE CRACKING IS A 0.5 ORDER REACTION IN THE RESPECT TO I CONC. AND HAS EFFECTIVE ACTIVATION ENERGY (E SUBA) 32.3 OR 28.8 KCAL-MOLE AT 1 AND 3PERCENT II, RESP. E SUBA OF II DECOMP. IS 50.3 KCAL-MOLE. ANAL. OF THE FREE RADICAL MECHANISM OF I CRACKING IS GIVEN.

UNCLASSIFIED

026

UNCLASSIFIED -U-

PROCESSING DATE--30OCT70

TITLE--PION ELECTROPRODUCTION ON CARBON

AUTHOR--(05)-TITOV, YU.I., STEPULA, YE.V., AFANSAYEV, N.G., AKHMEROV, R.V.,
BYVALIN, S.A.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(2), 257-65

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON SCATTERING, INELASTIC SCATTERING, HIGH ENERGY
PARTICLE, CARBON, SECONDARY EMISSION, PION, SPECTRUM ANALYSIS,
DIFFERENTIAL CROSS SECTION, PARTICLE PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1946

STEP NO--UR/0185/70/015/002/0257/0265

CIRC ACCESSION NO--AP0120589

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0120589

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. SPECTRA OF INELASTIC E SCATTERING WERE MEASURED AT THE INITIAL ENERGY OF 1150 MEV IN THE ANGULAR RANGE 25-60DEGREES. THE MONOCHROMATIZED BEAM OF E FROM A LINEAR ACCELERATOR FELL ON THE HARD C LAYER 0.02 RADIATION LENGTH THICK. THE SECONDARY PARTICLES WERE ANALYZED BY MEANS OF A MAGNETIC SPECTROMETER; IDENTIFICATION AND COUNTING OF PARTICLES WAS PERFORMED BY THE SHOWER COUNTER CONSISTING OF PB GLASS AND PHOTOMULTIPLIER. EACH SPECTRUM SHOWS 2 PEAKS, ONE OF WHICH IS TREATED AS QUASI ELASTIC SCATTERING AND THE OTHER AS THE PION PRODUCTION ON THE PRIME12 C N. THE PION ELECTROPRODUCTION CROSS SECTION CAN BE DESCRIBED AS A SUM OF CROSS SECTIONS FOR THE ELECTROPRODUCTION OF FREE N. THE DEPENDENCE OF THE CROSS SECTION ON THE 3 MOMENTUM TRANSFER IN THE ELECTROPRODUCTION PEAK ALLOWS THE MAIN REGULARITIES TO BE ESTABLISHED OF THE DELTA SUB1238 ISOBAR ELECTROPRODUCTION OF A FREE RHO. THE MEASUREMENTS LEADS TO THE CONCLUSION THAT THE QUASI ELASTIC SCATTERING AND ELECTROPRODUCTION OF PIONS ON N PLAYS THE DOMINANT ROLE. THE QUANT. AGREEMENT OF THEORY AND EXPTL. RESULTS IS SATISFACTORY ONLY AT SMALL TRANSFERED MOMENTUMS (25 AND 35DEGREES). AT LARGE MOMENTUMS THE PARAMETERS CHARACTERIZING THE DIFFERENCE BETWEEN THE FREE AND NUCLEUS N HAS TO BE TAKEN INTO ACCOUNT. FACILITY: FIZ.-TEKH. INST., KHARKOV, USSR.

UNCLASSIFIED

Instrumentation and Equipment

USSR

UDC 620.194.8:620.178.
322.3

STEPURENKO, V. T., and STRIZHAK, P. N., Odessa Polytechnic Institute
"Apparatus for Testing Metals for Fatigue in Atmospheric Air With Different
Compositions and Moisture Content"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 8, No 2, 1972, pp 93-94

Abstract: An apparatus for the fatigue testing of metals is described. Test-
ing conditions can be varied rapidly and over a wide range. The apparatus can
be inspected and at the same time a set condition and moisture content of the
air in the chamber can be maintained. A large number of samples can be run
simultaneously. Water is fed into a float chamber with a heating device. The
temperature is controlled thermostatically. The water vapor is drawn into a
diffusor and fed into the air stream. Water drops are filtered off from the
stream of moist air by means of a series of filters. Valves at three different
points are used to drain off the water. The moist air is collected in a
pressurized collector and uniformly fed into the chamber by deflector plate.
The way in which the samples are mounted makes it possible to rotate them con-
tinuously. An additional bath with pressurizing chamber and valves makes it
possible to feed in moist air using various salt solutions.

1/1

USSR

UDC 636.296:616.995.7

STEPUSHIN, A. Ye., Candidate of Veterinary Sciences, Muzhevskiy Animal and Deer Breeding Sovkhoz, Yamalo-Nenetskiy National Okrug

"Subcutaneous Hypoderma of Northern Deer as a Possible Carrier of Brucellosis Infection"

Novosibirsk, Sibirskiy Vestnik Sel'skokhozyaystvennoy Nauki. Vol 3, No 4(16), 1973, pp 69-72

Abstract: Larvae of *Oedemagena tarandi* L were investigated as carriers of the disease in naturally affected and experimentally infected deer and guinea pigs; 202 larvae from naturally infected and 423 from artificially infected deer were used to infect subjects using a 48-part agar suspension by injecting doses of 0.5, 1, 2.5, 5 and 10 thousand microbial cells under the skin near the neck. After from 15 to 30 days the subjects were killed for bacteriological examination. A biological feature of the disease in deer in contrast to other horned animals was in the development of fistulas and tumors in 2.5 to 3 months from the time of egg laying by the host flies. Larvae in the earlier stages of development more frequently led to the disease than those in their second stage of development. The Hypoderma larvae and pupae proved to be successful hosts of the disease, and the pupae stage transferred the disease to the mature flies. Further research is needed to determine how the latter came about.

OSTROVERKHOV, N.T., POPOV, V.K., STEPUSHINA, V.I.

"Experimental Investigation Of A Narrow Electron Beam With High Power Density At Crossover"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 7, pp 46-51 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11A274)

Translation: The method of a scanning diaphragm is used for investigation of the structure of a thin (20-50 micrometer) electron beam with a power density at crossover of 10^6 -- 10^8 watt/cm². The experiments were conducted on the electronoptical system of a unit (typical for industrial conditions) for dimension processing of materials, with an accelerating voltage of 80-100 kv and beam currents of 1-4 ma in a pulse. The measuring diaphragm was produced from monocrystalline tungsten and was cooled by water. After the diaphragm, the electrons of the beam enter into a collector (a Faraday cylinder), and the electron current is displayed on an oscilloscope [ostsillografiyetsya]. With the aid of a deflecting system, the beam under investigation is expanded at the surface of the diaphragm. The experiments show that the distribution of the current density agrees with a precision up to 10 percent with Gauss' law, and the character of the change of the radius of the electron beam, the current density, and the power density at its smallest cross section is the result of a change of the size and position of the cross over which is shaped by a triode electron gun. I.V.

1/1

- 104 -

acc. Nr:

AP0037006

Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskiy Zhurnal SSSR, 1970, Vol 56,
Nr 2, pp/179-185

CHARACTERISTIC OF THE EFFERENT NEURONS ACTIVITY
ON REFLECTORY OPENING OF THE CRAYFISH CLAW DACTYLOPODITE

T. A. Stepushkina, G. S. Kan and V. N. Kosolapov

Leningrad

Activity of the efferent neurons controlling contraction of the muscle-opener of the
claw dactylopodite of the intact crayfish during some afferent influences, was studied.
The effect of stimulation of different receptive fields on the activity pattern of efferent
neurons and muscle contraction, was investigated.
The characteristic changes of the activity of the motor and the inhibitory neurons
controlling the muscle reflectory contraction, were observed.

D. 11.

1/1

REEL/FAME
19721938

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USSR

UDC: 669.35'725:620.16

POLINA, T. V., POTAPOV, B. S., STERELYUKHIN, V. A.

"Erosion Wear of PER Contacts of Copper-Beryllium Alloys"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 52, Novosibirsk, 1972, pp 143-148 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8I703, by the authors).

Translation: Conditions and method of conduct of an experiment for determination of the erosion wear of film contacts are described. For the range of switched dc voltages of 3-50 v, currents 2-10 ma, it is established that material transfer is determined primarily by the switched voltage, and is practically independent of current. It is also demonstrated that the amount of material transferred in a switching cycle (closing-opening) for $V_c = \text{const}$, $I_c = 2-10 \text{ ma}$ is independent of the number of switchings N and remains constant with an accuracy of $\pm 20\%$ up to $N = 10^6$. Based on experimental data, an empirical formula is suggested, satisfactorily describing the erosion wear of film contacts of Cu-Be alloy for the range of switched voltages 20-50 v. 6 figures, 2 biblio. refs.

1/1

- 81 -

USSR

UDC: 543.424

PODOBEDOV, V. B., PYNDYK, A. M., and STERIN, Kh. Ye.

"Fast Recording of Combination Light Dispersion Spectra in Liquids and Gases"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 190-193

Abstract: A multichannel device for obtaining combination dispersion spectra in the time of 10^{-5} to $3 \cdot 10^{-8}$ seconds is described in this paper. This rapidity of recording is made possible by the use of a pulsed excitation source of sufficient energy as well as an electron converter of limited amplification in the role of sensor. The converter permits simultaneous recording of separate spectral lines, thus providing simultaneous information over several channels. A block diagram of the device is given together with an explanation of its operation. Photographs of some of the spectra obtained are shown. The authors express their gratitude to V. P. Vinogradov for his assistance in building the equipment.

