"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--GAS EXCHANGE IN ARTIFICIAL VENTILATION OF THE LUNGS -U-

AUTHOR--KOSHKIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 71-75

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ARTIFICIAL RESPIRATION, LUNG, GAS DYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1778 STEP NO--UR/0531/70/000/006/0071/0075

CIRC ACCESSION NO--AP0129146

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129146

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS DEDICATED TO THE STUDY OF THE GAS EXCHANGE IN SOME TYPES OF ARTIFICAL VENTILATION OF THE LUNGS. THE POSSIBILITY OF MAINTAINING AN ADEQUATE GAS EXCHANGE DURING TACHYPNOETIC AND BRADYPNOETIC VENTILATION OF THE LUNGS IS CONFIRMED. THE AUTHOR OBTAINED QUANTITATIVE CHARACTERISTICS OF ALTERATION OF THE BLOOD GAS EXCHANGE AND ACID BASE BALANCE DURING DIFFUSE OXIGENATION IN CONDITICNS OF APNOE AND GIVES PRACTICAL RECOMMENDATIONS.

FACILITY: KLINIKA FAKUL'TETSKOY KHIRURGII IMENI S. I. SPASOKUKOTSKOGO II MMI IMENI N. I. PIROGOVA.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136559

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ACCORDANCE WITH A THERMODYNAMIC MODEL, IN CRYSTALS CONTG. LARGE AMTS. OF STOICHIOMETRIC VACANCIES, THE SOLY. OF IMPURITIES AND DEVIATIONS FROM STOICHIOMETRY ARE DETD. BY THE MAGNITUDE OF ELASTIC STRESSES ON THE IMPURITIES AND SUPERSTOICHIOMETRIC ATOMS AS WELL AS BY THE MAGNITUDE OF LOCAL ELASTIC STRESSES ON THE STOICHIOMETRIC VACANCIES. FACILITY: VSES. NAUCH.-ISSLED. INST. MONOKRIST., KHARKOV, USSR.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ON ETHYLCELLULOSE AS A PROLONGATOR OF REPELLENTS. COMMUNICATION II -U-

AUTHOR-(02)-KUSHKINA, I.V., KHARITONOVA, S.I.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL 39, NR 2, PP 224-227

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECT REPELLENT, MOSQUITO

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1437 STEP NO--UR/0358/70/039/002/0224/0227

CIRC ACCESSION NO--AP0109497

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109497

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEW COMPOSITIONS OF REPELLENTS: DETA (40PERCENT), DMF (50PERCENT), R162 (50PERCENT), R-2R (30PERCENT), R-228 (10PERCENT WITH 1-5PERCENT CONCENTRATION OF ETHYLCELLULOSE WERE TESTED IN ORDER TO FIND OUT THE PROLONGING EFFECT OF THE LATTER. PRIMARY FIELD TRIALS WERE CARRIED OUT IN THE TERRITORY OF THE ASTRAKHAN RESERVE AGAINST MOSQUITOES AEDES VEXANS AND ANOPHELES HYRCANUS. THE RESULTS INDICATED THAT 1-5PERCENT ETHYCELLULOSE IN COMBINATION WITH THE ABOVE MENTIONED REPELLENTS DID NOT PROLONG THEIR PROTECTIVE EFFECT WHEN PUT ON THE SKIN AND CLOTH. THE COMPOUND CONTAINING DETA (40PERCENT) AND 3-5PERCENT OF THIS INGREDIENT HAD LOWER PROTECTIVE TIME THAN THE PURE REPELLENT. ETHYLCELLULOSE IN REPELLINE-ALPHA HAD NO INFLUENCE ON THE DURATION OF ITS PROTECTIVE EFFECT. FACILITY: INSTITUT MEDITSINSKOY PARAZITOLOGII I TROPICHESKOY MEDITSINY IM. YE. I. MARTSINOVSKOGO MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PRIMARY LABORATORY AND FIELD TRIALS OF REPELLENTS AGAINST GNATS ON THE TISSUE -U-

AUTHOR-(02)-POTAPOV, A.A., KOSHKINA, I.V.

K

COUNTRY OF INFO--USSR, UNITED STATES

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL 39, NR 1, PP 45-49

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECT REPELLENT, TEST METHOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0087 STEP NO--UR/0358/70/039/001/0045/0049

CIRC ACCESSION NO--AP0103767

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103767

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A BRIEF DESCRIPTION OF METHODS OF PRIMARY TESTS OF REPELLENTS ON CLOTH AND NETS APPLIED IN THE USA AND THE SOVIET UNION ARE PRESENTED. ON THE BASIS OF THEIR OWN EXPERIENCE, THE AUTHORS RECOMMEND TO USE SMALL PIECES OF LIGHT CLOTH SO THAT EVERY TEST INCLUDES THE REFERENCE AND CONTROL. THE QUESTIONS CONCERNING BETTER CONDITIONS FOR CARRYING OUT OF THESE TRIALS AND CRITERIA FOR EVALUATION OF NEW DRUGS ARE DISCUSSED.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 615.285.7.015.154

KOSHKINA, I. V., and KHARITONOVA, S. I., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy, Ministry of Health USSR

"Ethyl Cellulose as an Agent to Prolong the Action of Repellents. II"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2, 1970, pp 224-227

Abstract: The polymer ethyl cellulose was tested in the field as a means of extending the effective time of diethyl toluamide and five other repellents against various mosquitoes, including Aedes vexans and Aedes hyrcanus. The results showed that the addition of ethyl cellulose in 1-5% concentrations failed to prolong the action of any of the repellents when applied to human skin or cloth. In fact, when added in higher concentrations (3-5%) to diethyl toluamide, the polymer actually reduced its effectiveness, and resulted in larger mosquito bites on arms treated with diethyl toluamide alone.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CATALYTIC ACTION OF PLATINUM ON THE REDUCTION OF COPPER FROM ITS OXIDES BY HYDROGEN STUDIED BY MEANS OF THE OXIDE COLORS -U-

AUTHOR-(02)-VORONTSOV, YE.S., KOSHKINA, K.A.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 246-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, HYDROGEN, PLATINUM, COPPER OXIDE, CHEMICAL REDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1558 STEP NO--UR/0195/70/011/001/0246/0248

CIRC ACCESSION NO--AP0120337

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120337

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. WAS STUDIED AT 40-350DEGREES. TWO DIFFERENT EFFECTS WERE OBSD. WHEN INCREASEING REACTION TEMP.: TEMP. INCREASED REACTION RATE AND DECREASED THE EFFICIENCY OF THE CATALYST. THE REACTION PROCEEDS BEST AT 250DEGREES.

FACILITY: CHELYABINSK. POLITEKH. INST., CHELYABINSK, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 017 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF SECOND ROLLING TEMPERATURE ON THE TEXTURE OF SILICON IRON DEFORMATION AND RECRYSTALLIZATION -U-

AUTHOR-(03)-LIVSHITS, B.G., NOVIKOV, V.YU., KOSHKINA, L.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 289-91

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL TEXTURE, SILICON ALLOY, IRON ALLOY, METAL RECRYSTALLIZATION, METAL ROLLING, METAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0191 STEP NO--UR/0048/70/034/002/0289/0291

CIRC ACCESSION NO--AP0115895

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 017 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115895

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF THE CONDITONS OF SECOND ROLLING (DEFORMATION RATIO AND TEMP.) ON THE DEFORMATION AND RECRYSTN. TEXTURE OF SI CONTG. IRON WAS STUDIED TO FIND RELATIONS GOVERNING THE RELATIVE AMTS. OF GRAINS WITH THEIR CUBIC PLANE COINCIDENT WITH THE ROLLING PLANE AND GRAINS ORIENTED AT ANGLES LESS THAN OR EQUAL TO 45DEGREES WITH RESPECT TO THE DIRECTION OF ROLLING. SHEET SPECIMENS 0.55, 0.7, AND 1.1 MM THICK ANNEALED AT 1130DEGREES AND EXHIBITING A GRAIN SIZE OF 1.8-2.3 MM AND A DEFINED, HOMOGENEOUS TEXTURE WERE ROLLED TO 0.35 MM (DEFORMATION RATIOS 36, 50, AND 68PERCENT) AT 20, 200, AND 300DEGREES. SUBSEQUENTLY THE SPECIMENS WERE VACUUM ANNEALED AT 670, 900, AND 1200DEGREES. THE DEFORMATION AND PRIMARY RECRYSTN. TEXTURES OF THE SURFACE LAYERS WERE STUDIED BY X RAYS AND THE TEXTURE OF SPECIMENS ANNEALED AT HIGH TEMPS. WAS EXAMD. METALLOGRAPHICALLY. THE TEXTURES ARE LISTED FOR EACH OF THE TREATMENT VARIANTS. THE TEXTURE OF COLD ROLLED ANS SUBSEQUENTLY ANNEALED SPECIMENS SHOWED A COMPONENT WITH THE (100) PLANE AND (011) ORIENTATION, DEVIATING CONSIDERABLY (BY AN ANGLE LARGER THAN 20DEGREES) FROM THE DIRECTION OF ROLLING. THE CONTENT OF THIS COMPONENT WAS REDUCED FROM 30 TO 2PERCENT UPON INCREASING THE DEFORMATION RATIO FROM 36 TO 68PERCENT, AND WAS NEGLIGIBLE IN SPECIMENS ROLLED AT ELEVATED TEMPS. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 666.1.056:678.84:678.643

SIL'VESTROVICH, S. I., STOLYAROV, M. I., GURIKOVA, L. M., STOLYAROVA, G. V., SHCHEREDINA, Ye. A., KOSHELKINA, O. N.

