"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0116548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COPOLYMERS ARE PREPD. BY COPOLYMG. STYRENE WITH A CROSSLINKING AGENT (POLYDIENE URETHANE DIACRYLATE) IN THE PRESENCE OF A HARDENER.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--A NEW METHOD OF STERILIZING SURGICAL GLOVES -U-

AUTHOR-(04)-OSIPYAN, V.T., GRAMENITSKAYA, V.G., SHAPILOV, O.D., SAVINSKIY, YA.R.

COUNTRY OF INFO--USSR

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SOURCE--VOENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 77-78

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGICAL EQUIPMENT, MILITARY HOSPITAL, MERCURY COMPOUND, CHLORIDE, STERILIZATION, BACTERICIDE, BACILLUS ANTHRACIS, BACILLUS SUBTILIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0694 STEP NO--UR/0177/70/000/003/0077/0078

CIRC ACCESSION NO--AP0134433

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134433

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHODS OF STERILIZATION OF SURGICAL GLOVES NOW USED IN MEDICAL INSTITUTIONS OF THE ARMY AND NAVY (AUTOCLAVING, BOILING, AND WETTING IN MERCURIC CHLORIDE SOLUTION, ETC) HAVE SUBSTANTIAL SHORTCOMINGS. THIS LED US TO SEEK OTHER, MORE EFFECTIVE METHODS OF STERILIZATION. IN THE COURSE OF 1967-1968 WE CONDUCTED INVESTIGATIONS TO DETERMINE THE POSSIBILITY OF USING FRO THE STERILIZATION OF SURGICAL GLOVES CERTAIN HYDROPEROXIDE PRESCRIPTIONS BASED ON ALKALIZING OR ACYLATING AGENTS. STUDY OF THE MICROBICIDAL AND DISINFECTING ACTION OF PRESCRIPTIONS CONTAINING HYDROGEN PEROXIDE AND ONE OF THE ACYLATING AGENTS (ACETIC ANHYDRIDE, MONOCHLOROACETIC, FORMIC, BENZOIC, ACETIC, PROPIONIC AND OTHER ACIDS) SHOWED THAT IN ITS COMPLEX OF PROPERTIES THE MOST RATIONAL IS A SYSTEM CONTAINING 30PERCENT PERHYDROL AND FORMIC ACID SOLUTION, CALLED PREPARATION 2-4 BY US. THE PERFORMIC ACID FORMING AS A RESULT OF THE REACTION OF THOSE COMPONENTS HAS A LETHAL EFFECT ON MICROBES. SOLUTIONS OF PREPARATION S-4 (2.4-4.8PERCENT) HAVE A BROAD SPECTRUM OF BACTERICIDAL ACTION AND ASSURE THE DEATH OF SPORES OF BAC. ANTHRACIS, BAC. ANTHRACOIDES AND BAC. SUBTILIS IN THE FIRST FIVE OR TEN MINUTES.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 016 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--TOXICOLOGICAL TRIALS OF A NEW INSECT REPELLENT HEXAMETHYLENE BUTANSULFAMINDE -U-

AUTHOR-(04)-KAZHDAN, V.B., KULESHOV, V.I., POZHARISSKAYA, T.D., SAVINSKIY, YA.R.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLENZI, 1970, VOL 39, NR 2, PP 220-224

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECT REPELLENT, TOXICOLOGY, METHYLENE, BUTANE, AMIDE, WHITE MOUSE, ORGANIC SULFUR COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1434 STEP NO--UR/0358/70/039/002/0220/0224

CIRC ACCESSION NO--AP0109494

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

UNCLASSIFIED PROCESSING DATE--09OCT70

2/2 016

CIRC ACCESSION NO--AP0109494

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A RESULT OF TOXICOLOGICAL INVESTIGATION OF A NEW INSECT REPELLENT, HEXAMETHYLENEBUTANSULFAMIDE (HMBS), THE AUTHORS ESTABLISHED THAT THIS DRUG HAD LOW TOXICITY FOR WARM BLOODED ANIMALS. ITS LD SUB50 FOR WHITE MICE WAS 7560 MG-KG IN EPICUTANEOUS APPLICATION, 519 MG-KG, BY THE INTRAPERITONEAL ROUTE AND 5400-6480 MG-KG, BY INTRODUCTION INTO THE STOMACH. MULTIPLE (25 TIMES) DAILY APPLICATION OF HMBS TO THE SKIN OF RABBITS IN A DOSE OF 1 G-KG (DENSITY OF 1 ML-100 CM PRIME2) PRODUCED IN THE ANIMALS NO PATHOLOGICAL MANIFESTATIONS OF GENERAL CHARACTER. TOPICALLY UNDER THESE CONDITIONS, FOCAL INFLAMMATORY SIGNS DEVELOPED IN SUPERFICIAL LAYERS OF THE SKIN. IN SIMILAR APPLICATIONS OF THE DRUG IN A DOSE OF 0.4 ML-100 CM PRIME2 THE RABBITS DEVELOPED ONLY MILD HYPEREMIA OF THE SKIN AFTER 2-4 APPLICATIONS, BUT IT DISAPPEARED IN A FEW DAYS DESPITE FURTHER APPLICATION OF THE REPELLENT. DAILY 25 TIME APPLICATION OF HMBS TO THE HUMAN SKIN IN A DOSE OF 0.4 ML-100 CM PRIME2 WHICH EXCEEDED 2 FOLD THE DOSE RECOMMENDED FOR PRACTICAL PURPOSES PRODUCED NO LOCAL CHANGES.

FACILITY: VOYENNO-MEDITSINSKAYA AKADEMIYA IM. S. M. KIROVA, LENINGRAD.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

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USSR UDC 615.285.7:547.551.525.211.17.099

KAZHDAN, V. D., KUZNETSOV, V. I., POZHARISSKAYA, T. D., and SAVINSKIY, YA. R., Military-Medical Academy imeni S. M. Kirov

"Toxicological Studies of the New Insect Repellent Hexamethylene-butanesulfamide"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2, 1970, pp 220-224

Abstract: The recently developed repellent hexamethylenebutane-sulfamide (HMBS) - $C_4H_9SO_2N(CH_2)_6$ - was as active as diethyl tol-uamide and equally effective against fleas, ixodid ticks, mosquitos, gnats, midges, and horseflies. Tests on mice, rabbits, and human beings showed that it has low toxicity. The LD_{50} for white mice was 7360 mg/kg when applied to the skin, 5400-6480 mg/kg when injected into the stomach, and 519 mg/kg when injected intraperitoneally. Twenty-five daily cutaneous applications of HMBS in a dose of 1 g/kg 1 ml per 100 cm^2 produced in rabbits local inflammation in the sur-face layers, but no systemic pathological reactions. Daily topical applications of smaller doses (0.2-0.4/100 cm^2) caused only mild hyperemia and edema of the skin after 2-4 applications, but after 9 or 10 days the symptoms began to disappear and a crust formed

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

KAZHDAN, V. B., et al., Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2, 1970, pp 220-224

which was eventually sloughed off. Similar applications of HMBS to human skin (0.4 ml/100 cm^2 for 25 days) failed to produce disagreeable subjective sensations (itching, burning, etc.) or any pathological changes (dryness, scaling, hyperemia, or pigmentation).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 021 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--COMPLEXING OF SUBSTITUTED PHENOLS AND THEIR ETHERS WITH AROMATIC AMINO SULFIDE COMPOUNDS -U-

AUTHOR--(02)-KRULIKOVSKAYA, YE.A., SAVINTSEVA, S.A.