1/1

USSR

STERKHOVA, A. N.

UDC 911.3.981.71(479.25)

"Ixodes Ticks -- Carriers and Vectors of Endemic Rickettsiosis in Azerbaydzhan"

V sb. Vtoroye Acarologicheskoye soveshchaniye. Ch. 2. Tezisy dokl. (Second Acarological Conference. Part 2. Theses of Reports -- collection of works)
Kiev, "Nauk. dumka," 1970, pp 133-135 (from RZh-Meditsinskaya Geografiya,
No 4, Abstract No 4.36.81)

[No abstract]

1/1

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--SHOWER SPARK CHAMBERS FOR RECORDING PARTICLES FLYING AT LOW ANGLES
TO A BREMSSTRAHLUNG -U-

AUTHOR-(04)-KRYSHKIN, V.I., RYBAKOVA, N.A., STERLIGOV, A.G., USOV, YU.P.

COUNTRY OF INFO--USSR

S

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 54-7

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPARK CHAMBER, CASCADE, BREMSSTRAHLUNG, SMALL ANGLE
SCATTERING, ELECTRODE DESIGN, PION, ELECTRON POSITRON PAIR, SYNCHROTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1076

STEP NO--UR/0120/70/001/000/0054/0057

CIRC ACCESSION NO--AP0110766

UNCLASSIFIED

017

CIRC ACCESSION NO--AP0110766
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. AN APP. IS DESCRIBED FOR
REGISTRATION OF PARTICLES LEAVING THE TARGET AT SMALL ANGLES WITH
RESPECT TO THE BREMSSTRAHLUNG. THE APP. IS EQUIPPED WITH SHOWER SPARK
CHAMBERS WHICH HAVE OPENINGS ACTING AS CHANNELS FOR THE BREMSSTRAHLUNG.
IT IS DESIGNED FOR PARTICLES FLYING AT 2-15 DEGREES. THE MIDDLE
ELECTRODE OF THE 1ST CHAMBER AND 1ST 3 ELECTRODES OF THE 2ND CHAMBER ARE
MADE OF PB, THE REMAINING ELECTRODES OF DURALUMIN. THE APP. WAS USED TO
DET. THE LIFETIME OF A NEUTRAL PION AND THE ANGLE DISTRIBUTION OF E
PRIME NEGATIVE MINUS E PRIME POSITIVE PAIRS IN THE 1.5-GEV E
SYNCHROTRON. FACILITY: NAUCH. ISSLED. INST. YAD. FIZ.,
ELEKTRON, AVTOMAT., TOMSK, USSR.

UNCLASSIFIED

STERLIKOV A.
1

SPRING PITES THREATEN AIR BASIN'S Purity
Article by A. Sterlikov, Leningrad, Leningradskaya Pravda, Russian,
23 September 1971, p. 7

PURITY OF THE AIR BASIN. In our country, conservation
of everyone's health. The importance of this mat-
ter, having been advanced to the rank of state and national
problem, was stressed once again at the recently completed
session of the Supreme Soviet in Moscow. The Supreme Soviet
in the country discussed the question: how to protect natu-
ral resources more effectively. There are some lines from its
decree: "Consider as one of the most important lines from its
practices the increasing concern of the conservation of nature
and the improved utilization of the conservation of nature
wealth, forests and water. The national and vegetable world,
and atmospheric air..." This problem is not simple and not
always combined with a considerable attitude toward nature.
This is why it is especially important to utilize our natural
resources wisely, not to pollute the environment but rather
neutralize the consequences of industrial development harmful
for man and nature. In our city, considerable work is under-
way on purifying the air basin. The smelting works of the
Kola plant on Gubokhny Canal have stepped smoking. Thirty other
industries have been moved outside the city limits. Hundreds
of enterprises have been converted to gas fuel. We have built new
waste disposal facilities and gas traps. All this is encourag-
ing but a heavy haze is still hanging somewhere above the
city. The smokestacks of industrial enterprises are still
spewing smoke...

The Kholmorking Plant (metal Kholmorking) is situated in the very center
of the city not far from Nevskiy Prospect. For a time, it did not bother

USSR 5-7752
13 Dec 72

(1)

028

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--A PORTABLE INSTRUMENT FOR THE PREFLIGHT MEDICAL EXAMINATION OF
PILOTS -U-

AUTHOR--(02)--MURCZOV, A.N., STERLIKOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 69-70

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AIRCRAFT PILOT, MEDICAL EXAMINATION, BLOOD PRESSURE, MEDICAL
EQUIPMENT, BODY TEMPERATURE, HEART RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0363

STEP NO--UR/0177/70/000/003/0069/0070

CIRC ACCESSION NO--AP0134150

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0134150

UNCLASSIFIED

PROCESSING DATE--20NOV70

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

ABSTRACT.

IN THE PERIOD OF PREFLIGHT MEDICAL EXAMINATION THE PHYSICIAN LOSES MUCH TIME IN TAKING THE PULSE, MEASUREMENT OF THE ARTERIAL PRESSURE AND BODY TEMPERATURE. WE HAVE DEVELOPED A PORTABLE INSTRUMENT BY MEANS OF WHICH IT IS POSSIBLE TO SIMULTANECUSLY MEASURE AND RECORD THE VALUES OF THE SYSTOLIC AND DIASTOLIC ARTERIAL PRESSURE, BODY TEMPERATURE AND PULSE RATE. THIS IS ACCOMPLISHED AUTOMATICALLY, THE INDICATORS OF ARTERIAL PRESSURE AND PULSE RATE ARE RECORDED IN THE FORM OF AN OSCILLOGRAM ON HEAT SENSITIVE PAPER, AND THE BODY TEMPERATURE (DEGREESC) IS DETERMINED BY AN ARROW INDICATOR.

UNCLASSIFIED

028

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--PORTABLE DEVICE FOR PREFLIGHT MEDICAL EXAMINATION OF PILOTS -U-

AUTHOR--(02)--MOROZOV, A.N., STERLIKOV, V.P.

S

COUNTRY OF INFO--USSR

SOURCE--VOENNO-MEDITSINSKII ZHURNAL, MAR. 1970, P. 69, 70

DATE PUBLISHED--MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL EXAMINATION, MEDICAL APPARATUS, BLOOD PRESSURE,
MILITARY MEDICINE, AIRCRAFT PILOT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/2056

STEP NO--UR/0177/70/000/000/0069/0070

CIRC ACCESSION NO--AP0117299

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0117299
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. DESCRIPTION OF A COMPACT PORTABLE
DEVICE FOR SIMULTANEOUSLY RECORDING SYSTOLIC AND DIASTOLIC ARTERIAL
PRESSURE, BODY TEMPERATURE AND PULSE RATES DURING PREFLIGHT MEDICAL
EXAMINATION OF FLYING PERSONNEL. THE DEVICE USES A DISTAL PERIMETRIC
OSCILLOGRAPHIC TECHNIQUE PROPOSED BY KAZAR'IAN (1965) FOR ARTERIAL
PRESSURE RECORDING FROM FLUCTUATIONS OF EXTERMINITY PERIMETERS. A
TRANSPARENT SLIDE RULE IS USED FOR READING THE PULSE RATES FROM
OSCILLOGRAMS. A ZERO METHOD SERVOSYSTEM IS USED AT A FREQUENCY OF 400
HZ FOR TEMPERATURE MEASUREMENTS.

UNCLASSIFIED

USSR

UDC 577.4

KOGAN, I. V., STERLIKOVA, L. N.

"Problems of Constructing Complete Tests for Nonrecurrent Parenthetic Formulas"

V sb. Tekhn. diagnostika (Technical Diagnostics -- collection of works), Moscow, Nauka Press, 1972, pp 167-169 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V430)

No abstract

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- 35 -

USSR

UDC: 51.621.391

KOGAN, I. V., STERLIKOVA, L. N.

"Construction of Verifying Tests for Noniterated Aggregation Formulas"

V sb. Diskretn. analiz (Discrete Analysis--collection of works), vyp. 17, Novosibirsk, 1970, pp 22-31 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V566)

Translation: A formula in the algebra of logic in the basis $\{\&, V, -\}$, in which each variable is encountered only once, is called a noniterated aggregation formula. Substitutions of the constants 0 and 1 for subformulas are considered as inaccuracies in the formula. This paper establishes upper and lower estimates of the length of a test for verifying the absence of inaccuracies of this type. A method of constructing verifying tests is proposed for the formulas $f_1 \& f_2$ and $f_1 V f_2$ from the verifying tests for formulas f_1 and f_2 . S. Marchenkov.

1/1

5

USSR

UDC: 621.762.2:669.1'24(088.8)

PUTIMTSEV, B. N., GRATSIANOV, Yu. A., KOZLOV, A. G., MINCHER, A. N.,
LEVINZON, V. Kh., STERLIN, R. G., BAKANOVA, T. P., BIKEZIN, K. P., MIKHEYEV,
V. V.

"Method of Production of Iron-Nickel Alloy Powders"

USSR Author's Certificate Number 343771, Filed 7/04/71, Published 11/08/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract
No 8G394P).

