

USSR

PILINSKAYA, M. A., Genetika, No 6, 1971, pp 138-143

Like nitrogen mustard, the ability of the fungicide to damage the chromosomes of blood cells seems to be one of its mechanisms of action on leukopoiesis.

2/2

Acc. Nr:

AP0034080

Abstracting Service:

CHEMICAL ABST.

4-70

Ref. Code:

UR 0078

P

71318g Potassium sulfate-ammonium sulfate-zinc sulfate-water system at 25 and 75°. Shevchuk, V. G.; Bilinchanko, V. N. (Kafedra Khim., Poltav. Inzh.-Stroit. Inst., Poltava, USSR). Zh. Neorg. Khim. 1970, 15(1), 215-18 (Russ). At 25°, the title system has crystn. fields corresponding to $(NH_4)_2SO_4 \cdot ZnSO_4 \cdot 6H_2O$, $K_2SO_4 \cdot ZnSO_4 \cdot 6H_2O$, and solid solns. $nK_2SO_4 \cdot m(NH_4)_2SO_4$ and $nK_2SO_4 \cdot mZnSO_4 \cdot xH_2O$. Double salt, $K_2SO_4 \cdot ZnSO_4 \cdot 6H_2O$ forms limited solid solns. with the starting components of the system at 75°. A soly. diagram at 75° is constructed. HMJR

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REEL/FRAME

19710723

18 di

USSR

UDC 621.396.963:621.397

PILIFCHIK, PEREVSZENTSEV, L.T., ISAYEV, L.P.

"Transmission Of Supplementary Information During Conversion Of Radar Signals Into Television"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collection Of Scientific Works, Kiev Institute Of Civil Aviation Engineers), 1970, Issue 5, pp 55-61 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9346)

Translation: Possible methods are considered for simultaneous conversion of the three radar signals which characterize the three parameters of the target (coordinates and supplementary criterion) into television signals for representation of the aerial situation in dispatcher systems. Of the four systems analyzed--amplitude, code, frequency, and pulse duration modulation -- the code method has the greatest advantages, making it possible to increase the volume of supplementary information being represented without significantly decreasing the resolving power of the system as a whole. The precision of transmission of the supplementary information by the code method does not depend on nonlinearity of the scanning. In addition the conversion apparatus is simplified. 6 ill. N.S.

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USSR

UDC 621.396.963.3

ISAYEV, L. P., PEREVEZENTSEV, L. T., PILIPCHIK, V. G.

"Methods of Obtaining a Discrete Color Television Image By the Output Signals of a Controlling Electronic Digital Computer"

Sb. nauch. tr., Kiyev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works, Kiev Institute of Civil Aviation Engineers), 1970, Issue 5, pp 62-64 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9G41)

Translation: Possible methods are analyzed for obtaining a color television image in the form of a combination of different markers using the output signals of a digital computer in aviation simulators of visual situations. A color mask kinescope is employed having three luminophors, each excited by a separate beam, and a digital computer (grafekop) is used as the output device. A number of recommendations are presented on the choice of a method of conversion of the digital computer signals into television signals.

1/1

USSR

UDC 51.621.391

PILIPCHUK, N. I.

"Decoding at High Transmission Rates"

Ispol'z. Izbytochnosti v Inform. Sistemakh [Use of Redundancy in Information Systems --Collection of Works], Leningrad, Nauka Press, 1970, pp 223-228
(Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V518 by K. Zigangirov).

Translation: A method is suggested for decoding random tree-shaped codes for which the author states the mathematical expectation of the number of operations is limited with transmission rates arbitrarily close to the throughput capacity. The result of the work is incorrect, which can be seen from the fact that it contradicts the known result of Berlecamp and Jacobs which affirms that for any method of sequential decoding (without using iteration) the mathematical expectation of the number of operations increases exponentially with increasing code limitation for transmission rates greater than the computation rate.

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172 029 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--OXYGEN TENSION IN THE MUSCLES OF PATIENTS WITH PULMONARY
TUBERCULOSIS -U-
AUTHOR--(03)-PILIPCHUK, N.S., TVANYUTA, O.M., NECHANYEV, A.A.
COUNTRY OF INFO--USSR P
SOURCE--VRACHEBNOYE DELO, 1970, NR 2, PP 67-70
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MUSCLE PHYSIOLOGY, OXYGEN, TUBERCULOSIS, HYPOXIA,
ANTIBACTERIAL THERAPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0113 STEP NO--UR/0475/70/000/002/0067/0070
CIRC ACCESSION NO--AP0102203
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0102203

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPIROGRAPHIC, OXYHEMOGRAPHIC EXAMINATIONS AND A STUDY OF OXYGEN TENSION IN THE GASTROCNEMIUM MUSCLES WERE DONE IN 60 PATIENTS WITH DIFFERENT FORMS OF PULMONARY TUBERCULOSIS. EXTENSIVE FIBROUS CAVERNOUS TUBERCULOSIS WAS ACCOMPANIED BY BOTH INSUFFICIENCY OF THE FUNCTION OF EXTERNAL RESPIRATION AND MARKED TISSUE HYPOXIA WITH A DISTINCT OXYGEN DEFICIT IN THE MUSCLES. EFFECTIVE ANTIBACTERIAL THERAPY IMPROVES THE INDICES OF EXTERNAL RESPIRATION AND REDUCES PHENOMENA OF TISSUE HYPOXIA.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MECHANISM OF ACTION AND THE EFFECTIVENESS OF INTRAVENOUS
ADMINISTRATION OF TUBAZID, STREPTOMYCIN AND PARA AMINOSALICYLIC ACID IN
AUTHOR--(03)-PILIPCHUK, N.S., IVANYUTA, O.M., KOVALENKO, N.N.
COUNTRY OF INFO--USSR
SOURCE--PROBL TUBERK 48(1): 26-30. 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUBERCULOSIS, ISONIAZID, AMINOSALICYLIC ACID, STREPTOMYCIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0437 STEP NO--UR/0000/70/048/001/0026/0030
CIRC ACCESSION NO--AP0134205
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134205

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFICACY OF I.V. INJECTION OF TUBAZID (ISONIAZID) STREPTOMYCIN AND PARA AMINOSALICYLIC ACID (PAS) IN TREATING PATIENTS WITH DEGENERATIVE FORMS OF PULMONARY TUBERCULOSIS AND ALSO THE CONCENTRATION OF THESE 3 BASIC TUBERCULOSTATIC AGENTS WITH THE I.V. AND USUAL ROUTES OF ADMINISTRATION WERE STUDIED. THE FORMER METHOD WAS EMPLOYED IN HANDLING 194 PATIENTS, 96 OF WHOM HAD FRESHLY IDENTIFIED DISEASE AND 98 OTHERS SUFFERED FROM A LONG STANDING DISEASE TREATED UNSUCCESSFULLY BY THE ROUTINE METHOD OF ANTIBACTERIAL THERAPY. IN PATIENTS WITH FRESHLY RECOGNIZED DISEASE THE TREATMENT RESULTED IN CLOSURE OF CATIVITES WITH CASEOUS DEGENERATION (96PERCENT) AND IN NEGATIVE BECILLOSCOPY (98PERCENT). CLOSURE OF CAVERNS WAS ACHIEVED IN 25PERCENT AND NEGATIVE BACILLOSCOPY IN 60PERCENT OF CASES WHO HAD BEEN UNSUCCESSFULLY TREATED BY THE ROUTINE METHOD FOR OVER 6 MO. CONCENTRATION OF TUBAZID, PAS AND STREPTOMYCIN IN THE BLOOD, INTACT AND AFFECTED AREAS OF A RESECTED LUNG, FOLLOWING I.V. INJECTION OF THESE DRUGS, IS 2-16 TIMES AS HIGH AS WITH THEIR ORDINARY ADMINISTRATION.

FACILITY: DEP. TUBERC., KIEV MED. INST., KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 543.51

ALPAT'YEV, Yu. S., DUBINSKIY, I. N., OL'KHOVSKIY, V. L., FILIPENKO, A. P.,
CHEREPIN, V. T.

"A Mass Spectrometer for Analyzing Solids"

Moscow, Pribery i Tekhnika Eksperimenta, No 3, May/June 72, pp 159-160

Abstract: A mass spectrometer based on the effect of secondary ion emission is developed for elementary and isotopic analysis of solids, specifically layer analysis of thin films of metals, semiconductors and dielectrics. The instrument consists of an ion source with ion-optical system of focusing and beam deflection, a turret chamber which holds the specimen, an immersion type objective lens, and a single-field rf mass spectrometer. The primary beam is accelerated to 4-14 keV and focused on the specimen to a spot with an area of 0.5-6 sq. mm. The secondary ions are collected, accelerated and prefocused by the immersion objective lens whose cathode is the specimen. The energies of the ions entering the mass spectrometer are controlled by changing the voltage across the specimen. Another lens focuses the beam of secondary ions into the input aperture of the mass spectrometer. The current of the secondary ions impinging on the collector is amplified by an electrometric amplifier and registered by an electronic

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USSR

ALPAT'YEV, Yu. S. et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 159-160

potentiometer. The masses being analyzed can be recorded either in the panoramic mode or in a mode where the peak intensity is tracked (there is a relative change in the concentration of one component) as layers of the study specimen are successively removed by the primary ion beam. Masses from 1 to 250 can be analyzed with a mass-spectral resolution of 250 atomic mass units. Reproducibility of results is 10% in a working vacuum of 10^{-6} mm Hg.

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USSR

UDC 538.113:541.67:546.221

PILIPENKO, A. T., MEL'NIKOVA, V. N., and ROZENFEL'D, A. AL., Kiev State University imeni T. G. Shevchenko

"Investigation of Paramagnetic Shifts in the PMR Spectra of Isoquinoline Coordinated with Nickel Diallyldithiophosphate"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 18, No 10, Oct 73, pp 2692-2695

Abstract: Paramagnetic shifts of isoquinoline in its complex with nickel diallyldithiophosphate [NiDADTP] have been investigated by the dilution method in large excess of the ligand. By the method of isonolar series the composition of the isoquinoline-NiDADTP complex has been established as 1:2, its configuration being that of a distorted octahedron. The data on paramagnetic shifts have been used to calculate spin densities at the hydrogen atoms in isoquinoline. An assumption has been made that the dislocation of spin density occurs principally along the amine σ -bonds.

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USSR

UDC 543.535.24.546.221

PILIPENKO, A. T., and ROZENFEL'D, A. L., Kiev State University imeni T. H. Shevchenko

"Study of the Interaction of Thiophosphoric Acid Derivatives With Metals"

Kiev, Ukrainskiy Khimicheskii Zhurnal, Vol 36, No 11, Nov 70, pp 1,151-1,154

Abstract: Qualitative reactions were carried out on 30 cations with five dithio- and trithiophosphoric acid derivatives. The compounds obtained were extracted with organic solvents. It was shown that the cations of platinum and other heavy metals react selectively with above reagents in acid medium. On the basis of experimental data obtained it is possible to select conditions for qualitative detection, separation and photometric determination of individual cations.