"Protective Effect of Polymer Coatings on Glass Surfaces"

Moscow, Steklo i Keramika, No 11, 1972, pp 12-15.

Abstract: The authors performed studies to determine the influence of protective organosilicon and other organic polymer coatings on industrial glass: sheet glass 1.5 mm thick and electric vacuum type S-49-2 glass (rods 5 mm in diameter). Coatings 1-25 μ thick were applied with the polymers in solution in toluene, acetone, ethyl alcohol, styrene and in a mixture of solvents. Polymers of this type reduce transparency only slightly in thin coatings, although aging may cause addition reductions in transparency. The polymer coatings tested approximately doubled the strength of the sheet glass surface, producing maximum effect with a coating thickness of 5-10 μ. Strong polymers and polymers with good adhesion to the glass produce the best effect. The protective effect is retained when the glass is exposed to high humidities for extended periods of time.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 599.323.4:591.526(571.1)

OKULOVA, N. M., ARISTOVA, V. A., and KOSHKINA, T. V., Institute of Poliomyelitis and Virus Encephalitides, Academy of Medical Sciences USSR

"The Effect of Population Density on the Size of Individual Home Ranges of Small Rodents in the West Siberian Taiga"

Moscow, Zoologicheskiy Zhurnal, Vol 50, No 6, Jun 71, pp 908-915

Abstract: Data were collected by tagging small rodents over areas of 2.5-4.3 hectares in various types of terrain and recapturing them six to eight times over a period of ten days. An average individual sector was computed for all species inhabiting that zone. Evaluation of the effect of density includes taking into consideration the combined effect of one particular species and of all the other species of small rodents. The effect of the dominant species on the subdominant is much stronger than vice versa. Features of feed availability in different locations are closely related to the population density and do not disrupt the established dependence. The average size of an individual home range of Clethrionomys rutilus, the most numerous and dominant species, is determined by the population density to the extent of 86.7%, and that of Clethrionomys rufocanus and Microtus oeconomus, subdominant species,

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USSR

OKULOVA, N. M., et al., Zoologicheskiy Zhurnal, Vol 50, No 6, Jun 71, pp 908-915

to 52-55%. The dependence of the range size (S) on the density of the animals (d) is expressed by the hyperbolic function s=0.11+(3.55/d).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 531.1

KOSHLYAKOV, V. N., LYUSIN, YU. B., and CHICHINADZE, M. V., Moscow

"Ballistic Deviations of a Correctable Gyrocompass"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 4, Jul-Aug 73, pp 105-111

Abstract: The authors study the ballistic deviations of a correctable gyro-course-indicator with a fluid-torsion suspension of the sensing element. In contrast to the view where it is accepted that the orientation of the main axis of the gyroscope corresponds to the presence of a small velocity deviation, the authors analyze a case where the correcting moments are selected in such a way that in undisturbed motion they correspond to the orientation of the gyroscope axis in the plane of the real meridian, while they correspond to the orientation of the equatorial plane of the tracking sphere of the unit in the plane of the real horizon. Formulas are given for the various parts of the gyro-course-indicator. These are given within the framework of precession theory. The unit itself is described in earlier literature.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CHLOROMETHYLATION OF DECYL ALCOHOL USING AN AQUEOUS SOLUTION OF FORMALDEHYDE -U-

AUTHOR-(03)-KORENKOVA, O.P., LUTSENKO, V.A., KOSHMAN, N.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 340-1

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METHYLATION, ALCOHOL, CHEMICAL SYNTHESIS, FORMALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0891 STEP NO--UR/0064/70/046/005/0340/0341

CIRC ACCESSION NO--AP0137919

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137919

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CLCH SUB2 OC SUB10 H SUB21 WAS PREPD. OPTIMALLY IN 90PERCENT YIELD WITH 94-5PERCENT CONVERSION OF C SUB10 H SUB21 OH BY ADMITTING HCL AT A RATE OF SIMILAR TO 8.8 L.-HR INTO AN AQ. 1:1.1-1.15 C SUB10 H SUB21 OH,CH SUB2 O MIXT. AT 15-20DEGREES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CONVERSION OF CYANO TERTIARY AMINO DIENES INTO SUBSTITUTED AMINOPYRIDINES. NEW INTRAMOLECULAR REARRANGEMENT -U-

AUTHOR-(03)-PERVEYEV, F.YA., IVAKHNYUK, M.S., KOSHMINA, N.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1116

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PYRIDINE, CHEMICAL SYNTHESIS, INTERMOLECULAR COMPLEX, TERTIARY AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1286 STEP NO--UR/0366/70/006/005/0001/1116

CIRC ACCESSION NO--AP0134960

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134960

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF R SUB2 NH (R IS ET, PR, BU) WITH MEC:CCME:CHCN AT 100DEGREES GAVE R SUB2 NCME:CHCME:CHCN (I). HEATING I IN A SEALED TUBE WITH A FEW DROPS OF WATER GAVE 2, (R SUB2 N SUBSTITUTED),4,6,DIMETHYLPYRIDINES. IN THE SAME WAY 2, PIPERIDINO,4,6,DIMETHYLPYRIDINE WAS PREPD. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--KINETICS OF THE THERMAL DECOMPOSITION OF ALLYL HYDROPEROXIDE -U-

AUTHOR-(04)-CHERNYAK, B.I., KOSHOVSKIY, B.I., TYAGLO, V.A., KUCHER, R.V.

COUNTRY OF INFO--USSR

SOURCE--DOPOV. AKAD. NAUK UKR. RSR, SER. B 1970, 32(3), 256-61

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, HYDROPEROXIDE, ACTIVATION ENERGY, SOLVENT ACTION, REACTION KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0782 STEP NO--UR/0442/70/032/003/0256/0261

CIRC ACCESSION NO--AT0132880

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132880

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECOMPN., STUDIED IN PHCL, BUOH, AND ACOH, WAS 1ST ORDER; THE RATE CONST. AND THE ACTIVATION ENERGY DECREASED WITH THE INCREASING POLARITY OF THE SOLVENT. THE PRODUCTS WERE CH SUB2:CHCH SUB2 OH AND CH SUB2:CHCHO, AND ME(CH SUB2) SUB2 CHO AND ACH IN ADDN. IN BUOH AND ACOH, RESP. FACILITY: DONETS. DERZH. UNIV., DONETSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

JPRS 58344

23 February 1973

UDC: 575.017:577.537

THE OPERATING PRINCIPLE OF THE ECHOLOCATION SYSTEM OF MARINE ANIMALS

(Article by V. V. [illegible] and Corresponding Member of the Academy of Sciences Ukrainian SSR V. M. [illegible]; Kiev, [illegible] Ukrainian, No 12, 1972, pp 1097-1107)

In recent years many articles have been published on experimental investigations of the locating abilities of marine animals [1-10, etc]. According to the data of [1-3, etc] the dolphin is capable of distinguishing the dimensions (diameter) of two bodies (targets) of identical, simple form (cylinders, spheres, etc) made of the same material, and also of distinguishing two bodies of identical form and identical dimensions but made of different materials. Various hypotheses have been advanced regarding the operating principle of the echolocation system of marine animals, up to hypotheses of "sonic-vision" [6] and holography [10], but without analysis of the reflected acoustic field, information about which marine animals use for recognition.

For explanation of the observed phenomena the following published experimental data is of real importance:

1. Location signals of the dolphin [1,2,3] represent a series of broad-band pulses (with a length of 50 microseconds to 7 milliseconds) of various repetition frequencies (from units to hundreds of hertz) and filling. It is noted that the character of the change of the pulse repetition frequency (which increases as the dolphin approaches a target), does not depend on the configuration of the target, heterogeneities of the reflecting surface, or the density of the material. It is emphasized [6,9] that the location pulses contain a large quantity of ultrasonic energy at frequencies above 100 kHz and their frequency spectrum in some cases is above 150 kHz.

