"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC: 681.3

SOKOLENKO, V., KOMEL'KOV, P. V.

"Organization of Technical Servicing and Statistical Analysis of the Reliability of a Computer"

V sb. Elektronno-vychisl. tekhn. i programmir. (Computer Technology and Programming--collection of works), vyp. 3, Moscow, "Statistika", 1970, pp 63-70 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V681)

Translation: The paper deals with the problems of work organization in a Computer Center, and preventative maintenance on computers; basic criteria are given which characterize computer reliability; basic forms of technical and accounting documentation are presented for computer use, and an algorithm is realized for processing and analyzing statistical data on computer failures. Authors' abstract.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 541.14

SOKOLENKO, V. A., DADALI, V. A., LITVINENKO, L. M., Academician of the Ukrainian SSR Academy of Sciences, SEMENOV, V. L.

"Effect of Ultraviolet Radiation on the Reaction Rate of the Hydrolysis of Tetraethyl Pyrophosphate Catalyzed by Benzimidazole"

Moscow, Doklady Akademii nauk SSSR, Vol 208, No 6, 1973, pp 1398-1400

Abstract: A significant increase (by 15 orders) in the basicity of benzimidazole in the case of electron excitation and a noticeable increase in the model reaction rate of the hydrolysis of tetraethyl pyrophosphate catalyzed by benzimidazole during ultraviolet radiation were discovered previously [L. M. Litvinenko, et al., DAN, Vol 204, No 5, 1972]. A further study has now been made of the effect of the electron excitation of benzimidazole molecules on the rate of the tetraethyl pyrophosphate hydrolysis reaction. The proportion of excited molecules participating in the catalysis was determined, and the dependence ofthe reaction rate on their concentration was investigated.

The significant increase in catalytic activity of the benzimidazole molecules on excitation of them and also the significant changes in the acid-base properties of the excited molecules of a number of compounds entering into the composition of proteins [B. V. Donckt, Progr. Reakt.

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USSR

SOKOLENKO, V. A., et al., Doklady Akademii nauk SSSR, Vol 208, No 6, 1973, pp 1398-1400

Kinet, No 5, 273, 1970/ lead to the assumption that analogous processes can have a defined effect also in encymatic catalysis. It is possible that the catalytic activity of enzymes can in a number of cases arise from the functional protein groups excited during the enzyme-substrate interactions. The possible nucleophilic mechanism of catalysis of the excited molecule by the catalyst is proposed as was used previously /F. Cramer, et al., Ber., No 94, 1634, 1961/ to explain the catalytic effect of imidazol in the base state.

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1/2 [illegible] 19 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REACTION OF OMEGA BROMOACETOPHENONE AND OMEGA BROMOPENTAFLUOROACETOPHENONE WITH SOME NUCLEOPHILIC REAGENTS -U-

AUTHOR-(05)-ANDREYEVSKAYA, O.I., BARKHASH, V.A., KOROBEYNICHEVA, I.K., KRIVOUSOVA, YE.D., SOKOLENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 711-17

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BROMINATED ORGANIC COMPOUND, ACETOPHENONE, FLUORINATED ORGANIC COMPOUND, ORGANIC OXIDE, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1961 STEP NO--UR/0366/70/006/004/0711/0717

CIRC ACCESSION NO--AP0125550

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/E 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0125550 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF BZCH SUB2 BR (I) WITH MEONA IN MEOH AT 35DEGREES GAVE ONLY BZCH SUB2 OME (II) AND BZCH SUB2 OH (III) (CONSIDERED FORMED THROUGH THE INTERMEDIATE 1,METHOXY,1,PHENYLETHYLENE OXIDE, WHICH WAS NOT ISOLATED). AT 0-50DEGREES THIS REACTION GAVE THE ABOVE PRODUCTS AND ALSO 2 ISOMERS OF 1,BENZOYL,2,BROMOMETHYL,2,PHENYLETHYLENE OXIDE (IV). THE REACTION OF I WITH KF IN REFLUXING MEOH GAVE II, III, BZCH SUB2 F, AND 2 ISOMERS OF IV. THE REACTIONS OF C SUB6 F SUB5 COCH SUB2 BR (V) WITH MEONA IN MEOH GAVE COMPLEX MIXTS. CONTG. IN SOME CASES C SUB6 F SUB5 H, 1,BROMOMETHYL,1,2,BIS(PENTAFLUOROPHENYL)ETHYLENE OXIDE (VI), AND 1,BROMOMETHYL,1,PENTAFLUOROPHENYL2,(P,METHOXYTETRAFLUOROBENZOYL)ETHYLENE OXIDE. THE REACTION OF V WITH KF-MEOH GAVE ALSO VI, C SUB6 F SUB5 H, AND TRANS,1,2,3,TRIS(PENTAFLUOROPHENYL) CYCLOPROPANE (VII). HEATING VII WITH HI-ACOH ISOMERIZED IT TO 2,5,BIS(PENTAFLUOROPHENYL),3,PENTAFLUOROBENZOYLMETHYLFURNA. THE MECHANISMS OF THE ABOVE REACTIONS ARE DISCUSSED. FACILITY: NOVOSIBIRSK. INST. ORG. KHIM., NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

VAFIADI, V.G, USHAKOVA, N.A., SOKOLIK, A.I.

UDC 621.376:530.145:6

"Light Modulator Based On Optical Contact Of Glass And Plastic"

Vestn. Belorus. un-ta (Bulletin Of Belorussian University), 1971, Series 1, No 2, pp 83-84 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9D358)

Translation: The circuit and the frequency and amplitude characteristics of a pulsed light modulator are presented. Plates of polystyrene with appropriate processing assure a contact at a 10 mm^2 area with the force of the pressure of the plates on a glass prism of 0.2 kg. Tests showed that the modulator passes square pulse with a duration of 0.5--50 microsecond with a depth of modulation of 75--80 percent and distortions of the pulse tops of 10--15 percent. 2 ill. 4 ref. V.Ch.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

Acc. Nr: AP0044397

Abstracting Service: CHEMICAL ABST.

Ref. Code: US 0000

4-70

84013d Mechanism of the magnetic field effect on anthracene photoconductivity. Frankevich, E. L.; Sokolik, I. A. (Inst. Chem. Phys., Moscow, USSR). *Solid State Commun.* 1970, 8(4), 251-3 (Eng). The effect of a magnetic field on the photocond. of anthracene crystals excited in the singlet-triplet absorption band under hole injection was investigated. This effect may be explained in terms of triplet exciton-trapped hole interaction. Such a model may be applied to the earlier results on magnetic field effect on uv-excited photocond. using neutral contacts.

RCYZ

REEL/FRAME

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 616-001.34-06:616:71]-036.868

SOKOLIK, L. I., and SHKONDIN, A. N., Medical Institute Voroshilovgrad

"Dynamics Changes in the Skeleton during Vibration Sickness and Their Association with the Nature of the Patient's Working Environment"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 28-30

Abstract: X-ray studies of the bones and joints of 222 patients afflicted with vibration sickness are discussed. Pathological changes in the skeleton were noted in all of the patients, and an advanced stage was recorded in 23%. The patients were divided into groups according to their working environment: those staying on at their regular jobs (where they had been using vibration equipment and continued to do so); those who were temporarily transferred; and those who had been permanently removed from jobs involving exposure to vibration. The degree of the degenerative-dystrophic processes for the three groups was compared. It is recommended that x-ray data be included as a basis for determining preventive measures to be taken in connection with vibration sickness.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC: 51:330.115

SOKOLIK, M.

"A Model of Dynamic Planning and Management of a Production-Trade Complex"

V sb. Ekon. probl. razvitiya nar. kh-va USSR (Economic Problems in Development of the National Economy of the UkrSSR--collection of works), Kiev, 1970, pp 170-179 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V664)

Translation: The author presents a network formulation of the problem of minimum expenditures for delivery of vegetable produce from farms to stores in different networks, and to bases and processing plants.

M. Popov.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLIK, M. P. UDC: 51

"On an Optimum Planning Problem With Regard to Conditions of Risk"

V sb. Vopr. povysh. effektivn. proiz-va na prom. predpriyatiyakh USSR (Problems of Increasing Production Efficiency in Industrial Enterprises of the UkrSSR--collection of works), L'vov, 1971, pp 180-182 (from RZh--Kibernetika, No 1, Jan 72, Abstract No 1V867)

[No abstract]

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

SOKOLIK, M. P.

UDC 512.25/.26+519.3:330.115

"The Transport Problem with Random Demand and Its Network Interpretation"

Mat. Metody Issled. I Optimiz. Sistem. Vyp. 3, [Mathematical Methods of Studying and Optimizing Systems, No. 3--Collection of Works], Kiev, 1970, pp 82-95, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V549 from the Introduction).

Translation: The stochastic transport problem is reduced to a special problem of linear programming. A network interpretation of these stochastic transport problem is given.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RESONANCE SPECTROSCOPIC STUDY OF OXIDIZED STATES IN FERROCENE COPOLYMERS -U-

AUTHOR-(06)-ALIYEV, L.A., VISHNYAKOVA, T.P., PAUSHKIN, YA.M., PENDIN, A.A., SOKOLINSKAYA, T.A., STUKAN, R.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 306-10

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GAMMA SPECTRUM, FERROCENE, COPOLYMER, PHTHALIC ANHYDRIDE, ZINC CHLORIDE, OXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1979 STEP NO--UR/0062/70/000/002/0306/0310

CIRC ACCESSION NO--AP0123760

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 028

CIRC ACCESSION NO--AP0123760 UNCLASSIFIED PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAMMA RESONANCE SPECTRA OF COPOLYMERS MADE OF FERROCENE AND ETCOME AND PHTHALIC ANHYDRIDE WERE REPORTED IN CONJUNCTION WITH DETN. OF THE AMT. OF THE OXIDIZED FORM OF FE IN SUCH POLYMERS FROM THE AMT. OF OXIDIZING AGENT CONSUMED. THE COPOLYMER WITH MECOET WAS OXIDIZED TO SMALLER THAN OR EQUAL TO 60PERCENT OF ITS FE CONTENT, WHILE THE COPOLYMER WITH PHTHALIC ANHYDRIDE WAS OXIDIZABLE TO 45PERCENT. THE COPOLYMER WITH PHTHALIC ANHYDRIDE HAVING THE MAX. LEVEL OF OXIDN., RELATIVE TO FERROCENE AND WITH MIN. PROGRESS OF SECONDARY REACTIONS CONTAINED SOME 35PERCENT OXIDIZED FE ACCORDING TO SPECTRAL DATA AND 50PERCENT ACCORDING TO CHEM. DETN. THIS COPOLYMER WAS PREPD. WITH A ZNCL SUB2 CATALYST IN 5 HR AT 150DEGREES IN AN AUTOCLAVE; THE SUBSTANCE WAS GENERALLY INSOL. THE OXIDNS. WERE DONE WITH K SUB2 CR SUB2 O SUB7 IN ACOH OR WITH A FECL SUB3 SOLN. IN AQ. KCL.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 019 UNCLASSIFIED

TITLE--CATALYTIC AND ADSORPTION PROPERTIES OF MIXED CATALYSTS BASED ON NICKEL -U- PROCESSING DATE--30OCT70

AUTHOR-(05)-KASIMOVA, G.I., BIZHANOV, F.B., SOKOLHSKIY, D.V., POPOV, N.I., KHISAMETDINOV, Z.M.