COUNTRY OF INFO--USSR

SOURCE--AH. OBSHCH. KHIM. 1970, 40(2), 363-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC COMPLEX COMPOUND, PHENOL, ETHER, SULFIDE, UV SPECTRUM, IR SPECTRUM, AMINE, SULFUR OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1568 STEP NO--UR/0079/70/040/002/0363/0367

CIRC ACCESSION NO--AP0112562

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 021

CIRC ACCESSION NO--AP0112562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UV SPECTRA (CURVES SHOWN) WERE REPORTED FOR 2,6,DIBROMO,4,NITROPHENOL (I) AND THE CORRESPONDING ANISOLE AND THEIR SYSTEMS WITH (P-H SUB2 NC SUB6 H SUB4) SUB2 S, (P-H SUB2 NC SUB6 H SUB4 CH SUB2) SUB2 S, (P-ME SUB2 NC SUB6 H SUB4) SUB2 S, H SUB2 NC SUB6 H SUB4 SME, H SUB2 NCH SUB2 CH SUB2 SC SUB6 H SUB4 ME, P-H SUB2 NC SUB6 H SUB4 SPH, AND THE CORRESPONDING SULFOXIDES. THE COMPLES FORMATION OF I WITH THESE SULFIDES WAS SHOWN BY IR AND UV SPECTRA TO BE OCCURRING VIA THE PHENOLIC OH GROUP AND FORMATION OF AN AMMONIUM BAND OF ABSORPTION. THE SULFOXIDES IN FORMING COMPLEXES WITH I AND ITS ANALOGS REDUCED THE DEGREE OF THE NORMAL DISSOCN. OF THE SUBSTITUTED PHENOLS AND SHOWED NO PRESENCE OF AMMONIUM BANDS IN THE UV SPECTRUM. HOWEVER, I AND ITS ME ETHER GAVE COMPLEXES WITH AMINO SULFOXIDES AS THE SO BAND WAS SHIFTED TOWARD LONGER WAVELENGTHS.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Acc. Nr: AP0047320

PRIMARY SOURCE: Vestnik Dermatologii i Venerologii, 1970, Nr 1, pp 46-50

Ref. Code: UR0206

ON PATHOGENESIS OF PITYRIASIS VERSICOLOR

N. M. Savinykh

Summary

Examination of scales from foci of lesions in pityriasis versicolor revealed an increased content of phospholipids and, in particular, of lecithin in them. In 81 out of 100 patients the content of lecithin was 5—8-fold higher than normal. Histochemical studies confirmed these observations. Particularly intensive staining of phospholipids was observed in sections of the horny layer of the epidermis, hair follicles, sebaceous and sweat glands.

The fungus causes a marked reaction in the form of hyper- and parakeratosis in the horny layer, the first type of serous inflammation in the stratum spinosum and foci of perivascular infiltration in the derma. Mycelium and spores of the fungus could be found not only in the ostium of follicles but sometimes very deep. This may explain poor accessibility of the fungus for therapy.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR UDC: 621.391.825(088.8)

ZUYEV, V. N., IOSHCHENKO, A. N., KVASHNIN, Ye. F., SAVINYKH, V. L.

"A Reception Device for Orthogonal Wide-Band Radio Signals"

USSR Author's Certificate No 262940, filed 5 May 68, published 3 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D56 P)

Translation: The device introduced by this patent provides coherent reception of orthogonal wide-band signals by the method of synchronous heterodyning. Signals are fed from the output of channel multipliers to the signal inputs of the corresponding coherent channel detectors. A common sinusoidal reference voltage from the outputs of the channel multipliers is fed to the second input of the coherent channel detectors through an adder, narrow-band filter and phase shifter. The device is designed for radio telegraph communications systems with an active pause. N. S.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 031 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--A DEVICE FOR RECEPTION OF ORTHOGONAL BROAD BAND RADIO SIGNALS -U-

AUTHOR-(04)-ZUYEV, V.A., IOSHCHENKO, A.N., KVASHNIN, YE.F., SAVINYKH, V.L.

COUNTRY OF INFO--USSR

SOURCE--PATENT NO 262940

REFERENCE--MOSCOW, OTKRYTIYA, IZOBRET. PROM. OBRAZTSY, TOVARNYE ZNAKI NO

DATE PUBLISHED--04FEB70

SUBJECT AREAS--NAVIGATION, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--BROADBAND COMMUNICATION, ORTHGONAL FUNCTION, SIGNAL RECEPTION, ELECTRONIC CIRCUIT, COMMUNICATION CHANNEL, SIGNAL DETECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1100 STEP NO--UR/0432/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112222

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 031 UNCLASSIFIED

CIRC ACCESSION NO--AA0112222 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A DEVICE FOR RECEPTION OF ORTHOGONAL BROAD BAND RADIO SIGNALS. THE UNIT CONTAINS CHANNEL MULTIPLIERS, NOISE GENERATORS, INTEGRATORS AND A COINCIDENCE CIRCUIT. IT DIFFERS BECAUSE TO PROVIDE FOR COHERENT RECEPTION OF WIDE BAND SIGNALS, THE SIGNAL FROM THE OUTPUT OF THE CHANNEL MULTIPLIERS IS FED TO THE SIGNAL INPUTS OF THE CORRESPONDING COHERENT CHANNEL DETECTORS, WHILE A COMMON SINUSOIDAL REFERENCE VOLTAGE FROM THE OUTPUTS OF THE CHANNEL MULTIPLIERS IS SIMULTANEOUSLY APPLIED ACROSS THE SECOND INPUT OF THE COHERENT DETECTORS THROUGH A SUMMING CIRCUIT, NARROW BAND FILTER AND PHASE INVERTER.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

S UDC 621.391.825

ZUYEV, V. N., IOSHCHENKO, A. N., KVASHNIN, Ye. F., SAVINYKH, V. L.

"A Device for Reception of Orthogonal Broad-Band Radio Signals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, 4 Feb 70, p 36, Patent No 262940, Filed 5 May 68

Translation: This Author's Certificate introduces a device for reception of orthogonal broad-band radio signals. The unit contains channel multipliers, noise generators, integrators and a coincidence circuit. It differs because to provide for coherent reception of wide-band signals, the signal from the output of the channel multipliers is fed to the signal inputs of the corresponding coherent channel detectors, while a common sinusoidal reference voltage from the outputs of the channel multipliers is simultaneously applied across the second input of the coherent detectors through a summing circuit, narrow-band filter and phase inverter.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Acc. Nr. AP0048801 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code UR0080

90947c **Ir-spectroscopic studies of a vinyl alcohol-N-vinylpyrrolidinone copolymer.** Savitskaya, A. N.; Klimenko, I. B.; Efremova, T. B.; Vol'f, L. A.; Meos, A. I. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 213-14 (Russ). A study of the ir spectra of poly(vinyl alc.), poly(N-vinylpyrrolidinone), and the title copolymer (I) indicated that some lactam rings are opened during synthesis of I. Thus, an intense band at 1570 cm^{-1} in the spectrum of I was assigned to RCO_2^-, arising via cleavage of the lactam rings. This assignment was confirmed by potentiometric titrn.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

172 046

UNCLASSIFIED

TITLE--POSSIBILITY OF STUDYING POLYMER STRENGTH BY MEANS OF POLARIZATION INFRARED SPECTROSCOPY -U-

PROCESSING DATE--27NOV70

AUTHOR-(04)-SAVITSKAYA, A.N., KLIMENKO, I.B., VOLF, L.A., ANDROSOV, V.F.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 790-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--TENSILE STRENGTH, PLASTIC FILM, ACTIVATION ENERGY, OPTIC PROPERTY, POLYVINYL ALCOHOL, PYRROLIDINE, KETONE, COPOLYMER, CHEMICAL DECOMPOSITION, PLASTIC DEGRADATION, IR SPECTRUM, SPECTROSCOPIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1255

STEP NO--UR/0459/70/012/004/0790/0793

CIRC ACCESSION NO--AP0134929

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 046 UNCLASSIFIED

CIRC ACCESSION NO--AP0134929 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DICHROISM OF THE BAND AT 916 CM PRIME NEGATIVE1 PLOTTED VS. ORIENTED DRAWING FOR POLYMER FILMS INDICATED THAT POLY(VINYL ALC.) (I) AND I POLY(VINYLPYRROLIDINONE) MIXTS. HAD A SIMILAR DICHORISM, WHEREAS VINYL ALC. N VINYL PYRROLIDINONE COPOLYMER (II) HAD A SLIGHTLY LOWER VALUE. THE ACTIVATION ENERGY OF DEGRADATION WAS ESSENTIALLY THE SAME FOR THE 3 POLYMERS, WHILE THE STRUCTURE SENSITIVE COEFF. OF II WAS MARKEDLY HIGHER THAN THAT OF I. THE TENSILE STRENGTH OF THE POLYMERS CAN BE QUAL. EVALUATED FROM THE DICHROISM OF THE CORRESPONDING BANDS. FACILITY: LENINGRAD. INST. TEKST. LEGKOI PROM. IM. KIROVA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--INHIBITION OF THE DISSOLUTION OF STEEL AND ZINC IN NITRIC ACID -U-

AUTHOR-(02)-PETROV, L.N., SAVITSKAYA, O.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 113-114

DATE PUBLISHED-------70

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

TOPIC TAGS--ACID CORROSION, CORROSION RATE, CARBON STEEL, ZINC, NITRIC ACID, CORROSION INHIBITOR, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1683 STEP NO--UR/0369/70/006/001/0113/0114

CIRC ACCESSION NO--AP0129053

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

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CIRC ACCESSION NO--AP0129053 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF A NUMBER OF OLD AND SOME NEW CORROSION INHIBITORS ON THE RATE OF DISSOLUTION OF C STEEL AND ZN IN HNO SUB3 WERE STUDIED. DESPITE THE FACT THAT THESE INHIBITORS (E.G., CATAPINE K) WERE VERY EFFECTIVE IN PREVENTING CORROSION IN HCL AND H SUB2 SO SUB4, THEIR INHIBITING EFFECT IN HNO SUB3 WAS PRACTICALLY NIL IN THE CASE OF STEEL. THIS WAS ATTRIBUTED TO THE POOR ADSORPTION CHARACTERISTICS IN THIS ACID. THE INHIBITORS WERE MORE EFFECTIVE IN THE CASE OF ZN.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

JPRS 59208
6-73

SAVITSKAYA, YA. S.