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1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POTENTIOMETRIC DETERMINATION OF GOLD, III, -U-
AUTHOR--(02)-OLKHOVICH, P.F., PILIPENKO, A.T. P
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(4), 388-90
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GOLD, POTENTIOMETRIC TITRATION, PLATINUM ELECTRODE,
FERRICYANIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0876 STEP NO--UR/0073/70/036/004/0388/0390
CIRC ACCESSION NO--AP0137904
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AU(III) CAN BE DETD. BY POTENTIOMETRIC TITRN. BY USING A PT ELECTRODE AND SCE AND A WORKING REAGENT OBTAINED BY 1:5 DILN. OF A SOLN. OCNTG. 14.08 G K SUB4 FE(CN) SUB6 AND 0.2 G NA SUB2 CO SUB3-L. THE EMPIRICALLY DEYD. FACTOR CONNECTING AU TO FE(CN) SUB6 PRIME14 IS 2.14:1, THE REACTION IS BELIEVED TO APPROX. 6 NAAUCL SUB4 PLUS 13 K SUB4(FE(CN) SUB6) YIELDS 6 NAAU(CN) SUB2 KFE)FE(CN) SUB6) PLUS 9 K SUB3 (FE(CN) SUB6) PLUS FE(FE(CN) SUB6) PLUS 24 KCL. PT, RH, RU, MN, CU, SN, SE, AND TE DO NOT INTERFERE; IR, PD, FE, OS, PB, ZN, AND CD DO. FACILITY: INST. OBSHCH. NEORG. KHIM., USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ACCELERATED PHOTOMETRIC DETERMINATION OF CHROMIUM IN METALLIC TIN
-U-
AUTHOR--(03)-PILIPENKO, A.T., VORONINA, A.I., NABIVANETS, B.I.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB., 1970, 36, (3), 273
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PHOTOMETRIC ANALYSIS, TIN, CHROMIUM, AMMONIUM SULFATE, TIN
CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/0904 STEP NO--UR/0032/70/036/003/0273/0273
CIRC ACCESSION NO--AP0131490
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131490

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN IMPROVED RAPID METHOD OF DETERMINING CR IN METALLIC SN BY PHOTOMETRIC ANALYSIS IS DESCRIBED. THE CR IS CONVERTED INTO A HEXAVALENT STATE BY MEANS OF NH SUB4 PERSULPHATE IN AN ALKALINE MEDIUM; THERE IS THEN NO NEED TO EFFECT PRELIMINARY SEPARATION OF THE SN IN THE FORM OF SNCL SUB4 AS IN EXISTING METHODS. THE SENSITIVITY OF THE METHOD FOR A 0.25 G SAMPLE IS 4 TIMES 10 PRIME NEGATIVE 4 PERCENT CR. A TYPICAL ANALYSIS TAKES 1 H, AND THE RELATIVE ERROR AVERAGES 5 PERCENT.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ANALYSIS OF NORMAL VIBRATIONS OF THE ETHYLXANTHATE ION AND IR
SPECTRA OF METAL ETHYLXANTHATES -U-
AUTHOR-(02)-MELNIKOVA, N.V., PILIPENKO, A.T.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1186-91
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IR SPECTRUM, ORGANIC SULFUR COMPOUND, COORDINATION CHEMISTRY,
METAL COMPLEX COMPOUND, XANTHIC ACID, COPPER COMPLEX, ZINC COMPLEX, LEAD
COMPOUND, MERCURY COMPLEX, CADMIUM COMPLEX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0933 STEP NO--UR/0078/70/015/005/1186/1191
CIRC ACCESSION NO--AP0137961
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137961

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FREQUENCIES OF NORMAL VIBRATIONS AND MATRIX COMPONENTS OF FORCE CONSTS. OF THE ETHYLXANTHATE ION, ET C(S)S PRIME NEGATIVE, ARE TABULATED. THE RESONANCE FORM RO :CSS PRIME2 NEGATIVE CONTRIBUTES TO THE STRUCTURE OF THIS ANION MUCH LESS THAN THE ANALOGOUS FORM R SUB2 N PRIME POSITIVE:CSS PRIME2 NEGATIVE CONTRIBUTES TO THE STRUCTURE OF ET SUB2 NC(S)S PRIME NEGATIVE. ON COORDINATION TO METALS, THE INTENSITY OF VC,O OF ETOC(S)S PRIME NEGATIVE DECREASES, MORE PROPONOUNCED FOR COORDINATION TO CU,ZN, PB, HG, CD, THAN TO NI, PD, PT, OR CO. THE RESULTS IMPLY DELOCALIZATION AND PRESENCE OF EQUIV. M,S BONDS IN THE LATTER METAL COMPLEXES. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

1/2 017
UNCLASSIFIED
TITLE--ELECTRON SPECTRA OF SOME ANTHRAQUINONE DERIVATIVES -U- PROCESSING DATE--30OCT70
AUTHOR--(02)-PILIPENKO, A.T., SAVRANSKIY, L.I.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(4), 808-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRON SPECTRUM, ANTHAQUINONE, MOLECULAR ORBITAL, HYDROGEN BONDING, AMINE, HYDROXYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0811 STEP NO--UR/0051/70/028/004/0809/0809
CIRC ACCESSION NO--AP0119718
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119718

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO DET. THE EFFECT OF THE NATURE AND THE POSITION OF SUBSTITUENTS ON THE PI SYSTEM OF ORG. MOLLS., ELECTRON SPECTRA OF ANTRAQUINONE, 1, HYDROXYANTHRAQUINONE, 2, HYDROXYANTHRAQUINONE, 1, AMINOANTHRAQUINONE, 2, AMINOANTHRAQUINONE, 1, 2, DIHYDROXYANTHRAQUINONE, 2, 3, DIHYDROXYANTHRAQUINONE, 1, 2, 5, 8-TETRAHYDROXYANTHRAQUINONE, 1, 4-DIHYDROXYANTHRAQUINONE, 1, 2-DIAMINOANTHRAQUINONE, 1, 4-DIAMINOANTHRAQUINONE, AND 2, 3-DIAMINOANTHRAQUINONE WERE CALCD. BY THE MOLCAD METHOD BY USING THE PUBLISHED PROGRAM MN, PPP-2, KBI (YU. Z. KRUGLYAK, ET AL., 1969). THE CALCD. SPECTRA WERE COMPARED WITH THOSE EXPTL. DETD. IN 50PERCENT AQ. CLC. AND WITH PUBLISHED EXPTL. DATA. THE RESULTS INDICATE A COMPARATIVELY WEAK EFFECT OF THE INTERMOL. H BOND ON THE ELECTRON ABSORPTION SPECTRA. THE MAX. SHIFT IN THE SPECTRA OWING TO THE FORMATION OF H BONDS IN ALPHA SUBSTITUTED ANTHRAQUINONES WITH OH AND NH SUB2 GROUPS IS PLUS OR MINUS 20 NM. EVIDENTLY ALL BANDS, INCLUDING THE LONGWAVE BANDS IN THE 400 NM REGION, ARE CONNECTED WITH THE PI, PI TRANSITIONS RATHER THAN WITH THE N, PI TRANSITION AS SUGGESTED EARLIER (J. W. SIDMAN, 1956).

UNCLASSIFIED

USSR

GUSEV, V. A., OKSYUK, A.A., FOGEL', Ya. M., PILIPENKO, D. V., Physico-technical Institute, Academy of Sciences, Ukrainian SSR

"The Formation of Slow Atomic Negative Oxygen Ions in Collisions Between Fast Protons or Hydrogen Atoms and O₂ Molecules"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, No 12, 1970, pp. 1909-1916

Abstract: A method is developed for the investigation of processes involving the formation of negative ions in collisions between fast ions or atoms with gas molecules. The effective cross sections of the formation of O⁻ ions in collisions between 3-50 kev hydrogen ions or atoms and oxygen molecules are measured in terms of relative units. 4 figures, 16 bibliographic entries.

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1/2 012
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--OLEFINS FROM N BUTANE BY CATALYTIC DEHYDROGENATION -U-
AUTHOR--(05)-STEPANOV, G.A., TSAILINGOLD, A.L., PILIPENKO, F.S., SOBOLEY,
V.M., BORESKOV, G.K.
COUNTRY OF INFO--USSR
SOURCE--GER. OFFEN. 1,800,063
DATE PUBLISHED--16APR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--DEHYDROGENATION, BUTANE, CHEMICAL PATENT, METAL OXIDE,
CATALYST ACTIVITY, BUTENE, BUTADIENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1004
CIRC ACCESSION NO--AA0119873
STEP NO--GY/0000/70/000/000/0000/0000
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 012

CIRC ACCESSION NO--AA0119873

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

ABSTRACT. CATALYTIC OXIDATIVE DEHYDROGENATION OF N BUTANE AT 550-650DEGREES OVER MO AND-OR W OXIDE CONTG. AT LEAST ONE OF THE OXIDES OF CR, MN, FE, NI, OR CO GAVE SIMILAR TO 5 WT. PERCENT N BUTENES AND 10-20 WT. PERCENT BUTADIENE. THUS, ADDN. OF NI(NO SUB3) SUB3 IN H SUB2 O TO (NH SUB4) SUB6 MO SUB7 O SUB24 IN H SUB2 O AND HEATING THE PPT. AT 400-500DEGREES GAVE A CATALYST WITH 1:2 MO-NI AT. RATIO. N BUTANE, O, AND H SUB2 O VAPOR AT A 1:0.25:10 MOLAR RATIO AND 590DEGREES REACTED IN THE PRESENCE OF 15 ML CATALYST TO GIVE 4.5 WT. PERCENT N BUTANES AND 21 WT. PERCENT BUTADIENE.

FACILITY: SCIENTIFIC RESEARCH INSTITUTE OF MONOMERS FOR SYNTHETIC RUBBER.

UNCLASSIFIED

UDC 537:226:537:311:33]:538

USSR

KRYLOV, Ye. I., ROZHDESTVENSKIY, F. A., PILIPENKO, G. I., DYOYNIK, V. I.

"Magnetic Properties of Orthotantalates of Transition Metals in 3d-Series"

Tr. In-ta khimii. Ural'skiy fil. AN SSSR, [Works of the Institute of Chemistry, Urals Affiliate, Academy of Sciences, USSR], No 17, 1970, pp 68-71, (Translated from Referativnyy Zhurnal Fizika, No 10, 1970, Abstract No 10 Ye 1131, from the resume).

Translation: The magnetic susceptibility of titanium and vanadium orthotantalates is measured in the 90-300°K temperature interval. EPR spectra of polycrystalline specimens of orthotantalates of titanium, vanadium, chromium, and iron are measured. Values of g-factors are also determined. Suggestions are made concerning the valence states of ions of the transition metals in the 3d-series forming compounds such as $MeTaO_4$.

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USSR

UDC 546.883.5.825:538.113

P

KASIMOV, G. G., ROZHDESTVENSKIY, F. A., KRYLOV, YE. I., PILLIPENKO, G. I., and SOLODOV, V. P.