2. The frequency band of the signals perceived by marine animals is rather broad. Thus, for example, investigated [7] dolphins Phocaenaphocaena had a threshold of sensitivity of 10^{-12} W/cm^2 to a tone signal with a frequency of 180 kHz, and not more than 10^{-16} W/cm^2 in the frequency

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[illegible]

[illegible] differed in frequency by 1.4% or more in the region [illegible]

It follows from the [illegible] that the most [illegible] curve for the elastic vibrations of the melanin [illegible] food) is [illegible] kc, which corresponds to a wavelength [illegible] in water.

Taking into consideration that frequency bands, the velocity [illegible] elastic vibrations [illegible] and the characteristic dimension of the [illegible] interest to marine animals, it can be concluded that the [illegible] of the wavelength scale $ka = (2\pi/\lambda)a$ lies in the range of several to [illegible] units.

[illegible] field by [illegible] from an approximate analytical [illegible] impingement of a plane symmetric wave $p_0 \exp(-i\omega t)$ [illegible] frequency ω [illegible] circular cylinder with the radius a, placed in an infinite [illegible] homogeneous liquid. Solutions of similar problems, obtained by [illegible] curvilinear coordinates and integral equations, permit in practice [illegible] lating the structure of the diffraction field either in the [illegible] or in the region $ka \to \infty$. The known [illegible] solution of a diffraction [illegible] ies for an isotropic solid circular cylinder by the method of curvilinear coordinates is rather unwieldy, as the number of terms of the series [illegible] must be taken into consideration in the calculations has the same order of magnitude as the values of ka.

Therefore in the present paper, to obtain very simple calculation formulas, the posed problem has been solved by the operator method [illegible] posed by V. F. Kuf'ko [11].

Upon impingement on the cylinder a portion of the energy of the elastic vibrations is reflected, forming in the liquid surrounding the cylinder a reflected wave p_0, and the rest of the energy passes through the cylinder, forming in it longitudinal and transverse vibrations characterized respectively by the scalar potential φ connected with [illegible] expansion, and the z-component vector potential ψ_z [illegible]. All three types of vibrations are satisfied in first approximation [illegible] designated modes in the plane wave equation

$$\frac{\partial^2 \xi}{\partial r^2} + \frac{1}{r}\frac{\partial \xi}{\partial r} + \frac{1}{r^2}\frac{\partial^2 \xi}{\partial \varphi^2} + k^2 \xi = 0, \qquad (1)$$

where ξ is the reflected p_0 wave or the refracted and [illegible] $= k_j(1 - i\alpha_j/k_j)$ is the wave number of the corresponding [illegible] $= \omega/c_j$ is the the value of the wave vector during the propagation [illegible] tic vibrations in the corresponding mode with the velocity [illegible] coefficient of absorption per unit of length, and r and φ are [illegible] coordinates.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC: 621.396.69:621.319.4

BYTIN, L. L., KOSHTAKOV, V. I., SHIROKOV, V. I.

"Investigation of Ceramic Disc Capacitors With Plates Made From Base Metals by Using a Low-Temperature Plasma Jet"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 4 (36), pp 67-76 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V365)

Translation: The authors present the results of studies of ceramic disc capacitors made on the basis of ceramics grades T-150, M-80, T-40, Ts-70, ST-33, ST-47, ST-75 and UF-53 with plates made by plasma sintering of copper powder with the addition of titanium. The conditions are given for plasma forming of the plates. It is shown that plasma metallizing gives a tearing adhesion strength for the plates to the ceramic of more than 350 g/cm^2, and a loss tangent for the capacitors of less than $12 \cdot 10^{-4}$. It is shown that the mechanical strength, moisture resistance, capacitance and other characteristics of the capacitors meet State Standards 7159-64 and State Standards 2519-67. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 616.915-085.371-092.9

GORSHUNOVA, L. P., BEKTEMIROV, T. A., and KOSHTOYAN, S. YE., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and Chair of Virology, Central Institute of Advanced Training of Physicians, Ministry of Health USSR, Moscow

"Interferon Production and Nonspecific Protective Reactions in the Central Nervous System of Animals Vaccinated With Live Measles Vaccine"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 735-739

Abstract: Immunization of white mice with live measles vaccine results in a prolonged production of endogenous interferon, not only in the reticuloendothelial system but also in other organs. Within 72 hours of immunization, interferon concentration in the spleen and the lymph nodes is higher than in the blood serum for 15 days, while in the lungs and the brain it is even higher than in the reticuloendothelial system for 30 days. It was concluded that this local production of interferon is due to the attenuated measles virus entering the various organs and persisting in them for longer periods. The vaccinated animals also display an augmented, nonspecific resistance to intracerebral inoculation with neurovirulent herpes virus, which must be due to nonspecific protective reactions developing in the CNS in association with the local production of interferon.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 612.825+612.822.3

ALADZHALOVA, N. A., KOL'TSOVA, A. V., and KOSHTOYANTS, O. Kh., Institute of Higher Nervous Activity and Neurophysiology, USSR Academy of Sciences, and Institute of Neurology, USSR Academy of Medical Sciences, Moscow

"Frequency Spectrum of Ultraslow Brain Waves in the Human Brain"

Moscow, Doklady Akad. Nauk SSSR, No 3, 1973, pp 749-752

Abstract: Ultraslow brain waves recorded in 72 subjects age 20 to 50 were found to differ in frequency at the same time in different regions of the brain. The parameters of the ultraslow rhythms did not coincide in symmetrical zones of the hemispheres. They were pronounced in some leads but completely absent in others, and several rhythms might be superposed in the same lead. Statistical analysis of 1700 sections of the recordings showed that during wakefulness second rhythms with a period of 8 to 10 sec and amplitude of 0.05 to 0.1 mv were dominant (in 77% of the cases). The next most frequent was a rhythm with T = 1 min and amplitude of 0.15 to 0.2 mv (in 20% of the cases). Rhythms at other frequencies were observed in less than 10% of the cases each. The latter appear to have been caused by uncontrollable mental activity or change in level of wakefulness.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC: 669.295.053.4.068

FAVORSKAYA, L. V., PRESNETSOVA, V. A., KOSHUL'KO, L. P.

"Extraction of Titanium (IV) and Iron (II) by Di-2-Ethylhexylphosphoric Acid"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 181-187 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G214, by G. Svodtseva).

Translation: The influence ov H_2SO_4 and HCl concentration and O:A ratio on extraction of Ti and Fe by di-2-diethylhexylphosphoric acid (D2EHPA) is studied. The extraction curve of Ti passes through a minimum (29%), corresponding to 24% H_2SO_4 and 3n HCl. As the O:A ratio changes during extraction of solutions containing Ti, Fe and Sc, from 1:20 to 1:50, the Sc can be practically completely converted to the organic phase, separating it from accompanying impurities. 3 figures, 3 tables, 12 biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

Oscillators and Modulators

USSR

UDC: 621.373.072.6

KOSHURNIKOV, B. A.

"Frequency Stability of Microwave Oscillators Based on Ceramal Triodes"

Elektron. tekhnika. Nauch.-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. Microwave Electronics), 1972, vyp. 4, pp 17-23 (from RZh-Rediotekhnika, No 8, Aug 72, Abstract No 8D321)

Translation: Experimental and theoretical data are used as a basis for determining the components of integral instability under the effect of destabilizing factors, and an estimate is given of the components of integral instability due to the tube and tank system. The possibility of calculating the frequency stability of microwave oscillators on ceramal triodes under the effect of destabilizing factors is considered. Basic trends are noted in work to improve stability. Some design measures are presented which appreciably increase stability. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC: 621.372.414

[redacted], ASTASHEV, O. M.

"A Thermostable Coaxial Cavity"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331460, Division H, filed 4 Jan 70, published 7 Feb 72, p 173

Translation: This Author's Certificate introduces a thermostable coaxial microwave cavity which contains a housing, a rod, and an additional compensating element. The rod and compensating element are made of materials with different temperature coefficients of linear expansion. As a distinguishing feature of the patent, the cavity is designed to ensure high frequency stability and a short time for establishing the frequency when there are rapid changes in temperature. The housing of the microwave cavity is made in the form of two ¼-wave cups which fit into each other. A rod in thermal contact with the cups passes through an axial hole in the inner conductors of the cups. One end of the rod is securely fastened to the bottom of the first cup, and the other end protrudes beyond the limits of the second cup and is connected to the additional compensating element which is made in the form of a sleeve connected at one end to the rod and at the other end to the bottom of the second cup.