II-11. RELATION OF THE VOLUMETRIC AND SURFACE SUPERSATURATIONS DURING CRYSTALLIZATION OF CADMIUM OXIDE FROM A VAPOR-GAS PHASE

[Article by G. A. Ivanov, Ye. S. Savitskaya, Moscow; Novosibirsk, III Simposium po Protsessam Rosta i Sintezu Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 21]

A study was made of the problem of determining the values of the volumetric and surface supersaturations and the relations between them under different experimental conditions of growth of single cadmium oxide crystals from the vapor-gas phase in a flow system as a result of the reaction of cadmium vapor with oxygen.

For all the crystallization conditions, the magnitude of the volumetric supersaturation was calculated in accordance with [1] as the ratio of the product of the given partial pressures of the components [Cd and O_2] and their equilibrium values at the crystallization temperature.

The magnitude of the surface supersaturation was calculated by the experimental data on the crystal growth rates and evaporation of the cadmium oxide under kinetic conditions.

BIBLIOGRAPHY

1. F. A. Kuznetsov, Yu. G. Sidorov, I. Ye. Maranchuk, FTT [Solid State Physics], No 5, 2981, 1964.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

UDC 669.27-14:620.183

SAVITSKIY, Ye. M., POVAROVA, K. B., MAKAROV, P. V., and UGASTE, Yu. E., Moscow

"Metallography of Cast Tungsten"

Moscow, Akademiya Nauk SSSR. Izvestiya. Metally, No 6, Nov-Dec 72, pp 177-185

Abstract: The structure of cast tungsten is determined by the presence of introduced and displaced impurities and also by the rate of quenching during crystallization. The introduced impurities, of which carbon is the principal one, belong to the group of nonmetallic impurities of the carbide, oxide, and complex types. The morphology and distribution of the impurities depends on the rate of metal quenching during crystallization. The nonmetallic impurities and, to some degree, carbides, distributed along the grain boundaries, initiate the origin of cracks at the boundary. The general nature of fracture of cast tungsten is combined with the prevalence of transcrystallite spalling. Alloying and increased rate of quenching during crystallization affect the fine structure of tungsten while contributing to the formation of a most distinctly expressed polygonal structure, i.e., increased density of dislocations in metal and particularly the share of screw dislocations,

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

SAVITSKIY, Ye. M., et al., Akademiya Nauk SSSR. Izvestiya. Metally, No 6, Nov-Dec 72, pp 177-185

a fact which in turn expands the work in propagating cracks during spalling while increasing the resistance of material to spalling failure. The authors are grateful to associates of the Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences of the USSR D. V. IGNATOV, M. M. KANTOR, and N. N. BOKAREVA for conducting electron microscopic investigations and to YE. V. KUNENKOVA, L. I. KRADINA, M. V. NIKITINA and V. T. BURTSEV for conducting the chemical analysis of alloys.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

UDC: 669.293.5

SAVITSKIY, Ye. M., IVANOVA, K. N.

"Study of the Phase Structure of Niobium-Based Alloys in the System Niobium-Tungsten-Zirconium-Carbon"

Moscow, Atomnaya Energiya, Vol 34, No 2, Feb 73, pp 89-92.

Abstract: This work studies the phase structure of alloys in the system niobium-tungsten-zirconium-carbon, rich in niobium and containing up to 4 at. % zirconium and 2 at. % carbon with a constant content of 10 at. % (18 wt. %) tungsten. The solubility of carbon in the niobium-based alloys is determined at 1800° C, one of the most probable temperatures of hardening heat treatment of these alloys with dispersion hardening.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

UDC 537.533.35

IVANOVA, K. N., PALETOV, A. M., SAVITSKIY, YE. M., and IGNATOV, D. V.

"Nature and Distribution Characteristics of Carbide Phases in Aged Niobium Alloys as Revealed by Electron Microscopy"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 106-111

Abstract: Aging of RN-6S alloy (5% W, 5% Mo, 1% Zr, and 0.1% wt% C) at 1000°C for 5 hours produced mainly Nb_2C with an hexagonal crystal lattice and zirconium carbide which upon closer examination under the electron microscope appeared as (Zr,Nb)C with a face-centered cubic lattice. When aging at 1000°C was increased to 25 hours, more (Zr,Nb)C phase was formed as laminar inclusions with a well defined orientation in the matrix and to some extent along the grain boundaries. Aging at 1100°C for 25 hours produced more oriented inclusions of the (Ar,Nb)C phase while the large particles of the Nb_2C phase remained along the grain boundaries. When aging at 1100°C was extended to 50 hours, Nb_2C inclusions disappeared almost completely from the grain boundaries while the (Zc,Nb)C phase coagulated along the grain volume and its dispersed inclusions coagulated along the grain boundaries. A further coagulation of the (Zr,Nb)C phase and its nonuniform distribution was observed in the same alloy aged at 1100°C for 100 hours. Only an insignificant amount of the Nb_2C

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USSR

IVANOVA, K. N., et al, Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 106-111

phase was left in this case. The observed structural changes in the RN-6S alloy produced by aging resulted in changes of the mechanical properties at room temperatures. The appearance of the (Zr,Nb)C phase increased the alloy strength and the yield point, while coagulation of this phase decreased these properties. Formation of inclusions along grain boundaries free from carbides after aging at 1100°C for 25 hours decreased somewhat the plasticity of the alloy compared with the hardened state. Lead quenching of the RN-6S alloy from 2000°C after 3 hour exposure at this temperature showed that the Nb_2C phase is much more stable at 1700°C, while the (Zr,Nb)C phase is more stable at 1000-1100°C.

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Ion Exchange

USSR

UDC 541.183

BULYCHEYEVA, M. S., NYS, P. S., and SAVITSKAYA, Ye. M., All-Union Scientific-Research Institute of Antibiotics, Moscow

"A Method of Computing the Sorption of an Ampholyte With Allowance for a Noneexchange Electrolyte"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLIV, No 12, Dec 70, pp 3099-3101

Abstract: The authors determined the quantitative sorption of an ampholyte by nonexchange SE-50, as it takes place by several different mechanisms, using DL-α-aminophenylacetic acid as the sorbate.

The ion-exchange phase of the SE-50 was found to be quasi-homogeneous, as confirmed by the invariability of the ionization constants of the ampholyte within the ionite (calculated for several different conditions). The cations of the ampholyte within the SE-50 were indistinguishable because of ion-exchange and nonexchange absorption. Graphs and tables of experimental and theoretical data are given in the paper.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Acc. Nr: AT0047568 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0139

92773s Effect of the concentration of impurities on cadmium density variations during thermocyclic treatment. Savitskii, A. P.; Egorov, I. I.; Savitskii, K. V. (Sib. Fiz.-Tekh. Inst. im. Kuzentsova, Tomsk, USSR). Izv. Vyssh. Uchebn. Zaved., Fiz. 1970, 13(1), 79-84 (Russ). The effects of Bi, Pb, Zn, In, and Hg additives were studied exptl. The sol. eutectic additives, as well as the slightly sol. additions, can decrease the d. of Cd if the upper temp. limit of the thermocyclic treatment falls within the region of solid-liq. state of the system. If significant soly. in the solid phase is exhibited by the eutectic additive, bands along the grain boundaries of Cd appear during the thermocyclic treatment.

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REEL/FRAME
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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Epidemiology

USSR

UDC 595.42:616.988.25(571.6)

SAVITSKIY, B. P., Chair of Biology, Komsomol'sk na Amure Pedagogical Institute

"The Types of Foci of Tickborne Encephalitis in Khabarovskiy Kray"

Moscow, Biologicheskiye Nauki, Vol 13, No 7, 1970, pp 26-30

Abstract: In addition to the taiga foci of tickborne encephalitis in Khabarovskiy Kray, there are now additional foci which are manmade. Lumbering operation in forests opened large areas which have become overgrown with weeds and brush. These areas harbor small animals and birds which are hosts for Ixodes nymphs. Animals grazing on pastures made by clearing forests are attacked by the imago and are hosts for the larvae. There are 83 types of Ixodes hosts on uncleared land, as compared to 110 on cleared land. In the late forties, 91% of those infected with encephalitis were workers in the taiga. From 1965 to 1967, 56% of those infected frequented the taiga occasionally going there for flowers, mushrooms, etc. City dwellers constituted 28% of the total number of infections. As a result of this survey, prophylactic vaccination of children 5-7 years old, housewives, and others who may come in contact with ticks in the Khabarovskiy Kray is recommended.