COUNTRY OF INFO--USSR

S SOKOLINSKIY, D.V.

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 20-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST ACTIVITY, NICKEL, MAGNESIUM OXIDE, HYDROGENATION, ORGANIC NITRO COMPOUND, PHENOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2029

STEP NO--UR/0360/70/020/002/0020/0024

CIRC ACCESSION NO--AP0125617

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

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CIRC ACCESSION NO--AP0125617 UNCLASSIFIED PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED OF MGO ADDNS. ON THE ACTIVITY OF A NI CATALYST. THE CARRIER:NI RATIO WAS CONST., 4:1. THE ACTIVITY OF THE NI CATALYSTS FOR THE HYDROGENATION OF O-NITROPHENOL INCREASED 2.5 TIMES UPON USING A CARRIER AND FOR THE ADDN. OF MGO; THE OPTIMUM ADDN. BEING NI:MGO EQUALS 1:0.2. A COMPARISON OF THE CATALYTIC AND ADSORPTION PROPERTIES SHOWED THAT THEIR CHANGES ARE SYMBATIC. THE MAX. ACTIVITY WAS OBTAINED FOR SAMPLES REDUCED AT 250DEGREES FOR NI, AT 400-500EGREES FOR THE NI:CLAY EQUALS 1:4 CATALYST, AND AT 350-400DEGREES FOR THE NI:MGO CATALYST. FOR THE PROMOTED CATALYST THE REACTION IS LIMITED BY THE ACTIVATION OF THE UNSATD. COMPD.

FACILITY: KAZ. KHIM.-TEKHNOL. INST., CHIMKENT, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

UDC 543.544.084.8

SOKOLIN, G. F., LULOVA, N. I., LIPAVSKIY, V. N., MERKULOV, V. D.

"Selection of Evaporator Temperature During Dosing of Liquid Samples in an Industrial Chromatograph"

Avtomatiz. i Kontrol'noizmerit. Pribory. Nauch.-Tekhn. Sb. [Automation and Testing and Measurement Devices. Scientific-Technical Collection], 1972, No 12, pp 22-24 (Translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 12, 1972, Abstract No 12.32.1025, by V. S. K.).

Translation: The most commonly used liquid sample dosing devices in industrial chromatographs are those in which the specimen is evaporated in a stream of carrier gas fed into the column, and the beginning of evaporation coincides with the beginning of analysis. Results are presented from experimental studies of the influence of evaporator temperature on the effectiveness of separation and the height of peaks of difficult-to-separate mixtures with boiling points of 135 to 145° C. It is demonstrated that the selection of the optimal evaporator temperature allows the effectiveness of the column to be increased significantly; the evaporator temperature should be 1.5-2 times the mean boiling point of the components of the mixture; if the optimal evaporator temperature causes thermal destruction of the specimen, dosing

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

Sokolin, G. F., Lulova, N. I., Lipavskiy, V. N., Merkulov, V. D.,
Avtomatiz. i Kontrol'noizmerit. Pribory. Nauch.-Tekhn. Sb., No 12, pp 22-24.

devices with preliminary evaporation of the specimen should be used; the accuracy of maintenance of the optimal evaporator temperature should be 0.5 to 1° C. 2 figures, 5 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLINA, N. A. UDC 51:621.891

"On the Kernel Decision of a Cooperative Game"

V sb. Issled. operatsiy i stat. modelir. (Operations Research and Statistical Modelling -- collection of works), First Edition, Leningrad, Leningrad University, 1972, pp 170-173 (from RZh-Matematika, No 11, Nov 73, Abstract 11 V599)

Translation: The necessary and sufficient conditions for a cooperative game to have the CV property are given in terms of a balanced selection of sets; the c-kernel of the game coincides with the HM decisions and for any sharing x which is not part of the solution there exists a sharing y from the solution which dominates x on the coalitions which are real for x.

Abstract by Ye. Yanovskaya

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 666.113.431.47.32-31.28

BLINOV, V. A., UDOVENKO, N. G., NIKULIN, V. KH., PRUSAKOVA, L. M., SOKOLINSKIY, A. G., ORLOV, V. N., VYSOTSKAYA, Z. I., and CHERNYSHEV, A. V.

"Glass for Ultrasonic Delay Lines"

USSR Author's Certificate No 366156, Filed 26 Jun 70, Published 16 Jan 73 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar (a) 73, Claim No 1453164/29-33)

Translation: A glass for ultrasonic delay lines, including SiO_2, ZnO, BaO, K_2O, is distinguished by the fact that, in order to obtain stable acoustic properties it contains the above components in the following amounts, weight %: SiO_2 49-65; ZnO 5-25, BaO 10.5-30; K_2O 6-25, and furthermore Sb_2O_3 0.05-3.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

SOKOLKOV, V. I.

LIFE SUPPORT SYSTEMS

COLEEN

JPRS 54493

16 November 1971

UDC 612:523

EXTERNAL RESPIRATION, GAS METABOLISM, AND ENERGY EXPENDITURE IN THE CASE OF VARYING HUMAN ACTIVITY UNDER CONDITIONS OF WEIGHTLESSNESS

6304557

[Article by I.I. Kas'yan, G.F. Makarov, V. I. Sokolkov; Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, Russian, No 5, 1971, pp 673-681]

A study was made of human external respiration, gas metabolism, and energy expenditure during performance of various tasks carried out under conditions involving brief periods of weightlessness created during aircraft flights along parabolic trajectories and during simulated weightlessness (in a water medium and on special floating stands).

The tests that were conducted indicated that under conditions of weightlessness, regardless of the way in which they were simulated, human energy expenditures on the performance of the same tasks were 22-42 percent higher than under ordinary conditions on the ground, both when the individuals being tested were normally dressed and when they wore special garments. A tendency was noted toward a decrease in the energy consumption rate under weightless conditions as the individuals being tested became accustomed to these conditions. The authors are of the opinion that the metabolic shifts that were observed are connected with the general nonspecific reaction of the organism to the influence of unusual physical factors (weightlessness), causing a disturbance of motion coordination.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR UDC 539.374

SURKOV, Yu. P., BERSENEVA, F. N., and SOKOLKOV, Ye, N., Institute of Metal Physics, Academy of Sciences USSR

"Thermal Stability of the Structure of E1437B Alloy After High-Temperature Heat and Mechanical Treatment at Various Deformation Rates"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 963-966

Abstract: Changes in the structure of specimens of E1437B alloy deformed by 10% at 1080° at 10, 1, and 0.001 sec^{-1} with subsequent heating were studied. The structure of specimens subjected to high-speed deformation (1 and 10 sec^{-1}) was characterized by more incomplete processes of fragmentation, the presence of a large number of dislocations ordered along slipping planes, and a high level of distortion of the material. The behavior of the structures during subsequent high-temperature holding differed significantly for specimens subjected to slow and fast deformation. The most notable changes were observed in the structure of specimens deformed at high speeds (10 sec^{-1}). They consisted of restructuring of dislocation configurations with the formation of a subgrain structure and subsequent growth of elements of the structure. However,

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USSR

SURKOV, Yu. P., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 963-966

the differences in the deformation structure (degree of disorientation, size of fragments) resulting from preliminary high-temperature upsetting were not eliminated during subsequent heating.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 620.181;539,374;546.74.75

LEVIT, V. I., SURKOV, YU. P., SOKOLKOV, YE. N., and ZHURAVEL', L. V., Institute of Physics of Metals, Academy of Sciences USSR

"Aging of KhN77TYuR Alloy After Plastic Flow"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jun 70, pp 1198-1203

Abstract: A study is made, using methods of electrical resistance and transmission electron microscopy, of the processes of decay of a saturated solid solution in the KhN77TYuR alloy with different dislocation structures produced by deformation at different temperatures. For estimating the effect of distribution of dislocations on the processes of subsequent aging those degrees of deformation at 20 and 1080°C were selected, which in all deformed specimens ensured a yield point of 44-47 kg/mm². Changes in mechanical properties and structure in the process of aging are determined. It is shown that the higher strength properties after high-temperature thermomechanical treatment are due mainly to the increased density of emissions of the intermetallide γ'-phase. In addition, the notched form of the boundaries of grains and the separation of carbides on such boundaries impede the intergrain disintegration and ensure adequate ductility. The authors thank N. A. Kompaneytsev for help in conducting tests on mechanical properties, R. R. Romanova and R. A. Karakhanyan for help in preparing and checking of thin foil, and S. N. Petrova for valuable suggestions during discussion.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

S

UDC 669.24:539.26

SCHASTLIVTSEV, V. M., NIKHAYLEYS, F. K., SOKOLKOV, Ye. N., and GYRFEL', D. I.,
Institute of Physics of Metals, AN USSR

"X-Ray Study of the Substructure of Polycrystalline Nickel Deformed at High Temperatures"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 2, Aug 70, pp 406-412

Abstract: This work is a continuation of studies on the mechanism of high-temperature deformation performed at high speeds. The dependence of certain characteristics of the substructure of polycrystalline nickel on the temperature, rate, and degree of plastic deformation is studied. It is noted that an increase in the degree of deformation from 2 to 15% in technical nickel leads to an increase in the angle of disorientation of the grains and between substructural components of the first order, as well as an increase in the grain volume taking part in the deformation. Increasing the rate of deformation from 10 to 100 sec^{-1} with an identical degree of deformation increases the total distortion of the material.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 032