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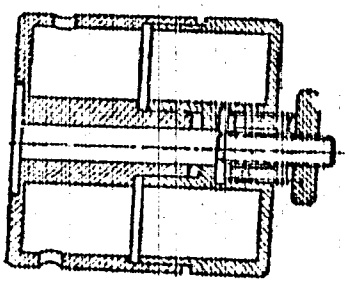
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSHURNIKOV, B. A., ASTASHEV, O. M., USSR Author's Certificate No 331460



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC: 621.319.4(088.8)

BUDKIN, I. A., ALEKSEYEV, V. L., STAZHKOV, V. N., KORNEYEV, A. D., USPENSKIY, D. N., KOSHURO, V. A., BUDIN, V. I.

"A Case for Flat Capacitors"

USSR Author's Certificate No 283414, filed 12 May 69, published 10 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V387 P)

Translation: This Author's Certificate introduces a casing for flat capacitors of fixed value. The cartridge is made in the form of a ruler with reinforcing ribs fitted with locators for the capacitor leads. As a distinguishing feature of the patent, in order to improve the reliability of locating the leads, the casing is equipped with H-shaped transverse guide bridges and longitudinally oriented lobes.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 612.419.014.24:576.312.36/.014.482

KOSICHENKO, I. P., and KHASHBA, L. I., Institute of Experimental Pathology and Therapy, Academy of Medical Sciences USSR, Sukhumi

"Frequency of Chromosome Aberrations in Bone Marrow Cells of Monkeys at Various Times After Irradiation"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 72, No 11, Nov 71, pp 104-106

Abstract: Macaca mula monkeys of both sexes were irradiated with gamma-rays at doses of 550-650 R (LD_{70-90}). Studies carried out 3 months and 5 years after irradiation of the bone marrow cells of the animals showed that the number of structural chromosome aberrations was reliably higher than that for nonirradiated controls. The principal type of aberration was acentric reconstruction after a structural break. The number of structural chromosome aberrations in the ana- and telophases 6, 8, and 12 years after irradiation exceeded that for controls, but the difference was statistically unreliable. The remote somatic effect of irradiation, as indicated by the action on bone marrow cells, was the same irrespective of the sex of the animals.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

KOSICHKIN, Yu. V.

SECOND CONFERENCE ON THE PHYSICS OF SELENIUM AND TELLURIUM

[Article by Candidate of Physical and Mathematical Sciences Yu. V. Kosichkin; Moscow, Vestnik Akademii Nauk SSSR, Russian, Vol 41, No 10, October 1971, pp 77-78]

The second Conference on the Physics of Selenium and Tellurium, organized under the aegis of the European Physics Society with the support of the French Committee for Scientific and Technical Research, was held on 16-19 May in Pont-a-Masson, France. About 100 scientists from 14 countries participated in it.

Selenium and tellurium belong to group VI of the periodic system of the elements. In the crystalline state they have semiconductor properties. Their crystals have identical symmetry, but lower than crystals of other known semiconductors. Connected with that distinctive feature is the specifics of the macro- and microscopic properties, which makes the study of those materials extremely interesting and at the same time more difficult than that of other semiconductors.

These and other circumstances have had the result that in recent years tendencies have been clearly designated toward the separation of investigations in the physics of selenium and tellurium into a special area of the physics of semiconductors, as is testified to by the very fact that a conference was convoked on the given problem.

In spite of the broad industrial application of selenium and the appearance of a considerable number of practical works on tellurium, at the conference there was discussion only of the results of basic physical research. A large portion of the original communications (about two thirds) was devoted to tellurium. This resulted from the fact that the period which had passed since the time of the first conference (1967, in Canada) was extremely fruitful in the study of the physics of precisely that material. The results of the work done were summarized in

JPRS 54618
10 Dec 1971

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 678.85.01:53

DERKACH, N. YA., and KOSIK, A. K.

"Polymers Containing Phosphorus and Carbon in the Main Chain"

Moscow, Plasticheskiye Massy, No 6, 1973, pp 3-5

Abstract: Alkylation of phosphorus diiodide or red phosphorus in presence of iodine with 1,3-propylidene diiodide, 1,6-hexylidene diiodide, or 1,10-decylidene diiodide yields crosslinked polymers -- polymethylenephosphine oxides. When other alkyl diiodides are used in the reaction, after hydrolysis of the iodine containing products, complex mixtures are formed consisting principally of polymers containing phosphorus atoms of various degrees of alkylation. The qualitative and quantitative composition of these mixtures depends on the starting alkyldiiodide. It has been established that some polymethylenephosphine oxides are resistant to heat up to 320°C. They may find application as complex forming agents.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DESORPTION OF GASES DURING THE PROTON IRRADIATION OF METALS AND METAL METALLIC FILM SYSTEMS -U-

AUTHOR-(03)-KATRICH, N.P., KALASHNIKOV, L.N., KOSIK, N.A.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(1), 28-32

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--METAL FILM, IRRADIATION, NICKEL PLATING, TITANIUM, PROTON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1562 STEP NO--UR/0089/70/028/001/0028/0032

CIRC ACCESSION NO--AP0120341

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 037 UNCLASSIFIED

CIRC ACCESSION NO--AP0120341 PROCESSING DATE--23OCT7

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE BOMBARDMENT OF TI, OF NI, AND OF 4 NI COATED TI FILMS, THE LAST HAVING NI THICKNESSES OF 6 TIMES 10 PRIME NEGATIVE6 1.2 TIMES 10 PRIME NEGATIVE5, 1.5 TIMES 10 PRIME NEGATIVE5, AND 2.6 TIMES 10 PRIME NEGATIVE5 CM, RESP., BY 15 KEV H PRIM POSITIVE IONS (60 MU A BEAM), THE ION IMPLANTATION COEFFS, ETA WERE 0.89, 0.25, 0.70, 0.46, 0.24, AND 0.23, RESP.: ETA INCREASED WITH INCREASING H PRIME POSITIVE ION ENERGY, AND THE RESP. VALUES FOR 35 KEV H POSITIVE IONS WERE 0.95, 0.33, 0.95, 0.94, 0.85, AND 0.55. FOR TI, NI, AND TI COATED WITH THE 6 TIMES 10 PRIME NEGATIVE6 CM NI FILM, THE DESORPTION OF GASES (DISSOLVED IN THE METAL) DURING THE BOMBARDMENT WIT H PRIME POSITIVE IONS WAS SUBSTANTIAL, E.G. THE DESORPTION COEFFS. BET FOR THESE 3 MATERIALS WERE 1.12, 1.0, AND 0.6, RESP., IN THE CASE OF BOMBARDMENT WITH 10 PRIME15 IONS (IT DECREASED TO SIMILAR TO 0.25 FOR ALL 3 MATERIALS WHEN THE NO. OF IONS WAS INCREASED TO 10 PRIME17-10 PRIME18); FOR TI COATED WITH THE THICKER NI FILMS, BETA WAS NOT GREATER THAN 0.1 AND WAS INDEPENDENT OF THE NO. OF IONS. PRESUMABLY, THE DESORPTION OF GASES FROM THE BULK OF THE METAL TAKES PLACE BY DIFFUSION ALONG THE H PRIME POSITIVE TRACKS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR UDC 531.1.04

KATRICH, N. P., KALASHNIKOV, L. N., and KOSIK, N. A.

"Gas Desorption in Irradiation of Metals and Metal-Metallic Film Systems With H^+ Ions"

Moscow, Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 28-32

Abstract: The article describes results of a study of gas desorption from titanium and stainless steel and the following systems: titanium-nickel film, titanium-platinum film, stainless steel-platinum film, stainless steel-nickel film, stainless steel-stainless steel (film), with the gas desorption resulting from the bombardment of the metals and metal-metallic film systems with fast H^+ ions. Data are also given on a study of the dependence of the hydrogen ion trapping coefficient on the energy of the bombarded particles for titanium, nickel, and titanium coated with a nickel film of varying thickness. A vacuum was created in the measurement chamber by a system of helium and hydrogen condensation pumps.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KATRICH, N. P., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 28-32

It was found that the desorption coefficient is determined by the desorption of gases adsorbed on the surface (as indicated by the high desorption coefficient for titanium, nickel, and stainless steel during the initial irradiation period) and by the desorption of gases dissolved in the volume of the metals. Experiments staged during irradiation of targets at 300 and 78° K show that desorption of gases dissolved in the volume of the metals occurs mainly as a result of thermal channel diffusion along the tracks of the fast ions. The desorption coefficient does not exceed 5-6 percent for any metal-metallic film combination. The titanium-nickel film (platinum film) combination has the advantage of a high trapping coefficient if the film thicknesses satisfy the condition $l \leq R$, where R is the mean path depth of the H^+ ions.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 035 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EFFECT OF THE AMPLITUDE OF TORSIONAL VIBRATIONS ON THE TENSILE STRAIN STRESS CURVE OF ALUMINUM -U-

AUTHOR-(04)-POSTNIKOV, V.S., KOSILOV, A.T., KOROTAYEV, YE.A., MESHKOV, S.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, MAR. 1970, P. 655-657

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--STRESS STRAIN DIAGRAM, ALUMINUM, CRYSTAL DISLOCATION, BIBLIOGRAPHY, TENSILE TEST, TORSIONAL VIBRATION, STRESS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1460 STEP NO--UR/0126/70/029/000/0655/0657

CIRC ACCESSION NO--AP0125090

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 035 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125090

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF THE AMPLITUDE OF TORSIONAL VIBRATIONS ON THE STRAIN STRESS CURVE OF POLYCRYSTALLINE ALUMINUM SUBJECTED TO A UNIAXIAL TENSILE TEST. IT IS SHOWN THAT THE STRAIN STRESS CURVE EXHIBITS A STEPWISE BEHAVIOR WHICH IS EXPLAINED IN TERMS OF THE DISLOCATION THEORY. FACILITY: VORONEZHSKII POLITEKHNICHESKII INSTITUT, VORONEZH, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 539.67

POSTNIKOV, V. S., MESHKOV, S. I., KOSILOV, A. T., YEL'KIN, Yu. M., and KOROTAYEV, Ye. A.