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USSR

SAVITSKY, B. P.

UDC 911.3.616.988.25(571.62)

"Winter Fauna of Gamasid Ticks of Murine Rodents in Tickborne Encephalitis Foci of Khabarovskiy Kray"

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 116-118 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.61)

[No abstract]

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

LUPINSKIY, M. M., SAVITSKIY, F. S., and GAYUN, V. V. UDC 531.768

"Threshold Elastic-Contact Accelerometers"

Moscow, Vibratzion. tekhnika (Vibration Engineering) 1972, pp 98-101 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.407)

Translation: For determining only the peak value of acceleration, type-UKA accelerometers were developed, whose action is an elastic-contact method of acceleration measurement. The basic design elements of the elastic-contact accelerometer are elastic inertial bodies with spherical faces and flat, elastic bases. Both elements are prepared from high-grade steel with a yield point of $1.5-1.7 \times 10^9$ newtons/m^2 and tempered to a hardness of NRS 62-65. The smoothness of the contact surfaces most be lower than 10, and the accuracy of preparation of spheres and planes not less than 2-5 newton rings. The UKA design ensures the measurement of the vectors of acceleration and their three components. UKA is suitable for measuring peak values of acceleration from 10^4 to 10^6m/sec^2 for a process duration of 2×10^{-4} sec and greater. (1 illustration, 5 bibliographic entries)

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SAVITSKIY, G. A.

"Role of Allied Disciplines in Antenna Design"

Moscow, Elektrosvyaz', No. 4, 1971, pp 31-36

Abstract: Since antenna installations are quite expensive, it behooves their designers to inform themselves of the other factors, apart from electronic, that may be involved in selecting a site or mode of operation for a required array. Some of these factors are applied climatology, aerodynamics, aerodynamic stability, and the theory of oscillations. In developing this theme, the author discusses the first three of these factors in some detail, and devotes the bulk of his article to antenna reliability. Comparison of different possible variants for antenna installations must take into account not only the cost of construction but the cost of maintenance as well, for a technical study without a reliable cost estimate is pointless. Analysis of damage sustained by antennas has shown that there are three characteristic destructive periods: the time of the construction, three to five years after commencement of operation -- especially during the winter, and much more rarely, over longer periods. Extensive use of the electronic computer for estimating the effects of aerodynamic and climatic factors in antenna design is recommended.

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USSR

UDC 616.057-099-06:612.58

SAVITSKIY, I. V., Docent, Chair of Labor Hygiene, Kiev Medical Institute

"Significance of the Temperature Factor in Intoxications Induced by Occupational Poisons of the Heavy Metal Group"

Kiev, Vrachebnoye Delo, Vol 53, No 3, pp 138-142

Abstract: Past observations established a definite connection between the frequency with which intoxications with some heavy metals occur and the temperature factor. Experiments were conducted to determine the combined effect of temperature and such metals as lead, mercury, cobalt, cadmium, tin, zinc, and copper on the organism. White mice, white rats, rabbits, and guinea pigs were used. Intoxications were induced by subjecting the animals to the action of different concentrations and doses of the metals administered internally, parenterally, or by inhalation at atmospheric temperatures of 25 to 52°C. The experiments established that intoxications with the heavy metals administered at atmospheric temperatures within the range of 29 to 52°C are considerably intensified. Temperatures below the 28-29°C have no noticeable effect on the course of intoxication induced by the metals, with the 28°C temperatures on occasion acting even protectively in cases of intoxications by thiol toxic substances. Recommendations include further studies of the pathogenic effect of combinations of temperature and metals on the organism, prophylactic

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

SAVITSKIY, I. V., Vrachebnoye Delo, Vol 53, No 3, pp 138-142

measures based on the results of there studies, and frequent periodic medical examinations of personnel working with heavy metals, at least twice a year at the end of summer and winter.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

UDC 620.183.48

USSR

ITIN, V. I., KOZLOV, Yu. I., PUGINA, L. I., YURCHENKO, A. G., SAVITSKIY, K. V. (Deceased), and FEDORCHENKO, I. M., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Study of the Sintering, Structure and Phase Composition of Nickel Alloy-Base Metal-Graphite Materials. Report 1. Study of the Sintering Process of Nickel-Base Materials and Both the Structure and Phase Composition of Nickel-Copper-Graphite Alloys"

Kiev, Poroshkovaya metallurgiya, No 10, Oct 71, pp 26-31

Abstract: The study concerns the process of sintering as well as phase and structural changes occurring during sintering in Ni alloy-base metal-graphite materials. The experimental materials comprised 80% Ni and 20% Fe or 20% Cu with 30 and 50% (by vol.) graphite. The addition of graphite to Ni-Cu and Ni-Fe alloys markedly reduces both the amount of shrinkage and its rates during sintering. With 50% graphite the compression gives way to volumetric growth. Cu additions result in greater volumetric growth than Fe additions. The major cause of volumetric growth is believed to be the formation of inclusions isolated between particle surfaces, interaction with oxides to form gases, and desorption gases from the graphite resulting in a breakdown

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ITIN, V. I., et al., Poroshkovaya metallurgiya, No 10, Oct 71, pp 26-31

of contacts. Graphite additions cause the separation of Cu and Ni particles and reduce the alloy's homogeneity. In Cu-Ni alloy-base metal-graphite materials, graphite becomes an inert addition and spreads over the structure in the form of a separate inclusion in the metal matrix -- the solid solution of Cu in Ni. (5 illustrations, 5 bibliographic references)

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Acc. Nr: AT0047568 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0139

92773s Effect of the concentration of impurities on cadmium density variations during thermocyclic treatment. Sivitskii, A. P.; Egorov, I. I.; Savitskii, K. V. (Sib. Fiz.-Tekh. Inst. im. Kuzentsova, Tomsk, USSR). Izv. Vyssh. Uchebn. Zaved., Fiz. 1970, 13(1), 79-84 (Russ). The effects of Bi, Pb, Zn, In, and Hg additives were studied exptl. The sol. eutectic additives, as well as the slightly sol. additions, can decrease the d. of Cd if the upper temp. limit of the thermocyclic treatment falls within the region of solid-liq. state of the system. If significant soly. in the solid phase is exhibited by the eutectic additive, bands along the grain boundaries of Cd appear during the thermocyclic treatment.

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172 018

UNCLASSIFIED

TITLE--A DEVICE FOR DIFFERENTIATING -U-

PROCESSING DATE--27NOV70

AUTHOR-(03)-YEMELYANOV, S.S., KREYNDLIN, I.I., SAVITSKIY, L.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. PATENT NO 264006

REFERENCE--OTKRYTIYA, IZOBRET., PROM, OBRAZTSY, TOVARNYE ZNAKI, NO 8,

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PATENT, PULSE SHAPER, ELECTRIC FILTER, DIFFERENTIATING CIRCUIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1782

STEP NO--UR/0432/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130615

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AA0130615 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A DEVICE FOR DIFFERENTIATING WHICH CONTAINS A PULSE SHAPER, FILTERS AND A DIFFERENCE UNIT. AS A DISTINGUISHING FEATURE OF THE PATENT, THE DEVICE IS SIMPLIFIED BY CONNECTING THE OUTPUT OF THE INPUT PULSE SHAPER TO THE INPUTS OF TWOFILTERS WITH DIFFERENT FILTRATION TIME CONSTANTS, WHILE THE FILTER OUTPUTS ARE CONNECTED TO THE INPUTS OF THE DIFFERENCE UNIT, THE OUTPUT OF THIS UNIT BEING THE OUTPUT OF THE DEVICE AS A WHOLE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR S UDC 681.335.7

YEMEL'YANOV, S. S., KREYNDLIN, I. I., and SAVITSKIY, I. G.

"A Device for Differentiating"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Braztsy, Tovarnyye Znaki, No 8, 1970, p 121, patent No 264006, filed 2 Sep 68

Abstract: This Author's Certificate introduces a device for differentiating which contains a pulse shaper, filters and a difference unit. As a distinguishing feature of the patent, the device is simplified by connecting the output of the input pulse shaper to the inputs of two filters with different filtration time constants, while the filter outputs are connected to the inputs of the difference unit, the output of this unit being the output of the device as a whole.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR UDC 621.762.001

ABARBANEL', Z. I., SAVITSKIY, S. Ye., URODOV, V. I., and SADOVNIKOV, YE G.

"Determination of the Spectrum of Particles of Fine Polydispersed Systems"

Tr. Vitebsk. tekhnol. in-ta legk. prom-sti [Works of the Vitebsk Technological Institute for Light Industry], 1, 1970, pp. 80-82, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1G427 by V. KVIN).