Translation: A method is suggested for embrittlement of Fe-Ni alloys,
designed for the production of powders by mechanical grinding. Fe-Ni alloys
are embrittled by introduction of S to the initial melt. In order to increase
the dispersion and technological properties of the powders, 0.03-0.07 wt %
oxygen is also introduced to the initial melt, with a ratio of oxygen to S of
2.0-7.0.

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USSR

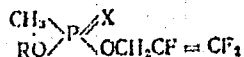
UDC 547.341.26.118.07

KAINOV, Yu. N., ISAYEV, V. L., and STERLIN, R. N.

"A Method of Producing 2,3,3-Trifluoroallyl Esters of O-Alkylmethylphosphonic or Thionphosphonic Acids"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, Jun 73, Author's Certificate No 375298, Division C, filed 11 Aug 71, published 23 Mar 73, p 51

Translation: This Author's Certificate introduces a method of producing 2,3,3-trifluoroallyl esters of O-alkylmethylphosphonic or thionphosphonic acids of the general formula



where R is an alkyl, and X is oxygen or sulfur. As a distinguishing feature of the patent, an O-alkylmethylphosphonic or thionphosphonic acid chloride is reacted with 2,3,3-trifluoroallyl alcohol in an organic solvent such as ether in the presence of a hydrogen chloride acceptor such as a tertiary amine with subsequent isolation of the goal product by conventional methods.
1/1

STERLIN, R. N.

JPRS 55834
28 April 1972

CHEMICAL WEAPONS AND DEFENSE AGAINST THEM

Translation of Russian-language brochure by R. N. Sterlin, V. I. Yemel'yanov, V. I. Zimin, Khimicheskoye Oruzhiye i Zashchita ot Nego, 1971, signed to press 4 March 1971, Moscow, 61 pages.

CONTENTS	PAGE
Abstract.....	1
Foreword.....	1
Chemistry in the Economy and in Military Technology.....	2
Chemical Weapons.....	11
Classification of Poisonous Agents.....	17
Ways in Which the Toxic Properties of Poisonous Agents Are Made Manifest.....	18
Nerve-Paralytic Poisonous Agents.....	19
General Poisonous Agents.....	24
Asphyxiating Poisonous Agents.....	27
Skin-Blistering Poisonous Agents.....	29
Psychotomimetic Poisonous Agents.....	32
Irritants.....	34
Methods and Means of Employing Poisonous Agents.....	38
Characteristics of a Center of Chemical Contamination.....	44
Protection of the Population Against Chemical Weapons.....	48
Action of the Population When Civil Defense Signals Are Given.....	49
Organization of Kazouz Work in a Center of Chemical Contamination.....	56

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CONTENTS (Continued)	Page
Incendiaries.....	58
Characteristic of Incendiary Agents.....	59
Flame Thrower Weapons Employing Incendiary Agents.....	61
Aviation Means for Employing Incendiaries.....	61
Defense Against Incendiary Mixtures.....	62
Bibliography.....	64

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--METHOD FOR OBTAINING

O,ALKYL,O,ACYL,BETA,DIALKOXYBORO,ETHYLTHIOPHOSPHONATES -U-
AUTHOR-(04)-STERLIN, R.N., ISAYEV, V.L., KRYLOV, V.F., BORISOVA, G.N.

COUNTRY OF INFO--USSR

SOURCE--AUTHOR CERTIFICATE NR 264393

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970, NR 9,
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHORUS SULFIDE, ORGANIC PHOSPHORUS COMPOUND, ORGANOBORON
COMPOUND, CHEMICAL SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3007/1771

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137011

UNCLASSIFIED

272 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0137011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS ANNOUNCED FOR OBTAINING N,ALKYL O,ACYL,BETA,(DIALKOXYBORO) ETHYLTHIOPHOSPHONATES BY REACTING ACYL HALIDES WITH ALKALI SALTS OF O,ALKYL,BETA,(DIALKOXYBORO)ETHYLTHIOPHOSPHONIC ACID IN AN ORGANIC SOLVENT. THE PROCESS IS CONDUCTED AT 60-80 C AND PRODUCTS ARE SEPARATED BY KNOWN METHODS.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SYNTHESIS OF PERFLUOROALKYL MERCURY DERIVATIVES VIA PERFLUOROALKYL
CARBANIONS -U-
AUTHOR-(04)-DYATKIN, B.L., STERLIN, S.R., MARTYNOV, B.I., KNUNYANTS, I.I.
COUNTRY OF INFO--USSR
SOURCE--TETRAHEDRON LETT. 1970, (17), 1387-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, MERCURY COMPOUND, CHLORIDE,
ORGANOMERCURY COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0764 STEP NO--UK/0000/70/000/017/1387/1388
CIRC ACCESSION NO--AP0124434
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124434

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLUOROOLEFINS OF SUB3 CR:CF SUB2 (R EQUALS F AND CF SUB3), ARE TREATED WITH HGCL SUB2 IN THE PRESENCE OF KF IN HCONME SUB2 TO GIVE BIS(PERFLUOROISOPROPYL)MERCURY AND BIS(PERFLUORO,TERT,BUTYL)MERCURY. PERFLUOROISOPROPYL MERCURY CHLORIDE IS PREPD. FROM CF SUB3 OF:CF SUB2, HGCL SUB2, AND KF IN MEOCH SUB2 CH SUB2 OME. FACILITY: INST. ORG. ELEM. COMP., MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--REACTION OF POTASSIUM BOROHYDRIDE WITH LITHIUM CHLORIDE -U-

AUTHOR--(03)-ZAPCLSKIY, S.V., STERLYADKINA, Z.K., MIKHEYEVA, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 404-12

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMOGRAPHIC ANALYSIS, POTASSIUM COMPOUND, BOROHYDRIDE,
LITHIUM CHLORIDE, SOLID SOLUTION, CRYSTALLIZATION, EUTECTIC MIXTURE

CENTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1707

STEP NO--UR/C078/70/015/002/0404/0412

CIRC ACCESSION NO--AP0115536

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115536

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF KBH_4 WITH LiCl WAS STUDIED THERMOGRAPHICALLY. THE REACTION STARTS AT 140 DEGREES. THE MELTING DIAGRAM OF THE KBH_4 - LiCl - KCl - LiBH_4 SYSTEM WAS CONSTRUCTED. THE SYSTEM HAS A KCl - LiCl EUTECTIC AT 350 DEGREES AND HAS REGIONS OF SIMULTANEOUS CRYSTN. OF SOLID SOLNS. OF KBH_4 - KCl AND LiBH_4 - LiCl SUB SYSTEMS.

UNCLASSIFIED

Heat, Combustion, Detonation

USSR

UDC: 536.24:536.42

STERMAN, L. S., NEKRASOV, A. V.

"Investigation of the Heat-Transfer Crisis When Water is Boiled in Straight Vertical Tubes"

V sb. Teplo- i massoperenos. T. 2. Ch. 1 (Heat Transfer and Mass Transfer, Vol 2, Part 1--collection of works), Minsk, 1972, pp 254-262 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9B998)

Translation: The paper presents the results of an experimental study of the heat transfer crisis under conditions of forced motion of a steam-water mixture. The experimental section was a vertical tube with a diameter of 12 x 2 mm made of 1Kh18N9T steel. An alternating electric current was used for heating. At a pressure of 98 bars, the heated length was 1570 mm, and at a pressure of 29 bars -- 370, 500 and 1570 mm. The range of mass velocities at a pressure of 29 bars was 835-2040 mg·m⁻²·s, and at a pressure of 98 bars -- 1110-3400 mg·m⁻²·s. An integral relation is found which describes all experimental data with a scatter of no more than ±15%

$$\frac{q_{\text{exp}} 10^8}{r \sqrt{\rho^2} \sqrt{g(\rho' - \rho'')}} \sqrt{\rho' / \rho''} = 1.25 - 0.65 \frac{w_0}{w_s} + 0.05 \left(\frac{w_0}{w_s} \right)^{2.5}$$

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СССР

STERMAN, L. S., NEKRASOV, A. V., Teplo- i massoverenec. T. 2. Ch. 1, Minsk, 1972, pp 254-262

where q_{HD} is the critical heat flux, r is the latent heat of vaporization, ρ' is the density of water on the saturation line, ρ'' is the density of dry saturated steam, σ is the coefficient of surface tension, g is acceleration due to gravity, F is the Froude number, w_0 is the rate of circulation, w_0'' is the reduced velocity of the vapor phase. Bibliography of 8 titles. E. G. Namsarayev.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE---20NOV70
TITLE---HIGH FREQUENCY POLAROGRAPH AND ITS USE --U-
AUTHOR-(02)-BRUK, B.S., STERNBERG, B.M. S
COUNTRY OF INFO--USSR
SOURCE--ZAVGD. LAB. 1970, 36(3), 365-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROCHEMISTRY, POLAROGRAPHY, COPPER, LEAD, HIGH FREQUENCY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0429 STEP NO--UR/0032/70/036/003/0365/0369
CIRC ACCESSION NO--AP0126182
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126182

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

ABSTRACT. A BLOCK DIAGRAM OF THE HIGH FREQUENCY POLAROGRAPH IS GIVEN. THE POLAROGRAPHIC BEHAVIOR OF CU, PB, AND CD IN 2M ZNSO SUB4 WAS STUDIED AND THE DEPENDENCE ON THE CONC. OF CL PRIME NEGATIVE AND PH IS DISCUSSED. THESE DATA CONFIRM THE POSSIBILITIES OF USING THIS APP. FOR STUDYING THE KINETICS OF ELECTROCHEM. PROCESSES.