"Magnetic Properties of Titanium, Vanadium, Chromium, and Iron Orthotantalates"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, p 186

Abstract: An investigation was made of the magnetic properties of $TiTaO_4$, $VTaO_4$, $CrTaO_4$, and $FeTaO_4$ by the methods of magnetostatics and electron parametric resonance in a broad temperature range. The studies made it possible to obtain new data. The anomalous behavior of $FeTaO_4$ at low temperatures is explained by the phase transition at $223^{\circ}K$ as a result of which the spin-lattice relaxation time decreases (the width of the electron paramagnetic resonance line increases sharply), and the intensity of the electron paramagnetic resonance spectrum becomes insignificant at nitrogen temperature. The magnetic susceptibility of the remaining orthotantalates varies according to the Curie-Weiss law. The negative value of the constant θ permits the assumption of the presence of antiferromagnetism in the investigated compounds.

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1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--MAGNETIC PROPERTIES OF TITANIUM, VANADIUM, CHROMIUM, AND IRON
ORTHOTANTALATES -U
AUTHOR--(05)-KASIMOV, G.G., ROZHDESTVENSKIY, F.A., KRYLOV, YE.I.,
PILIPENKO, G.I., SOLODOV, V.P.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, NEORG. MATER. 1970, 6(1), 186

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--TITANIUM COMPOUND, VANADIUM COMPOUND, CHROMIUM COMPOUND,
TANTALATE, EPR SPECTRUM, MAGNETIC SUSCEPTIBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0146

STEP NO--UR/0363/70/006/001/0186/0186

CIRC ACCESSION NO--AP0054942

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--A00054942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MAGNETIC PROPERTIES OF TITAO SUB4, CRTAO SUB4, AND FETAO SUB4 WERE INVESTIGATED BY MAGNETOSTATIC AND EPR METHODS WITHIN A WIDE TEMP. RANGE, WHICH MADE IT POSSIBLE TO OBTAIN NEW DATA AS COMPARED TO THE KNOWN ONES. THE ANOMALOUS BEHAVIOR OF FETAO SUB4 AT LOW TEMPS. IS EXPLAINED BY THE PHASE TRANSITION AT 223DEGREES K, AS A RESULT OF WHICH THE TIME OF THE SPIN LATTICE RELAXATION DECREASES AND THE INTENSITY OF THE EPR SPECTRUM BECOMES INSIGNIFICANT AT THE N TEMP. THE MAGNETIC SUSCEPTIBILITY OF THE REMAINING ORTHOTANTALATES VARIES ACCORDING TO THE CURIE WEISS LAW. THE NEG. VALUE OF THE CONST. THETA ALLOWS THE ASSUMPTION OF THE PRESENCE OF ANTIFERROMAGNETISM IN THE COMPS. INVESTIGATED.

UNCLASSIFIED

USSR

UDC 616-001.34

ABRAMOVICH-POLYAKOV, D. K., and PILIPENKO, N. I., Khar'kov Medical Institute,
Khar'kov Scientific Research Institute of Labor Hygiene and Occupational
Diseases

"Microcirculatory and Sorptional Changes in Patients With Vibration Sickness"

Kiev, Vrachebnoye Delo, No 1, 1973, pp 129-133

Abstract: Thirty six individuals working with vibrational equipment in casting shops (metallurgical plant) were studied. All of them had vibration sickness of the first and second stages. Each individual was injected with 0.2 ml. of $\text{Na}_2\text{H}^{32}\text{PO}_4$ and the sorption of ^{32}P at symmetrical points of upper extremities was studied. The obtained data in 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 25 minutes was compared with controls (20 healthy individuals injected with ^{32}P). The average rate of resorption of ^{32}P among patients with vibration sickness was much higher compared with controls. Sorption of ^{32}P on both sides of the human body was almost identical, but was slightly accelerated among individuals with the second stage of the disease. The resorption of ^{32}P in sick individuals can be attributed to several causes. Among them are phosphorus deficiency in tissues of the upper extremities, hyperfunction of the lymphatic vessels in arms, predominance of the parasympathetic nervous system tone. Accumulation

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. USSR

ABRAMOVICH-POLYAKOV, D. K. and PILIPENKO, N. I., Vrachebnoye Delo, No 1, 1973,
pp 129-133

and redistribution of ^{32}P introduced enterally deviated from that in healthy individuals and was due to vascular disturbances and disturbances in phosphorus metabolism in patients with vibration sickness. It was impossible to establish any relationship between accumulation and redistribution of ^{32}P and extent of vibration sickness.

2/2

- 75 -

USSR

UDC: 669.25:539.67

BAR'YAKETAR, F. G., DATSKO, O. I., KUSHNEREV, V. I., PULIPENKO, N. P.,
POGORELOV, V. A. and YABLUKOV, B. G., Donetsk Physicotechnical Institute.

"Study of the Internal Friction of Cobalt Near 300°C"

Sverdlovsk, Fizika metallov i metallovedeniye, Vol 32, No 5, Nov 71,
pp 1101-1104

Abstract: Earlier research indicates the 300°C region as the position of low-frequency maximum internal friction for cobalt. Described here is an attempt to explain its nature and properties. The experiment involved machined specimens of 99.98% pure Co measuring 3x40 mm and specimens additionally deformed by drawing (by 8%). The specimens were gradually annealed at 300, 600 and 900°C and cooled down to room temperature. The measurements included internal friction (150-350°C), oscillation frequency (7 cps) and maximal shearing strains ($2 \cdot 10^{-6}$). Interrupted anneal of the material appears to lower the maximum friction temperature position which is most pronounced at 900°C and particularly manifest on the drawn specimen. The relationship between the temperature position of maximum internal

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USSR

BAR'YAKHTAR, F. G., et al, Fizika metallov i metallovedeniye, Vol 32, No 5,
Nov 71, pp 1101-1104

friction of Co, the thermomechanical treatment of the material and the conditions of polymorphous transformation indicate its close association with crystal lattice defects, i.e., the maximum internal friction of Co at 300°C is of deformational nature. It is most likely to be caused by the plastic deformation of the material, including polymorphous transformation of Co. (2 illustrations, 3 bibliographic references).

2/2

- 61 -

L/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GLYCOLIPID FROM STREPTOMYCES -U-
AUTHOR-(03)-BERGELSON, L.D., BATRAKOV, S.G., PILIPENKO, I.V.
COUNTRY OF INFO--USSR
SOURCE--CHEM. PHYS. LIPIDS 1970, 4(2), 181-90
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--STREPTOMYCES, LIPID, GLYCERIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0456 STEP NO--NE/0000/70/004/002/0181/0190
CIRC ACCESSION NO--AP0132671

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE CELL LIPIDS OF STREPTOMYCES
LA 7017 TWO UNUSUAL GLYCOLIPIDS WERE DETECTED. ONE OF THEM WAS ISOLATED
IN A PURE STATE AND SHOWN TO BE
1,0,(4,0,(ALPHA,D, GLYCOPYRANOSYL),ALPHA,D,(2, OR 3,0,ACYL)
GALACTURONOSYL),2,3,DIGLYCERIDE. FACILITY: INSE. CHEM. NAT.
COMPD., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 537.533.2+537.534

SHALAYEV, A.M., and PILIPENKO, V. V., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Effect of Visible Light on Exoelectron Emission"

Kiev, Metallofizika, No 40, 1972, pp 73-78

Abstract: Time relationships for the exoemission of aluminum at varying stimulated light intensity were obtained as well as time and temperature emission characteristics of these same samples in relation to the conditions of illumination during exposure of the samples prior to measurement after mechanical excitation. Analysis of the experimental data makes it possible to hypothesize that light, except for photoemission, causes coverage of surface local levels and also stimulates the occurrence of relaxation phenomena at the surface. The assumption was expounded that processes of adsorption and oxidation lead to slowing the rate of surface coverage by electrons of the destructive local levels. 3 figures, 1 table, 16 bibliographic references.

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USSR

UDC 615.31.546.347.033

SARATIKOV, A. S., SAMOYLOV, N. N., SUBBOTIN, V. F., KUKLENKO, V. G., and
PILIPENKO, YU. A., Tomsk Medical Institute

"The Distribution of Lithium in the Body and Its Elimination"

Moscow, Zhurnal Nevropatologii i Psikhiiatrii imeni S. S. Korsakova,
Vol 71, No 11, 1971, pp 1,709-1,712

Abstract: Lithium was administered to mice, and upon sacrifice of the animals its content was determined by the flame photometry method. Statistically processed results demonstrated that the accumulation of lithium after a single administration of its salts in doses of $1/3$ to 1 LD_{50} was manifested to the highest degree in the kidneys, then in order of diminishing values, in the heart, lungs, spleen, muscles, liver, and brain. The method of administration, dosage and anion type of lithium salt have no significant effect on the nature of distribution, accumulation, or elimination of the metal from the body, whereas the rapidity of its accumulation in the tissues depends on the type of tissue, method of administration and dosage. A study of the dynamics of elimination of lithium from the tissues revealed its selective retention by the brain.

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USSR

UDC 669.71.48

KONONENKO, V. G., SHALBAYAN, A. S., and PILIPETS, YU. G.

"Special Features of the Process of Pulsed Briquetting of Light Alloy Shavings"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Industry and Air Force Technology -- republic interdepartmental scientific and technical collection of works), 1970, vyp 20, pp 130-135 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G126)

Translation: An experimental investigation of the process of pulsed briquetting of light alloy shavings is carried out. The mechanism of briquette formation from light alloys is considered, results of metallographic investigation are presented, and recommendations are made regarding the choice of optimal geometry and the shape of cutting tool which make it possible to obtain briquettes suitable for remelting. 5 ill., 1 table. Authors' abstract

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- 1 -

USSR

UDC 621.372.04

P
PILIPETS, Yu. S., POLOVKOV, I. V.

"Varactor Frequency Multipliers Based on Strip Transmission Lines for Semiconductor Multiplier-Amplifier Circuits in the SHF Band"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices and Their Application--collection of works), Vyp. 23, Moscow, "Sov. radio", 1970, pp 149-171 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D27)

Translation: Recommendations are given on the construction of multiplier-amplifier circuits based on transistors and varactors. The singularities of calculating and designing varactor frequency multipliers based on strip lines are considered. Practical multiplier circuits are described, and the results of experimental studies of these circuits are given. Multipliers based on flat lines have parameters close to those of multipliers based on cavity circuits, but have considerable advantages over the latter with respect to technological and operational characteristics, and have smaller weight and overall dimensions. Excitation of parasitic oscillations in the multiplier is considered. The results of an experimental investigation of the spectral composition of the output signal of the multipliers are presented, and typical levels of undesirable harmonics, combination components, and components due to parasitic emission are given. Bibliography of five titles. Authors' abstract.
1/1

Acc. Nr: **AP0043765**

P

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 3, pp 794-795

OBSERVATION OF AN EXTENDED LIGHT SPARK

B. Ya. Zel'dovich, B. F. Mulchenko, Pilipetskiy, N. F.

An extended light spark was observed in argon in the field of laser radiation focused by a conical lens. Breakdown developed along the extended axial caustics. Some possible applications of conical focussing of light beams, including those involved in breakdown formation, are indicated.