Translation: A method and device have been developed for centrifugal photosedimentation analysis of polydispersed materials. A pure sedimentation liquid (SL) is placed in a cuvette, and a samll quantity of another liquid with lower density is added, forming a thin buffer (starter) layer on the surface of the SL. When the suspension to be studied is introduced, the starter layer facilitates better dispersion of the particles on the surface of the SL and stabilizes the initial conditions of particle motion. The optimal analysis conditions, depending on the density and degree of dispersion of the material being studied, are achieved by proper selection of the SL, the dispersing liquid, and the rotating speed of the cuvette. 4 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

UDC 612:797.22

OSTASHKOV, K. V., LARIN, V. V., SOKOLOV'S'KIY, V. S., SAVITS'KIY, V. A., and BYUTNER, S. I., Odessa Medical Institute

"Thermography of Aqualungers and Some Indexes of Metabolic Processes Under Different Diving Conditions"

Kiev, Fiziologicheskiy Zhurnal, No 5, 1972, pp 614-620

Abstract: Thermography of 10 aqualungers age 20 to 24 showed that diving brings about a variety of metabolic changes, the degree varying with the water temperature and pressure, type of outfit worn, respirator, and intensity of the work done. The extent of chilling of the body increases with decreasing temperature and increasing depth of submersion. The heat loss diminishes if the diving is done in a suit of the wet or dry type, if electrical heating is provided, and the aqualunger does physical work. The amount of air and oxygen consumed depends on the water temperature and type of suit. Breathing oxygen results in a greater heat loss, slower respiratory and pulse rates, and higher arterial pressure than does breathing compressed air. The hypothermia caused by submersion shows the signs of a stress reaction: some blood clotting, leukocytosis, and inhibition of serum hydrolase activity.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

UDC 621.431.74.068:621.348

SAVITSKIY, T. A.

"Heating of Marine Hydrodynamic Couplings When Running Idle"

Leningrad, Sudostroyeniye, No 3, Mar 73, pp 38-40

Abstract: A method is presented for determining the degree of heating of marine hydrodynamic couplings during idling operation, and recommendations are given for the prevention of overheating. If the operating conditions are such that the hydrodynamic coupling must run idle for long periods, for single-chamber hydrodynamic couplings with a revolving external rotor the coefficient $k = SK_N D_a^{2.4} n_1^{2.2}$ should not exceed $1.55 \cdot 10^8$, and for two-chamber ones it should not exceed $2 \cdot 10^8$. In cases where the coefficient k nevertheless approaches the indicated values or exceeds them, a special experiment must be conducted to determine the efficiency of the hydrodynamic coupling. 4 figures. 1 table. 4 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE HISTOPATHOLOGY OF NEUROFIBROMATOSIS OF THE MAXILLOFACIAL REGION -U-

AUTHOR-(02)-PANIKAROVSKIY, V.V., SAVITSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 39-43

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, SURGERY, JAW, HISTOLOGY, MICROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0083 STEP NO--UR/0511/70/049/003/0039/0043

CIRC ACCESSION NO--AP0120783

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

2/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120783

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. TUMORS REMOVED FROM 31 PATIENTS SUFFERING FROM NEUROFIBROMATOSIS OF THE MAXILLOFACIAL REGION WERE STUDIED HYSTOLOGICALLY. THE PAPER DESCRIBES THE GENERAL NEUROFIBROMATOUS LESIONS, DETAILS OF THE STRUCTURE OF NEUROFIBROMA, THE STATE OF NERVE PATHWAYS THEREIN, INTERRELATION BETWEEN NEOPLASTIC ELEMENTS AND ADJACENT TISSUES. MICROSCOPIC MORPHOLOGICAL FEATURES PECULIAR TO THE TUMOR HAVE A DEFINITE INFLUENCE ON THE CLINICAL MANIFESTATIONS OF THE PROCESS AND SHOULD BE TAKEN INTO CONSIDERATION IN THE CHOICE OF RATIONAL METHODS OF TREATMENT, SUBSTANTIATION OF THE VOLUME AND CHARACTER OF THE OPERATIVE INTERVENTION, EVALUATION OF ITS RESULTS AND PROGNOSIS OF THE DISEASE. FACILITY: PATOMORFOLOGICHESKAYA LABORATORIYA TSENTRAL'NOGO N-I INSTITUTA STOMATOLOGII AND KAFEDRA KHIRURGICHESK STOMATOLOGII I VOSSTANOVITES'NOY KHIRURGII LITSA TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY.

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USSR

BILEN'KIY, B. F. et al, Tonkiye plenki soyedineniy tellura s metallami podgrupp tsinka i galliya, 1970, pp 192-196

component. It is assumed that the fundamental absorption spectra in the case of complex systems of the type investigated can be used for controlling the composition of corresponding films.

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USSR UDC [537.226 + 537.311.33] : [537 + 535]

BILEN'KIY, B. F., GERASIMCHUK, R. V., PASHKOVSKIY, M. V., SAVITSKIY, V. G., FILATOVA, A. K.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

"Structure and Optical Characteristics of Thin HgTe-CdTe Film Systems"

Vil'nyus, V sb. Tonkiye plenki soyedineniy tellura s metallami podgrupp tsinka i galliya (Thin Films of Tellurium Compounds With Metals of the Zinc and Gallium Subgroup -- collection of works), 1970, pp 192-196 (from RZh-Fizika, No 11, 1971, Abstract No 11E1165)

Translation: Optical transmission spectra (OTS) of thin (0.03-0.5 μ) Cd and Hg telluride films as well as of their solid solutions are investigated. The films were obtained by the method of discrete vaporization of $Hg_xCd_{1-x}Te$ monocrystals (x = 0, 0.75, 0.80, 0.85, 0.90, 1.0). The OTS detected bands E_2 (5.40 ev) and $E_1 + \Delta_1$ (4.05 ev) in CdTe films. OTS of HgTe films and solid HgTe-CdTe solutions have a clear absorption band $E_2 + S$, whose position does not change with an increase in content of the second

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USSR

LEBEDEV, B. D. et al., Mat. metody resheniya ekon. zadach, No 3, "Nauka", 1972, pp 201-208

guishing a number of classes of models for which the problem of freight transfer according to a time schedule reduces to a transport problem of linear programming. Also given are some models which are not reducible to a transport model. A numerical example is considered.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

UDC 512.25/.26+519.3:330.115

USSR

KUBRIN, E. Ye., LEBEDEV, B. D., SAVITSKIY, V. Ye., TROITSKAYA, N. A.

"Integer Model of Problem of Transfer of Cargos Using Hourly Schedules"

Vopr. Kibernet. i Vychisl. Mat. [Problems of Cybernetics and Computer Mathematics -- Collection of Works], No 40, Tashkent, 1970, pp 30-38, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V528 by Yu. Finkel'shteyn).

Translation: Points of consumption (s = 1, 2, ..., S) are fixed, each of which must be supplied at fixed moments in time $T_1^{(s)}, \ldots, T_{k_s}^{(s)}$ with cargos of predetermined types and quantities. Also fixed are m points of production, each moment $T_p^{(s)}$ corresponding to a subset $I_p^{(s)} \subset I = \{1, \ldots, n\}$ points of production, the specialization of which allows the sth point of consumption to be supplied at the fixed moment in time. The problem is to determine a plan of cargo transfer optimizing a certain criterion of effectiveness. The following model of integer linear programming is produced. Find the number θ_{fij} minimizing $\sum_{j=1}^{n} \sum_{i=1}^{m} \theta_{sij}$ under the conditions

$$\sum_{f=0}^{j-1} \sum_{i \in I_j} \theta_{fij} = 1, \quad j = 1, 2, \ldots, n,$$

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

UDC 512.25/.26+519.3:330.115

USSR

KUBRIN, E. Ye., LEBEDEV, B. D., SAVITSKIY, V. Ye., TROITSKAYA, N. A., Vopr. Kibernet. i Vychisl. Mat., No 40, Tashkent, 1970, pp 30-38.

$$\sum_{j=0}^{j-1} \sum_{i \in I_j} (T_j + t_{ij}) \theta_{ij} \leq T_j, \quad j = 1, 2, \ldots, n,$$

$$\sum_{i=1}^{m} \sum_{j=j+1}^{n} \theta_{ij} \leq 1, \quad j = 0, 1, \ldots, n, \quad \theta_{ij} \in \{0, 1\}.$$

An investigation of the model is performed. Important particular cases are indicated, when it is reduced to the transport problem.

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AUTHOR-- SAVITSKIY, VE., MERITORIOUS MILITARY PILOT, U.S.S.R., TWICE HERO OF THE SOVIET UNION, MARSHAL OF AVIATION

TITLE-- THE MAN OF THE EARTH AND THE SKY

NEWSPAPER-- PRAVDA, JANUARY 27, 1970, P 3, COLS 7-8

ABSTRACT-- THE AUTHOR REVIEWS A NEW SOVIET FILM, "THE MEN OF THE EARTH AND THE SKY", A DOCUMENTARY DEPICTING THE LIFE OF TEST PILOT YU. GARNAYEV. IT CAPTURED SUCH EVENTS AS WEIGHTLESSNESS EXPERIMENTS IN A FLYING LABORATORY, FLIGHTS OF THE UNUSUAL "TURBOPLANE", AND GROUP FLYING.