FACILITY: SPETS. KONSTR. BYURO

TSVETMETAVTCMATIKA, USSR.

UNCLASSIFIED

1/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--SPIRO KETONES BASED ON BETA, DIKETONES. IV. CHEMICAL PROPERTIES AND
 STRUCTURE OF 1, DIMEDONYL, 1,5, DIPHENYL, 4, PENTEN, 3, ONE AND ITS
 AUTHOR--(02)--STERNBERGA, I., FREIMANIS, J.

COUNTRY OF INFO--USSR
 SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (2), 216-22
 DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--BENZENE DERIVATIVE, POLYNUCLEAR HYDROCARBON, CYCLOHEXANONE,
 MOLECULAR STRUCTURE, OXIME, ETHYLENE GLYCOL, HYDRAZONE, HYDROGEN BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1999/1897
 STEP NO--UR/0464/70/000/002/0216/0222
 CIRC ACCESSION NO--AP0123683
 UNCLASSIFIED

PROCESSING DATE--30OCT70

UNCLASSIFIED

2/3 011

CIRC ACCESSION NO--AP0123683

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

ABSTRACT. THE KINETICS OF CYCLOHEXANONE RING
SCISSION OF 3,3-DIMETHYL,7,11-DIPHENYLSPIRO(5.5) UNDECANE, 1,5,9,TRIONE
(I) IN THE PRESENCE OF MEONA WAS STUDIED BY MEANS OF SPECTROPHOTOMETRY.
THE CYCLOHEXANONE RING IS OPENED NEARLY INSTANTANEOUSLY. THE FORMED
1,5-DIMEDONYL,1,5-DIPHENYL, 4-PETEN,3,ONE (II) CAN BE RECYCLIZED IN THE
PRESENCE OF ACID OR BASIC CATALYSTS AS THE MICHAEL CONDENSATION IS A
REVERSIBLE REACTION. THUS, II IS CYCLIZED BY BOILING WITH ALC. CONCD.
HCL OR ETONA TO GIVE I M. 130-10DEGREES (ETOH), DIMETHYL KETAL
(75PERCENT) OF I, M. 151-20DEGREES (MEDH), WAS OBTAINED BY BOILING I OR
II WITH P,MEC SUB6 H SUB4 SO SUB3 H IN MEOH SOLN. DIETHYLENE KETAL OF
I, M. 201-20DEGREES (ETOH), WAS PREPD. SIMILARLY IN 60PERCENT YIELD
USING ETHYLENE GLYCOL. FOLLOWING DERIVS. WERE ALSO PREPD. (DERIV.
YIELD, AND M.P. GIVEN): OXIME OF I, 63PERCENT, 204-50DEGREES (ETOH);
P,NITROPHENYL, HYDRAZONE OF I, 81PERCENT, 243-40DEGREES (DMF SUB2); AZINE
OF I, 62PERCENT, 201-20DEGREES (ETOH); OXIME OF II, 79PERCENT,
119-20DEGREES; P,NITROPHENYLHYDRAZONE OF II, 81PERCENT, 241-20DEGREES.
BOTH THE LATTER COMPS. START TO CYCLIZE SPONTANEGUSLY DURING THE
CRYSTN. IN THE SOLID STATE, II IS HIGHLY ASSOCD. DUE TO INTERMOL. H
BONDS WHILE IN SOLN. INTRAMOL. H BONDS ARE FORMED. THE OXIME OF II
BEHAVES SIMILARLY; THE ASSOCD. PROCEEDS BOTH ON THE NOH GROUPS AND ON
PARTIALLY ENOLIZED KETO GROUPS, BUT TO A LESSER DEGREE. THE FORMATION
OF INTERMOL. AND ESP. OF INTRAMOL. H BONDS STABILIZES THE ALIPHATIC SIDE
CHAIN OF THE STUDIED COMPS. AGAINST CYCLIZATION, AND IS REFLECTED BY
THE ORDER OF INCREASING CYCLIZABILITY II IS LESS THAN II OXIME IS LESS
THAN II HYDRAZONE.

UNCLASSIFIED

3/3 011 UNCLASSIFIED PROCESSING DATE—30OCT70
CIRC ACCESSION NO—AP0123683
ABSTRACT/EXTRACT—FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

Acc. Nr: **AP0048825** Abstracting Service
CHEMICAL ABST.

2110

Ref. Code:
UR0366

90388w Spiro ketones based on β -diketones. V. Enamines of spiro ketones and some of their chemical properties. Sternbergs, I.; Freimanis, J. (USSR). *Zh. Org. Khim.* 1970, (8), 48-51 (Russ). In an attempt to alkylate spiro[3,5-diphenylcyclohexanone-4,2'-indan-1',3'-dione] (I) (Sternberg, I. Ya. *et al.*, 1968) through their enamines I was reacted with morpholine (II) in the presence of p -MeC₆H₄SO₃H (III) to give spiro[1,3-diphenyl-5-morpholinocyclohex-4-ene-2,2'-indan-1',3'-dione], which on recrystn. in AcOH was hydrolyzed by the air moisture to the high m. I isomer, regardless of whether high or low m. I isomers were used in the reaction. A mechanism of I isomerization involving II is proposed. The reaction of 1-dimethyl-1,5-diphenylpent-4-ene-3-one with II in the presence of III gave directly spiro[5,5-dimethylcyclohexane-1,3-dione-2,1',3'-diphenyl-5'-morpholinocyclohex-4'-ene-2']. Similarly spiro[5,5-dimethylcyclohexane-1,3-dione-2,2'-1',3'-di-*p*-anisyl-5'-morpholinocyclohex-4'-ene] was prepd. CPJR

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REEL/FAME
19800588

USSR

UDC [629.7.03:533.011].001.2

VERESHCHAKA, L. P., KRAYKO, A. N., STERNIN, L. Ye.

"Grid-Characteristic Method for Calculating Plane and Axisymmetric Supersonic Two-Phase Flows"

V sb. Lopatochn. mashiny i struyn. apparaty (Vane Machines and Jet Equipment -- Collection of Works), No. 6, Moscow, "Mashinostroyeniye", 1972, pp 163-178 (from RZh - 34. Aviatsionnyye i raketnyye dvigateli, No 9, Sep 72, Abstract No 9.34.104)

Translation: The problems of calculating plane and axisymmetric supersonic two-phase flows by the grid-characteristic method are discussed. Basically the two-liquid model was discussed, which replaces the actual flow with a mutually penetrating motion of two interacting continuous media: the actual gas and a "gas" of particles deprived of pressure. Methods for solving elementary problems and determining the parameters at characteristic points are described and a general method of calculating the flow in the channel is given. Sample calculations are presented for the flow of a gas mixture with particles of different natures in an axisymmetric nozzle using the proposed method. The results of a one-dimensional approximation and the results of

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USSR

VERESHCHAKA, L. P., et al, Lopatochn. mashiny i struyn. apparaty, No. 6, Moscow, "Mashinostroyeniye", 1972, pp 163-178

a calculation using the quasi-one-dimensional two-layer model are compared. The effectiveness of the grid-characteristic method and the ordinary method of characteristics is compared. 8 ill., 1 table, 12 ref. Resume.

2/2

- 111 -

USSR

UDC: 531.8

DANIKOV, A. M., STERZHNEV, V. A., MOSKVICH, Ye. G.

"On Determining the Parameters of a Drive With Elastic Constraints"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1971,
vyp. 138, pp 100-104 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7A201)

Translation: The article deals with determining the parameters of a drive with elastic constraints. The analysis is based on solution of an identification problem. A method is proposed for constructing a dynamic model of a complex oscillatory controlled system. The coefficients of rigidity and damping of the drive are determined and various problems of drive synthesis are considered on the basis of a comparison of the amplitude frequency characteristics as obtained from the equations of its dynamic model and by digital computer solution of the identification equation in the frequency region. Authors' abstract.

USSR

MAKSIMENKO, V. N., STESHENKO, A. I., Institute of Theoretical Physics, Academy of Sciences UkrSSR

"On Saturation for Interaction With a Hard Core"

Moscow, Yadernaya Fizika, Vol. 13, No. 4, Apr 71, pp 707-711

Abstract: The possibility of ensuring stability with respect to collapse for certain pair exchange central potentials with a hard core is investigated for the light double-magic nuclei He^4 , O^{16} , and Ca^{40} . Two approaches were possible in studying specific potentials: collapse stops when the distance between particles is considerably greater than the radius of the core, and the gas approximation is applicable in this case; the average distance between particles is commensurable with the dimensions of the core, when the gas approximation is invalid but can detect the collapsing character of the interaction i.e., answer the question: does stability with respect to collapse ensure potential. The calculations were made by a variational method with oscillator functions, and the hard core was calculated in the gas approximation. A calculation with the Gammel-Taler potential [Phys. Rev., 107, 291, 1957] is graphed and shows the behavior of the energy of the ground state of He^4 , O^{16} ,

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USSR

MAKSIMENKO, V. N., STESHENKO, A. I., Yadernaya fizika, Vol. 13, No. 4, Apr 71,
pp 707-711

and Ca^{40} nuclei as functions of the variational parameter. The binding energies of these nuclei have a deep minimum for values of r_0 close to r_0^{cr} . It is concluded that in this case the gas approximation "does not work."