UNCLASSIFIED

TITLE--DISTRIBUTION OF SOME MICROELEMENTS IN THE ORGANS AND TISSUES OF PATIENTS WITH LYMPHOGRANULOMATOSIS -U-

PROCESSING DATE--30OCT70

AUTHOR--SOKOLOGORSKAYA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 32-35

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--METABOLISM, COPPER, SILVER, LEAD, BARIUM, BLOOD CHEMISTRY, URINE, AUTOPSY, LYMPHATIC SYSTEM, HEMATOPOIESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1752

STEP NO--UR/0475/70/000/006/0032/0035

CIRC ACCESSION NO--AP0129120

UNCLASSIFIED

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2/2 032

CIRC ACCESSION NO--AP0129120 UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METABOLISM OF COPPER, SILVER, LEAD, BARIUM WAS STUDIED IN THE BLOOD, URINE AND FECES OF 35 PATIENTS WITH LYMPHOGRANULOMATOSIS AND IN THE TISSUES OF 12 AUTOPSY CASES. BLOOD COPPER PROVED DECREASED DUE TO LOSS WITH THE URINE; A DEPLETION OF COPPER WAS FOUND IN THE HEMOPOIETIC ORGANS; SILVER CONTENT WAS SIGNIFICANT IN THE BLOOD, URINE, FECES AND HEMOPOIETIC ORGANS. SOME THEORETICAL AND PRACTICAL CONCLUSIONS ARE DRAWN FROM THE ABOVE FINDINGS.

FACILITY: KLINIKA GOSPITAL'NOY TERAPII DONETSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

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USSR

UDC 538.561

KATYSHEV, Ye. G., PANASYUK, V. S., PANKRATOV, S. G., ROMANOVSKIY, V. F., SAMOSHENKOV, Yu. K., SOKOLOV, A. A., SPEKTOR, Ya. M., STEPANOV, B. M.

"Investigation of Electromagnetic Emission of a Modulated Electron Beam"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 11, Nov 72, p 2446

Abstract: The paper gives a block diagram and the parameters of an installation for studying velocity-modulated emission of an electron beam, as well as the results of measurements. The beam energy was 33 kev, beam current in the pulse 0.25 a, pulse duration 4 μs, pulse repetation rate 25 Hz, frequency of the modulating rf field 482 MHz, length of the emission region 55 cm, and pressure in the system 10^{-4} mm Hg. It was found that the emission power received by an antenna with effective area of 750 sq. cm at a distance of 2.5 m from the beam is 1 mw. The vector of intensity of the modulating electric field lies in a plane which passes through the axis of the beam. The ratio of emission intensity on the second harmonic to that on the first harmonic is approximately 5%.

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USSR

Glass and Ceramics

UDC 666.1.031:532.5

SOKOLOV, A. A., SHEYNKOP, I. M., and PCHELYAKOV, K. A.

Modelirovaniye protsessov gidrodinamiki vyazkikh rasplavov)Modeling of Processes of the Hydrodynamics of Viscous Smelts), Moscow, Izdatel'stvo Literatury po Stroitel'stvu, 1972, 191 pp

Translation of Annotation: The book discusses the physical bases of processes of modeling the hydrodynamics of viscous smelts. Theoretically based methods are given for the calculation of convectional and production flows. Questions are examined which concern the influence of internal sources of heat and bubbling on a viscous smelt. Several engineering tasks are presented which have been solved by the authors with the modeling method.

The book is intended for technical engineering workers in the glass manufacturing industry and also may be used by students at schools of higher education.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLOV, A. A., et al., Modeling of Processes of the Hydrodynamics of Viscous Smelts, Moscow, Izdatel'stvo Literatury po Stroitel'stvu, 1972, 191 pp

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USSR

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLOV, A. A., et al., Modeling Of Processes of the Hydrodynamics of Viscous Smelts, Moscow, Isdatel'stvo Literatury po Stroitel'stvu, 1972, 191 pp

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

PANASYUK, V. S.; SOKOLOV, A. A.; STEPANOV, B. M.

"Principles of the Construction and Possible Applications of Accelerators with Superstrong Magnetic Fields Obtained by Detonations"

Moscow, Atomnaya Energiya; November, 1972; pp 907-12

ABSTRACT: Several designs of single-stage accelerators with superstrong magnetic fields are presented. Betatrons and high-frequency cyclic accelerators, as well as direct-action accelerators, are considered. Various methods of particle injection and extraction are described. Possible applications of the cyclic accelerators described for obtaining superhigh-energy particles are assessed. Such accelerators seem promising for the acceleration of beams of secondary particles as well as for experiments on intersecting beams of μ-mesons and π-mesons, of fundamental importance in high-energy physics.

The article includes 14 equations and five figures. There are 10 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

UNCLASSIFIED

TITLE--SINGLE PHOTON TRANSITION FROM THE METASTABLE LEVEL OF THE HYDROGEN ATOM WITH CONSIDERATION FOR SPIN STATES -U-

PROCESSING DATE--27NOV70

AUTHOR-(04)-ZHUKOVSKIY, V.CH., KOLESNIKOVA, M.M., SOKOLOV, A.A., HERRMANN, I.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(4), 622-6

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDROGEN, TRANSITION PROBABILITY, ELECTRON TRANSITION, ELECTRON SPIN, METASTABLE STATE, PHOTON EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1067

STEP NO--UR/0051/70/028/004/0622/0626

CIRC ACCESSION NO--AP0136487

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 022

CIRC ACCESSION NO--AP0136487 UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- PROCESSING DATE--27NOV70

ABSTRACT. THE PROBABILITY WAS DETD. OF THE SPONTANEOUS SINGLE PHOTON TRANSITION FROM THE METASTABLE LEVEL 2S SUBONE HALF OF THE H ATOM WITH AN ACCOUNT OF THE SPIN STATES. THE BREIT TELLER FORMULA WHICH DESCRIBES THE ANALOGOUS PROCESS WAS CORRECTED. THE PROBABILITY WAS ALSO CALCD. OF THE STIMULATED TRANSITION FROM THE SAME LEVEL.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLOV, A. A., State Special Design-Construction Technical Bureau

"Hand and Pack Apparatus. Hand Sprayer."

Moscow, Zashchita Rasteniy, No 4, 1970, pp 57-58

Abstract: The hydraulic hose GSH-2 consists of a hand pump mounted on a stand, a fire hose with an atomizer, and an intake hose equipped with a filtering device. Detailed procedures are given for handling before use, for spraying by a single operator or a two-man team, for cleaning after use, and for storage and maintenance of this unit. A troubleshooting table is presented listing various malfunctions and steps to be taken to correct them.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 019 UNCLASSIFIED

TITLE--QUANTUM THEORY OF ELECTRON MOTION IN A CYCLIC RESONANCE ACCELERATOR -U-

PROCESSING DATE--13NOV70

AUTHOR-(03)-BAGROV, V.G., SOKOLOV, A.A., TERNOV, I.M.

COUNTRY OF INFO--USSR

SOURCE--TOMSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY: FIZIKA; APRIL 1970, PP 12-22

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EDDY CURRENT, ELECTROMAGNETIC FIELD, RELATIVISTIC ELECTRON, ELECTRON MOTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1288

STEP NO--UR/0139/70/000/000/0012/0022

CIRC ACCESSION NO--AT0131743

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 019

CIRC ACCESSION NO--AT0131743 UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KLEIN GORDON EQUATION IS USED IN THE STUDY OF THE MOTION OF A RELATIVISTIC ELECTRON IN A FOCUSSING, CONSTANT MAGNETIC FIELD IN THE PRESENCE OF A STILL HIGHER FREQUENCY EDDY ELECTROMAGNETIC FIELD COMPENSATING THE RADIATION ENERGY LOSS. THE SOLUTIONS OBTAINED CAN FIND APPLICATION IN THE THEORY OF ELECTRON STORAGE RINGS, WHERE QUANTUM FLUCTUATIONS ARE ESPECIALLY NOTICEABLE. THE ARTICLE INCLUDES 54 EQUATIONS.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

UDC 620.193.01

USSR

KUZNETSOVA, YE. G., SOKOLOV, A. A., NOVAKOVSKIY, V. M., KOLOTYRKIN, YE. M.,
Scientific-Research Physico-Chemical Institute imeni L. Ya. Karpov

"The Influence of Oxidation-Reduction Systems on the Rate of Dissolution of Passive Titanium"

Moscow, Zashchita Metallov, No 4, 1972, pp 409-414.

Abstract: Data are presented and discussed on changes in the dissolution rate of passive titanium, potentiostatically polarized in dilute sulfuric acid upon introduction of the Fe^{2+}/Fe^{3+} redox system to the acid, and also upon introduction of Ti^{3+} ions. The radiometric method is used to show that when titanium is maintained in the anode-passive state, the introduction of Fe^{2+} ions causes only an increase in the external anode current, while the introduction of Ti^{3+} ions causes a simultaneous inhibition of dissolution of the titanium, explained by the anode deposition of TiO_2 from the solution.

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USSR

S

BAGROV, V. G.; SOKOLOV, A. A.; TERNOV, I. M. (Moscow State University)

"Quantum Theory of Electron Motion in a Cyclic Resonance Accelerator"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy: Fizika; April 1970, pp 12-22

ABSTRACT: The Klein-Gordon equation is used in the study of the motion of a relativistic electron in a focussing, constant magnetic field in the presence of a still higher-frequency eddy electromagnetic field compensating the radiation energy loss. The solutions obtained can find application in the theory of electron storage rings, where quantum fluctuations are especially noticeable.