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USSR

SAVITSKIY, YE. M., Resp. Editor

Vrashchivaniye monokristallov tugoplavkikh i redkikh metallov (Development of Single Crystals of Refractory and Rare Metals), Moscow, "Nauka," 1973, 142 pp

Translation of Foreword: Single crystals of refractory and rare metals hold great interest as the objects of theoretical investigations as well as in their status as actual metals for modern technology in connection with special physicomechanical properties, such as high purity, plasticity even in temperatures approaching that of the sun, form stability, high thermoemission properties, compatibility with various other mediums, etc.

The problem of single crystal formation of refractory and rare metals for many years appeared insoluble due to the high melting temperatures and high chemical activity inherent in them. It has been possible to obtain single crystals only since the 1950s and 1960s of this century, thanks to the creation of a new complex of methods in chemical and physical technology for obtaining pure substances and vacuum metallurgy, as well as to development of new sources of heating energy of high intensity. For example, in recent years plasma methods have been developed for obtaining single crystals of refractory metals with diameters of 50 mm and greater.

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SAVITSKIY, YE. M., Development of Single Crystals of Refractory and Rare Metals, Moscow, "Nauka," 1973, 142 pp

At the present time, production of single crystals of refractory and rare metals has been mastered by several institutes in our country, in production quantities. Metallic single crystals are produced in a number of developed countries, and they have been obtained for practically all refractory and rare metals, as well as some of their alloys and metallic combinations. However, the demand for metallic single crystals is increasing and it is accompanied by insistence in demands for purity and perfection of structure. This forces development of new methods of forming them and perfection of existing methods. The requirement is for single crystals of refractory and rare metals which not only possess the stipulated crystallographic orientation, but also have an insignificantly small content of impurities, and low dislocation density. Single crystals must be of large and also very small gage, with definite geometrical profiles.

The collection contains papers presented at the All-Union Conferences on Problems of Single Crystals of Refractory and Rare Metals in 1970 and 1971. Several works deal with investigation of growth conditions of single crystals in electronic beam melting. Along with this, considerable attention is devoted to obtaining single crystals from the gaseous phase, by the Chokhral'skiy method,

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recrystallization, etc. Also given considerable attention are formation of single crystals of alloys and metallic combinations, many of which have been obtained for the first time. The collection also offers investigation results on the effects of formation conditions on the perfection of single crystals and the nature of their impurities.

Acquaintance with the materials in the collection will permit the readers to gain new information on the formation of single crystals of refractory and rare metals.

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USSR

SAVITSKIY, YE. N., Development of Single Crystals of Refractory and Rare Metals, Moscow, "Nauka," 1973, 142 pp

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USSR

SAVITSKIY, YE. N, Development of Single Crystals of Refractory and Rare Metals, Moscow "Nauka," 1973 , 142 pp

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USSR

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USSR

SAVITSKIY, YE. M., Editor-in-Chief, Corresponding Member of the Academy of Sciences USSR

"Structure and Properties of Single Crystals of Refractory Metals"

Moscow, Struktura i Svoystva Monokristallov Tugoplavkikh Metallov, Izd--vo Nauka, 1973, 258 pp

Translation of Annotation: This book cites the results of investigations on the structure, electrical, emission, magnetic, and other physical properties of single crystals of refractory metals including the stability of structure and properties under different external effects (temperature, radiation, plastic deformation).

The collection is intended for metal physicists, chemical physicists, metal scientists, metallurgists, constructors, and machine and instrument builders.

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SAVITSKIY, YE. M., ZAKHAROV, A. M., BURKHANOV, G. S., and KATAYEV, R. S., Institute of Metallurgy imeni A. A. Baykov

"Study of the Trinary System Molybdenum-Nickel-Carbon"

IVUZ, Tsvetnaya Metallurgiya, No 2, 1971, pp 91-94

Abstract: Microscopic and X-ray phase analysis plus determinations of the solidus temperature and microhardness are used to study molybdenum-carbon in the trinary system Mo-Ni-C up to 0.5 and 3.5% Ni. Isothermal cross sections are constructed at 1800 and 1200° and polythermal cross sections are constructed with constant nickel content (0.35%) and carbon content (0.01%). At 1800°, a liquid phase and the carbide Mo_2 are in equilibrium with the molybdenum solution, while at 1200° the delta phase (solution based on MoNi) and Mo_2C are in equilibrium. The Mo-Ni-C system forms no complex carbides in the concentration range studied. Alloying of molybdenum with nickel increases the solubility of carbon in the molybdenum in the solid state at high temperatures: at 1800°, the solubility of carbon is increased from 0.04 to 0.07% by introduction of 0.8% Ni. Alloying of Mo-C with nickel decreases the solidus temperature and expands the temperatures range of crystallization. 1/1

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SAVITSKIY, YE. M., TYLKINA, M. A., KONIYEVA, L. Z., LOGUNOV, A. V., and PETRUSHIN, N. V., Institute of Metallurgy imeni A. A. Baykov

"Investigation of Carbon Solubility in Mo+45%Re Alloy"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1973, pp 125-129

Abstract: The solubility of C in the Mo+45%Re alloy was investigated by measuring the electric resistance. The derived experimental data show that the solubility of C in the Mo+45%Re alloy comprises 0.035% at 1550° and that it comes up to 0.05% at 1800°. In the presence of 45%Re, the solubility of C in Mo rises 25% at 1800° and 75% at 1550°. The presence of 0.035%C in the solid solution increases the electric resistance ρ of the alloy by 7.5 $\mu\Omega\cdot$cm; the presence of carbides in the alloy at a C content up to 0.265% has no noticeable influence on the level of its ρ. The temperature coefficient of ρ of Mo+45%Re alloy can be considered nearly constant and equal to $2.9\cdot10^{-3}\mu\Omega\cdot cm\cdot deg^{-1}$; it decreases at transition into the 0.035%C solid solution. The ρ-curve of the Mo+45%Re+0.4%C alloy shows a break at 1250-1260°. Three figures, one table, 11 bibliographic references.

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USSR UDC 669.28.018.45

SAVITSKIY, Ye. M., BUROV, I. V., ZABOLOTNYY, V. T.

"Change in Temperature Dependence of Gas Liberation of Molybdenum and Yttrium of Various Degrees of Purity in a Superhigh Vacuum"

Elektron. Tekhnika. Nauchno-Tekhn. Sb. Materialy [Electronic Engineering, Scientific and Technical Collection, Materials], 1970, No. 5, pp. 122-124. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I769 from the resume).

Translation: A method is developed for studying the gas liberation of metals and alloys heated in a vacuum of 10^{-9} mm Hg with recording of the gases separated by means of a mass spectrometer. The spectra of gases liberated when Mo and Y of various degrees of purity are heated are studied. It is established that the gas liberation of Mo purified by zone refining in a vacuum is significantly lower for H, C, N, and O, than the liberation of metal ceramic Mo. 2 biblio refs.

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PHYSICS

Acoustics

USSR

GONCHAROV, K. V., MAL'TSEVA, I. V., and SAVITSKIY, Ye. M., Moscow State University

"Study of Critical Phenomena in a Holmium Single Crystal Close to the Néel Temperature by Ultrasonic Methods"

Leningrad, Fizika Tverdogo Tela, No 12, Dec 71, pp 3700-3702

Abstract: The absorption and speed of ultrasound in Ho single crystals close to the Néel temperature were measured. The attenuation of sound was measured by the echo-pulse method, and a precision phase-pulse method was used to measure phase velocity. The absolute error of measurement in the speed of sound did not exceed 0.01%, and the error in the attenuation did not exceed 5%. The absolute error of measurement of temperature was 0.5%, and the relative error of measurement was not more than 0.02°. The Ho single crystal was grown by recrystallization annealing and was oriented along the a and c axes with a deviation of not more than 1°. Figures are given showing the measured values of the variation, with temperature, of the velocity $(\nu - \nu_0)/\nu_0$ and the attenuation α of longitudinal sound at a frequency of 20 MHz, where ν_0 is the speed of sound at room temperature. It is concluded

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USSR

GONCHAROV, K. V., et al., Fizika Tverdogo Tela, No 12, Dec 71, pp 3700-3702

that Ho is an isotropic antiferromagnetic, in view of the smallness of the anisotropy factor, despite its complex spiral structure.