"On Amplitude Dependence of Internal Friction in Uniaxially Stretchable Metals"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 76-79

Abstract: Results of a study on internal friction in aluminum are presented. The data obtained are discussed on the basis of concepts on thermally activated overcoming of short-range barrier by dislocations, taking into account the supplementary periodical stresses in slip planes, produced by torsional vibrations.

A relation is obtained which characterizes the amplitude dependence of Q^{-1} in the tensile process. The magnitude of activation volume for a proposed mechanism is determined. The activation volume vs. elongation velocity is plotted. 3 figures, 7 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 539.67

AMMER, S. A., DARINSKIY, B. M., and KOSILOV, A. T.

"Dislocation Internal Friction of Deformed Thread-Like Crystals"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 65-67

Abstract: Recovery and the temperature dependence of internal friction of torsionally deformed thread-like copper crystals are studied. The growth of $Q^{-1}(T)$ at 100-150° C is observed, which coincides in temperature, with the first recovery stage, and at higher than 500° C temperature also coincides with the second stage of recovery.

It is assumed that the recovery occurs because of spiral dislocations and surface motion, which overcome obstacles in the form of their intersection with other spiral dislocations located in the other slip surfaces.

A formula is obtained for determining the internal friction with consideration of the secondary action speed, the vibration frequency of a sample, and the activation volume. The length of dislocation segments, contributing mainly to Q^{-1}, is evaluated. 1 figure, 5 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 539.3:551.243

AMMER, S. A., DARINSKIY, B. M., and KOSILOV, A. T.

"Dislocational Internal Friction in Deformed Whiskers"

V sb. Vnutr. treniye v metallich. materialakh (Internal Friction in Metallic Materials -- collection of works), Moscow, Nauka Pub. House, 1970, pp 65-67 (from RZh-Mekhanika, No 12, Dec 70, Abstract No 12V513, Authors' Abstract)

Translation: Recovery and the temperature dependence of internal friction of copper whiskers deformed by twisting are studied. A rise in $Q^{-1}(T)$ in the 100-150° temperature range is observed. This coincides, as to temperature, with the first recovery stage, while at temperatures higher than 500° it also coincides with the second recovery stage. It is assumed that recovery occurs due to the motion of screw dislocations and surfaces, which then surmount obstacles in the form of their intersections with other screw dislocations located in other slip planes. A formulas is derived for calculating the internal friction, allowing for the aftereffect rate, frequency of specimen vibration, and activation volume. The length of the dislocational segments making the basic contribution to Q^{-1} is estimated. Bibliography: 5 entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC: 619:616.981.42-084.47

KOSILOV, I. A., KARPOV, EL GL, SYRMLANOV, R. M., and YAKOVLEV, I. A., Siberian Scientific Research Veternary Institute

"Inagglutinogenic Brucellosis Vaccine From Strain B-1"

Moscow, Veterinariya, No 2, 1971, pp 46-48

Abstract: The reactivity of the newly developed brucellosis vaccine from inagglutinogenic Br. abortus strain B-1 was studied in 4,800 cattle, 3,200 of which had previously been inoculated with vaccine from strain 19. After vaccination some of the healthy animals (1 to 5%) responded in the agglutination and complement-fixation reactions with standard antigens in 3 to 5 months. After revaccination there was no increase in the number of animals reacting or in the length of time the antibodies remained. Complement-fixing antibodies with homologous antigen were found in 85% of the animals 20 to 30 days after inoculation. The vaccine produced the same degree of immunity in young cows subsequently inoculated with a virulent culture from the Br. abortus 54 strain as the widely used vaccine from strain 19. For example, Brucella were isolated from the regional lymph nodes of only 9 of 16 animals vaccinated with B-1 vaccine. The immunity conferred by the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSILOV, I. A., et al, Veterinariya, No 2, 1971, pp 46-48

two vaccines diminished steadily and after 23 to 30 months most of the animals could not resist experimental infection. However, revaccination at this time with either vaccine restored immunity.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSILOV, R. A.

UDC 621.397

"Some Results of Experimental Investigation of a High-Frequency Electronic-Optical Scanning Television System for a Station with Classification Yards"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of Moscow Institute of Railroad Transportation Engineering), 1970, vyp. 330, pp 38-42 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G245)

Translation: This article contains a description of a procedure for determining the contrast-frequency characteristics of the elements of a TV system. The results of measuring the contrast-frequency characteristic of the input optical system of the electronic-optical light amplifier and the transfer optical system are presented. There are four illustrations and a seven-entry bibliography.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 612.66-053.6[621.941:858.396.1

KOSILOV, S. A., LEONOVA, L. A., and FILINA, N. S., Institute of Physiology of Children and Adolescents, Academy of Pedagogical Sciences USSR, Moscow

"Experience in Using the Results of Physiological Examinations to Predict the Occupational Fitness of Adolescents as Metal Turners"

Moscow, Gigiyena i Sanitariya, No 4, 1973, pp 27-29

Abstract: The authors found 28 key physiological functions to be involved in the various operations performed by metal turners, e.g., muscular strength, precision of kinesthesia, speed of reaction to white and red light, etc., and tested them in 100 15- and 16-year-old youngsters attending a vocational school before they acquired any specific skills and abilities. The results of the tests were compared with evaluations of the skills of the same persons made at the end of the training period by master workers. The test results coincided with the evaluations in about 90% of the cases. The authors caution that the physiological tests are not completely predictive of ultimate success, which also involves such factors as interest in the work, sense of discipline, social considerations, personality, etc.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 61:658.387

KOSILOV, S. A., and DUSHKOV, B. A.

Mediko-Biologicheskiye Problemy NOT (Medical-Biological Problems of the Scientific Organization of Labor), Moscow, "Meditsina," 1971, 176 pp

Translation: Annotation: The book considers ways and methods of developing and applying the physiologically substantiated proposals advanced by medical workers to the scientific organization of labor at industrial enterprises. A description is given of the physiological processes which determine active adaptation of the human organism to concrete conditions of productive labor, and methods are pointed out for isolation, analysis, and optimal transformation directed to raising the work capacity and labor productivity and strengthening workers' health. The purpose of the book is to help medical workers formulate and optimally resolve medical and physiological questions of NOT (Scientific Organization of Labor).

The publication is intended for health organizers and medical workers with an interest in questions of NOT.

Foreward: At the present time, the proposition that the central place in the unified, complex process of production interaction between man and machine belongs to man is receiving increasingly wide recognition. For this reason, physiologically and hygienically sound recommendations directed to optimal

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USSR

KOSILOV, S. A., and DUSHKOV, B. A, Mediko-Biologicheskiye Problemy NOT, Moscow, "Meditsina," 1971, 176 pp

regulation of the physiological processes taking place during human work have become essential for efficien organization of labor processes.

Medical workers and representatives of other special fields (economists, engineers, norm experts, and others) are being involved in the development of measures within the NOT system. The specialized scientific literature now available on medical-biological questions of NOT is primarily presented in journal articles, and therefore the need has arisen for larger publications on questions of theory, methodology, practice, and organizing physiological and hygienic research at the modern industrial enterprise. This book familiarizes medical workers with new possibilities for improving labor, and also solves a number of concrete tasks in scientific organization of labor and adapting the human being to production conditions. For readers wishing to make a thorough study of particular questions, a list of additional literature is given.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSILOV, S. A., and DUSHKOV, B. A., Mediko-Biologicheskiye Problemy NOT, Moscow, "Meditsina," 1971, 176 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSILOV, S. A., and DUSHKOV, B. A., Mediko-Biologicheskiye Problemy NOT, Moscow, "Meditsina," 1971, 1971, 176 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

KOSILOV, S.A.