The article includes 54 equations. There are 10 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--HARDENING PROCESS AND THE ELECTRIC INSULATING PROPERTIES OF THERMOSETTING PLASTICS -U-

AUTHOR-(03)-KISELEVA, V.A., SOKOLOV, A.D., KANAVETS, I.F.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 35-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--HARDNESS, CHEMICAL REACTION KINETICS, ELECTRIC INSULATION, PHYSICAL CHEMISTRY PROPERTY, DIELECTRIC PROPERTY, THERMOSETTING MATERIAL, PLASTIC/(U)K21 22 PHENOIC PLASTIC, (U)K18 2 PHENOIC PLASTIC, (U)K211 3 PHENOIC PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1706 STEP NO--UR/0191/70/000/002/0035/0039

CIRC ACCESSION NO--AP0112700

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112700

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HARDENING KINETICS OF 3 PHENOLIC PLASTICS (I), K-21-22, K-18-2, AND K-211-3, AND THE EFFECTS OF PHYSIOCHEM. FACTORS ON THE INSULATING PROPERTIES OF PLASTIC ARTICLES WERE STUDIED. THE DIELEC. PROPERTIES OF I DETERIORATED DURING HARDENING IN A MOLD (I.E., THE DIELEC. LOSS FACTOR INCREASED, WHEREAS THE SP. BULK AND SURFACE RESISTANCES CORRESPONDINGLY DECREASED). PRELINIMARY DRYING OF MOLDING MATERIALS WAS USEFUL ONLY WHEN THEIR MOISTURE CONTENT WAS LARGER THAN 2PERCENT, OTHERWISE THE PHYSIOCOMECH. PROPERTIES DETERIORATED. THREE INDEPENDENT METHODS (KANAVETS PLASTOMETER, CHANGES IN THE EXTRACTANTS CONTENT, AND CHANGES IN THE ELEC. CONST.) SUGGESTED THE MOST EFFECTIVE HARDENING PROCEDURE, VIZ., HARDENING IN A MOLD SHOULD TAKE ONLY AS LONG AS IS REQUIRED FOR EACH MATERIAL TO ATTAIN A CERTIAN SHEAR STRESS, WHILE FURTHER HARDENING SHOULD TAKE PLACE OUT OF THE MOLE (WHICH ENSURES INCREASED HARDENING OF THE BINDER AND REMOVAL OF A SIGNIFICANT PORTION OF THE VOLATILE COMPDS.).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--INFLUENCE OF PRESSURE AND THE RATE OF PRESSING OF THERMOSETTING PLASTICS ON THE PHYSICOMECHANICAL PROPERTIES OF THE MANUFACTURED GOODS

AUTHOR-(02)-SOKOLOV, A.D., PEREVERTOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 6(2), 90-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BENDING STRENGTH, THERMOPLASTIC MATERIAL, PRESSURE EFFECT, PLASTIC FABRICATION, COMPRESSIVE STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/E08 STEP NO--UR/0369/70/006/002/0090/0094

CIRC ACCESSION NO--AP0140316

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140316

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BENDING STRENGTH (SIGMA) OF THERMOPLASTICS INCREASES WITH THEIR D. AND THE DEGREE OF HARDENING. THE INCREASE OF THE COMPRESSION RATE DURING MOLDING DECREASES THE RATE OF THE D. INCREASE. THE INCREASE OF THE MOLDING TEMP. INCREASES THE D. INCREASE RATE. THE OPTIMUM MOLDING TEMP. FOR PHENOLBASED COMPONS. IS 120DEGREES. HOLDING THESE MATERIALS UNDER COMPRESSION INCREASES THEIR D. AND SIGMA. FACILITY: L'VOV. POLITEKH. INST., LVOV, USSR.

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SO: JPRS 59985
7 SEP 73

UDC 621.396.67

THE DEVELOPMENT OF STRUCTURAL METHODS FOR INCREASING THE EFFECTIVENESS OF FULLY ROTATABLE PARABOLIC ANTENNAS

[Article by A.G. Sokolov and V.S. Polyak; Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Radiotizika, Russian, Vol 16, No 5, 1973, submitted 2 November 1973, pp 655-660]

The modern stage of development of radioastronomy, radiophysics, and space communications is marked by an attempt to increase the effective area of fully rotatable reflector antennas (PZA) to several hundreds of thousands of square meters (which corresponds to diameters exceeding 100 meters) and raising the operating frequency to 100,000 megahertz. In so doing, great difficulties arise in maintaining antenna effectiveness at the short-wave end of the band, usually at the centimeter and millimeter wavelengths, because the deviation of the actual shape of the surface from that given must be kept within the limits of 0.1-0.05 wavelength despite continuous changes in the field of gravitational forces with antenna rotation and despite changing winds. Certain works[1,2,4,6] have indicated that the direct route to reducing structural deformation is restricted, since it is impossible to create a structure with deformations which are less than the deformations from their own weight, which changes proportionally to the square of the reflector's diameter. This leads to a gap between permitted and actual deformations which grows as the diameter increases. This is especially important in large antennas, in view of the reduction in the share of wind loads to several percent with increased diameter.

Thus a basically new problem arises -- the search for structural approaches which lie beyond the deformational limits. However, neither the diameter of the antenna's aperture D_r nor the wavelengths λ in themselves create structural problems in their realization. The problem arises only at a certain ratio, which thus determines the direction of structural implementation.

SOKOLOV, A.G.

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USSR

UDC 624.97.014.2

SOKOLOV, ALEKSANDR GEORGIYEVICH

"Metal Structures of Antenna Devices"

Metallicheskiye konstruktsii antennykh ustroystv (cf. English above), Moscow Izd-vo Literatury Po Stroitel'stvu, 1971. 240 pp. 205 ref. ill.

Abstract: The monograph consists of three parts: In the first, the over-all state of planning and construction of the metal structures of antenna devices is discussed and in the second, their structural solutions. In the third, examples of design are given. The metal structures are considered of antenna devices for various purposes, operating at various ranges of radio waves: kilometer, hectometer, decameter, meter, decimeter, centimeter, and millimeter, part of which found wide applications during the last decade for sputniks and space communications and for radioastronomy. In the book the special features of these structures are taken into account. The book is intended for engineer-planners of such construction, students, and scientific workers.

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USSR

SOKOLOV, ALEKSANDR GEORGIYEVICH, Metallicheskiye konstruktsii antennykh ustroystv, Moscow, Izd-vo Literatury Po Stroitel'stvu, 1971, 240 pp. 205 ref. ill.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR UDC 621.396.677:523.164

KARDASHEV, N. S., PARIYSKIY, YU. N., SOKOLOV, A. G.

"Cosmic Radioastronomy"

Uspekhn. fiz. nauk (Progress in the Physical Sciences), 1971, Vol 104, No 2, pp 328-331 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B14)

Translation: The prospects of research in the ordinary radioastronomy field were investigated without touching on the regions where the Earth's atmosphere and ionosphere are completely opaque. The restrictions preventing the creation of antennas on the Earth with reflector diameters >100 meters -- the presence of gravitational force leading to deformation of the structural elements -- are analyzed. The possibility of constructing antenna elements in space with dimensions as large as one might like is noted since the basic forces acting on a space antenna are the light pressure, the tidal force of the Earth and the centrifugal force on rotation. These forces are several orders less than the gravitational force. It is noted that in outer space it is possible to create continuous parabolic reflectors with dimensions on the order of 1 km and more. The advantage of space telescopes is also a significant reduction in the interference level. An important area of space radioastronomy is further improvement of the angular resolution by taking one of the

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

KARDASHEV, N. S., et al., Uspekhn. fiz. nauk, 1971, Vol 104, No 2, pp 328-331

interferometer antennas a large distance beyond the limits of the Earth. For very large interferometer bases, it is also possible to construct a three-dimensional image of the sources, determine the trigonometric distances to the farthest sources and study the curvature of space. It is noted that a significant obstacle in creating space interferometers can be the effect of radio wave scattering in the interstellar medium. There are 2 illustrations and a 3-entry bibliography.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DETERMINATION OF ISOPROPYL ALCOHOL CONCENTRATION BASED ON ABSORPTION IN THE NEAR INFRARED SPECTRAL REGION -U-

AUTHOR--SOKOLOV, A.G.

5

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (3), 29-31

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PROPANOL, SOLUTION CONCENTRATION, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1117 STEP NO--UR/0318/70/000/003/0029/0031

CIRC ACCESSION NO--AP0128544

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 019

CIRC ACCESSION NO--AP0128544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISO-PROH LARGER THAN 75PERCENT, CAN BE DETD. IN THE BINARY SYSTEM ISO,PROH,H SUB2 O, ON THE BASIS OF ITS ABSORPTION MAX. AT 1.01-1.001 MU M. THE RELATION BETWEEN ABSORBANCE (A), MEASURED AGAINST AIR, AND THE CONCN. (C) OF ISO-PROH IN WT. PERCENT IS C EQUALS 162.61 MINUS 111.47 A. THE MEAN RELATIVE ERROR IS PLUS OR MINUS 0.3PERCENT. ME SUB2 CO OR ISO-PR SUB2 O, 1PERCENT, INTERFERE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PURIFICATION OF PETROLEUM INDUSTRY WASTE WATERS BY PRESSURIZED SETTLING -U-

AUTHOR-(03)-KARELIN, YA.A., PALIY, P.A., SOKOLOV, A.G.

5

COUNTRY OF INFO--USSR

SOURCE--NEFT. KHOZ. 1970, 48(3), 63-5

DATE PUBLISHED--------70

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

TOPIC TAGS--PETROLEUM INDUSTRY, INDUSTRIAL WATER, WATER PURIFICATION, PETROLEUM PRODUCT, WATER POLLUTION CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1955 STEP NO--UR/0093/70/048/003/0063/0065

CIRC ACCESSION NO--AP0133799

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133799

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WATERS CONTG. 50-100 MG-L. SUSPENDED MATTER, OBTAINED FROM THERMAL CHEM. DEHYDRATION OF GAS SATD. PETROLEUMS, WAS PURIFIED BY SETTLING IN HORIZONTAL AND SPHERICAL TANKS AND COULD BE INJECTED INTO DISPOSAL AND PRODUCTIVE WELLS IN HIGHLY FRACTURED STRATA. THE METHOD WAS A PRELIMINARY TREATMENT FOR WATER INTENDED TO BE FILTERED FOR FLOODING PRODUCTIVE STRATA.