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Single Crystals

USSR

UDC 539.8

SAVITSKIY, YE. M., Corresponding Member Academy of Sciences USSR, BURKHANOV, G. S., TETYUYEVA, T. V., and KUZ'MISHCHEV, V. A., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, Moscow

"Effects of Thermocycling on Tungsten and Molybdenum Alloy Single Crystals"

Moscow, Doklady Akademii Nauk SSSR, Vol 198, No 2, 1971, pp 373-376

Abstract: A review of data on the thermocycling of single crystals of W and Mo alloys indicates that alloying elements forming with the metal matrix (W or Mo) extensive ranges of solid solutions and increasing the solubility of non-metallic inclusions (particularly C) in the solid phase increase the stability of the structure and characteristics of the alloys in thermocycling. These alloying elements comprise, in addition to Re, the data pertaining to which are reported in detail, the hexagonal metals of the VIII group Ru and Os and possibly also Mn and Tc. On the other hand, alloying elements which decrease the solubility of non-metallic inclusions and increase their amount in an undissolved state in the metal matrix expedite destruction of the single-crystal alloys in thermocycling. These alloying elements include metals of the I - VI groups. The extent to which these regularities apply to polycrystalline W and Mo should be investigated experimentally.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR UDC 669.292.5.293:537.321.62

SAVITSKIY, Ye. M., BARON, V. V., NAUMKIN, O. P., and YEFIMOV, Yu. V.

"The Vanadium-Scandium and Niobium-Scandium Systems and Their Superconducting Properties"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 178-186

Translation: Based on their own experiments and data from the literature, the authors study the regularities of the change of T_c of superconducting alloys in simple eutectic systems of the transition and non-transition metals, as well as in the eutectic portions of the state diagrams of binary alloys forming intermediate compounds. "Composition-T_c" diagrams of the binary systems of vanadium and niobium with scandium and diagrams of the states of these systems are presented. In eutectic type superconducting system alloys, superconductivity is observed both in the case of melting of two superconductors, and in the case of melting of a superconductor with a "normal" element. T_c of the superconducting element increases or decreases when the second component is dissolved within

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USSR

SAVITSKIY, Ye. M., et al., Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 178-186

the area of homogeneity of the solid solution. In two-phased eutectic mixtures, the T_c of each of the superconducting phases changes almost on a horizontal line as the composition of the alloys changes.

5 figures; 25 biblio. refs.

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TITLE--PROSPECTS OF THE DEVELOPMENT OF PHYSICAL METALLURGY -J-

AUTHOR--SAVITSKIY, E.M.

S

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, METALLY, MAR-APR. 1970, P. 49-71

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METALLURGY, PHYSICAL CHEMISTRY PROPERTY, METAL SINGLE CRYSTAL, METAL PHYSICAL PROPERTY, METAL MECHANICAL PROPERTY, HIGH PURITY METAL, ALLOY

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CIRC ACCESSION NO--AP0108972

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE GOALS, TECHNIQUES, AND PROSPECTS IN THE DEVELOPMENT OF PHYSICAL METALLURGY. TOPICS CONSIDERED INCLUDE THE ROLE PLAYED BY METALS IN SCIENCE AND TECHNOLOGY, CURRENT STATUS AND DEVELOPMENT OF THE THEORY OF ALLOYS, PRODUCTION OF SINGLE CRYSTALS OF HIGH PURITY METALS AND ALLOYS, DETERMINATION OF THEIR PROPERTIES, AND CONTROL OF THE STRUCTURE AND PROPERTIES OF METALS USING SUCH EXTERNAL FACTORS AS TEMPERATURE AND PRESSURE, AND ELECTROMAGNETIC FIELD. INTERMETALLIC COMPOUNDS AND POLYMORPHIC METALS ARE EXAMINED AS A SOURCE OF NEW METALLIC MATERIALS. IN ADDITION, THE PROBLEMS OF MORE EFFICIENT UTILIZATION AND PROCESSING OF ORES, ESPECIALLY THOSE OF RARE AND NOBLE METALS, ARE EXAMINED. PROSPECTS FOR MORE ECONOMIC UTILIZATION OF MECHANICAL PROPERTIES OF METALS, ALLOYS, AND COMPOSITES ARE DISCUSSED. APPLICATIONS OF METALS AND ALLOYS IN MEDICINE AND AGRICULTURE ARE CONSIDERED.

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USSR UDC 537.312.62:669.293

BYCHKOVA, M. I., KOZLOVA, N. D., LYSENKO, Ye. N., BARON, V. V., SAVITSKIY, Ye, M., and TUREVSKIY, V. M.

"Screening Properties of Alloys in the Niobium-Titanium System"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 166-172

Translation: The distribution of the magnetic field in superconducting magnets was studied for quantum paramagnetic amplifiers using screening plates of niobium-titanium alloy. It was shown that shields of NT-1 alloy can partially screen a field and significantly improve its homogeneity. With a magnetic field intensity of 4,000 oe, a homogeneity of 10^{-3} was produced in a volume of 5 x 8 x 120 mm.

5 figures, 1 table, 13 biblio. refs.

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USSR

UDC 669.293+537.312.62

SAVITSKIY, Ye. M., BARON, V. V., and MIKHAYLOV, B. P.

"Study of Structure and Superconducting Properties of Cast Alloys in the Niobium-Tin System"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 99-105

Translation: The possibility is studied of producing ingots of niobium-tin alloy by high frequency melting in a graphite crucible in an inert atmosphere. The structure of the alloys (by macro- and microstructural analysis) and phase composition of alloys are studied; a color etching method is developed for phase determination.

The possibility is established of producing ingots of niobium-tin alloy of various sizes and geometric shapes with tin contents of up to 50 wt.% with even distribution of components and a transition temperature to the superconducting state of 17.5-18.0°K.

3 figures; 1 table; 15 biblio. refs.

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Coatings

USSR UDC 543.251+668.293.+537.312.62

SAVITSKIY, Ye. M., MIKHAYLOV, B. P., and BARON, V. V.

"Electrolytic Niobium Coating of Complex-Shape Parts"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pages 203-208

Translation: A method is developed for electrolytic deposition of even superconducting niobium coatings on parts of non-superconducting materials (copper, brass, iron) of various shapes and sizes.

The influence of electrolysis modes on the structure, evenness, thickness, purity, and superconducting parameters of the niobium coating is studied.

The possibility is established of electro deposition of even superconducting coatings of niobium (on parts of various shapes and sizes) with a transition temperature of 8.9-9.0°K.

4 figures; 10 biblio. refs.

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USSR UDC 537.312.62

SAVITSKIY, Ye. M., DEVINGTAL', Yu. V., and GRIBULYA, V. B.

"Recognition of Metal Compounds of the Composition A_3B by Electronic Computer"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 39-50

Translation: Many superconductors are compounds of the stoichiometric composition A_3B. These include superconductors with the highest transition temperature to the superconducting state. It is known that some of these compounds are formed between low-melting and refractory components in a peritectic reaction, which makes their experimental production quite difficult.

There is therefore interest in determination of the characteristics or criteria for the presence of such compounds.

The use of recognition methods, mainly using computers, allowed certain empirical criteria both for the presence of these compounds and for methods of their formation to be found. Furthermore, these criteria allow the presence or absence of an area of homogeneity in the concentration interval to be indicated.

Examples are presented of recognition of superconducting compounds by computer.

1 figure; 9 tables; 10 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

Mechanical Properties

USSR UDC 669.017/018.45:66.046.5

AGEYEV, N.V., SAVITSKIY, Ye. M., KORNILOV, I. I., ZUDIN, I. F., PROKOF'YEV, D. I. (Editorial Board)

Legirovaniye i svoystva zharoprochnykh splavov (Alloying and Properties of High-Temperature Alloys), Collection of Papers, Moscow, "Nauka" Press, 1971, 208 p., illustrations, graphs, tables, 2500 copies printed.

Translation of Annotation:

This collection covers topical problems of the theory of heat resistance (mechanism of creep, hardening of solid solutions by alloying to produce stable dislocation structures, precipitation hardening, and the effect of the type, quantity, and pattern of excess phase distribution on the creep and failure of alloys). Some of the papers discuss problems related to the interaction of metallic materials with the environment (problems of protective coatings on high-temperature alloys, diffusion processes within these alloys). The collection is intended for researchers, design engineers, production personnel, metallurgists, and associates of establishments in power engineering and transportation machinery as well as in the aviation industry.

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USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

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BYCHKOVA, M. I., KOZLOVA, N. D., LYSENKO, Ye. N., BARON V. V., SAVITSKIY, Ye. M., TUREVSKIY, V. M.

"Screening Properties of Alloys in the Niobium-Titanium System"

Probl. Sverkhprovodyashch. Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp. 166-172. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I783 by the authors).