Health

JPRS: 55991
23 May 72

UDC: 612.613:37.035.3

PHYSIOLOGICAL AND HYGIENIC ASPECT OF WORK TRAINING AND VOCATIONAL GUIDANCE

[Article by I.D. Kartsev, S.A. Kosilov, Institute of Child and Adolescent Hygiene, USSR Ministry of Health, Institute of Child and Adolescent Physiology, USSR Academy of Pedagogic Sciences, Moscow; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 4, 1972, pp 89-94]

The rational use of society's manpower is an important prerequisite for implementing the decrees of the 23rd and 24th congresses of the CPSU pertaining to the increase in effectiveness of national production and productivity of labor. In a period of intensive building of communism, increasing demands are being made of the work force and its professional training. It is now time to train workers whose development and level of technical knowledge would come closer to the level of technical engineering workers, and they should be proficient in modern technology.

The complexity of modern occupations is rather great and is showing a tendency to increase. For this reason, the choice of occupation by an adolescent that would meet both his and society's demands, is an extremely difficult and sometimes impossible matter.

The Constitution of the Soviet Union proclaims the right to work, which implies not only employment but also free scientifically substantiated choice of occupation which should satisfy the wishes, demands, and capabilities of the adolescent as well as the demands of society. Only scientifically substantiated choice of profession will provide for joyful work that will not only help in preserving health but also in development. Without this, work cannot be a human need. Without scientifically substantiated choice of occupation, proper placement of personnel is unthinkable. In our times, the scientific and technological revolution is proceeding at a pace having no equal in history, but this pace is quickening more and more. Technological progress involves all aspects of labor. The choice of a profession in our country is not set against the adolescent's desire to receive higher and secondary specialized education; it is viewed as the start of a career and future, more deliberate choice of specialty by the adolescent, which equally requires scientific substantiation.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

KOSILOV, S. A., Professor, Doctor of Biological Sciences, Scientific Research Institute of the Physiology of Children and Juveniles, Academy of Pediatric Sciences USSR, and SANOYAN, G. G., Docent, Candidate of Pedagogical Sciences, Moscow Aviation Institute

"Significance of Quantitative Characteristics of the Dominant in Work and Sport"

Moscow, Teoriya i Praktika Fizicheskoy Kul'tury, No 6, 1971, pp 46-51

Abstract: After reviewing literature on the development, maintenance, disturbance, and extinction of concentration on skill-requiring jobs or physical exercises, the authors present and analyze the results of their original study performed on radio-assembly factory workers whose task was to put several parts together and then spot-weld them. Since power was delivered into the welding machine by depressing a foot pedal, the number of pedal depressions per unit time was taken as the index of concentration and labor productivity. The plot of the productivity index over a work day yielded a biphasic curve in the presence and absence of distracting factors. The rise of the curve is interpreted as warming up, the fall as fatigue. After the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR.

KOSILOV, S. A. and SANOYAN, G. G., Teoriya i Praktika Fizicheskoy Kul'tury, No 6, 1971, pp 46-51

lunch break, the two subphases are present again, but the peak of productivity is much lower than that in the midmorning. During performance of other types of work, the curve may be monophasic with the peak occurring in midday, it may rise continuously, or it may assume several other characteristic shapes. Individual differences are discussed and equations for idealized curves are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--FORMATION AND PERFECTION OF PURPOSEFUL PRECISE MOVEMENTS IN ANIMALS
-U-

AUTHOR--DENISOVA, I.M., KOSILOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP 78-84

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DOG, CONDITIONED REFLEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0791 STEP NO--UR/0247/70/020/001/0078/0084

CIRC ACCESSION NO--AP0052229

UNCLASSIFIED

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UNCLASSIFIED

CIRC ACCESSION NO--AP0052229 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DOGS WERE TRAINED TO PRESS PRECISELY A LEVER WITH THE LEG. UPON A CERTAIN EFFORT AND AMPLITUDE OF PRESSURE, THE BOWL WITH FOOD COINCIDED WITH THE OPENING IN THE TRANSPARENT JACKET, AND THE DOG RECEIVED THE FOOD. AS TRAINING WENT ON, THE PRECISION OF PRESSURE IMPROVED. AT THE INITIAL STAGE THE NUMBER AND DURATION OF SEARCH STOPPAGES INCREASED AS THE PRESET HEIGHT OF THE BOWL LIFTING WAS BEING APPROACHED. THIS TESTIFIED TO THE PARTICIPATION OF THE ANALYSIS OF KINESTHETIC STIMULI. THEN, AS THE MAXIMUM OF THE PARAMETERS WAS ACHIEVED, THE SEARCH STOPPAGES BEGAN TO DECREASE (WINDING UP THE SEARCH) AND THE MOVEMENTS BECAME SINGLE STAGED, I. E. THE KINESTHETIC ANALYSIS CEASED. IN A SINGLE EXPERIMENT, WHEN THE REQUIRED PRESSURE AMPLITUDE REMAINED CONSTANT, WHILE THE EFFORTS FOR ITS ACHIEVEMENT CHANGED, THE ACCURACY OF THE MOVEMENT REMAINED HIGH DUE TO A CONSIDERABLE INCREASE IN THE SEARCH.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 612.833.81

DENISOVA, I. M., and KOSILOV, S. A., Institute of Developmental Physiology and Physical Training, Academy of Pedagogical Sciences USSR

"Formation and Improvement of Purposeful Precise Movements in Animals"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, No 1, 1970, pp 7-[illegible]

Abstract: Dogs were taught to press their right front paw on a lever that moved a bowl of food enclosed in a transparent box. With the right amount of pressure on the lever, the bowl coincided with an opening in the top of the box, and the animal was able to get the food. If the pressure was too light, the bowl failed to reach the opening; if too heavy, it passed by the opening and the animal did not get the food. Precision increased with training. The number and duration of searching movements steadily decreased until the bowl retrieved in a single step. Even when the weights attached to the lever were changed, the precision of the movements remained high, because of the increased intensity of search.

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USSR

DENISOVA, I. M., et al., Moscow, Zhurnal Vysshey Nervnoy Deyatel'-nosti, No 1, 1970, pp 78-84

This was achieved not by a lengthening of the period of analysis, but by an increase in the number of stages in the search.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 542.957:547.355.9:547.558.1

GRANDBERG, K. I., SMYSLOVA, Ye. I., and KOSINA, A. N., Institute of Metal Organic Compounds, Academy of Sciences USSR

"Reactions of Vinyl(triphenylphosphine) Gold"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, Dec 73, pp 2787-2789

Abstract: When vinyl(triphenylphosphine) gold (I) is reacted with electrophilic reagents -- acids, halides, mercury salts -- the gold-carbon bond is broken. Borohydrofluoric acid converts (I) into the borofluoride of gold organic complex cation containing two atoms of gold. With potassium permanganate in acetone (I) yields one of the first representatives of α-aurylated ketones -- triphenylphosphine-gold keton.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

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UDC 541.49:547.558.1:547.355.9

NESMEYANOV, A. N., NEMEVALOVA, E. G., KRIVYKH, V. V., [redacted], FRUNBERG, K. I., and SMYSLOVA, E. I., Moscow State University imeni M. V. Lomonosov

"Triphenylphosphine Complexes of Benzyl- and Vinylgold"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972, pp 653-654

Abstract: Alkyl and aryl compounds of monovalent gold are stable only in the form of triphenylphosphine complexes. The benzyl compound was synthesized according to the reaction

$$C_6H_5CH_2HgCl + Cl\,Au \cdot P\,(C_6H_5) \longrightarrow C_6H_5CH_2Au \cdot P\,(C_6H_5)_3$$

The yield was 85% in toluene and 40% in tetrahydrofuran. The nmr spectrum of the product indicated a proton signal in the phenyl group (in the range of 6.9-7.3 m.d.) and two signals from the methylene group (in the range of 2.54 to 2.76 m.d.). By using the double nuclear magnetic resonance of H^1-P^{31}, it was shown that the interaction of the protons from the methylene group with phosphorus caused peak splitting. The vinyl compound was obtained from the reaction

$$CH_2 = CHMgBr + Cl\,Au \cdot P\,(C_6H_5)_3 \xrightarrow[50^\circ]{THF} CH_2 = CH\,Au \cdot P\,(C_6H_5)_3$$

The yield was 90%. 1/1

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFLUX OF RAREFIED GAS MIXTURES FROM OPENINGS -U-

AUTHOR-(04)-BOCHKAREV, A.A., KOSINOV, V.A., PRIKHODKO, V.G., REBROV, A.K.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 653-660