REEL/FRAME
19770172

21

USSR

UDC: 681.327

PILIPOSYAN, E. R.

"Concerning an Associative Memory Matrix Using Thin-Film Magnetic Cylinders With a Closed Word Loop"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 108-110 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B411 by V. R.)

Translation: The paper describes the results of experimental studies of an associative memory matrix using thin-film magnetic cylinders. The word loop of such a memory unit is a circuit with low impedance. Because of this, when a field is fed to a storage element along the axis of hard magnetization, a current is generated in the word loop. The word loop is made of two conductors tightly pressed together, one or both being covered by a film. The conductors are connected to each other on one side, and to the input circuit on the other. It is shown that the matrix can be constructed using thin-film magnetic cylinders with destructive readout. One illustration, bibliography of three titles.

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USSR

UDC 681.327.66

PILIPOSYAN, E. R.

"A Memory Matrix"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287124, class 21, filed 13 Aug 69, published 19 Nov 70, p 65

Translation: This Author's Certificate introduces a memory matrix of associative type based on cylindrical films with preferred axis of magnetization directed along the circle. The matrix contains word loops which can be made up of two wires and a film connected together on one side. The matrix also contains buses perpendicular to the word loops. As a distinguishing feature of the patent, to ensure data input as storage density increases, the wires which comprise the word loops are connected to resistors with their end leads touching contacts on the lateral side of the matrix.

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1/2 034 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--POLARIZATION OF THE INDUCED RADIATION OF ORGANIC DYES STUDIED FROM
THE LASER SPECTRUM -U-
AUTHOR-(U2)-KOVALEV, A.A., PILIPOVICH, V.A. *P*
COUNTRY OF INFO--USSR
SOURCE--KZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 615-19
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--LIGHT EXCITATION, DYE, GLYCEROL, LIGHT POLARIZATION, LASER
SPECTROSCOPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2014 STEP NO--UR/0048/70/034/003/0615/0619
CIRC ACCESSION NO--AP0125602
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125602

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIRECTION OF MAX. AND MIN. VALUES OF THE INITIAL AMPLIFICATION COEFF. WERE THEORETICALLY AND EXPTL. STUDIED IN THE CASE OF CRYPTO CYANINE SOLNS. IN GLYCEROL WHEN THE ELEC. VECTOR OF EXCITING LIGHT IS PERPENDICULAR TO THE RESONATOR AXIS (ZETA EQUALS 0), THE DEGREE OF POLARIZATION IS 1 FOR ALL WAVELENGTHS. WHEN THE VECTOR IS PARALLEL (ZETA EQUALS 90DEGREES), THERE IS NO DICHROISM OF THE AMPLIFICATION COEFF. AND THE DEGREE OF POLARIZATION IS ZERO. FOR INTERMEDIATE ORIENTATIONS AMPLIFICATION DICHROISM APPEARS IN GOOD AGREEMENT WITH THEORETICAL CALCNS. WHEN ZETA EQUALS 45DEGREES, THE VARIATION OF THE DEGREE OF POLARIZATION IN THE 800 NM BAND IS DIFFERENT FROM THAT IN THE 745 NM BAND; THE DIFFERENCE OF BEHAVIOR IN THE 2 BANDS IS DUE TO DIFFERENCES IN GENERATION PROPERTIES AND TO THE HIGH AMPLIFICATION DICHROISM.

FACILITY: INST. FIZ., MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 666.764.36

KARPIHOS, D. M., PAVLIKOV, V. N., MIKHASHCHUK, Ye. P., FILIPOVSKIY, Yu. L.,
"Order of the Red Banner of Labor" Institute of Problems of Material
Science Academy of Sciences of the Ukrainian SSR

"A Composite Material"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 22, Aug 72, Author's Certificate No 345111, Division C, filed 22 Jun 70,
published 14 Jul 72, p 86

Translation: This Author's Certificate introduces a composite material
based on aluminum oxide. As a distinguishing feature of the patent,
thermal stability is improved without sacrificing flame resistance and
impact strength by adding lamellar single crystals of chromic oxide with
the following ratios of components (in wt.%): aluminum oxide -- 80-95,
lamellar single crystals of chromic oxide -- 5-20.

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Refractory Materials

USSR

UDC 549.2

GROSHEVA, V. M., KARPINOS, D. M., PILIPOVSKIY, Yu. I., PANASEVICH, V. M.,
GAYOVA, T. I., AND SHAMATOV, Yu. M., Institute of Problems of Material Science,
Academy of Sciences Ukr SSR

"Refractory Material on an Aluminum Nitride Base"

Moscow, Ogneupory, No 5, May 71, pp 54-56

Abstract: An investigation was made of the reinforcement of aluminum nitride by fiberlike single crystals of mullite ($3Al_2O_3 \cdot 2SiC_2$) synthesized at the Institute of Problems of Material Science, Academy of Sciences Ukr SSR. The refractory material is characterized by chemical inertness and high resistance to thermal shock. It is recommended for lining of high-temperature installations operating in aggressive media, in the presence of abrupt thermal cyclings, and by high mechanical loadings. Three figures, two tables, six bibliographic references.

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USSR

UDC 666.3.022.519

GROSHEVA, V. M., KARPINOS, L. M., PILIPOVSKIY, YU. I., Candidates of Technical Sciences, GAYOVAYA, T. I., SHAMATOV, YU. M., Institute of Problems of Materials Science, Academy of Sciences, Ukrainian SSR

"Impact-Resistant Ceramic Materials"

Moscow, Steklo i Keramika, No 11, Nov 70, pp 36-37

Abstract: The authors have conducted a project on increasing the impact strength of ceramic material on the basis of boron nitride by the method of reinforcement with filamentary monocystals of mullite ($3Al_2O_3 \cdot 2SiO_2$), obtained in the Institute of Research on the Problems of Materials, Academy of Sciences, Ukrainian SSR. The reinforcement method developed by them makes it possible to obtain products on the basis of boron nitride, which possess high impact strength. The thermal stability of the products permits their use as insulating materials in high-temperature units with cyclical heating. The chemical inertness and the high impact strength permits the use of the obtained

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USSR

GROSHEVA, V. M., et al. Steklo i Keramika, No 11, Nov 70,
pp 36-37

material in chemical machine building. 1 figure, 1 table, 1
footnote bibliographic reference, 3 bibliographic entries.

2/2

- 55 -

USSR

KARPINOS, D. M., KRAVCHENKO, A. A., ~~PILIPOVSKIY, Yu. Ya.~~, TKACHENKO, V. G.,
SHAMATOV, Yu. M., KHARCHENKO, V. K., Kiev

"Study of Mechanical Characteristics of Hot Pressed Tungsten-Copper Pseudo-
alloys"

Kiev, Problemy Prochnosti, No. 12, Dec 70, pp. 64-68

Abstract: Studies are made of the mechanical characteristics of hot-pressed tungsten-copper pseudoalloys and their dependence on the density of the tungsten framework containing the lower-melting component and the time of isothermal holding at the pressing temperature. It is demonstrated that the strength, plasticity and impact toughness increase with increasing density of the refractory framework and holding time in the 1900-2200°C temperature interval during pressing. The hardness and strength in compression depend primarily on the density of the framework and the degree of filling of the pores with copper.

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Immunology

USSR

UDC 615.371:576.851.71].012.6.011.17.576.858

SALAGOVA, T. A., IGNATOVICH, V. F., and PILLE, E. R., State Institute of Standardization and Control of Medical Biological Preparations imeni Tarasevich, and Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Methods for Detecting Viral Contaminants in Live Rickettsiosis Vaccines Produced in Chick Embryos"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 47-51

Abstract: The pathogenicity of rickettsiosis vaccines with respect to viral contaminant test tissues necessitated development of alternative methods for detecting such contaminants during industrial production of the vaccines. Live typhus vaccine, Q fever vaccine, and live tick-borne rickettsiosis vaccine were treated with antibiotics to prevent rickettsial growth, to reduce its pathogenicity an intermediate product in typhus vaccine production was employed, while dry Q fever and tick-borne rickettsiosis vaccines were used as 50 and 10% suspensions in Medium No 199. It was possible to detect the following viral contaminants in these vaccines by applying them to the tissue preparations noted: Chick embryo fibroblasts: Fowl plague, Newcastle disease, infectious 1/2

USSR

SALAGOVA, T. A., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 47-51

laryngotracheitis, fowl pox; emryonic chick kidney: Fowl encephalomyelitis, fowl enteroviruses, hen reoviruses, hen adenoviruses, infectious laryngo-tracheitis; chick embryos: hen pox, infectious laryngotracheitis, fowl plague, Newcastle disease, blue comb crest disease; suckling mice: Arboviruses, ornithosis. Detection of infectious bronchitis, Marek's disease, and fowl leukosis presents particular problems, which are described. As a control of these methods the vaccines were applied to the above tissue cultures and human amnion cells artificially infected with fowl pox. It was possible to detect the contaminant by these methods.

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- 16 -

USSR

UDC 619:576.858.5:636.22/.28

SHICHKINA, V. P., PILLE, E. R., and DZAGUROV, S. G., State Control Institute of Medical Biological Preparations imeni A. L. Tarasevich

"Susceptibility of Cattle to Adenoviruses"

Moscow, Veterinariya, No 11, 1971, pp 39-40

Abstract: A study was carried out of the susceptibility to adenoviruses of healthy cattle brought to a meat-packing plant where sera are prepared for use in culture media. Complement-fixing antibodies were found in the sera of 12.3% of the animals investigated. Most of the sera reacted to type-2 adenovirus. Cytopathic agents were found in 21 of 201 sera. In 13 strains a complement-fixing antigen common to human type-6 adenovirus was detected, and 10 of the 13 strains isolated were classified as type-1, 2, and 3 adenoviruses. The susceptibility of such a significant number of healthy cattle to serum viruses indicates a need to exercise careful control of animals intended for use in virological practice.

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- 78 -

USSR

UDC 632.95

PIL'MENSHTEYN, I. D., BEZUGLYY, S. F., NESTEROVS, L. A., YAKOVLEVA, L. I.,
and STONOV, L. D.

"Adhesion of Emulsions to Treated Surface"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 291-297 (from KZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N534 by I. Pil'menshteyn)

Translation: Factors affecting the adherence of emulsion drops of 2,4-D butyl ester to various substrates (paraffinized surface of a polished steel plate and the surface of a bean leaf) were estimated according to the flow-off angle (α_{fl} -- the angle of inclination of the surface to the horizon at which a drop applied to that surface began to flow off). The method of correlation analysis shows that α_{fl} is determined by wetting conditions for the drops of the treated surface.