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- 84 -

Acc. Nr.: AP0041333

Ref. Code: UR 0625

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USSR

STESHOV, B., Secretary, Central Committee of the Communist Party of Moldavia

"By the Road of Accomplishments"

Moscow, Nauka i Zhizn', No 1, 1970, pp 2-6

Abstract: The article deals with the development of Moldavia under Soviet administration, the claim being made that virtually all of the progress made in Moldavia has taken place since the establishment of Soviet rule there at the end of World War II. A report is made upon the advances made in Moldavia under Soviet administration in the fields of education, biology and agriculture, industry, engineering and science, particularly physics. Considerable attention is devoted to the Institute of Applied Physics of the Academy of Sciences, Moldavian SSR. In addition, recent advances in mathematics and literature are also discussed.

ea 30

Reel/Frame

19751190

USSR

UDC 621.396.677(083.8)

ZACREBEL'MY, A. A., POLINOV, YU. S., STESIN, V. V., KHAVKIN, I. M., TSYGANKOV,
O. S., YUSHIN, S. I.

"Telescopic Cylindrical Rod"

USSR Author's Certificate No 275177, Filed 17 Oct 68, Published 26 Oct 70 (from
RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B85P)

Translation: The proposed rod contains a drive mechanism for unwinding a metal
elastic tape from a drum and formation of a hollow tube from it.

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- 56 -

USSR

UDC 615.371.07+576.858.25.C83.37:061.3(47)"1970"

STETKEVICH, A. A., Senior Scientific Associate

"Symposium on Improving Inspection of Virus Vaccines and Modifying Nutrient Media for Reproduction of Arboviruses"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, p 748

Abstract: The symposium was held at the Tomsk Scientific Research Institute of Vaccines and Sera on 27-28 October 1970. It was attended by 120 specialists from the Main Administration of the Manufacture of Virus Preparations, the Main Sanitary Epidemiological Administration, the State Control Institute of Medical Biological Preparations, and other similar institutes in Moscow, Leningrad, Perm, and Tyumen. Papers were presented on New methods of controlling attenuated virus variants, utilization of neutrophilic leukocytes for evaluating injury done by virus vaccines, utilization of modified nutrient media for replication of tickborne encephalomyelitis virus, and the use of acid hydrolysis of horse blood fibrin for testing new nutrient media. In the discussion that followed, the following resolutions were passed: to organize regular seminars on bacterial and viral preparations at the Tomsk institute, to continue developing new media for virus cultures in the Tomsk institute, and to expand research concerning the immunobiological reactivity of the human body to viral preparations, with the ultimate objective of eliminating undesirable side-effects.

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Acc. Nr: **AP0045064**

Abstracting Service:
INTERNAT. AEROSPACE ABST. 5/70

Ref. Code:
UFR0198

A70-23294 # Calculation of a hypersonic boundary layer in the region of strong viscous interaction on a wedge (Raschet giperzvukovogo pograničnogo sloja na klone v oblasti sil'nogo viazkogo vzaimodejstija). A. G. Stetsenko (Akademija Nauk Ukrainskoi SSR, Institut Gidromekhaniki, Kiev, Ukrainiin SSR). Prikladnaja Mekhanika, vol. 6, Jan. 1970, p. 101-107. 5 refs. In Russian.

Development of a numerical method of integrating four systems of ordinary differential equations to which the equations for a hypersonic laminar boundary layer in the strong viscous interaction region on a wedge can be reduced in approximate statement. The solution obtained by the method proposed is used to determine the velocity and total-enthalpy profiles, the displacement-thickness and induced pressure distributions, and the surface friction, pressure, and heat-transfer coefficients in the strong viscous interaction region of the flow.

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REEL/FRA
19771977

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UDC 531.6.011.55

STETSENKO, A. G. (Kiev)

"Calculation of a Hypersonic Boundary Layer Over a Wedge in the Region of a Strong Viscous Interaction"

Kiev, AN UkrSSR, Prikladnaya mekhanika, Vol 6, No 1, 1970, pp 101-107

Abstract: A solution of two systems of regular differential equations (previously derived by the author) describing the viscous interaction in a symmetrical flow of a gas past a wedge at Prandtl number $P=1$ is presented, and all aerodynamic characteristics of the boundary layer are determined. These systems of equations contain unknown coefficients of expansions in series of a parameter describing the interaction between the displacement thickness and induced pressure. The relationship of tangential wedges if utilized in the numerical integration of these systems, and a method of dividing the solution into steps proportional to the unknown quantities is applied. The profiles of velocity and of total enthalpy are obtained, as are the distributions of the displacement thickness and of induced pressure. The values of the coefficients of pressure, surface friction, and heat emission in the gas flow region under investigation are determined. Orig. art. has: 4 figures, 1 table, 13 formulas and 5 references.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ABSORPTION SPECTRA AND HYDROLYTIC STABILITY OF NITROSYLCHLORIDE
TETRAAMMINEPLATINUM II COMPLEXES -U-
AUTHOR--(02)-STETSENKO, A.I.; KISELEVA, V.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1322-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ABSORPTION SPECTRUM, PLATINUM COMPLEX, AMMONIA, NITROSYL
CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0941 STEP NO--UR/0078/70/015/005/1322/1327
CIRC ACCESSION NO--AP0137969
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--A0137969
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION MAX. AT 710 NM WERE
OBSERVED FOR HClO₄ SUB₄ SOLNS. OF (PH(NH SUB₃) SUB₄ *NOCL))CL SUB₂,
(PT(RNH SUB₂) SUB₄ (NOCL))CL SUB₂ AND CIS OR TRANS (PT(NH SUB₃) SUB₂
(TNH SUB₂)NOCL)) CL SUB₂ (R EQUALS ME OR ET). THE POSITION OF THE MAX.
DOES NOT DEPEND ON GEOMETRIC CONFIGURATION OF THESE COMPODS. BUT ITS
INTENSITY INCREASED WITH COMPLEX CONCN. THE INTENSITY OF THE AMX. AT
710 NM CORRESPONDS TO THE EQUIL. CONCN. OF THESE COMPLEXES. IN ACIDIC
MEDIA, THE COMPLEXES EXIST IN HYDROLYTIC EQUIL. WITH PT, TETRAAMINE, HNO
SUB₂, H PRIME POSITIVE, AND CL PRIME NEGATIVE. RESISTANCE TO
HYDROLYSIS INCREASES WITH THE COMPLEXES IN THE ORDER: (PT(RNH SUB₂)
SUB₄ (NOCL)) PRIME₂ POSITIVE SMALLER THAN (PT(NH SUB₃) SUB₄(NOCL))
PRIME₂ POSITIVE SMALLER THAN (PT(EN) SUB₂ NEGATIVE (NOCL)) PRIME₂
POSITIVE. FACILITY: LENINGRAD, TEKHNOL. INST, IM. LENSOVETA,
LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr: **AT0050274**

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:
UR0020

104556p Properties and hydrolytic stability of platinum-nitrosacidotetraammine complexes. Stetsenkov, A. I.; Kiselya, V. M.; Tikhonova, L. S. (Leningrad. Tekhnol. Inst. im. Leno- veta, Leningrad, USSR). Dokl. Akad. Nauk SSSR 1970, 190 (2), 363-5 [Chem] (Russ). The title compds. hydrolyze at $20 \pm 1^\circ$ according to the following equation: $[PtL_4(NO)X]^{2+} + H_2O \rightleftharpoons [PtL_4]^{2+} + HNO_2 + H^+ + X^-$, where $X = Cl^-, HSO_4^-,$ and NO_2^- and $L_4 = (en)_2, (NH_3)_4, (MeNH_2)_4, (MeNH_2)_2(NH_2)_2$. The equil. was not greatly affected by the change of L_4 groups except the $(en)_2$ complex had an equil. const. $1/30$ those of the other complexes. The anions had a great effect on the stability: $[Pt(en)_2(NO)Cl]^{2+} (K = 5.4 \times 10^{-4}) > [Pt(NH_3)_4(NO)Cl]^{2+} (K = 3.4 \times 10^{-3}) > [Pt(NH_3)_4(NO)HSO_4]^{2+} (K = 1.7 \times 10^{-3}) > [Pt(NH_3)_4(NO)NO_2]^{2+} (K = 1.0 \times 10^{-3})$. The electron absorption max. of the different compd. are given.