DATE PUBLISHED----APR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RAREFIED GAS, GAS PRESSURE, MOLECULAR KINETICS, FREE MOLECULAR FLOW, MULTICOMPONENT CHEMICAL MIXTURE, CARBON DIOXIDE, HELIUM, EXPANDING GAS, FLOW VELOCITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1382 STEP NO--UR/0170/70/018/000/0653/0660

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125030

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE EFFLUX OF A GAS MIXTURE, WHOSE COMPONENTS DIFFER GREATLY IN MOLECULAR WEIGHTS, FROM AN OPENING OVER A WIDE RANGE OF PRESSURES. IT IS SHOWN THAT FOR A MIXTURE EXPANDING UNDER FLOW CONDITIONS CORRESPONDING TO THE TRANSITION FROM CONTINUOUS TO FREE MOLECULAR FLOW, A PRONOUNCED DIFFERENCE BETWEEN THE VELOCITIES OF THE MIXTURE COMPONENTS MAY BE OBSERVED. CONSEQUENTLY, THE CONCEPT OF DISCHARGE COEFFICIENTS OF THE MIXTURE COMPONENTS IS INTRODUCED. FORMULAS FOR CALCULATING THE DISCHARGE COEFFICIENTS FOR MOLECULAR FLOW CONDITIONS ARE DERIVED, AND NUMERICAL RESULTS FOR A MIXTURE OF HELIUM WITH CARBON DIOXIDE ARE OBTAINED. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT TEPLOFIZIKI, NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 534.134

FILIPPOV, A. P. and KOSINOV, YU. P. (Khar'kov)

"Free Torsional Oscillations of the "Shaft-Disk-Blade" System of Turbounit Rotors"

Moscow, Mashinovedeniye, No 3, May 1973, pp 23-28

Abstract: A method suitable for the use of an electronic digital computer is presented for calculation of the natural frequencies and forms of oscillation of the "shaft-disk-blade" system of turbounit rotors. The method is based upon expansion of the forms of concurrent oscillations of the system on the basis of the oscillation forms of "partial elements" (disks and blades). The obtained frequency equation, which is free of "resonances," is subsequently solved by means of simple selection. Expressions of the conditions of generalized orthogonality of the oscillation forms of the "shaft-disk-blade" system are presented, together with results of the calculation of a numerical example. 1 figure. 1 table. 1 reference.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 546.185

KOSINSKAYA, I. M., PINCHUK, A. M., SHEVCHENKO, V. I., and BESPAL'KO, G. K.

"Phenyldichloro- and Diphenylchlorophosphazocyanoalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 1903-1906

Abstract: Replacement of one chlorine atom by a phenyl radical in trichlorophosphazocyanoalkanes does not prevent their conversion to tricyclic compounds in a reaction with hydrogen chloride, but lowers drastically the thermal stability of the products. The presence of two phenyl radicals in the phosphazo group stops completely the conversion of the phosphazocyanoalkanes into tricyclic compounds.

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USSR

UDC 546.185

KOSINSKAYA, I. M., PINCHUK, A. M., and SHEVCHENKO, V. I., Institute of Organic Chemistry, Ukrainian Academy of Sciences

"Phosphorylation of Cyanamides"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,396-2,398

Abstract: High reactivity of the triple bond of the nitrile group has been found characteristic of compounds of type R--X-CN (X = O, S, NR), and it is also known that the cyanates and thiocynates readily add phosphorus pentachloride at the nitrile group. The authors demonstrate experimentally that the dialkylcyanamides and aroylcyanamides also readily add phosphorus pentachloride in the same way. The dialkylcyanamides, depending on the reagents used, are transformed into the acid chlorides, of N,N-dialkyl-N-tetrachlorophosphoiminocarbaminic acids; the aroylcyanamides, from hexachlorophosphorate, yield the acid chlorides of (N-aroylimino)trichlorophosphazocarbonic acids.

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USSR

UDC 546.185

PINCHUK, A. M., KOSINSKAYA, I. M., and SHEVCHENKO, V. I., Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"Dimerization of Trichlorophosphazocyanoalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 522-526

Abstract: Trichlorophosphazocyanoalkanes undergo an addition reaction with a mole of hydrogen chloride to form 2,2,5-trichloro-4,4-dialkyl-2-phosphaimidazolinium oxides which, when heated and treated with triethylamine or phosphorus pentachloride, eliminate a mole of hydrogen chloride, forming a mixture of trichlorophosphazocyanoalkanes and 2,2,4,7,7,9-hexachloro-5,5,10,10-tetraalkyl-1,3,6,8-tetraaza-2,7-diphosphatricyclo[5,3,0,$0^{2,6}$]-decadienes-3,8. The yield and thermal stability of the latter decreases with an increase in the volume of the alkyl substituents associated with the nitrogen atom.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

USSR

UDC 546.185

KOSINSKAYA, I. M., PINCHUK, A. M., and SHEVCHENKO, V. I., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Phosphorylation of N-Alkyl(aryl)-3-aminopropionitriles"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 1, Jan 71, pp 105-109

Abstract: The authors synthesized N-alkyl(aryl)-N-tetrachlorophosphoro-3-aminopropionitriles according to the scheme

$$2NCCH_2CH_2NHR+PCl_3 \rightarrow NCCH_2CH_2NRH_2Cl+NCCH_2CH_2N(R)PCl_2 \xrightarrow{Cl_2} NCCH_2CH_2N(R)PCl_4$$

These compounds are thermally unstable and decompose at 20°. They readily react with sulfur dioxide to give N-alkyl-(aryl)-N-dichlorophosphonyl-3-aminopropionitriles. The latter are very stable, showing no change at 130°. They are phosphorylated by phosphorus pentachloride at the nitrile group to give 2, 2,3,3-tetrachloro-3-tetrachlorophosphazo-N-alkyl(aryl)-N-dichlorophosphonylaminopropanes. The latter decompose on heating into phosphorus pentachloride and 2,2-dichloro-3-N-alkyl(aryl)-N-dichlorophosphonylaminopropionitriles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

1/3 015 UNCLASSIFIED

TITLE--PHOSPHORYLATION OF NITRILES OF 3,AMINO AND 3,N ARYLAMINOPROPANOIC ACID -U- PROCESSING DATE--27NOV70

AUTHOR-(02)-PINCHUK, A.M., KOSINSKAYA, I.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40 (3), 546-51

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC NITRILE COMPOUND, AMINE, PROPIONIC ACID, HETEROCYCLIC NITROGEN COMPOUND, PHOSPHORUS CHLORIDE, ORGANIC PHOSPHORUS COMPOUND, CHLORINATED ORGANIC COMPOUND, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1470

STEP NO--UR/0079/70/040/003/0546/0551

CIRC ACCESSION NO--AP0135141

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201510018-1

2/3 015

CIRC ACCESSION NO--AP0135141 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REFLUXING 0.05 MOLE H SUB2 N(CH SUB2) SUB2 CN.HCL AND 0.2 MOLE PCL SUB5 IN C SUB6 H SUB6 2-2.5 HR GAVE A MIXT. WHICH, TREATED WITH DRY SO SUB2 AT 0-5DEGREES THEN HELD IN VACUO AT 30-50DEGREES, GAVE 75PERCENT CL SUB3 P:NCCL SUB2 CCL SUB2 CH SUB2 N:PCL SUB3, D PRIME20 1.8164, N PRIME20 SUBD 1.5827, WHICH HEATED IN VACUO AT 150-800DEGREES GAVE 60PERCENT NCCCL SUB2 CH SUB2 N:PCL SUB3 (I), B SUB0.06 64-5DEGREES, 1.5955, 1.5242. I IN C SUB6 H SUB6 WAS TREATED WITH 1 EQUIV. ACOH, HEATED 0.5 HR, AND KEPT OVERNIGHT TO YIELD 67PERCENT NCCCL SUB2, CH SUB2 NHPOCL SUB2, M. 84-5DEGREES, ALSO PREPD. BY EXPOSURE OF THE TRICHLORIDE TO MOIST AIR. I CHLORINATED 6 HR IN PHCL AT 130DEGREES GAVE 60PERCENT NCCCL SUB2 CCL SUB2N:PCL SUB3, B SUB0.07 77-9DEGREES, M. 36-8DEGREES. HEATING 0.05 MOLE PHN(CH SUB2) SUB2 CN.HCL WITH 0.2 MOLE PCL SUB5 IN C SUB2 H SUB4 CL SUB2 1 HR GAVE 71PERCENT II, M. 137-8DEGREES, WHICH, WITH SO SUB2, GAVE 50PERCENT III, M. 103.5-5DEGREES, WHICH WITH CL AT 80DEGREES IN C SUB2 H SUB4 CL SUB2 7 HR GAVE 60PERCENT IV, M. 137-8DEGREES. REFLUXING 0.05 MOLE ARN(CH SUB2) SUB2 CN.HCL WITH 0.2 MOLE PCL SUB5 IN PHCL 1-1.5 HR SIMILARLY GAVE ARN:CCLCCL:CCLN:, PCL SUB3; AR EQUALS PH (V), B SUB0.03 119-22DEGREES, D PRIME20 1.5404, N PRIME20 SUBD 1.5942; AR EQUALS P CLC SUB6 H SUB4, 30PERCENT B SUB0.03 133-6DEGREES, 1.5907, 1.6028 (ACCOMPANIED BY (P,CLC SUB6 H SUB4 N:PCL SUB3) SUB2, M. 180-20DEGREES. HEATING III IN PHCL 1.5 HR GAVE HCL AND PCL SUB3 AND 78PERCENT V. IV SIMILARLY TREATED WITH PCL SUB5 IN C SUB6 H SUB4 CL SUB2 8 HR AT 170DEGREES GAVE 50PERCENT V.