Translation: The distribution of the magnetic field in superconducting magnets for quantum paramagnetic amplifiers using screening plates of Nb-Ti alloys is studied. It is demonstrated that screens of NT-1 alloy can partially screen the field and significantly improve its homogeneity. With a magnetic field intensity of 4,000 oe, a homogeneity of 10^{-3} was produced in a volume of 5×8×120 mm. 5 figs; 1 table; 13 biblio refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202810018-7

USSR

SAVITSKIY, YE. M., and ZUDIN, I. F.

"All-Union Conference on Physicochemical Fundamentals of the Heat Resistance of Metallic Materials"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, p 221

Abstract: The Conference of the Scientific Council "Physicochemical Fundamentals of the Production of New Inorganic Materials" and of the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, was held in Moscow 20-22 April 1971. The council chairman, Academician I. V. Tananayev, gave the opening remarks. Some of the papers presented included the following: "Thermal Cycling and Its Effect on Properties of Refractory Metals Molybdenum, Tungsten, and their Alloys" (Ye. N. Savitskiy); "Effect of Cyclic Heating on Long-Term Strength of Molybdenum Alloys" (N.N. Morgunova and A. D. Gorchakova); Interaction of Matrix With Strengthening Agent in Nickel-Based Alloys" (A. T. Tumanov et al.); "Phase Equilibria in Three-Component Alloys Containing an Incorporated Element, and the Stability of Composition Materials" (A. K. Shurin); "Strength of Bond Between Fiber and Matrix in Reinforced Aluminum-Steel and Nickel-Molybdenum Compositions" (L. I. Tuchinskiy et al.). The work of A. V. Petrov et al. dealt with the kinetics of the formation and growth of intermetallic compounds in composition materials based on sintered aluminum power,

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USSR

SAVITSKIY, YE. M., etal, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, p 221

and fiber-reinforced steels U8A, Kh18N9T, and Kh14N14M2. It was shown that at 400° the strength of the composition material of the type Kh14N14M2-sintered aluminum powder is not reduced for several years due to the formation of an intermetallic compound. The characteristics of creep and the failure mechanism of reinforced copper was reported by Z. G. Fridman.

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1/2 019 UNCLASSIFIED

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AUTHOR-(03)-STROGANOVA, V.F., TEREKHOVA, V.F., SAVITSKIY, YE.M.

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CONTROL MARKING--NO RESTRICTIONS

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UNCLASSIFIED

CIRC ACCESSION NO--AP0130386 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS OF STUDYING CA AND CA ALLOYS METALLOGRAPHICALLY ARE DESCRIBED AND DISCUSSED. THE CHIEF DIFFICULTY IS THE REACTIVITY OF THIS ALKALINE EARTH ELEMENT IN MOIST AIR. BY PROPER ATTENTION TO TECHNIQUE GOOD RESULTS MAY BE ACHIEVED BY EXAMINING SEVERELY OXIDIZED SAMPLES AND DEDUCING THE UNDERLYING MICROSTRUCTURE. A SMOOTH AND LUSTROUS SURFACE MAY BE ACHIEVED BY USING AN INTERMEDIATE ETCH OF CONCENTRATED HNO SUB3 WITHOUT ANY OF THE USUAL GRINDING AND POLISHING PROCESSES.

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272 015

UNCLASSIFIED

TITLE--EXPERIMENTAL PREDICTION OF THE COMPOSITION AND PROPERTIES OF COMPOUNDS USING A COMPUTER -U-

PROCESSING DATE--16OCT70

AUTHOR-(02)-SAVITSKIY, YE.M., GRIBULVA, V.B.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1147-50 (PHYS CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--REFRACTORY COMPOUND, COMPUTER APPLICATION, PHASE DIAGRAM, PHYSICAL PROPERTY, MECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1118

STEP NO--UR/0020/70/190/005/1147/1150

CIRC ACCESSION NO--AT0116584

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2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116584

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ESSENTIALLY NEW APPROACH TO THE UTILIZATION OF INFORMATION CONCERNING THE CHEM. ELEMENTS, THE PHASE DIAGRAMS, AND COMPN. PROPERTY DIAGRAMS IS UNDERTAKEN BASED ON THE USE OF A COMPUTER. THE SUBSTANCE UNDER INVESTIGATION IS DIVIDED INTO CLASSES ACCORDING TO KNOWN CHARACTERISTICS. THE NATURE OF THE SUBSTANCE IN ACCORD WITH ITS CHARACTERISTICS IS DESCRIBED BY A NUMBER OF CODES AND IS STORED IN THE COMPUTER. DATA FOR 33 CHEM. ELEMENTS AND 79 BINARY DIAGRAMS OF THESE ELEMENTS IS USED FOR THE STUDY AND FROM THIS THE EXISTENCE OF COMPDS. OF THE TYPE A SUB3 B, A SUB2 B, AND AB AND THE TYPE OF REACTION INVOLVED IN THEIR FORMATION CAN BE PREDICTED.

FACILITY: INST. MET. IM. BAIKOVA, MOSCOW, USSR.

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1/2 037

UNCLASSIFIED

TITLE--SUPERCONDUCTING ALLOYS OF VARIABLE COMPOSITION -U-

PROCESSING DATE--16OCT70

AUTHOR-(03)-SAVITSKIY, YE.M., BARON, V.V., GINDINA, S.D.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 338-40

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NIOBIUM ALLOY, TANTALUM ALLOY, ELECTRON BEAM MELTING, SUPERCONDUCTIVITY, SUPERCONDUCTING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1115

STEP NO--UR/0020/70/191/002/0338/0340

CIRC ACCESSION NO--AT0116581

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2/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SUPERCONDUCTING PROPERTIES WERE STUDIED FOR THE NB-TA SYSTEM IN WHICH A CONTINUOUS SERIES OF SOLID SOLNS. IS FORMED AND THE VALUE OF T SUBC WAS DETD. AS A FUNCTION OF THE COMPN. A NEW METHOD IS DESCRIBED FOR PREPG. MASSIVE SAMPLES OF VARIABLE COMPN. USING VACUUM ZONE FUSION BY AN ELECTRON BEAM. THE VALUES OF T SUBC SHOW THAT IN THE 5.1-10.5DEGREESK RANGE PART OF THE SAMPLE OF VARIABLE COMPN. IS IN THE NORMAL STATE AND PART IN THE SUPERCONDUCTING.

FACILITY: INST. MET. IM. BAIKOVA, MOSCOW, USSR.

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1/2 022 UNCLASSIFIED

TITLE--CHEMICAL STABILITY OF HAFNIUM DIBORIDE -U- PROCESSING DATE--11SEP70

AUTHOR--TIMOFEYEVA, N.I., SAVITSKIY, YE.M., BAKARINOVA, V.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 120-1

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL STABILITY, HAFNIUM COMPOUND, BORIDE, OXIDATION, THERMAL STABILITY, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0595 STEP NO--UR/0363/70/006/001/0120/0121

CIRC ACCESSION NO--AP0105578

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2/2 022

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CIRC ACCESSION NO--AP0105578 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STABILITY OF HFB SUB2 IN CERTAIN CHEM. REAGENTS AT ROOM AND HIGH TEMPS., AS WELL AS ITS STABILITY TO OXIDN. IN AIR AT 700-1000DEGREES WAS STUDIED. THE COMPN. OF THE HFB SUB2 POWDER (IN WT. PERCENT) WAS: HF 89.2, B 11.3, AND C 0.1, PARTICLE SIZE IS LESS THAN 20 MU, FREE B CONTENT 0.065 WT. PERCENT. AT ROOM TEMP. AFTER 24 HR, HFB SUB2 DISSOLVES PARTIALLY IN CONCD. HCL, H SUB2 SO SUB4, AND HCLO SUB4; IT IS EVEN LESS STABLE IN HNO SUB3. UPON BOILING IN CONCD. HNO SUB3 AND AQUA REGIA, HFB SUB2 POWDER DISSOLVES COMPLETELY IN 30 MIN; IN HCLO SUB4, HF, AND 1:1 HNO SUB3, IT DISOOLVES COMPLETELY AFTER 1 HR. IT DISSOLVES PARTIALLY IN NH SUB4 F, HCL, AND MIXTS. OF HCL WITH H SUB2 O SUB2; IT IS STABLE TO HOAC AND SOLNS. OF H SUB2 O SUB2 AND NH SUB3 BOTH AT ROOM TEMP. AND UPON HEATING. HFB SUB2 IS VERY STABLE IN H SUB2 O AT ROOM TEMP. AND IN BOILING H SUB2 O. IN AIR, HFB SUB2 STARTS TO OXIDIZE AT 700DEGREES; THE DENSE OXIDE FILM FORMED IS HFO SUB2. THE OXIDN. OF HFB SUB2 IN O ATM. WAS ALSO INVESTIGATED AT 20-1100DEGREES. THE ACTIVATION ENERGIES WERE DETD. THE OXIDN. RATE FOR HFB SUB2 IN O UP TO 1100DEGREES FOLLOWS A PARABOLIC LAW.

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