P. L. Maxfield

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REEL/FRA
19810204

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Acc. Nr: **AP0055924** Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code:
4R0025

116326b Infrared spectra of complexes of platinum(II) with hydroxylamine and o-methylhydroxylamine. Mitkinova, N. D.; Ivannikova, N. V.; Varshavskii, Yu. S.; Stetsenko, L. M. (USSR). *Zh. Neorg. Khim.* 1970, 15(2), 572-4 (Russ). Redn. and [Pt(NH₂OMe)₂]Cl₂ (II), resp. [Pt(L₂)]Cl₂ (III) (L = ND₂OD or ND₂OMe) were prepd. analogously. Ir spectra of I, II, III, and [PtL'₂][PtCl₂] (L' = NH₂OH or ND₂OH) are tabulated and their absorption bands are assigned. The study reveals that acidity of NH₂OH complexes is correlated with OH and not with NH₂ group. HMJR --

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REEL/FRA
19841253

Acc. Nr:

AP0034216

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

3:R0078

S

71262] Synthesis, stability, and characteristics of the acid properties of tetra- and triacetoxime compounds of platinum(II). Stetsenko, A. I.; Strelin, S. G.; Gel'fman, M. I. (USSR). *Zh. Neorg. Khim.* 1970, 15(1), 134-8 (Russ). Aq. soln. of $[Pt(HAox)_2Cl]Cl$ was treated with $AgNO_3$, the $AgCl$ was filtered off, and acetoxime (HAox) was added to the filtrate. Heavy white ppt., $[Pt(HAox)_2(Aox)_2]$ (I), formed when the soln. was cooled in ice bath. $[Pt(HAox)_4]Cl_2$ (II) formed when I was treated with HCl . Instability const. (β) of II, given as $\log \beta^{-1}$ is 29.1 ± 0.4 (at 18° and ionic strength = 0.1). HMJE

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REEL/FRAME

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1/3 011 UNCLASSIFIED
TITLE--CYANINE DYES FROM 2, METHYL, 4, 7, DICHLORO AND
2, METHYL, 4, 5, 7, TRICHLOROBENZIMIDAZOLES -U-
AUTHOR--STETSENKO, A.V.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(2), 192-6
DATE PUBLISHED-----70

PROCESSING DATE--23OCT70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--BENZIMIDAZOLE, DYE, HETEROCYCLIC NITROGEN COMPOUND,
CHLORINATED ORGANIC COMPOUND, MOLECULAR STRUCTURE, HETEROCYCLIC SULFUR
COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1804

STEP NO--UR/0073/70/036/002/0192/0196

CIRC ACCESSION NO--AP0123601

UNCLASSIFIED

2/3 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123601

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. 1,ETHYL,2,METHYL,4,5,7,TRICHLOROBENZIMIDAZOLE AND RHO,MEC SUB6 H SUB4 SO SUB3 ET HEATED AT 140DEGREES FOR 1 HR GAVE THE QUATERNARY SALT (I), M. 152-4DEGREES. REDN. OF 3,6,2,CL SUB2 TO SUB2 NIC SUB6 H SUB2 NHAC TO THE AMINE FOLLOWED BY BOILING WITH AC SUB2 O AND 4N HCL FORMED 2,METHYL,4,7,DICHLOROBENZIMIDAZOLE (II), M. 264DEGREES (ETOH). II AND R SUB2 SO SUB4 GAVE III (R EQUALS ME) M. 114-15DEGREES, AND III (R EQUALS ET), M. 105DEGREES. III GAVE THE FOLLOWING IV (R, X, AND M.P. GIVEN): ME, 4,MEC SUB6 H SUB4 SO SUB3, 165DEGREES; ME, CLO SUB4, 281DEGREES (ETOH); ET, IODIDE, 205DEGREES (ETOH); ET, CLO SUB4, 252DEGREES (ETOH). FROM I AND IV WERE PREPD. TRICYANINE DYES OF STRUCTURE V (R, R PRIME1, Y, LAMBDA SUBMAX IN NM, AND M. P. GIVEN): ME, H, O, 478, 216-18DEGREES; ET, CL, O, 485, 219DEGREES; ME, H, S, 511, 217DEGREES; ET, CL, S, 522, 219DEGREES; ME, H, CH:CH, 522, 245DEGREES; ET, CL, CH:CH, 562, 227; AND VI (R, R PRIME1, LAMBDA SUBMAX IN NM, AND M.P. GIVEN): ME, H, 531, 220-2DEGREES; ET, CL, 538, 228DEGREES. IF Y EQUALS O OR S, LAMBDA SUBMAX ARE 11-29 NM BELOW THE AV. OF THE DYES. IF Y EQUALS CH:CH THE DEFICIT IS 1.5 TO MINUS 3 NM. THE DICHLORO AND TRICHLOROBENZIMIDAZOLE RINGS HAVE BASICITIES SIMILAR TO THAT OF QUINOLINE. I AND IV (R EQUALS ME) CONDENSED IN THE USUAL MANNER WITH RHO,ME SUB2 NC SUB6 H SUB4 CHO TO FORM THE CORRESPONDING STYRYLS, ISOLATED AS PERCHLORATES, M. 217DEGREES, LAMBDA SUBMAX 428 NM, AND M. 219-20DEGREES, LAMBDA 426 NM, RESP.

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3/3 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123601

ABSTRACT/EXTRACT--RHODANINES OF STRUCTURE VI WERE ALSO PREPD. (4, R
PRIME1, R PRIME2, LAMBDA SUBMAX PRIMEEON AND LAMBDA SUBMAX PRIMECHCL
SUB3 IN NM, AND M.P. GIVEN): ME, H, ET, 513, 516, 248DEGREES; ET, CL,
ET, 520, 523, 222DEGREES; ME, H, PH, 512, 515, 252DEGREES. ET, CL, PH,
519, 522, 224DEGREES.
SHEVCHENKO, KIEV, USSR. FACILITY: KIEV. GDS. UNIV. IM.

UNCLASSIFIED

USSR

NIKITIN, V. N., LITVINENKO, D. A., STETSSENKO, B. A., GLADSHTEYN, L. I.,
KACHURIN, D. S., and VOROZHISHCHEV, V. I., Central Scientific Institute of
Ferrous Metallurgy, Kuznetsk Metallurgical Combine

"Increasing the Ductility and Impact Strength of Carbon Steel"

Moscow, Metallurg, No 8, Aug 71, pp 17-19

Abstract: A basic structural steel for different structures and machines is steel St. 3sp which, according to GOST 380-60 has an impact strength of 3 kg-m/cm² at -20°C. Aluminum in the amount of 0.1-0.2% improves its impact strength and increasing Al content to 0.052% does not improve strength properties but leads to an increased ductility of hot-rolled steel from 20-25.7% at 0.0074% Al up to 26-34.0% at 0.052% Al. In studies of steels St. 3 sp and St. 3Yu in sheet form it was found that aluminum improves their impact strength at -40°C, although the thicker the sheet the greater the tendency to cold brittleness. Steel St. 3Yu has a greater impact strength than St. 3sp due to smaller size of ferrite grains. In all instances (for steel St. 3sp) strength properties were better for the normalized state than for the hot-rolled state.

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- 29 -

Steels

USSR

UDC: 669.14.018.41

STRESENKO, B. A., Central Scientific-Research Institute of Ferrous Metals

"Low Alloy Steels for Northern Construction"

Moscow, Metallurg, No. 11, Nov 1970, pp 22-24

Abstract: A steel which resists the effects of cold weather is discussed. A steel's resistance to cold is estimated by the threshold of low-temperature fracturing, and is defined by the absolute value of shock stability or by the type of fracture in a specimen. By proper production processing, structural steel for mass application can be raised to a level guaranteeing sufficient reliability and long life for structures in northern regions. A table of low-temperature fracturing thresholds for low-alloy steels of various types (09G2, 10KhSND, 15KhSND, 09G2S, 1072S1, and 16GS) accompanying the article indicates that the threshold for hot-rolled low-alloy steels, without thermal processing, lies in the temperature interval of minus 20-60° C, normalized minus 60-80° C, and improved (with tempering) minus 60-120° C. A second table gives characteristics of low-alloy steels used for welded structures.

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1/2 035
TITLE--MECHANICAL PROPERTIES OF NORMALIZED AND OF QUENCHED AND DRAWN
15KHSND STEEL -U-
AUTHOR--STETSENKO, B.A.

COUNTRY OF INFO--USSR

SOURCE--PROM. STROIT. 1970, (2), 27-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MECHANICAL PROPERTY, CHEMICAL COMPOSITION, TENSILE STRENGTH, DUCTILITY, CARBON, SILICON STEEL, CHROMIUM STEEL, NICKEL STEEL, COPPER STEEL, MANGANESE STEEL, STEEL QUENCHING, COLD WORKING, IMPACT STRENGTH, METAL DRAWING/(U)15KHSND STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1989/0586

STEP NO--UR/0227/70/000/002/0027/0029

CIRC ACCESSION NO--AP0107183

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0107183
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEELS CONTG. C 0.14-0.17, MN
0.52-0.58, SI 0.50-0.60, CR 0.64-0.69, NI 0.40-0.42, AND CU
0.23-31PERCENT IN NORMALIZED AND IN QUENCHED AND DRAWN STATE WERE
DEFORMED 10PERCENT UNDER A PRESS AND UNDER A HAMMER AT PLUS 20 TO MINUS
65DEGREES, AGED 1.5 HR AT 250DEGREES, AND TESTED FOR TENSILE PROPERTIES
AND IMPACT STRENGTH AT PLUS 20 TO MINUS 80DEGREES. AGING COLD WORKED
STOCK REDUCED IMPACT STRENGTH AT 20DEGREES FROM 9.8 TO 3 AND AT MINUS
40DEGREES FROM 5.5 TO 0.9 KG M-CM PRIME2. THE TYPE OF WORKING DOES NOT
AFFECT THE RESULTS. AGING INCREASES STRENGTH AND REDUCES DUCTILITY BOTH
IN NORMALIZED AND IN QUENCHED AND DRAWN SAMPLES, THE FORMER SHOWING NO
ELONGATION.