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P
USSR

UDC 632.982.4

PIL'MENSHTEYN, I. D., BEZUGLYY, S. F., and ROMANOVA, A. I., All-Union Scientific Research Institute for Chemical Means of Plant Protection

"Use of Return Emulsions of Butyl Ether of 2,4-D for Prevention of Herbicide Drift in Aircraft Spraying"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 7, Jul 70, pp 49-52

Abstract: Studies were conducted of the use of return emulsions of a butyl ether of 2,4-D to prevent herbicide drift in aircraft spraying for weed control. It was shown that concentrated return emulsions of butyl ether of 2,4-D are non-Newtonian liquids in which the coefficient of viscosity drops with increase in the rate of shift deformations (rate of outflow). The viscosity of concentrated return emulsions rises with increase in concentration of the disperse phase (of water) but to a known limit, i.e., to a concentration inducing the reversal of emulsion phases (the transformation of the return emulsion into a direct one). This limit depends on the amount and chemical nature of the emulsifier introduced into the emulsion concentrate.

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USSR

PIL'MENSHTeyN, I. D., et al., Moscow, Khimiya v Sei'skom Khozyaystve, Vol 8, No 7, Jul 70, pp 49-52

It was established that in intense mixing of concentrated return emulsions of butyl ether of 2,4-D, their viscosity grows considerably. This is explained by the decrease of the mean diameter of disperse phase particles and, probably by decrease of polydispersity of these particles. A simple mathematical expression was obtained which associates the fluidity of concentrated return emulsions with the mean diameter of disperse phase particles. Based on the conducted physicochemical investigations, the optimum formula of the 2,4-D butyl ether return emulsion concentrate and the procedure for preparation of the concentrated return emulsion having maximal viscosity were developed.

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USSR

UDC 632.95

PIL'MENSHTEYN, I. D., BEZUGLYY, S. F., ROMANOVA, A. I., POTOLOVSKIY, L. A., and
GRUZDEV, B. V.

"A New Emulsifier for Pesticides - Calcium Dodecylbenzolsulfonate Derived from
Tetrameric Propylene"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants --
collection of works), No 2, Moscow, 1972, pp 145-150 (from RZh-Khimiya, No 22,
25 Nov 73, Abstract No 22N517 by I. Pil'menshteyn)

Translation: Calcium dodecylbenzolsulfonate (I) synthesized in the All-Union
Sci-Res Institute of Petroleum Products derived from tetrameric propylene
reduces the consumption of OP-7 [a wetting agent of the alkyl phenol-ethylene
oxide type] 3- to 4-fold in emulsifying concentrations of pesticides. Intro-
duction of I into the latter greatly improves their emulsifiability due to
decreased interphasial tension at the water-oil boundary.

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USSR

UDJ 541.182.42:532.135

PTI MENSHEVYK I. D., and BEZUGLYY, S. F., All Union Scientific Research
Institute of Plant Protective Agents, Moscow

"Study of the Rheological Properties of Inverse Pesticide Emulsions"

Moscow, Kolloidnyy Zhurnal, Vol 33, No 5, Sep-Oct 71. pp 716-720

Abstract: Studying the rheological properties of inverse emulsions. in which the oil phase consisted of the herbicide -- a solution of 2,4 D butyl ester -- and the emulsifier being a mixture of OP-4 and calcium dodecylbenzenesulfonate. it was noted that such emulsions are non-Newtonian liquids. Using an equation for the activation energy of viscous flow in a dispersion medium (the emulsifying concentrate) and in inverse emulsions, it was shown that the flow occurs in the interlayers of the dispersion medium. Dispersed phase particles do not participate in the ordered motion but oscillate about the equilibrium position. Addition of cetyl alcohol to the emulsifying concentrate leads to a sharp increase in the viscosity of the emulsion.

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- 41 -

USSR

UDC: 621.396.677

PILNIPENKO, V. V.

"A Diffraction Grating With Two Dielectric Layers"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 13, pp 177-182 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B2)

Translation: The author considers the problem of diffraction of a plane H-polarized wave by a grating with two dielectric shields. Analysis of the solution shows that the presence of thin layers on the surfaces of the grating leads to an additional displacement of the diffraction pattern. The magnitude of this displacement is determined by the permittivity of the layer. The theoretical conclusions are confirmed in full by experimental data. Two illustrations, bibliography of four titles. Resumé.

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1/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EFFECTIVENESS OF THE INFLUENCE OF CO PRIME2 POSTIVE ON SPIN WAVE

LOSSES -U-

AUTHOR--(04)--BUNINA, M.P., LEBEDEVA, YE.V., PILSHCHIKOV, A.I.,
SILVESTROBICH, I.I.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD TELA 1970, 12(2), 433-8 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPIN WAVE THEORY, COBALT, ZINC FERRITE, LITHIUM COMPOUND,
TITANIUM COMPOUND, MAGNETIC PUMPING, METAL ION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1983/1896

STEP NO--UR/0181/70/012/002/0433/0438

CIRC ACCESSION NO--AP0054699

UNCLASSIFIED

2/2 023

CIRC ACCESSION NO--AP0054699

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON SPECIMENS OF LI-TI-ZN FERRITES WITH THE FORMULA $LI_{1-2x}Fe_{1.5-x}Ti_{0.5+x}O_4$, WHERE x EQUALS 0.4-0.8 AND x EQUALS 0-0.4, INVESTIGATIONS WAS CARRIED OUT OF THE DEPENDENCE OF THE PARAMETER OF SPIN WAVE LOSSES, $\Delta H_{sub K}$, ON THE CONTENT OF CO PRIME2 POSITIVE. MEASUREMENTS OF $\Delta H_{sub K}$ WERE CARRIED OUT BY THE METHOD OF PARALLEL PUMPING ON CYLINDRICAL SPECIMENS AT ROOM TEMP. AT 9400 MHZ. THE EFFECT OF CO PRIME2 POSITIVE ON $\Delta H_{sub K}$ FOR SPIN WAVES PARAMETRICALLY EXCITED AT THE MIN. OF THE THRESHOLD FIELD VARIES ON THE INTRODUCTION INTO LI FERRITE OF ZN PRIME2 POSITIVE AND TI PRIME4 POSITIVE. THE CONTRIBUTION TO $\Delta H_{sub K}$ DETD. BY CO PRIME2 POSITIVE IS PROPORTIONAL TO THE QUANTITY $(4\pi M-H_{sub EX})$ PRIME ONE HALF, CHARACTERISTIC FOR THE MECHANISM OF 2 MAGNON SCATTERING. THE INTRODUCTION OF NONMAGNETIC IONS INTO FERRITES CONTG. CO PRIME2 POSITIVE INCREASES $\Delta H_{sub K}$ SHARPLY WITHOUT VARIATION OF THE CONTENT OF CO PRIME2 POSITIVE.

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

UNCLASSIFIED

1/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EFFECT OF NONMAGNETIC IONS ON THE RELAXATION OF SPIN WAVES IN YTTTRIUM GARNETS CONTAINING RARE EARTH IONS -U-

AUTHOR--(04)-KRASNOVA, V.A., PILSHCHIKOV, A.I., SEDLITSKAYA, N.S., SILVESTROVICH, I.I.

COUNTRY OF INFO--USSR

P

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 785-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--YTTTRIUM, GARNET, RARE EARTH METAL, ION, SAMARIUM, SPIN WAVE, SPIN RELAXATION, MAGNETISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1277

STEP NO--UR/0181/70/012/003/0785/0788

CIRC ACCESSION NO--AP0116739

UNCLASSIFIED

212 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116739

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPIN WAVE RELAXATION
PARAMETER, DELTAETA SUBKAPPA, WAS INVESTIGATED IN POLYCRYST. Y AL AND Y
IN GARNETS CONTG. SMALL CONCNS. OF SM ION. DELTAETA SUBKAPPA WAS
MEASURED BY THE METHOD OF PARALLEL PUMPING AT 2850 MHZ. WITH INCREASED
CONCN. OF NONMAGNETIC IONS, ESP. AL IONS, THE EFFICIENCY OF THE EFFECT
OF SM IONS ON DELTAETA SUBKAPPA INCREASES. THE POSSIBILITY IS DISCUSSED
OF AN EXPLANATION OF THE RESULTS WITH THE AID OF THE THEORY OF SLOW
RELAXATION. FACILITY: MOSK. GOS. UNIV. I.M. LOMONOSOVA, MOSCOW,
USSR.

UNCLASSIFIED

USSR

SHUL'GIN, I. V., LOPATCHENKO, B. K., PIL'SHCHIKOV, B. V.

"Mathematical Modeling of Monocular Visual Perception"

Probl. Bioniki. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb. [Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 9, pp 40-44 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V726, by the authors).

Translation: A mathematical description is presented of a system for conversion of information encompassing a rather broad class of problems of mathematical description of cerebral functions. The introduction of the mathematical concepts is studied as applicable to the problem of conversion of the visual space into the field of vision of man with monocular perception.

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PIK'SHCHIKOV, Ye.

AUTOMATED SYSTEMS FOR KAZAKH ECONOMY

JPRS 55863
2 May 1972

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Article by V. Amilopov, deputy chief of the Division of Science and Technology of the Kazakh SSR Gosplan, and Candidate of Technical Sciences Ye. P. Pishchikov, head of the Large Systems Laboratory of the Institute of Mathematics and Mechanics of the Kazakh SSR Academy of Sciences; *Yama-Altyn, Irtyshnoye Khozaystvo Kazakhstana*, Russian, No 1, January 1972, pp 33-39.]

The importance and necessity of improving the system of planning and administration of the national economy are obvious. Science has seriously enriched planning's theoretical arsenal. Methods of mathematical economic modeling, systems analysis, and others have been developed. It is necessary to utilize all of this more widely, to create more rapidly sectorial automated control systems.

The high yield of an automated control system can be judged by the following data. Its introduction at an enterprise is capable of raising the effectiveness of the enterprise's production by 8-10 percent on the average, and in the sector by 20-30 percent. This is equivalent to the putting into operation of many new enterprises. Also, in the given case the capital outlays are recouped in a much shorter time. The recovery period, for instance, for an enterprise automated control system comes to not more than one and a half to two years.

It should be said that in the plan for the Ninth Five-Year Plan much attention has been given to the introduction of new methods and electronic equipment in the control processes at the most different levels. In the republic 43 new computer and computer-aided control systems will be established; 14 automated control systems will be put into operation in the ministries and departments; there will be 46 systems for control of territorial organizations, associations,

USSR

PIL'SKIY, I. Ye., Alma-Ata Oblast Sanitary-Epidemiological Station

"Organization of the Work of Rural Sanitary-Epidemiological Stations"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 8, 1971, pp 16-17

Translation: Further improvement of medical care for the rural population depends largely on sound organization of the work of medical personnel, specifically, workers in the rayon sanitary-epidemiological stations. In view of the importance of the matter, we think it is worthwhile to set forth by way of an exchange of experience the basic principles underlying the organization of the epidemiological sections of the rayon sanitary-epidemiological stations in Alma-Ata Oblast.