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USSR

SOKOLOV, A. I., Leningrad Electrotechnical Institute imeni V. I. Ul'yanov (Lenin)

"Acoustoelectric Effect in the Viscous Flow of an Electron-Phonon Gas"

Leningrad, Fizika Tverdogo Tela, No. 5, May 71, pp 1480-1482

Abstract: The drag of electrons by high-frequency sound is considered in the hydrodynamic region where the acoustoelectric effect exhibits special characteristics as compared with the ordinary kinetic case. It was shown earlier by R. N. Gurzhi that the motion of an electron-phonon gas may be similar to the flow of a viscous fluid in thin and very pure metal samples at low temperatures. The hydrodynamic mode occurs if the mechanisms for the dissipation of the quasimomentum of the electron-phonon system (impurity scattering, and phonon-phonon and electron-phonon flipping processes) are of little effectiveness, while collisions of quasiparticles with conservation of quasimomentum occur fairly often. These conditions may occur in very pure metals which have a closed or almost closed Fermi surface at temperatures of the order of 10-20°K. It is hypothesized here that since dissipation of the quasimomentum of an electron-phonon system in the hydrodynamic

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

SOKOLOV, A. I., Fizika tverdogo tela, No. 5, May 71, pp 1480-1482

mode occurs basically at the edge of the sample, the electroacoustic current should depend in an unusual way on the temperature and the characteristic transverse dimension of the sample. It is shown that the acoustoelectric current is proportional to the cube of the thickness of the plate and that its variation with temperature is determined by the electron-phonon length $l_{ep} \sim T^{-5}$ i.e., within the limits of the hydrodynamic region $I_{ac} \sim T^5$. It is noted that the experimental study of the electroacoustic current as a function of temperature could be one method of observing the hydrodynamic behavior of an electron-phonon gas in metals. The sound could be introduced into the sample tangent to the ring of elongation and the current measured on the basis of the magnetic field created by it; this method would then be more convenient than determining the resistance of the sample as a function of temperature, since there is no necessity for measuring very small potential differences and the contact problem does not arise.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PHONON DRAGGING BY SOUND IN HYDRODYNAMIC FLOW OF A PHONON GAS -U-

AUTHOR--SOKOLOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL 11, NO. 2, P. 138-41 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHONON SCATTERING, SOUND ABSORPTION, HYDRODYNAMIC PROPERTY, DIELECTRIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1102 STEP NO--US/0000/70/011/002/0138/0141

CIRC ACCESSION NO--AP0136522

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136522

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT HIGH FREQUENCIES OMEGA THE ABSORPTION OF SOUND IN A DIELECTRIC CAN BE REGARDED ASTHE SCATTERING OF ACOUSTIC PHONONS OF ENERGY HOMEGA BY THERMAL PHONONS. IN NORMAL COLLISIONS, THIS PROCESS IS ACCOMPANIED BY TRANSFER OF NOT ONLY ENERGY BUT ALSO QUASIMOMENTUM TO THE GAS OF THERMAL PHONONS. WHEN THE V PROCESSES ARE MUCH LESS INTENSE THAN THE N PROCESSES, THE TRANSFER OF QUASIMOMENTUM FROM THE ATTENUATING SOUND TO THE THERMAL PHONONS SHOULD CAUSE DRIFT OF THE PHONON GAS AND CONSEQUENTLY LEAD TO THE APPEARANCE OF A THERMAL DRIFT FLUX. IT IS SHOWN THAT SUCH A DRAGGING OF THE PHONONS BY THE SOUND LEADS TO A NONMONOTONIC DISTRIBUTION OF THE TEMPERATURE ALONG THE DIRECTION OF THE THERMAL FLUX, AND THE REGION IN WHICH THE TEMPERATURE GROWS CAN HAVE APPRECIABLE DIMENSIONS. FACILITY: LENINGRAD ELECTROTECHNICAL INST., USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

Electrochemistry

USSR

UDC 661.143.546.641(088.8)

TOROPOV, N. A., SOKOLOV, A. N., KOLPAKOVA, A. A., TARASOVA, L. YE., Leningrad Technological Institute imeni the Lensovet

"A MEthod of Synthesizing Quick-Response Cathodoluminescent and Photoluminescent Phosphors"

USSR Author's Certificate No 243758, filed 2 Jun 67, published 14 Dec 71 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11L234 P)

Translation: This Author's Certificate introduces a method of synthesizing quick-response cathodoluminescent and photoluminescent phosphors based on lanthanide-activated yttrium compounds by mixing the components of the charge with subsequent sintering. In order to expand the variety of quick-response phosphor compositions with elevated chemical stability and high resistance to electron bombardment, a yttrium silicate is used as the yttrium compound with a $Y_2O_3:SiO_2$ ratio of 1:1-3, and the lanthanide is added in a concentration of 0.5-4 wt.%. Example. The initial raw materials for synthesizing the compositions are: Y_2O_3 containing 99.99% of the base substance (MTU No 1185-64); phosphor grade SiO_2; oxides of the lanthanide series CeO_2, Sm_2O_3, EuO, Pr_6O_{11}, Er_2O_3, Tm_2O_3, etc. or their mixtures. A charge containing 65.2 wt% Y_2O_3 and

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

TOROPOV, N. A., et al., USSR Author's Certificate No 243758, filed 2 Jun 67, published 14 Dec 71 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11L234 P)

34.8 wt% silica preintered at temperatures of 1100°C and 800°C respectively is thoroughly mixed and briquetted with subsequent annealing at 1360°C isothermal holding at this temperature for 4 hours. The specimens are slowly cooled and pulverized, and then the oxides of the lanthanide series are added. Briquetted specimens are again annealed with isothermal holding at 1350°C for 2.5 hours. The resultant phosphor, e.g. (1.5 wt. %) cerium activated $Y_2O_3 \cdot 2SiO_2$, has blue luminescence with λ_{max} of 410 nm, an emission brightness equal to 140% of that of the industrial phosphor grade A-1 (Al_2O_3-CeO), and afterglow of the order of 10^{-6} s for a drop in brightness to 5%. M. Sh.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

Graphite

USSR UDC 666.764.4:669.716:621.74

KARKLIT, A. K., SOKOLOV, A. N., LEBEDEVA, M. F., ZEGZHDA, V. P., Deceased, All-Union Institute of Refractories, SIMONOV, V. N., Leningrad Plant for Processing of Nonferrous Metals, ANDREYEV, V. F., PARTIN, I. A., CHEREPOK, G. V., Kuybyshev Metallurgical Plant imeni V. I. Lenin

"Graphite-Containing Products for Casting of Aluminum Alloys"

Ogneupory, No. 2, 1971, pp 13-15

Abstract: A composition and method of manufacture of graphite-containing refractory products of low heat conductivity for casting of aluminum and aluminum-based alloys have been developed. The reduction in heat conductivity is achieved by introducing asbestos to the mass and using low-temperature (700°C) roasting. The products have shown satisfactory strength in service.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SOLID SOLUTIONS IN THE Y SUB2 SI SUB2 O-CE SUB2 SI SUB2 O SUB7 SYSTEM -U-

AUTHOR-(04)-TOKOPOY, N.A., ANDREYEV, I.F., SOKOLOV, A.N., SANZHAREVSKAYA, L.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 519-23

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLID SOLUTION, YTTRIUM COMPOUND, SILICON COMPOUND, CERIUM COMPOUND, OXIDE, IR SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0841 STEP NO--UR/0363/70/006/003/0519/0523

CIRC ACCESSION NO--AP0118017

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118017

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITHIN THE COMPN. RANGE Y SUB2 SI SUB2 O SUB7-Y SUB1.8 NEGATIVE CE SUB0.2 SI SUB2 O SUB7, SAMPLES WERE SYNTHEXIZED EVERY 0.5 MOLE PERCENT. THE SAMPLES WEREE SYNTHESIZED AT 1350-1450DEGREES BOTH IN A REDUCING ATM. AND IN A SILIT FURNACE. THE PHASE COMPN. OF THE PRODUCTS OBTAINED WAS STUDIED BY CRYSTALLO OPTICAL ANAL., AND X RAY DIFFRACTION, AND IR SPECTROSCOPY. THE FOLLOWING CRYST. PHASES WERE PRESENT: SOLID SOLNS. WITH THE STRUCTURES BETA Y SUB2 SI SUB2 O SUB7 (COMPNS. Y SUB2 SI SUB2 O SUB7-Y SUB1.97 CE SUB0.03 SI SUB2 O SUB7), ALPHA Y SUB2 SI SUB2 O SUB7, AND A REGION OF SOLID SOLNS. DESIGNATED AS Y SUB2 SI SUB2 O SUB7 SOLID SOLNS. THE CRYSTAL STRUCTURE OF THE LAST SOLID SOLN. IS APPARENTLY IDENTICAL TO THE I PRIME TYPE STRUCTURE OF THE DIORTHOSILICATES. DUE TO THE WEAK CRYSTN. OF THE SAMPLES PREPD. BY SOLID PHASE SYNTHESIS, THE HOMOGENEITY REGION OF SOLID SOLNS. WITH THE BETA Y SUB2 SI SUB2 O SUB7 STRUCTURE WAS DETD. ON THE BASIS OF IR ABSORPTION SPECTRA. THE ALPHA Y SUB2 SI SUB2 O SUB7 CAN BE PREPD. BY QUENCHING THE SAMPLES AT GREATER THAN 1350DEGREES. THERE IS A REVERSIBLE BETA Y SUB2 SI SUB2 O SUB7 IN EQUILIBRIUM ALPHA Y SUB2 SI SUB2 O SUB7 PHASE TRANSITION AT 1300-1400DEGREES. THE CE SUB2 SI SUB2 O SUB7 M. CONGRUENTLY AT 1770DEGREES AND DOES NOT UNDERGO POLYMORPHIC PHASE TRANSFORMATIONS. THE NS AND THE D. OF THE COMPNS. OF THE SYSTEM WERE DETD. ALSO DETD. WERE THE LIQUIDUS SOLIDUS CURVES FOR THE Y SUB2 SI SUB2 O SUB7-CE SUB2 SI SUB2 O SUB7 SYSTEM. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 008 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--SUSCEPTIBILITY OF CHICKENS TO TOXOPLASMA GONDII -U-

AUTHOR--SOKOLOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--VETERINARIYA, 1970, NR 5, PP 79-80

DATE PUBLISHED--------70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXOPLASMA, BIRD, COMMERCIAL ANIMAL, TOXOPLASMOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605049/D12 STEP NO--UR/0346/70/000/005/0079/0080

CIRC ACCESSION NO--AP0143379

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 008 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0143379