UNCLASSIFIED

1/2 035
 TITLE--MECHANICAL PROPERTIES OF NORMALIZED AND OF QUENCHED AND DRAWN
 15KHSND STEEL -U-
 AUTHOR--STETSENKO, B.A.
 COUNTRY OF INFO--USSR
 SOURCE--PROM. STROIT. 1970, (2), 27-9
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS
 TOPIC TAGS--MECHANICAL PROPERTY, CHEMICAL COMPOSITION, TENSILE STRENGTH,
 DUCTILITY, CARBON, SILICON STEEL, CHROMIUM STEEL, NICKEL STEEL, COPPER
 STEEL, MANGANESE STEEL, STEEL QUENCHING, COLD WORKING, IMPACT STRENGTH,
 METAL DRAWING/(U)15KHSND STEEL
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1989/0586
 STEP NO--UR/0227/70/000/002/0027/7029

2/2 035

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107183

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEELS CONTG. C 0.14-0.17, MN 0.52-0.58, SI 0.50-0.60, CR 0.64-0.69, NI 0.40-0.42, AND CU 0.23-31PERCENT IN NORMALIZED AND IN QUENCHED AND DRAWN STATE WERE DEFORMED 10PERCENT UNDER A PRESS AND UNDER A HAMMER AT PLUS 20 TO MINUS 65DEGREES, AGED 1.5 HR AT 250DEGREES, AND TESTED FOR TENSILE PROPERTIES AND IMPACT STRENGTH AT PLUS 20 TO MINUS 90DEGREES. AGING COLD WORKED STOCK REDUCED IMPACT STRENGTH AT 20DEGREES FROM 9.8 TO 3 AND AT MINUS 40DEGREES FROM 5.5 TO 0.9 KG M-CM PRIME2. THE TYPE OF WORKING DOES NOT AFFECT THE RESULTS. AGING INCREASES STRENGTH AND REDUCES DUCTILITY BOTH IN NORMALIZED AND IN QUENCHED AND DRAWN SAMPLES, THE FORMER SHOWING NO ELONGATION.

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SENSITIVITY OF GONAD TISSUES TO IONIZING RADIATION AT VERY LOW
TEMPERATURES -U-
AUTHOR-(02)-NOVIKOV, B.G., STETSENKO, M.A. S
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 119-21
DATE PUBLISHED----- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIRD, REPRODUCTIVE SYSTEM, SPERMATOGENESIS, RADIATION BIOLOGIC
EFFECT, COBALT ISOTOPE, GAMMA IRRADIATION, X RAY RADIATION BIOLOGIC
EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/0327

STEP NO--UR/0205/70/010/001/0119/0121

CIRC ACCESSION NO--AP0127908

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127908

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TESTICLES TAKEN FROM DOMESTIC SPARROWS IN THE AUTUMN WINTER TIME, CONTG. SPERMATOGENIC EPITHELIUM IN THE FORM OF SPERMATOGONIA, WERE SUSPENDED IN PHYSIOL. SOLN., AND (1) IRRADIATED WITH X RAYS OR PRIME60 CO GAMMA RAYS, 109 R PER SEC, TO TOTAL DOSES OF 20-80 KR, AFTER PRELIMINARY 15-20 MIN TREATMENT WITH 8MU ETHYLENE GLYCOL (1); (2) IRRADIATED WITH 80-284 KR; OR (3) AFTER THE TREATMENT WITH I AS ABOVE, WERE TRANSFERRED INTO LIQUID AIR (MINUS 180DEGREES) AND IRRADIATED WITH 80-569 KR. AFTER IRRADN., THE GONADS WERE TRANSPLANTED INTO THE BODIES OF THE CASTRATE MALE SPARROWS, AND THE BIRDS WERE ILLUMINATED 16 HRS A DAY FOR 60 DAYS, WHEN THEY WERE DECAPITATED, AND THE GONADS EXAMD. HISTOL. THE 80-KR IRRADN. OF GONADS IN PHYSIOL. SOLN. DESTROYED ALL CELL COMPONENTS OF THE TESTICLES AND INHIBITED SPERMATOGENESIS. PRELIMINARY TREATMENT WITH I CONSIDERABLY INCREASED RESISTANCE TO IRRADN., AND THEIR SPERMATOGENIC ABILITY WAS RETAINED. SIMULTANEOUS TREATMENT WITH I AND LOW TEMP. DECREASED THE SENSITIVITY OF GONADAL TISSUES TO IONIZING IRRADN. STILL MORE.

FACILITY: NAUCH.-ISSLED. INST. FIZIOL., KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

USSR

IVAKHNENKO, A. G., et al., *Avtomatika*, November-December 1972, pp 23-32

The models can be used for the prediction and optimal control of photosynthesis for the purpose of increasing productivity.

The article includes a number of equations, two figures, and two tables. There are 11 bibliographic references.

2/2

65

USSR

UDC 624.132.3-82:627.422(282.255.1)

MELAMUT, D.L., Candidate of Technical Sciences, STEPSENKO, N.R., Engineer

"Hydraulic Mechanization of Bed-Straightening Operations in the Event of a
"Deygish" on the Amudar'ya River"

Moscow, Gidrotekhnicheskoye Stroitel-stvo, No 3, 1971, pp 46-50

Abstract: A "deygish" is catastrophic destruction of the shores, characteristic to wandering rivers such the Amudar'ya. The article deals with measures against this phenomenon. The most effective of this is the employment of hydraulic mechanization facilities, as a result of which the stream is directed into a new straightening bed, prepared by earth-moving equipment. Recommendations are given for planning and conducting bed-straightening operations. 6 figures, 4 bibliographic entries.

1/1

- 64 -

USSR

UDC 669.1:658.562

STETSENKO, N. V., BOLOTNYY, V. M., and GORDIYENKO, V. S., Dneprospetsstal' Plant

"Development of Nondestructive Tests at the Dneprospetsstal' Plant"

Moscow, Stal', No 8, Aug 73, pp 756-758

Abstract: The equipment for ultrasonic testing of internal defects in blanks and section rolling is briefly described along with eddy current defectoscopy for testing the surface quality of rolling production which is being used or marked for introduction at the Dneprospetsstal' Plant: three-channel units UDTs-18TZ and UDTs-26, immersion units I-1 and UKP-3, automatic defectoscopes ASK-10 and ASK-12, Zond-1 ferrosounding unit, etc. Mass production is tested in automatic lines and small batch output -- on manual and semimechanized tables. Solid nondestructive testing not only increases quality and reliability of metal product output but also makes it possible to actively attack the basic technological process.

1/1

Steels

USSR

UDC 621.73.073

(1)

TISHAYEV, S. I., KONRAD, YU. G., POZNYAK, L. A., STETSSENKO, N. V., and OSADCHIY, A. N.

"New Steel 5Kh2VMNF (DI-32) for Hot Deforming Die Tool"

Moscow, Kuznechno-Shtampovochnoye Proizvodstvo, No 8, Aug 73, pp 14-16

Abstract: The results of comparative studies of the basic properties are presented for a new steel 5Kh2VMNF (DI-32), standard grade steel 5KhNM, and a steel recently presented, 40KhSMF, as well as the strength of dies made from the new steel and 5KhNM. Chemical composition of the three steels was (in %):

	C	Mn	Si	Cr	Mo	Ni	W	V
5Kh2VMNF	0.47	0.49	0.40	1.78	0.49	1.50	0.87	0.37
5KhNM	0.54	0.64	0.24	0.80	0.19	1.65	--	--
40KhSMF	0.38	0.57	0.80	1.69	0.95	0.10	--	0.35

Data of mechanical tests showed that the new steel surpasses the other two steels in both heat resistance and impact strength for the same level of strength. The new steel also had higher hardness than the other two steels for all tempering temperatures. The average strength of dies made from
1/2

USSR

TISHAYEV, S. I., et al., Kuznechno-Shtampovochnoye Proisvodstvo, No 8,
Aug 73, pp 14-16

steel 5Kh2VMNF was 2.5-3 times higher than dies made from 5KhNM and the economic effect from use of the new steel amounts to 1000 rubles/ton. Tests of the new steel and 5KhNM were conducted for tools made of the two steels at the Tokmaksk Die-Forging Plant. Four tables, four bibliographic references.

2/2

- 34 -

USSR

UDC 621.771.8

POLYKHIN, P. I., BERKOVSKIY, V. S., ZHADAN, V. T., FELOSOV, B. M., STEISENKO, N. V., OSADCHIY, N. A., AVDUNIN, P. M., and KOVTANYUK, Yu. P.

"Developing New Technology for Rolling the PSh-20 Section from Kh18N10T Steel on the 550 Mill"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No. 64, 1970, pp 106-113

Translation: A brief description is given of the technology for rolling the shaped sections being studied. An analysis is made of the existing rolled pass design and deformation parameters by templates, and data are given from an investigation of the power parameters of rolling. On the basis of an analysis of the data received and the technical-economic indicators, a new technology for the process of rolling the sections under study is developed. Eleven illustrations and one table.

1/1

USSR

UDC: 621.317.44

PRUDKIY, V. P., ADAMCHUK, A. A., STETSENKO, O. A., GORDIYENKO, Yu. N.