The work of epidemiologists and their assistants is based on the territorial-professional principle. Every assistant is assigned a service district and a specific group of infections. The service district includes the micro-district of the rayon center, which consists of pediatric districts, two or three feldsher posts attached to the rayon hospital, and two or three rural medical districts. In the microdistrict of the rayon center and in the villages served by the feldsher-midwife posts attached to the rayon hospital,

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USSR

PII'SKIY, I. Ye., and KARAGODINA, V. I., Alma-Atinskaya Oblast Sanitary
Epidemiological Station

"Bacteriological Studies at Regional Sanitary and Epidemiological Stations of
Patients and Convalescents With Intestinal Infections"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 11, Nov 71, pp 11-13

Abstract: A comprehensive card file was started during 1969-70 in various regions of Alma-Atinskaya Oblast on all persons who have or have had intestinal infections. It contains personal information, a case history, and the results of all intestinal examinations regardless of the diagnosis or purpose. The results of all laboratory analyses are kept in separate files at the sanitary epidemiological stations and are made available to medical institutions. This system provides for systematic, detailed analyses of the extent and propriety of bacteriological studies, in order that proper measures may be taken. It reduces the time spent by epidemiologists in searching for necessary information, and frees bacteriologists from time-consuming paperwork.

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USSR

PIL'SKIY, V. I.

UDC: 621.375.221.2

"Amplifier With 0.8 GHz Bandwidth"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 136-137

Abstract: The broad-band amplifier described in this article is useful for investigating various one-shot transient processes. Avoiding the inductances in the more conventional types of vacuum tube and its finite interelectrode transit time causing amplifier instability and distortion of the frequency-phase characteristic, this amplifier strip uses miniature metal-ceramic tetrodes of the "nuvistor" type. Its characteristics are: an upper frequency limit of 820 MHz; the nonuniformity of the frequency characteristic is $\pm 15\%$; a gain of 3; an output signal amplitude of up to 10 V into a matched load of 75 ohms; characteristic impedance of grid and plate lines of 75 ohms; standing wave ratio at the input or output of 1.2-1.4 in the frequency range up to 500 MHz; a lower frequency limit of about 100 kHz; number of tubes, 44. A schematic of the strip, consisting of identical stages, is given, together with photographs with and without the assembly cover. Measurements showed that the nonuniformity of the frequency characteristic may be caused by reflections in the grid and plate lines. The author is associated with the Nuclear Physics Institute,
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USSR

PIL'SKIY, V. I., Pribory i Tekhnika Eksperimenta, No. 3, 1971,
pp 136-137

Siberian Department of the Academy of Sciences, USSR.

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USSR

UDC 547.26.118

GUBAYDULLIN, M. G., PILYAGINA, V. V.

"Synthesis of Sulfoamidoalkylphosphorous Acids and Sulfoamidoesters of Phosphinic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,
pp 1962-1966

Abstract: To a solution of dichloroanhydride of ethylphosphorous acid in anhydrous benzene. The sodium salt of the propylamide of methanesulfonic acid is added with stirring and cooling. The reaction mixture is stirred for another hour at cold water temperature and then one hour at 80°, filtered, the solvent is evaporated and N-propyl-N-methanesulfoamidoethylphosphorous acid chloride is distilled: b.p. 118-120/2mm n_D^{20} 1.4750, d_4^{20} 1.2210. This product is hydrolyzed to the free acid (I) with water and triethylamine. The sodium salt of (I) with methyl iodide yields N-propyl-N-methanesulfonamide of the methylphosphinic acid ethyl ester. In another reaction the dichloroanhydride of methylphosphinic acid was reacted with the sodium salt of methanesulfonic acid propylamide
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USSR

GUBAYDULLIN, M. G., et al, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 1962-1966

in absolute benzene, followed by dropwise addition of absolute alcohol and anhydrous triethylamine, yielding N-propyl-N-methanesulfonamide of methylphosphinic ethyl ester, b.p. 150-155°/2mm, n_D^{20} 1.4568, d_4^{20} 1.1998. Analogously, N-phenyl-N-benzenesulfonamide of the above ester was obtained, m.p. 92-93°. N-Propyl-N-methanesulfonamide of the ethyl ester of methylphosphinic acid was obtained from the Arbuzov reaction by heating N-propyl-N-methanesulfonamide of the diethylphosphorous acid and methyl iodide for 6 hrs in a sealed tube at 150-160°. The product boiled at 178-180°/3-4mm, d_4^{20} 1.1998, n_D^{20} 1.4585. Analogously, the N-methyl-N-benzenesulfonamide- (d_4^{20} 1.2240 n_D^{20} 1.5140) and N-phenyl-N-benzenesulfonamide of the butyl ester of methylphosphinic acid were obtained.

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USSR

UDC 547.26.118

GUBAYDULLIN, M. G., PILYAGINA, V. V.

"Synthesis of α -Hydroxyalkylphosphinic Acid Sulfonamidoesters"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,
pp 1966-1968

Abstract: Alkyl(aryl)sulfonamidoalkylphosphorous acids were condensed with select carbonyl compounds (chloral, benzaldehyde). The reaction with chloral was quite energetic with heat evolution, but to complete it, the reaction mixture had to be heated. The N-alkyl(aryl)-N-alkyl-(aryl)sulfonamidoesters of α -hydroxy- β,β,β -trichloroethylphosphinic acid were obtained in 70-80% yields; their IR spectra showed absorption bands at 3300-3200 (OH), 1250 (P:O), 1150 and 1360 cm^{-1} ($\text{SO}_2\text{-H}$). The ease with which the reaction occurs is due to strong polarization of the carbonyl group under the influence of three electronegative chlorine atoms. Sulfonamidoalkylphosphorous acids are condensed with benzaldehyde forming derivatives of α -hydroxybenzylphosphinic acid; their IR spectra showing bands at 3300-3200 (OH) and 1230-1210 cm^{-1} (P:O).

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USSR

UDC 531.43

KOVAL'CHENKO, M. S., TKACHENKO, Yu. G., PILYANKEVICH, A. N., and KRYACHENKO, V. I., Institute of Problems of Material Science, Academy of Sciences UKrSSR

"Temperature Dependence of Wear and the Character of Titanium and Niobium Carbide Destruction"

Kiyev, Poroshkovaya Metallurgiya, No 6, (102), Jun 71, pp 74-78

Abstract: The temperature dependence of wear and the character of destruction and plastic deformation of surface layess of titanium and niobium carbides at temperatures of 20-1600°C were investigated on specimens prepared by the powder pressing method. The results, presented as curves of the linear wear intensity vs. temperature, demonstrate a linear wear increase with increasing temperature. The maximum increase of wear intensity takes place in the temperature interval of 500-1200°C, after which the increase slows down. The destruction character of niobium carbide friction surfaces, investigated electron-microscopically within the temperature range of 20-1600°C, is shown. Two illustr., seven biblio. refs.

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USSR

Thin Films

UDC 548.74:539.23

PILYANKEVICH, A.N., and KURDYUMOV, A.V., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Electron-Microscopic Study of Thin Films of Low-Temperature Pyrocarbon"

Kiev, Poroshkovaya Metallurgiya, No 8, 1971, pp 92-96

Abstract: The mechanism of formation of this material during pyrolysis and correlations of modifications in the mechanism with changes in external conditions were studied by investigating thin films of low-temperature pyrocarbon. The thin films with identical mean thickness ~600 AU are obtained at 800° by the decomposition of heptane vapor on the surface of amorphous polished quartz. The films of pyrocarbon were separated from the quartz substrate in hydrofluoric acid and investigated using transmitted beam in the EM-6A electron microscope. The margin of the fracture of a film obtained at lowest heptane concentration (the thermostat temperature of initial pyrocarbon was 20°) showed a lamellar structure without any destructions of its integrity. When the heptane concentration was increased (30°) there were marked changes in the structure of pyrocarbon films. The perfection of the crystalline structure decreased sharply. Data obtained indicate that there is no single mechanism of pyrolysis and formation of carbon deposit. The following correlations of the formation of low-temperature pyrocarbon were derived: with variation in hydrocarbon vapor composition in the reaction volume of the

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PILYANKEVICH, A.N., et al, Kiev, Poroshkovaya Metallurgiya, No 8, 1971, pp 92-96

furnace, the mechanism of formation of pyrocarbon films is markedly modified, and with increase in concentration the successive transition from the radical mechanism to the dropwise mechanism, and thereupon to the direct decomposition of the hydrocarbon with formation of carbon black particles in the volume, is observed.

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172 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DISPLACEMENT OF THE DIFFRACTION LINE MAXIMA IN ELECTRON DIFFRACTION
PATTERNS ON ACCOUNT OF BACKGROUND -U-
AUTHOR--(02)-PILYANKEVICH, O.M., ABRAMIAN, G.K.
COUNTRY OF INFO--USSR
SOURCE--DOP. AKAD. NAUK UKRAIN. RSR, 1970, (A), (2), 181-183
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--ELECTRON DIFFRACTION, COPPER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0366 STEP NO--UR/0441/70/000/002/0181/0183
CIRC ACCESSION NO--AT0124123
UNCLASSIFIED

2/2 008
CIRC ACCESSION NO--AT0124123 UNCLASSIFIED PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF BACKGROUND ON THE
ELECTRON DIFFRACTION PICTURES OF METAL SAMPLES IS DISCUSSED
THEORETICALLY WITH SPECIAL REF. TO THE QUESTION OF THE DISPLACEMENT OF
THE DIFFRACTION PEAKS; THE RESULTS ARE COMPARED WITH EXPERIMENTAL DATA
RELATING TO THIN FILMS OF CU. THE DISPLACEMENT OF THE LINES IN THE
DIRECTION OF SMALLER SCATTERING ANGLES VARIES DIRECTLY AS THE SQUARE OF
THE LINE WIDTH AND INVERSELY PROPORTIONAL TO ITS DEGREE OF CONTRAST
(SIGNAL-NOISE).

UNCLASSIFIED

172 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--STRUCTURE FORMATION OF POLYCRYSTALLINE SILICON CARBIDE -U-
AUTHOR--(04)-GNESIN, G.G., PILYANKEVICH, A.N., KUZNETSOVA, O.V., OLEYNIK,
G.S.