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TESTS CONDUCTED ON POULTRY FARMS IN 1968-1969 SHOWED THAT CHICKS TWO DAYS OLD, TWO WEEKS OR SIX WEEKS OLD AND EVEN ADULT CHICKENS WERE SUSCEPTIBLE TO TOXOPLASMOSIS, BUT THE COURSE OF THE DISEASE WAS DIFFERENT IN DIFFERENT AGE GROUPS, INDICATING VARYING LEVELS OF RESISTANCE TO INFECTION. TOXOPLASMOSIS IN FOWL, DEPENDING ON AGE, WAS ACUTE, SUBACUTE OR CHRONIC. THE SIX WEEK OLD CHICKS INFECTED WITH TOXOPLASMA GONDII STRAIN RH EXPERIENCED A MILDER FORM OF THE DISEASE THAN YOUNGER CHICKS. SPONTANEOUS OUTBREAKS OF TOXOPLASMOSIS AMONG CHICKENS WITH HIGH MORTALITY ARE KNOWN, BUT MAY BE COMPLICATED BY OTHER FACTORS. FACILITY: VSESOYUZNYY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT PO BOLEZNYAM PTITS, MSKH SSSR, ALL UNION SCIENTIFIC RESEARCH INSTITUTE FOR FOWL DISEASES, MINISTRY OF AGRICULTURE SSSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE INFRARED SPECTROSCOPIC STUDY OF SOLID SOLUTIONS IN THE Y SUB2 SI SUB2 O SUB7-Y SUB2 GE SUB2 O SUB7 SYSTEM -U-

AUTHOR-(04)-SHEVYAKOV, A.M., TARLAKOV, YU.P., SOKOLOV, A.N., BURBA, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(2), 345-6

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SOLID SOLUTION, IR SPECTROSCOPY, YTTRIUM COMPOUND, GERMANIUM COMPOUND, METAL OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0928 STEP NO--UR/0368/70/012/002/0345/0346

CIRC ACCESSION NO--AP0116438

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0116438 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA OF Y SUB2 GE SUBN SI SUB1(2NEGATIVE N) O SUB7 (I), WHERE N EQUALS 2, 1.6, 1.4, 1.2, 1.18, 1.08, 0.6, 0.4, 0.3, 0.1, 0.06, AND 0 AND OF ALPHA PRIME-Y SUB2 SI SUB2 O SUB7 (II) WERE RECORDED. SAMPLES OF THE SOLID SOLNS. WERE PREPD. FROM PURE OXIDES BY MEANS OF SOLID PHASE SYNTHESIS AT 1350DEGREES WITH COMBINATION OF ROASTING AND WET GRINDING. COMPARISON OF THE IR SPECTRA OF I WITH N EQUALS 0.4-1.18 AND II SHOWED SIMILARITY IN THE STRUCTURES OF THESE COMPDS. AND CONFIRMED CRYSTALLOOPTIC ANAL. DATA CONCERNING THE REGION OF HOMOGENEITY OF THE SYSTEM.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

Extraction and Refining

USSR

UDC 669.778.053.4.094

NIKOLAYEV, A. V., GINDIN, L. M., SOKOLOV, A. P., ZAKHAROV, V. F., KHOMAYKO, I. A.

"Leaching Antimony out of the Khovu-Aksinsk Arsenates of Cobalt-Nickel Concentrates by Caustic Soda Solutions"

V sb. Sintez, ochistka i analiz neorgan. materialov (Synthesis, Purification and Analysis of Inorganic Materials -- collection of works), Novosibirsk, Nauka Press, 1971, pp 171-174 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G309)

Translation: The technological scheme for refining arsenate concentrates was developed using the method of two-stage leaching out in NaOH solutions under optimal conditions: 1) the first leaching out stage: initial NaOH concentration 250 g/ℓ, S:L = 1:4, temperature 80°, duration 1 hour; 2) second leaching out stage: initial NaOH concentration 250 g/ℓ, S:L = 1:4, temperature 80°, duration 2 hours. Aqueous repulping of the hydroxide cake took place under these conditions: S:L = 1:7, temperature 60°, duration 2 hours. The separation of the trisodium arsenate or regeneration of the alkali from trisodium phosphate by lime was carried out under the following conditions: S:L = 1:4-5 (with respect to lime), temperature 90°, duration 1.5 hours. The extraction of As in the solution was 98.5-99%. Nonferrous metals convert in practice wholly to the hydroxide concentrates, extraction of the metal in which is: 99.9% Co, 99.9%

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

NIKOLAYEV, A. V., et al., Sintez, ochistka i analiz neorgan. materialov, Novosibirsk, Nauka Press, 1971, pp 171-174

Ni, and 99.7% Cu. The concentrate yield is 48-55% by weight of the arsenate concentrate. The technological scheme was checked on a semiindustrial scale.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 621.224

KVYATKOVSKIY, V. S., SOKOLOV, A. P., and BELASH, I. G.

"New Research on Diagonal Hydroturbines Series D60 (thrusts 36 + 60 m)"

Tr. Mosk. Energ. In-ta (Works of the Moscow Power Engineering Institute), No 132, 1972, pp 5-14 (from Referativnyy Zhurnal -- Turbostroyeniye, No 2, 1972, Abstract No 2.49.170)

Translation: On the basis of an analysis of previous developments of hydraulic-turbine impellers, two high-speed impellers have been designed: one with $Z_1 = 7$, $dv_t = 0.5\ D_1$, $n = 110$ rpm, $Q = 1100$ 1/sec (turbine D60 - 4015) and the other with $Z_1 = 9$, $d_{tv} = 0.55\ D_1$, $n = 105$ rpm, $Q = 1000$ 1/sec (turbine D60 - 4016). Consideration is given to variants of the application of the designs of series D60 for specific hydroelectric power plants. 6 figures. 4 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

Hydrobiology

USSR

PERSHIN, S.V., SOKOLOV, A.S., and TOMILIN, A.G., Institute of Zoology, Academy of Science USSR, Higher Naval Engineering School imeni F.E. Dzerzhinskiy, Leningrad, and All Union Agricultural Institute of Correspondence Education, Moscow

"Elasticity of Dolphin Fins Controlled by Special Vascular Organs"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 3, Jan 70, pp 709-712

Abstract: Four types of dolphins were studied. It was found that during swimming, propulsive waves pass continuously along the dolphin's body. The propulsion mechanism consists of a strongly deforming body and tail fin, as well as other fins, all representing complex hydrodynamic wings. A detailed microscopic and x-ray analysis of the tail fin is given. The vascular network is very interesting, in that all blood vessels consist of a thick-walled artery surrounded by 10-20 smaller thin-walled veins. Another interesting aspect of the vascular network in the tail fin is the fact that there is one general distribution center of the blood vessels, which to some extent controls the elasticity of the entire fin.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 599.742.4

SOKOLOV, A. S., and SOKOLOV, I. I.

"Some Characteristics of the Organs of Locomotion of River and Sea Otters as a Function of Their Mode of Life"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody Novaya Seriga, Otdel Biologicheskiy, Vol 75, No 5, Sep/Oct 70, pp 5-17

Abstract: As a result of both their common origin and their aquatic mode of life, the river otter (Lutra lutra) and sea otter (Enhydra lutris) have many similar morphological features (streamlined body, shortness of the extremities, webbed feet). However, their organs of locomotion differ somewhat because each species swims in a different fashion. The sea otter makes oscillatory movements of the entire body, with the tail and hind flippers serving as a means of propulsion. The river otter swims by making paddle-like movements of the extremities, the tail functioning mainly as a rudder and stabilizer. The river otter is less specialized and can move with equal facility on land and in water, using the same groups of muscles. The sea otter has largely lost the ability to move on land, since the body musculature rather than the muscles of the extremities is involved in its swimming.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CONCERNING THE EFFICIENT MAKE UP OF AN INFORMATION RETRIEVAL THESAURUS -U-

AUTHOR--SOKOLOV, A.V.

S

COUNTRY OF INFO--USSR

SOURCE--NAUCHNO-TEKHNICHESKAYA INFORMATSIYA, 1970, SERIES 2, NR 1, PP 35-41

DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--DATA RETRIEVAL, INDEX, DATA PROCESSING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0121 STEP NO--UR/0447/70/000/001/0035/0041

CIRC ACCESSION NO--AP0122387

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AP0122387 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COOPERATION AND COORDINATION OF EFFORTS IN CREATING INFORMATION RETRIEVAL THESAURI CALLS FOR ELABORATING THEIR STANDARD FORMAT SO AS TO ENSURE THEIR EFFICIENT USE. IN FORMATING THE DESCRIPTOR ENTRIES AND THE HIERARCHICAL SECTION, ONE SHOULD TAKE INTO ACCOUNT THE NATURE OF THE REDUNDANT INDEXING CHOSEN FOR THE THESAURUS (WHETHER ASCENDING OR DESCENDING). SPECIAL INDICES FOR PLURAL AND NEGATION MUST BE INTRODUCED. PROPOSALS ARE MADE REGARDING THE NOTATION OF DESCRIPTORS IN THE ALPHABETIC SECTION AND THEIR ARRANGEMENT IN THE HIERARCHICAL SCHEDULES. FRAGMENTS OF DIFFERENT THESAURI ARE PRESENTED FOR ILLUSTRATION.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR UDC 621.371.029.65/66

KOLOSOV, M. A. and SOKOLOV, A. V., Academy of Sciences of the USSR in Moscow

"Some Problems in the Propagation of Millimeter and Submillimeter Radio Waves"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 667-676.

Abstract: This is a general survey of the field of millimeter and submillimeter radio wave attenuation. The major sections considered are absorption by atmospheric molecules and water vapor, and absorption by fogs and precipitation.

There is also a brief discussion of new techniques in generation and detection of these waves, with particular mention of A. V. Gaponov and his use of masers working at cyclotron resonance in a strong longitudinal magnetic field, orotrons and the use of an antimony indium superheterodyne receiver operating at the temperature of liquid nitrogen to detect 8 mm waves, theoretically applicable also for submillimeter waves. T. M. Lifshits has developed an antimony indium receiver operating on the cyclotron resonance principle, which is tunable from 30-400 micrometers.

With respect to atmospheric absorption, the authors point out wide discrepancies between the theoretical and experimental results. They discuss the possibilities of dimer absorption and absorption in water vapor due to the nonrigidity of the molecules, and suggest other possibilities.