"An Instrument for Measuring the Parameters of Magnetodielectrics"

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 146-147 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A361)

Translation: The authors describe a highly sensitive measurement installation based on a traveling-wave resonator with the use of a loss compensation device to increase sensitivity. This device is an asymmetric balance circuit with an amplifying element connected in one of its arms. The sensitivity limit of the installation is determined by the gain stability of the amplifier and the transmission factor of the ring-shaped circuit line. Data are given on the Q of the resonator and the sensitivity of the circuit. One illustration, bibliography of two titles. N. S.

1/1

USSR

UTC 576.858.75.098.31

ZHUMATOV, Kh. ZH., ISAYEVA, Ye. S., CHUVAKOVA, Z. K., and STETSSENKO, O. G.,
Laboratory of General Virology, Institute of Microbiology and Virology, Academy
of Sciences, Kazakh SSR, Alma-Ata

"Study of the Electrophoretic Mobility and Immunospecificity of Influenza
Virus and Host Cell Neuraminidases"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 6, 1972, pp 68-71

Abstract: A comparative study was conducted of the electrophoretic mobility of neuraminidases from different influenza virus strains and from cells of chick embryo chorioallantois, the medium most widely used to maintain this virus. The specificity of the individual zones on the electrophoregrams of the enzyme was determined serologically. The electrophoretic mobility of neuraminidase from the A² (Singapore/57) and A² (Alma-Ata 397/57) strains was found to be different from that of the A² (Alma-Ata 454/65) and A² (USSR 0467/69) strains, but the latter two strains were similar in this respect. Neuraminidase from the host cells, unlike that of the virus, was bound to a rapidly moving component in the electrical field. However, components with identical electrophoretic mobility appeared in preparations of both cellular and viral neuraminidase.

1/1

USSR

UDC 621.371

DRABKIN, A. L. and STETSENKO, V. A.

"Electromagnetic Energy Distribution of the Simplest Radiators
in a Semiconducting Medium"

Moscow, V sb. X Vses. konf. no rasprostr. radiovoln. Tezisy dokl. Sekts. 6 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 6--collection of works) "Nauka," 1972 pp 45-49 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A389)

Translation: The change in energy of an electromagnetic wave close to the radiator (a short electrical vibrator or frame) displaced in a uniform limitless semiconducting medium (SM) is investigated. Two possibilities are considered: 1) the radiator is placed directly in the SM; 2) the radiator is surrounded by a dielectric sphere beyond the limits of which is a uniform isotropic SM. It is shown that, for frame radiators, the power attenuates with the distance at a lower rate than for electrical vibrators; the presence of the dielectric shell affects them to a lesser extent. Two illustrations, bibliography of one. N. S.

1/1

- 56 -

USSR

UDC: 669.1/.8.042.62

MISHCHENKO, V. D., STEBLOVSKIY, I. A., STETSENKO, V. I.

"Dosing of Liquid Metal During Pouring of Ingots"

MGD v Metallurgii i Liteyn. Proiz-ve [MHD in Metallurgy and Foundry Production -- Collection of Works], Kiev, 1972, pp 217-220 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G149, by G. Svodtseva).

Translation: A combined automated foundry system, consisting of an electro-magnetic pump, liquid metal level measurer for the crystallizer, metal level regulator and magnetic amplifier, has passed industrial testing in the pouring of ingots. The level was maintained automatically throughout the entire casting period. Its fluctuations did not exceed ± 1.5 mm. Pouring of ingots using the automatic system allowed a decrease in crystallizer height of 35 mm (MA8 alloy, ingot diameter 370 mm), leading to a reduction in cavity depth to 50 mm. 3 figures.

1/1

- 19 -

USSR

UDC 513.88.513.83

SABIROV, I., STETSENKO, V. Ya., Tadjik State University imeni V. I. Lenin

"Existence Theorem for the Second Eigenvector of a Linear Positive Operator"

Dushanbe, Doklady Akademii Nauk Tadjikskoy SSR, No 3, 1971, pp 9-12

Abstract: It is assumed that an operator A that is positive relative to K has an eigenvector in cone K $Ax_1 = \lambda_1 x_1$ ($\lambda_1 > 0$) and that the eigenvalue λ_1 is simple. The latter occurs when $A u_0$ is a positive operator. It is also assumed that the conjugate operator A^* has the eigenvector z_1 in K^* corresponding to λ_1 and that E^0 denotes the space of zeros of the functional z_1 .

The following theorem is proved: Let the operator A_2 remain invariant to the cone K_2 and be everywhere continuous in E_2 . Let the operation A satisfy the inequality

$$\|Ax\| \geq \alpha \|x\|, (x \in E), \quad (1)$$

where $\alpha > 0$ is constant. Let the closure of the linear shell $L(K_2^0)$ of the cone K_2^0 coincide with the space E_2^0 and let the spectral radius $r(A_2^0)$ of the constriction A_2^0 of the operator A_2 on E_2^0 be positive. The operator A

1/2

USSR

SABIROV, I., STETSENKO, V. Ya., Doklady Akademii Nauk Tadzhikskoy SSR,
No 3, 1971, pp 9-12

then has in space E a second eigenvector $x_2 (x_1 \wedge x_2 \in K_2^0)$ to which the positive
eigenvalue $\lambda_2: Ax_2 = \lambda_2 x_2$ corresponds.

The problem of in what spaces and for what bilinear operators \wedge the
inequality (1) occurs is discussed for certain classes of functional spaces
and spaces of sequences. The notation and terminology of a previous article
by the authors is used.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PREPARATION OF COLLOIDAL SULFUR -U-

AUTHOR--(04)--LAZORIN, S.N., SUKHOMLINOV, B.P., SHIPULIN, V.K., STETSENKO,
YE.YA.

COUNTRY OF INFO--USSR

SOURCE--KOKS KHIM. 1970, (3), 30-3

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SULFUR, FILTRATION, CHEMICAL PURIFICATION, ARSENIC, MILDEW,
AGRICULTURE CHEMICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1418

STEP NO--UR/0068/70/000/003/0030/0033

CIRC ACCESSION NO--AP0109480

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--A0109480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A RAPID ECONOMICAL PRODUCTION PROCESS IS DESCRIBED FOR PREPG. COLLOIDAL S BY USING NATIVE RAW MATERIALS. FILTER CAKE FROM AN ARSENIC SODA S REFINERY WAS DILD. WITH THE FILTRATE IN A REPULPING APP., WHERE THE S CONCN. WAS REDUCED FROM 60 TO 20PERCENT. THE FILTRATE WAS THEN PIPED INTO A CIRCULATING COLLECTOR AND THE SLURRY LOADED INTO A CENTRIFUGE, WHERE THE S, RINSED WITH WATER, MAINTAINED A SOLIDS TO LIQ. RATION OF 1 IS TO 1.75-2.0. ABOUT 20PERCENT OF THE RINSING LIQ. WAS RETURNED TO THE COLLECTOR AND THAT REMAINING WAS USED TO DISSOLVE THE SODA. AFTER THE SALT CONCN. WAS REDUCED, THE SOLN. WAS RETURNED TO THE SLURRY PREPG. REPULPER. THE EXCESS CIRCULATING FILTRATE WAS THEN COMBINED WITH AN ABSORBING SOLN., THROUGH A FROTH COLLECTOR AND VACUUM FILTER, FOR S PURIFICATION. THE RINSED S, DRIED TO A MOISTURE CONTENT OF 10-12PERCENT, WAS LOADED AS FINES INTO A HOPPER WITH AGITATOR THEN INTO A MIXER FOR PROCESSING WITH SULFITE CAUSTIC. THE COMPONENTS WERE MIXED AND NEUTRALIZED, WETTED, AND LOOSENED FOR FINAL DELIVERY AT 9-7PERCENT MOISTURE AND 40-50DEGREES. SUCH COLLOIDAL S CAN BE STORED UNSEALED FOR ABOUT 3 YEARS, RETAINING ITS QUALITY IN SPITE OF ALMOST COMPLETE MOISTURE LOSS; IN CONCNS. OF 0.5 TO 1PERCENT IT WAS EFFECTIVE FOR TREATING APPLE TREES AND GRAPEVINES AGAINST POWDERY MILDEW.

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2

USSR

UDC 615.472:616.12-008.1-78

BELILOVSKIY, M. A., BERGER, I. I., FROIKIN, O. A., STETSIN, A. A., TROFIMOVA, G. N., and GUSMAN, V. Ye., All Union Scientific Research Institute for Medical Instrumentation, Moscow

"The Biopulse-2, an Apparatus for Auxiliary Blood Circulation"

Moscow, Meditsinskaya Tekhnika, No 4, 1971, pp 14-19

Abstract: The Biopulse-2 is an electromagnetic pump with bioelectric control designed to provide auxiliary blood circulation in different kinds of cardiac insufficiency in order to relieve the heart and increase the venous blood flow. The apparatus consists of a cardiac biopotential amplifier, control unit, power amplifier, motor with a pump, and power supply. The biopotential amplifier collects and processes biological information. The control unit regulates the pulsating current. The power amplifier boosts the pulsating current of low-power electrical energy while the electromagnetic motor with a diaphragm pump head transforms the electrical energy into mechanical energy to move the blood.

1/1