COUNTRY OF INFO--USSR

SOURCE--POROSHKOVAYA MET., APR. 1970, (4), 49-53

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON CARBIDE, CARBIDE ABRASIVE, REFRACTORY MATERIAL,
SINTERING FURNACE, PHASE COMPOSITION, GRAIN STRUCTURE, SINTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0637

STEP NO--UR/0226/70/000/004/0049/0053

CIRC ACCESSION NO--AP0134399

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134399

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF POLYCRYSTALLINE SIC MADE BY A REACTIVE SINTERING METHOD WAS STUDIED AND CORRELATED WITH THE ABRASIVE PROPERTIES OF THIS MATERIAL AS EXPLOITED IN THE GRINDING OF METALS AND ALSO WITH ITS HEAT RESISTANCE WHEN USED FOR THE LININGS OF FURNACES. ELECTROLYTIC ETCHING REVEALED THE PRESENCE OF A SECONDARY PHASE FORMED IN THE COURSE OF SINTERING; THE SECONDARY PHASE AROSE FROM THE MOVEMENT OF C ATOMS THROUGH THE MOLTEN SI AND APPRECIABLY MODIFIED THE MECHANICAL CHARACTERISTICS OF THE MATERIAL AS A WHOLE.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF X IRRADIATION DURING EMBRYOGENESIS ON THE POSTNATAL
DEVELOPMENT OF A NONFUNCTIONAL TESTICLE -U-
AUTHOR--PILYAVSKAYA, S.M. P
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 315
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--X RAY RADIATION BIOLOGIC EFFECT, EMBRYOLOGY, REPRODUCTIVE
SYSTEM, MOUSE, SPERMATOGENESIS, MITOSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/B06 STEP NO--UR/0205/70/010/002/0315/0315
CIRC ACCESSION NO--AP0139596
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139596

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE TESTICLES OF 22-35 DAY OLD
 MICE SUBJECTED TO X IRRADN. PERIODICALLY DURING EMBRYONIC DEVELOPMENT OR
 WITH A SINGLE 336 R DOSE IN THE 17TH DAY OF EMBRYOGENESIS, RETARDATION
 OF DEVELOPMENT AND DECREASED NO. OF PSEMATOGENIC CELLS WERE OBSERVED.
 GONAD CELLS (GONOCYTES) WERE INJURED BY THE X RAYS. THE NO. OF
 GONOCYTES OF MICE IRRADIATED ONCE ON THE 17TH DAY OF EMBRYOGENESIS
 DECREASED 4 DAYS AFTER DELIVERY DUE TO MASS DEGENERATION AND WEAKENING
 OF MITOTIC ACTIVITY. WITH FRACTIONATED IRRADN., THE NO. OF GONOCYTES
 HAD SHARPLY DECREASED PRIOR TO BIRTH. FACILITY: KIEV. MED.
 INST. IM. BOGOMOL'TSA, KIEV, USSR.

UNCLASSIFIED

USSR

Power, Engine, Turbine, Pump

UDC 621.436.13-723

PILYUGIN, A. A., MIRYUSHCHENKO, A. A., and CHUKHRIYENKO, S. I.

"Diesel Engine Cylinder Lubricator"

USSR Authors' Certificate No 362970, Cl. F 16n 23/00, filed 15 Oct 70, published 20 Dec 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1973, p 76)

Abstract: The device contains a case which is mounted in the cylinder sleeve with a cavity for feeding oil to the sleeve duct and a check valve placed in this cavity. The unique feature of the device is that, to make the feed more even and the oil usage more efficient, the valve is situated at the cavity exit on the side of the sleeve and has a spring-actuated shank in the cavity and a rod in the duct. A second version of the device has a damper mounted in the cavity. The device is illustrated.

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Acc. Nr:

AP0049506

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:

UR0079

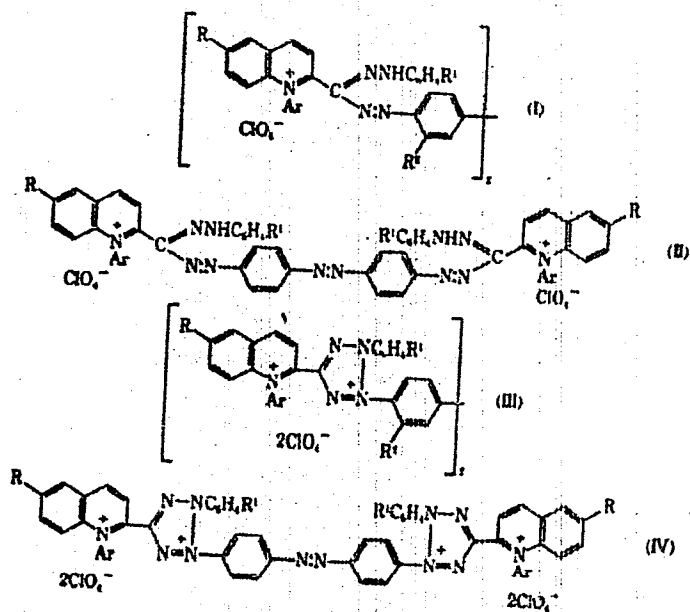
100453e Bisformazans and bistetrazolium salts, derivatives of quinaldine quaternary salts. Stashkevich, V. V.; Pilyugin, G. T.; Stashkevich, O. M. (Chernovits. Gos. Univ., Chernovitsy, USSR). *Zh. Obshch. Khim.* 1976, 40(1), 195-201 (Russ.). Adding 0.28 g benzidine, 2 ml concd. HCl, and 0.2 g NaNO₂ in H₂O to 1.34 g 2-formyl-1-phenylquinolinium perchlorate phenylhydrazone in pyridine at -10° gave, after 10 hr in the cold, 77.8% I (Ar = Ph, R = R¹ = R² = H), m. 198-9°. Similarly were prepd. the following I (Ar, R, R¹, R², and m.p. given): Ph, H, *o*-MeO, H, 209-10°; Ph, H, *p*-MeO, H, 191-2°; *p*-MeC₆H₄, Me, *o*-MeO, H, 217-18°; *p*-MeOC₆H₄, MeO, *o*-MeO, H, 197-8°; *p*-BrC₆H₄, Br, *o*-MeO, H, 212-13°; Me, NO₂, *o*-MeO, H, 194-5°; Ph, H, H, Me, 205-6°; *p*-MeC₆H₄, Me, *p*-MeO, Me, 238-9°; *p*-MeOC₆H₄, H, *o*-MeO, Me, 188-90°; Me, NO₂, *o*-MeO, Me, 171-2°; Ph, H, *p*-MeO, MeO, 199-200°; *p*-MeOC₆H₄, MeO, *o*-MeO, MeO, 215-16°; *p*-BrC₆H₄, Br, *o*-MeO, MeO, 205-6°; and Me, NO₂, *o*-MeO, MeO, — (diiodide m. 215-16°). Treating 0.94 g 2-formyl-1-phenylquinolinium perchlorate phenylhydrazone in pyridine at -10° with the diazonium compd. from 0.24 g *p,p'*-diaminoazobenzene in aq. HCl-NaNO₂ and holding 2 hr gave 77% II (Ar = Ph, R = R¹ = H), m. 193-4°. Similarly were prepd. the following II (Ar, R, R¹, and m.p. given): *p*-MeC₆H₄, Me, *o*-MeO, 199-201°; *p*-MeOC₆H₄, H, *o*-MeO, 180-1°; *p*-BrC₆H₄, Br, *o*-MeO, 203-4°; and Me, NO₂, *o*-MeO, 180-1°. Ir, and uv, and electronic spectra data were reported. Heating I in HNO₃ (d. 1.38) to decolorization, gave 35-55% III (Ar,

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R, R¹, R², and m.p. given): Ph, H, H, H, 206-7°; Ph, H, *o*-MeO, H, 215-17°; *p*-BrC₆H₄, Br, *o*-MeO, H, 219-20°; Me, NO₂, *o*-MeO, H, 207-9°; Ph, H, H, Me, 207-8°; Me, NO₂, *o*-MeO, Me, 201-2°; Ph, H, *p*-MeO, MeO, 213-14°; *p*-BrC₆H₄, Br, *o*-MeO, MeO, 224-5°; and Me, NO₂, *o*-MeO, MeO, 221-2°. Similarly were prepd. the following IV (Ar, R, R¹, and m.p. given): Ph, H, H, 226-7°; *p*-MeOC₆H₄, H, *o*-MeO, 219-20°; and Me, NO₂, *o*-MeO, 204-5°. Uv spectral data for these were reported. The polarographic halfwave potentials of III and IV were tabulated; the 2nd waves had halfwave potentials in the region of -0.43 to -0.63 V. This makes possible the use of these bistetrazolium salts in histochemistry. I possessed internal H bonds, as shown by their ir spectra.

G. M. Kosolapoff

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19801354

nk

USSR

PILYUGIN, N. N., Moscow

UDC 536.24

"Distribution of Radiant Heat Flux Over the Surface of a Sphere in a Hypersonic Flow of Inviscid Radiating Gas"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 6, Nov/Dec 72, pp 44-49

Abstract: An analytical solution is found in the Newtonian approximation for the problem of a sphere in a steady-state homogeneous hypersonic inviscid radiating gas flow. The approximation of volumetric luminescence is used. The distribution of gasdynamic parameters in the shock layer is found, as well as the departure of the shock wave and the radiant heat flux to the surface of the sphere. A comparison of the formulas derived in the paper for the radiant flux from the radiating air to the sphere with numerical calculations in the literature shows satisfactory agreement. The author thanks G. A. Firskiy and E. A. Gershibeyn for discussion and constructive criticism.

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USSR

UDC 615.28.547.831

SHINKORENKO, S. V., PITYUCIN, T. G., SIDORCHUK, I. I., and YAVORSKIY, V. H.,
University of Chernovtsy, Chernovtsy Medical Institute

"Synthesis and Some Biological Properties of Quinaldinium Azomethines"
Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 1, Jan 72, pp 25-29

Abstract: Studying antimicrobial activity of various preparations, a series of azomethine derivatives of quinaldine was synthesized containing alkyl and aryl groups at the nitrogen heteroatom, various substituents at the quinaldine moiety and a free or a substituted amino group at the benzene ring. Reaction of equimolar quantities of quaternary quinaldinium salts with aromatic nitro compounds takes place in ethanol containing catalytic amounts of piperidine. The products are strongly colored crystalline materials soluble in common organic solvent, insoluble in benzene, ether, and water; their physical properties are tabulated. The azomethines synthesized showed a wide spectrum of antimicrobial and antifungal activity, especially towards strains resistant to antibiotics. The disinfecting activity of some of these compounds exceeds the activity of phenol.