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USSR

KOLOSOV, M. A., et al, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 667-676

With respect to the absorption of these waves by fogs and precipitation, the authors site some results and point out the extreme difficulty of recording the many variables involved in an actual rainfall. A considerable portion of the article is devoted to listing various experimental investigations, some in the Soviet Union and many in foreign countries.

The authors conclude that a great deal more work is necessary to develop the physical theories of attenuation, particularly dimer absorption, and that there is an immediate need for a great deal more experimental work to determine the conditions of propagation in the free atmosphere as a function of distance, frequency, temperature and meteorological conditions.

The article includes 50 bibliographic references, approximately two-thirds in Russian, one-third in English and a few in German.

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1/2 027 UNCLASSIFIED

TITLE--CERTAIN PROBLEMS OF THE PROPAGATION OF MILLIMETER AND SUBMILLIMETER RADIO WAVES -U- PROCESSING DATE--16OCT70

AUTHOR-(02)-KOLOSOV, M.A., SOKOLOV, A.V.

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DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, NAVIGATION

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UNCLASSIFIED

CIRC ACCESSION NO--AP0118238 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHORT SURVEY OF STUDIES OF THE ATMOSPHERIC PROPAGATION OF MILLIMETER AND SUBMILLIMETER RADIO WAVES CONDUCTED BOTH IN THE USSR AND ELSEWHERE WITHIN THE PAST FIVE YEARS. PROGRESS IN THE DEVELOPMENT OF TRANSMITTING AND RECEIVING MEASUREMENT EQUIPMENT IS OUTLINED. AND ATTENTION IS GIVEN TO THE CURRENT STATE OF THEORETICAL AND EXPERIMENTAL RESEARCH INTO MOLECULAR AND AEROSOL ATTENUATION IN A REAL ATMOSPHERE. PROBLEMS REQUIRING FURTHER STUDY IN THE NEAR FUTURE ARE INDICATED, INCLUDING (1) PROPAGATION AS A FUNCTION OF RANGE, FREQUENCY, TEMPERATURE, AND METEOROLOGICAL CONDITIONS, (2) THE THEORY OF DIMER ATTENUATION, AND (3) PROPAGATION DURING PRECIPITATION.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 621.373.826:550.3

VARDANYAN, A. S., ISKHAKOV, I. A., SUKHONIN, Ye. V., and SOKOLOV, A. V.

"Measurement of Atmospheric Absorption in the Wavelength Range of λ = 980-1600 Microns" by the Radioastronomical Method"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 61-65 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D380)

Translation: The described method is based on relative measurements of the sun's radiation, attenuated by the atmosphere, at various values of its elevation above the horizon. For the measurements, a radiotelescope with an immersion detector of n-type InSb was used. The measurements were made at sea level in the temperate latitudes. The minimum measured absorption value was obtained for the 1260 micron wave in water vapor and in the transparency window, and was equal to about 0.6 dB/hr·m^{-2} at $\theta = 0°$.
A. K.

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USSR UDC: 621.315.592

BROVKIN, Yu. N., DRAZHAN, A. V., and KOSTYLEV, S. A., Dnepropetrovsk Division of the Mechanics Institute

"Some Characteristics of the Prethreshold Field Distribution in Gunn Diodes"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1608-1609

Abstract: Results are given, in this brief communication, of investigations into the peculiarities of the formation of statistical domains in Gunn oscillators with random heterogeneities. The measurements made involved pulses of 0.6 μs with a repetition rate of 20 Hz, using a point potential probe. The specimens were in the form of parallelepipeds, 200-300 microns long and with a cross section of 0.3 mm^2, made of monocrystalline GaAs, n-type. For each specimen, measurements were made of the potential distribution along the length of the specimen, the volt-ampere characteristic over the entire length of the specimen, and the local volt-ampere characteristics of individual specimen portions for the two bias polarities. Curves for the distributions and the characteristics

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BROVKIN, Yu. N., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1608-1609

are reproduced. The authors report observing strong-field regions in which the volt-ampere characteristic remained linear up to fields of 10-15 kV/cm and which are not described in the literature. They express their gratitude to R. G. Shabalina for her assistance in conducting the experiments.

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USSR

UDC: 621.391.2

BABKIN, Yu. S., ISKHAKOV, I. A., SOKOLOV, A. V., STROGANOV, L. I., SUKHONIN, Ye. V.

"On the Problem of Attenuation of Emission on a 0.96 mm Wave in Snow"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No 12, Dec 70, pp 2459-2462

Abstract: This work was done to study attenuation on a 0.96 mm wave on a 680 m transmission path in snows of up to 2 mm/hr expressed in the amounts of water precipitated. The experimental part of the work was done in 1969-1970 in the central European section of the Soviet Union. Precipitation was measured by three P-2 recording rain gauges placed at both ends of the transmission path and in the middle. Temperature, pressure, humidity and wind speed were measured at the same time. Rotating one-meter Cassegrain antennas were used. It was found that attenuation in rains of the same intensity (2 mm/hr) is approximately 30-40% lower. A strongly idealized calculation is given within the framework of Mie theory for attenuation in snows. The results agree satisfactorily with experimental data if the effective radii of spherical snow particles are interpolated. The authors thank M. A. Kolosov for advice and for remarks made during the work.

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UDC: 621.391.2.029.67

SOKOLOV, A.V.

"On the Problem of Attenuation of Infrared and Visible Emission in Rain and Snow"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2463-2467

Abstract: Data are given from theoretical calculation of attenuation in rain according to strict Mie diffraction formulas in the 0.63-100 u band in the case where the index of refraction of raindrops corresponds to Centano's data, and their size distribution is defined in accordance with the data of Best and Polyakov. It is shown that the theoretical values of attenuation may be used as an estimate for waves of 0.63 and 3.5 u. The results of attenuation measurements in snow are compared on waves of 0.63 and 10.6 u over a path of 1.36 km in length. It was found that the attenuation of visible radiation in dry snow is less than that of infrared attenuation by a factor of about 1.5. The author thanks M.A. Kolosov, Ye. V. Sukhonin and V.P. Bisyarin for assistance and for discussing the results of the work.

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USSR

UDC: 621.391.2:621.396.96

SOKOLOV, A. V., SUKHONIN, Ye. V.

"On the Problem of Attenuation of Submillimeter Radio Waves in Rain"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2454-2458

Abstract: Data are given from a theoretical calculation of attenuation in rains in the 0.1-2.0 mm range with regard to new experimental results on the complex index of refraction of water in the liquid phase assuming Best-Polyakova size distribution of raindrops. It is shown that the theoretical calculations of attenuation in rains with intensity of 10-12 mm/hr agree satisfactorily with experimental data on a 0.96 mm wave. The approximate empirical formula for attenuation in this range of intensities if $1.52 \cdot I^{0.638}$ in decibels per kilometer, where I is the rain intensity in mm/hr. The authors thank M. A. Kolosov for constructive advice and criticism, and I. Ya. Gushchina for the computer calculations.

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USSR

ARMAND, N. A., IZYUMOV, A. O., and SOKOLOV, A. V.

UDC 538.574.8

"Fluctuations of Submillimeter Radio Waves in the Turbulent Atmosphere"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1333-1341

Abstract: This paper deals with the study of fluctuations of electromagnetic signals in the atmosphere in the presence of appreciable absorption. The problem of propagation of a plane monochromatic wave in the submillimeter band in a layer of turbulent atmosphere close to the ground is considered, and formulas are found for the intensity of fluctuations in the levels of received signals with regard to the absorption of the incident radiation. It is found that fluctuation intensity is suppressed when absorption is present. The measuring equipment is described as well as the procedure and results of measurements of fluctuations in received signal levels in the 0.86-0.99 mm band, and theoretical and experimental data are compared. It was experimentally found that the amplitude of fading in the center of the absorption line at 0.921 mm is 1/5 that on the wavelength of 0.986 mm. This phenomenon is attributed to a lens effect due to nonhomogeneities in the turbulent atmosphere. An analysis of the effect shows that absorption reduces fading

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ARMAND, N. A., et al., Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1333-1341

only in the zone of geometric optics, and that the intensity of the reduction in amplitude fading is most pronounced when the effects of lens action and changes in optical thickness are comparable.

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USSR

UDC 621.371.3.029.7

BISYARIN, V. P., BISYARINA, I. P., RUDASH, V. K., SOKOLOV, A. V.

"On the Problem of Attenuation of Laser Emission on Wavelengths of 10.6 and 0.63 μ in Atmospheric Precipitation"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71, pp 1765-1769

Abstract: The paper presents the results of simultaneous measurements of coefficients of attenuation of laser emission on wavelengths of 10.6 and 0.63 μ in snow, rain and drizzle which were made on a transmission path of 1.36 km in length. It is shown that attenuation on 10.6 μ exceeds that on 0.63 μ by an average factor of 1.4 in snow, and by an average factor of 1.2 in drizzle. In the case of rain, experimental relations on both wavelengths for the coefficients of attenuation as functions of the intensity of the rain are compared with the relations calculated by Mie theory for the size distribution of the raindrops in accordance with the data of Best and Polyakova. It is shown that the attenuation on 10.6 μ is greater than on 0.63 μ in high-intensity rains. The authors thank M. A. Kolosov and Ye. V. Sukhonin for constructive discussion of the results of the work. Seven figures, bibliography of six titles.

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USSR

UDC 621.373.826:550

BISYARIN, V. P., BISYARINA, I. P., and SOKOLOV, A. V.

"Recurrence of Attenuation Factors at Wavelengths of 0.63 and 10.6 Microns in the Atmosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 174-178 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D378)

Translation: Estimation of the recurrence of attenuation factors for radiation in the atmosphere is of great interest from the viewpoint of determinations of the efficiency of optical lines of communication. Results are given of measurements of radiation at wavelengths of 0.63 and 10.6 microns which show that hydrometeorology makes the principal contribution to radiation attenuation. Weakening of the 10.6 micron radiation, caused by molecular absorption, is comparable to fog attenuation. A. K.

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ZHAVORONKOV, V. M., MANSUROV, N. A., MANSUROV, Yu. A., SOKOLOV, A. V.