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CIRC ACCESSION NO--AP0135141 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--CHLORINATION OF V 1 HR AT 20DEGREES IN C SUB2 H SUB4 CL SUB2 GAVE 95PERCENT CL SUB3 P:NCCL SUB2 CCL SUB2 CCL:NPH, B SUB0.03 158-60DEGREES, 1.6217, 1.6032; 82PERCENT P CHLOROPHENYL ANALOG, PREPD. SIMILARLY, B SUB0.03 159-61DEGREES, 1.6547, 1.6092. REFLUXING V WITH 1 MOLE ACOH IN C SUB6 H SUB6 0.5 HR GAVE, AFTER 12 HR AT ROOM TEMP., 75PERCENT CL SUB2 P(O), NHCCL TRIPLE BOND CCLCCL:NPH, M. 118-20DEGREES. P CHLOROPHENYL ANALOG, M. 141-3DEGREES, WAS PREPD. SIMILARLY.

FACILITY: INST. ORG. KHIM., KIEV, USSR.

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USSR

UDC: 681.325.3

KUTYATINA, V. N., KOSINSKIY, A. V., RUBINA, V. B.

"An Angle-to-Code Converter"

USSR Author's Certificate No 332487, filed 28 May 69, published 29 Apr 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B472 P)

Translation: An angle-to-code converter is proposed which contains a phase shifter, pulse generator, coincidence gate, and two null indicators, the input of the first being connected to the input terminals of the device directly, while the input of the second null indicator is connected to the input terminals of the device through the phase shifter. The outputs of the null indicators are connected respectively to the first input of the main flip-flop and to the input of a counter. To reduce the frequency error, the converter contains an additional flip-flop, two switches, a peak detector, and a filter. The filter output is connected to one of the inputs of the second null indicator, the output of this null indicator being connected to one of the inputs of the additional flip-flop.

The second input of the main flip-flop is connected to the output of

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KUTYATINA, V. N. et al., USSR Author's Certificate No 332487

the flip-flop for the last digit of the counter, and the other input of the additional flip-flop is connected to the output of the first null indicator. The outputs of the flip-flops are connected to the controlling inputs of the corresponding switches. The controlled input of one switch is connected to one of the input terminals of the device, and the output is connected to the input of the peak detector. The output of the peak detector is connected to the controlled input of the other switch, the output of this switch being connected to the filter input.

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USSR

UDC: 531.717.55:621.383

GABIDULIN, M. A., KOSINSKIY, A. V., Moscow Institute of Electronic Machine Building

"A Photoelectric Moire Pickup"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334473, Division G, filed 21 Jan 69, published 30 Mar 72, p 157

Translation: This Author's Certificate introduces: 1. A photoelectric Moire pickup which contains an illuminator, movable and stationary rasters, four photocells displaced relative to one another in accordance with the phase of the Moire band by ¼ step, an amplifier with two output channels which unite the photocell signals by pairs, and a readout device. As a distinguishing feature of the patent, measurement accuracy is improved by adding a reference signal generator, a modulator for the luminous flux of the illuminator operating on the reference signal frequency, and a logic module which displaces the phase of the output signal relative to the reference signal in proportion to the displacement of the moving raster. The logic module is made in the form of an RC-circuit tuned to the fre-

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GABIDULIN, M. A., KOSINSKIY, A. V., USSR Author's Certificate No 334473

quency ω of the reference signal so that RCω-I [sic]. The active (resistive) and capacitive inputs of the RC network are connected to the outputs of the amplifier channels, and the centertap is connected to the readout device.
2. A modification of this pickup distinguished by the fact that errors due to variations in the reference frequency signal, in the parameters of the RC circuit, and to amplifier phase errors are compensated by adding a second RC circuit of reverse polarity, and by using the phase difference between signals taken off from the centertaps of the two RC circuits as the output.

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Reliability Theory

USSR

UDC: 621.396.6.019.3

GRASHCHENKOV, V. S., KOSINSKIY, B. P.

"On a Method of Checking the Operation of Radio Electronic Equipment"

V sb. Sistemy i sredstva avtomat. upr. (Systems and Facilities for Automatic Control), Kiev, 1970, pp 68-73 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V314)

Translation: A mathematical model is considered for the problem of monitoring the functioning of radio electronic equipment. An algorithm for detecting a malfunction is described. Expressions are derived for the probability of a correct decision on the operability of equipment. N. S.

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USSR

UDC 615.45.012(075.8)

BABSKIY, Ye. B., ZUBKOV, A. A., KOSITSKIY, G. I., and KHODOROV, B. I.

Fiziologiya Cheloveka (Human Physiology), 2nd Edition, Moscow, Meditsina, 1972, 656 pp

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USSR

KOSITSKIY, G. I.

Tsivilizatsiya i Serdtse (Civilization and the Heart), Moscow, "Nauka" Press, 1971, 200 pp

Translation: Annotation: Professor G. I. Kositskiy's book tells about the causes of the rapid growth in illnesses of the human cardiovascular system under modern civilized conditions. It considers the influence of a number of environmental factors on the organism and reveals the contradictions between the requirements of our biological nature (a consequence of human evolution) and certain conditions of life. On the basis of an analysis of the enumerated phenomena, the author comes to the conclusion that the increasing growth in heart and vascular ailments is not inevitable and that these dangerous illnesses can be avoided. The concrete recommendations needed for this are given in the book.

The work is intended for readers with secondary and higher education who do not have specialized medical or biological training, primarily for persons engaged in intensive mental labor.

Foreword:

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KOSITSKIY, G. I., Tsivilizatsiya i Serdtse, Moscow, "Nauka" Press, 1971, 200 pp

Illnesses of the cardiovascular system -- hypertension, atherosclerosis, and myocardial infarction -- have become a serious danger to people living under modern civilized conditions.

The book Tsivilizatsiya i Serdtse, written by Professor G. I. Kositskiy, head of the department of physiology of the Second Moscow State Medical Institute imeni N. I. Pirogov and a specialist in the field of experimental cardiology, is distinctive for the comprehensiveness of its approach to analysis of this very complex problem.

The work reviews the most important factors of contemporary civilization and their influence on the cardiovascular system and it illuminates the primary regulatory mechanisms for functions of this system and the conditions which may lead to damaging these mechanisms. Data concerning the role of overloading the nervous system, the conditions and causes of the appearance of emotion, and the significance of these states in the life of the organism are analyzed. Descriptions are given of the physiological mechanisms for development of emotional strain and the changes in heart and vascular activity arising at this time. Data are given on the role of inefficient diet, above all a surplus of calories, table salt, and many other factors.

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KOSITSKIY, G. I., Tsivilizatsiya i Serdtse, Moscow, "Nauka" Press, 1971, 200 pp

The book is permeated with optimism. It shows convincingly that a person has every opportunity under conditions of our social order to fully avoid these heart and vascular ailments which are so dangerous for each of us and for society as a whole. To a significant degree, realizing these opportunities depends on our own selves, on our psychology, attitude, activity, and way of life.

Investigating a broad range of questions related to the biological evolution of human beings and comparing the requirement of human biological nature with the conditions of modern life permit the author to solidly substantiate the main points of the book -- the role of the active life and the significance of physical activity, which are means of avoiding heart and vascular impairments. These ideas are based on a comprehensive analysis of the problem and on the author's conceptions of the role of the principle of the dominant in pathology and on the significance of intensive muscular activity as a means of "discharging" emotional strain, that is, normalizing those changes in physiological processes and organism functions which arise during negative emotions. The work describes the conditions for "discharging" emotional strain and points out ways to control emotional reactions. In addition to this, a number of other important recommendations are given.

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KOSITSKIY, G. I., Tsivilizatsiya i Serdtse, Moscow, "Nauka" Press, 1971, 200 pp

The book is written in a clear, lively, and attractive manner and will undoubtedly be very useful to a broad range of readers.

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