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1/2 009 UNCLASSIFIED
 TITLE--REGENERATION OF MAGNESIUM BASE -U- PROCESSING DATE--09OCT70
 AUTHOR--(04)-ONI, L.A., PILYUGIN, V.I., BORISOV, N.L., BELDUS, V.D.
 COUNTRY OF INFO--USSR
 SOURCE--BUM. PRGM. 1970, (3), 2-4 P
 DATE PUBLISHED--70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--MAGNESIUM, CYCLONE FURNACE, SULFITE, SULFUR, SODA ASH
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1995/1359
 CIRC ACCESSION NO--AP0116810
 STEP NO--UR/0329/70/000/003/0002/0004
 UNCLASSIFIED

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009

CIRC ACCESSION NO--AP0116810

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. ON THE RECOVERY OF MG AND S FROM SPENT LIQUORS OF THE MG BASE SULFITE PROCESS WERE CONDUCTED IN AN EXPTL. CHAMBER FURNACE WITH AND WITHOUT A CYCLONE PRECOMBUSTION CHAMBER OF THE TYPE USED IN TYPICAL SODA RECOVERY BOILERS. THE EFFICIENCY OF THE FURNACE WHEN OPERATED UNDER VARIOUS CONDITIONS WAS EVALUATED BY DETN. OF THE INDEX OF S RECOVERY (THE RATIO OF S GASIFIED TO THE TOTAL S INTRODUCED WITH THE SPENT LIQUOR). WITHIN THE NORMAL RANGE OF VARIATIONS, EXCESS AIR HAD NO EFFECT ON THE COMBUSTION PROCESS. TWO MAIN FACTORS AFFECTING THE DEGREE OF S RECOVERY WERE THE TEMP. AND THE PRESENCE OF MINERAL COMPONENTS OTHER THAN MG COMPS., I.E. MAINLY NA AND K. AT 1100DEGREES OR ABOVE IN THE COMBUSTION CHAMBER AND 80PERCENT MGO IN THE ASH, THE DEGREE OF S RECOVERY CAN REACH 97PERCENT AT A NORMAL EXCESS OF AIR. THUS, THERE IS NO NEED FOR A REDUCING ZONE AND A 2 STAGE COMBUSTION CHAMBER. UNDER SUITABLE TEMP. CONDITIONS, MG BASE SPENT SULFITE LIQUORS CAN BE BURNED ON AN INDUSTRIAL SCALE IN FURNACES OF CONVENTIONAL SODA RECOVERY EQUIPMENT. THE SCREENING TUBES MUST BE HEATED TO GIVE 950-1000DEGREES AT THE OUTLET OF THE COMBUSTION CHAMBER AND 1250-1300DEGREES AT THE OUTLET OF THE SUPERHEATED ZONE. A CYCLONE PRECOMBUSTION CHAMBER IS NEEDED ONLY IF THE REQUIRED TEMP. CANNOT BE OBTAINED IN THE SUPERHEATED ZONE BECAUSE OF LOW CALORIFIC VALUE OF THE SPENT LIQUOR OR TOO LOW A TEMP. OF THE AIR FED INTO THE FURNACE.

FACILITY: TSENT. NAUCH. ISSLED. PROEKT. KONSTR. KOTLOTURBIN. INST. IM. PULZUNOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 547.562+532.74+543.422

PETROV, S. M., PILYUGIN, V. S., EREDZHEPORIA, Z. A., and FATKULLIN, F. A.,
Bashkir State University imeni 40-Letiya Oktyabrya.

"Study of the Reaction of Halogenated Phenols With Tributylphosphate and
Trioctylphosphoxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 429(104), Vyp 4, 1972, pp 762-765

Abstract: The size of the equilibrium constant and the size of the bathochrome shift were studied for the reaction of various mono-substituted chloro-, bromo-, and iodophenols and the di-, tri-, tetra-, and pentachlorophenols with tributyl phosphate (TBP) and trioctylphosphoxide (TOPP). The value of the equilibrium constant for the reaction of phenols with TOPP was larger than with TBP; however, the equilibrium constants for both of the above classes of reactions were significantly larger than previously reported values for the reaction of such phenols with ketones, amides, and sulfoxides. The value of the equilibrium constant for the title reaction due to hydrogen bonding is related to three factors: 1) the presence of intramolecular hydrogen bonding in the studied phenols; 2) the acidity of the phenol; and 3) the basicity of the acceptor (in this case the TBP and TOPP).

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1/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--COMPLEX THERAPY OF RESTRICTED SCLERODERMIA USING LOCAL DOSED VACUUM
-U-
AUTHOR--PILYUGINA, S.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 2, PP 83-87
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TISSUE PHYSIOLOGY, PROPHYLAXIS, ASCORBIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1792 STEP NO--UR/0206/70/000/002/0083/0037
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PROCESSING DATE--11SEP70

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROCEEDING FROM REPORTED DATA ON REDUCTION OF P PERMEABILITY OF CONNECTIVE TISSUE STRUCTURES IN SCLERODERMIA THE AUTHOR APPLIED PATHOGENETICALLY GROUNDED TREATMENT CONDUCTIVE TO NORMALIZATION OF PERMEABILITY OF CONNECTIVE TISSUE FORMATIONS. THE AUTHOR CARRIED OUT COMPLEX THERAPY OF 58 PATIENTS WITH RESTRICTED SCLERODERMIA INCLUDING LOCAL DOSED VACUUM, INJECTIONS OF LYDASE INTO THE FOCI OF LESIONS AND ADMINISTRATION OF ASCORBIC ACID. FAVOURABLE RESULTS OF THE TREATMENT PERMIT TO RECOMMEND APPLICATION OF THE ABOVE COMPLEX TREATMENT OF SCLERODERMIA.

UNCLASSIFIED

1/2 025
 TITLE--COMPLEX THERAPY OF RESTRICTED SCLERODERMIA UNCLASSIFIED PROCESSING DATE--11SEPT0
 -U- USING LOCAL DOSED VACUUM
 AUTHOR--PILYUGINA, S. P
 COUNTRY OF INFO--USSR
 SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 2, PP 83-87
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 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
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PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROCEEDING FROM REPORTED DATA ON REDUCTION OF P PERMEABILITY OF CONNECTIVE TISSUE STRUCTURES IN SCLERODERMIA THE AUTHOR APPLIED PATHOGENETICALLY GROUNDED TREATMENT CONDUCIVE TO NORMALIZATION OF PERMEABILITY OF CONNECTIVE TISSUE FORMATIONS. THE AUTHOR CARRIED OUT COMPLEX THERAPY OF 58 PATIENTS WITH RESTRICTED SCLERODERMIA INCLUDING LOCAL DOSED VACUUM, INJECTIONS OF LYDASE INTO THE FOCI OF LESIONS AND ADMINISTRATION OF ASCORBIC ACID. FAVOURABLE RESULTS OF THE TREATMENT PERMIT TO RECOMMEND APPLICATION OF THE ABOVE COMPLEX TREATMENT OF SCLERODERMIA;

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USSR

UDC 669.140.089.14

TURSUNOV, A. V., GUTOROVA, V. L., KONDRASHEV, A. I., and
PILYUSHENKO, V. L.

"Cold-Resistant Nickel-Free Structural Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 6, Nov-Dec 70, p 34

Abstract: A new procedure for producing cold-resistant nickel- and molybdenum-free steel developed jointly by members of the Don Scientific Research Institute of Ferrous Metallurgy and the Novokramatorsk Machine Building Plant is described. The chemical composition of this steel is (%): 0.35 C, 0.33 Si, 1.16 Mn, 0.29 W, 0.017 Ti, 0.021 Al, 0.034 S, and 0.023% P. Mechanical properties were determined after tempering at 880° and annealing at 600 and 650° on 28 x 28-mm longitudinal samples cut into bars. The sensitivity to overheating was determined by the drop in impact strength. The test results show that the steel is insensitive to overheating, possesses a significant reserve of viscosity (22-29 kg/cm² at -70°C), and its cold brittleness threshold, defined as the temperature at which 50% of the viscosity is lost, compared with viscosity at room temperature, lies below -70° C. 1/1

1/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--THE EFFECT OF MISHMETAL ON THE STABILITY OF ALLOYED CAST STEEL AT LOW TEMPERATURES -U-

AUTHOR--(05)-BRAYNIN, I.YE., Pilyushenko, V.L., KHARCHENKO, V.A., KLONDRASHEV, A.I., GASHUTIN, V.P.

P

COUNTRY OF INFO--USSR

SOURCE--KIEV, TEKHNOLUGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP 49-50

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM ALLOY, MANGANESE ALLOY, MOLYBDENUM ALLOY, CAST STEEL, IMPACT STRENGTH, DUCTILITY, MECHANICAL PROPERTY, LOW TEMPERATURE METAL, MISC METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/1313

STEP NO--UR/0418/70/000/001/0049/0050

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESEARCH RESULTS ARE GIVEN ON THE EFFECT WHICH MISHMETAL HAS ON THE PROPERTIES OF MANGANIFEROUS, CHROMMANGANESE, AND CHROMMANGANESE MOLYBDENUM GRADES OF STEEL AT TEMPERATURES BELOW ZERO. IT IS SHOWN THAT THE INTRODUCTION OF MISHMETAL INTO CAST ALLOYED STEEL RAISES ITS IMPACT DUCTILITY AT ROOM TEMPERATURE AND AT TEMPERATURES BELOW ZERO. THE BEST COLD STABILITY IS EXHIBITED BY STEEL ALLOYED WITH THE FOLLOWING COMPLEX OF ELEMENTS: CHROMIUM, MANGANESE, MOLYBDENUM, AND MISHMETAL.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--HARDENABILITY OF STRUCTURAL STEELS -U-
AUTHOR--VINOKUR, B.B., PILYUSHENKO, V.L. P
COUNTRY OF INFO--USSR
SOURCE--HARDENABILITY OF STRUCTURAL STEELS (PROKALIVAYEMOST'
KONSTRUKSIONNYKH STALEY) KIEV, NAUKOVA DUMKA, 1970, 106 PP
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--BIBLIOGRAPHY, STEEL HARDENING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAE--1986/1995 STEP NO--UR/0000/70/000/000/0001/0106
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CIRC ACCESSION NO--AM0103696

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: INTRODUCTION
 3. EXPERIMENTAL METHODS OF DETERMINING HARDENABILITY TEMPERABILITY AND
 HARDENABILITY 5. VOLUMETRIC HARDENING METHOD 8. END HARDENING
 METHOD AND ITS VARIETY 39. NEMCHINSKIY METHOD 45. CALCULATED
 METHODS OF DETERMINING HARDENABILITY METHOD OF COEFFICIENTS MULTIPLIERS
 55. DETERMINING HARDENABILITY BY DIAGRAMS OF CONVERSION OF SUPERCOOLED
 AUSTENITE 61. METHODS OF MODELING HARDENING PROCESSES GENERAL
 DESCRIPTION 83. NEW METHOD OF MODELING 86. LITERATURE 104.
 ...THE BOOK WAS INTENDED FOR SCIENTIFIC AND ENGINEERING AND TECHNICAL
 WORKERS OF METALLURGICAL AND MECHANICAL ENGINEERING SPECIALTIES, AND
 ALSO FOR TEACHERS AND STUDENTS OF COLLEGES OF CORRESPONDING SPECIALTIES.

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USSR

UDC 669.01.621.78

BOL'SHAKOV, V. I., PIMAKHOV, D. P., ORLOV, L. G., TYLKIN, M. A., ZOTEYEV, V. S., and BORKOVSKIY, YU. Z.

"The Effect of Thermomechanical Treatment on the Impact Ductility, Crack Propagation, and Disintegration Viscosity"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4(82), Jul-Aug 73, p 32

Abstract: Results are presented of an investigation of the mechanical properties of 14Kh2GMR steel after the usual heat treated and after high-temperature thermomechanical treatment (HTMT). Tabulated repoint, relative elongation, relative contraction, fatigue limit, and impact ductility at various temperatures. HTMT was found to somewhat increase the strength characteristics of the steel. HTMT does not lower the plasticity, it substantially increases the impact strength at the expense of the increasing share of the work of crack propagation. The increase of structural strength of 14Kh2GMR steel by HTMT lasts up to a 650° C temper temperature. The creation of a stable substructure by hardening increases the resistance of the steel to brittle failure and decreases its susceptibility to stress concentrations. Two tables, four bibliographic references,
1/1