UDC 621.376.5

"Powerful High-Voltage Pulse Modulator Made of Channelless Elements"

Elektrofiz. apparatura i elektr. izolyatsiya (Electrophysics Equipment and Electrical Insulation), Moscow, Energiya Press, 1970, pp 75-82 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8 D298)

Translation: This article contains a description of the operating principle and schematic of a pulse modulator made of magnetic elements and thyristors. The modulator consists of an output pulse transformer, a shaping cascade and a pulse compression cascade, a step-up pulse transformer, a reservoir capacitor, a switching device, a starting module, a charge circuit, and a power rectifier. A brief engineering description of the modulator is presented. The basic parameters of the modulator are the following: pulse power 50 megawatts with a pulse length of 1-10 microseconds, voltage amplitude to 50 kilovolts and pulse repetition rate of 1-200 hertz. The total commuting current passing through the switching device reaches 20 kiloamperes. The modulator is fed directly from a three phase AC network via an electromechanical converter. There are three illustrations and a five-entry bibliography.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 621.371.3.029.7

BISYARIN, V. P., BISYARINA, I. P., SOKOLOV, A. V.

"On the Problem of Attenuation of Laser Emission on a Wavelength of 10.6 μ in Artificial and Natural Mists"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71, pp 1758-1764

Abstract: The paper gives the results of measurements of the coefficients of attenuation of laser emission on a wavelength of 10.6 μ in artificial and natural mists on transmission paths of 15 m and 1.36 km respectively. Experimental relations are presented for attenuation on 10.6 μ as a function of the attenuation on 0.63 μ and the meteorological visibility. It is shown that attenuation on a wavelength of 10.6 μ is in many instances less than the attenuation on 0.63 μ, and depends appreciably on the microstructure of the mist, which is in accord with the theoretical calculations. Estimates of mist characteristics are given for both cases, which show that the man-made mists are close to natural fog. Seven figures, one table, bibliography of ten titles.

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USSR

UDC 621.396.6-181.5

NAZAROV, G. V., SOKOLOV, A. V., KOZHEVNIKOV, A. P., SHANOV, A. M., NIKITIN, V. G., SAFONOV, V. A., SEREGIN, V. P., BASHARIN, V. I.

"Development of Equipment for Assembling Integrated Circuits by Welding with Pulsed Indirect Heating and Ultrasound"

Elektron. tekhnika. Nauchno-tekhn. sb. Mikroelektronika (Electronic Engineering. Scientific and Technical Collection. Microelectronics), 1970, vyp. 3 (24), pp 70-76 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4V287)

Translation: A study was made of the advantages of welding by pulsed indirect heating and ultrasonic welding when assembling microcircuits. The technical characteristics of the developed equipment and the structural design of the operating tool are presented. The results of experimental operation of the devices are discussed.

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USSR

UDC: 621.391.2:621.396.96

BABKIN, Yu. S., ZEMIN, N. N., IZYUMOV, A. O., ISKHAKOV, I. A., SOKOLOV, A. V., STROGANOV, L. I., SUKHONIN, Ye. V., SHABALIN, G. Ye.

"Measurement of Rain Attenuation on a 0.96 mm Wave Over a 1 km Route"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2451-2453

Abstract: An investigation is made into attenuation in rains of varying intensity and a relationship is found between the attenuation and the mass of water precipitated in a given time interval. The transmitter was a frequency-stabilized unit based on a backward-wave oscillator, and the receiver used an indium antimonide detector cooled to liquid helium temperatures. Rotating one-meter Cassegrain antennas were used. Rainfall was registered by three P-2 recording rain gauges placed at both ends and in the middle of the 1 km transmission path. Temperature, pressure, humidity and wind speed were also measured. Attenuation on a 0.96 mm wave was determined from the change in signal level at the receiver during rains. For rain intensity of 0.12 mm/hr (covering more than 99% of all cases) the attenuation on a 0.96 mm wave in decibels per kilometer is approximately $1.53 \cdot I^{0.038}$, where I is rain intensity in mm/hr. This is 2.5-3 times the attenuation observed on a wave of 8.6 mm.

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USSR

UDC 621.371.332.3

ANDREYEV, G. A., SAVCHENKO, V. P., SOKOLOV, A. V., and STROGANOV, L. I.

"Using FM Signals of the Submillimeter Range for Revealing the Structure of Local Dispersion of an Extended Body"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 111-116 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10G10)

Translation: The resolving power and noise immunity of secondary radiation reception from locally dispersive extended bodies are analyzed. It is noted that complex continuous signals (particularly linearly frequency modulated signals) are used to improve the sensitivity. To obtain information regarding the level and position of the dispersive elements using LFM signals, coherent reception with subsequent nonlinear transformation of the reference and dispersed signals as well as low-frequency filtration is required. Under large-scale experimental conditions, a radial resolving power of 2.7 cm is realized with a signal/noise ratio of about 23 dB. Four illustrations, bibliography of three. H. S.

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USSR

UDC: 621.373.826:53

AGANBEKYAN, K. A., ZRAZHEVSKIY, A. Yu., KOLOSOV, M. A., SOKOLOV, A. V.

"Absorption of Submillimeter Radiation in Pure Water Vapor"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 35-38 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D362)

Translation: Results are given of the calculation on a computer of the absorption in the submillimeter wavelength range as a function of pure water vapor pressure. Comparison of the results of the calculation with the experimental data in the transparency windows of 0.73, 0.45, 0.36, and 0.29 mm shows that the computed values are below the measured ones. One illustration, one table, bibliography of seven. A. L.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 621.371:538.569.4:551.57

SOKOLOV, A. V. and SUKHONIN, Ye. V.

"Effect of Rain on Operation of Communications Lines in the Sub-millimeter (SBMM) Wavelength Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 71-75 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A314)

Translation: A calculation is made of the probability distribution of rainfall of varying intensity for the central part of European Russia and Central Asia from the results of observations averaged over 14 years at several points in each rayon. The results of the computation coincide satisfactorily with the measured results (1968-1969). The probability distribution of the attenuation, confirmed by measurement results along paths of the radio relay lines, is plotted in terms of the probability distribution of the rains. Three illustrations, bibliography of six. N. S.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC: 621.396.67:624.97(088.8)

SOKOLOV, A. Ye., USANOV, A. P., SHAPIRO, A. Z., D'YACHKOV, V. K., KUTYAYKIN, V. Ya., MUROKH, G. L., NARYSHKOV, V. M.

"A Device for Suspending the Radiating Element of Rotating Antennas"

USSR Author's Certificate No 262198, filed 20 May 68, published 3 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B77 P)

Translation: This Author's Certificate introduces a device for suspending the radiating element of rotating antennas. The device contains a girder designed for fastening the radiating element, this girder being fastened to the reflector or antenna array by rod supports equipped with hinges. In order to reduce the effect which deformations of the elastic elements have on the electrical parameters of the antenna, the girder is connected to the rod supports through bearings, and to the reflector or antenna array through auxiliary guys, the lines which connect the points of fastening of these guys to the reflector or antenna array and to the girder forming a parallelogram. Two illustrations. Resumé.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC 621.396.67:624.074

SOKOLOV, A. Ye., D'YACHKOV, V. K., GOL'DYAYEV, K. Ya., BALANDIN, V. V.

"A Device for Limiting the Angle of Turn of an Antenna Mast"

USSR Author's Certificate No 255375, Filed 19 Jun 68, Published 8 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10B94 P)

Translation: The proposed device for limiting the angle of turn of an antenna mast contains shock absorbers and a stopper mechanism made in the form of a threaded ring which is fitted on the faces with teeth which mesh at the extreme positions of the column with teeth on the support rings. To simplify the design and reduce the overall dimensions of the device, the threaded ring is rigidly fastened inside a yoke which is fixed by hinge fastening to the stationary base of the antenna mast through the shock absorbers. Two illustrations.

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USSR

UDC: 543.42.062

GANOVICH, M. V., KABANOVA, M. A., KRICHEVER, M. Ya., MAKOVOZ, B. B., SOKOLOV, B. A.

"One-Channel, One-Beam Atomic Absorption Spectrophotometer Model AAS-1K"

Optich. i Titrometrich. Analizatory Zhidk. Sred [Optical and Titrometric Analyzers for Liquid Media], Reports of All Union Conference, 1971, Part 1, Tbilisi, 1971, pp 81-86 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1097 by V. S. Krasnova)

Translation: A report is presented on the development of various types of atomic absorption spectrophotometers at the All Union Scientific Research Institute for Scientific Instruments (Leningrad). A description is presented of the basic circuits and designs used in creation of the model AAS-1K general laboratory device. The AAS-1K is a single structure, built into a common case, consisting of functionally independent blocks (B): the pulse power supply B for the hollow-cathode tube, the type BV-2 high-voltage power supply B, the specimen feed B, the gas feed and distribution B, the tube holder, heater, monochromator, measurement B and type KSP-4 recording potentiometer. 2 figures; 2 biblio refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC: 621.317.8

ZHARINOV, A. A., SOKOLOV, B. A.

"Microminiature [redacted] Wire-Wound Compensation Resistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 29-35 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V307)

Translation: The authors describe type S5-30 and S5-30T microwire compensation resistors. Operational, thermal and frequency characteristics are given. The effect of the sealing compound on the heating temperature of the coil is considered. The thermal constant of the resistors depends on loading and operating conditions. The frequency dependence of resistance is calculated and experimentally verified. Resumé.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203110017-4

USSR

UDC: 621.317.8

SOKOLOV, B. A., ZHARINOV, A. A., LUKIN, V. S.

"Sorting out Microwire Resistors With Intermittent Failures"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 41-47 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V306)

Translation: The authors analyze existing methods for sorting out potentially unreliable resistors. A procedure is proposed and devices are developed for sorting out type S5-30 and S5-15 resistors with intermittent failures. It is shown that it is feasible and necessary to introduce this operation into the technological process. Resumé.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UPPER PROTEROZOIC NONMETAMORPHOSED MARINE FORMATIONS ARE WIDELY DISTRIBUTED IN ANCIENT PLATFORMS IN ALL CONTINENTS OF THE GLOBE. SCATTERED ORG. SUBSTANCE AND ACCUMULATIONS OF OIL IN GAS ARE PRESENT IN NOTICEABLY HIGH AMTS. IN THESE ANCIENT ROCKS. ALL THIS SUGGESTS THE POSSIBILITY OF DISCOVERING COM. OIL AND GAS DEPOSITS IN THE PROTEROZOIC FORMATION OF ANCIENT PLATFORMS.

FACILITY: MOSK. GOS. UNIV., MOSCOW, USSR.

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