

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SHAPES OF EPR LINES IN THE PRESENCE OF SOME BROADENING MECHANISMS  
-U-  
AUTHOR--(03)-~~DEYGEN~~, M.F., GLINCHUK, M.D., KOROBKO, G.V.  
COUNTRY OF INFO--USSR  
SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(2), 290-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, PHYSICS  
TOPIC TAGS--EPR SPECTRUM, GAUSSIAN DISTRIBUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/1942 STEP NO--UR/0185/70/015/002/0290/0296  
CIRC ACCESSION NO--AP0118904  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHAPE AND WIDTH OF ESR LINES WERE CALCD. TAKING INTO CONSIDERATION SEVERAL STATISTICALLY INDEPENDENT BROADENING MECHANISMS GIVING LORENZIAN OR GAUSSIAN SHAPES OR MIXT. OF LORENZIAN AND GAUSSIAN SHAPES OF CURVES. CALCD. PARAMETERS ENABLED ONE TO DET. CONTRIBUTIONS OF EACH MECHANISM TO AN EXPTL. LINE. THE METHOD WAS APPLIED FOR ANAL. OF THE SHAPE OF THE ESR SPECTRUM OF CR PRIME3 POSITIVE IN ZNWO SUB4. FACILITY: INST. POLUPROV., KIEV, USSR.

UNCLASSIFIED

1/2 010

UNCLASSIFIED

PROCESSING DATE--11SEP71

TITLE--REACTION OF N, ACYLISOQUINOLINIUM SALTS WITH PYRROLES -U-

AUTHOR--SHEYNKAAN, A.K., DEYKALO, A.A.

D

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSKI KL. SOEDIN. 1970, (1), 126-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PYRROLES, MOLECULAR STRUCTURE, THIN LAYER CHROMATOGRAPHY,  
CHLORINATED ORGANIC COMPOUND, CHEMICAL SYNTHESIS, CRYSTALLIZATION,  
CHEMICAL SEPERATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1049

STEP NO--UR/0409/70/000/001/0126/0127

CIRC ACCESSION NO--AP0104447

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--APO104447

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. REACTION OF PYRROLES AND ISOQUINOLINE IN THE PRESENCE OF ACYL HALIDES WAS STUDIED AT 25-50DEGREES. PRODUCTS I AND II (3:4 RATIO) PREPD. IN 50-70PERCENT YIELD WERE SEPD. BY FRACTIONAL CRYSTN. FROM ET SUB2 O OR BY PREPARATIVE THIN LAYER CHROMATOG. ON AL SUB2 O SUB3 (C SUB6 H SUB6-C SUB6 H SUB14-CHCL SUB3, 6:1:30). THUS WERE PREPD. I (R PRIME1, R PRIME2, PERCENT YIELD, M.P., LAMBDA MAX., AND LOG EPSILON, GIVEN): PH, H, 136-7DEGREES, 235 MMU, 4.85, 265 MMU, 4.83; 2-FURYL, H, 125-6DEGREES, 235 MMU, 4.27, 260 MMU, 4.23, 315 MMU, 4.19; PH, PH, 88, 149-50DEGREES (ETOH), 300 MMU, 4.11. ALSO PREPD. WERE II (R, M.P., LAMBDA MAX., AND LOG EPSILON GIVEN): PH, 197-8DEGREES, 235 MMU, 5.27, 275 MMU, 5.40; 2-FURYL, 170-1DEGREES, 235 MMU, 4.49, 265 MMU, 4.55, 315 MMU, 4.50. ALSO PREPD. WERE III (R PRIME3, PERCENT YIELD, AND M.P. GIVEN): PH, 67, 242-3DEGREES.

UNCLASSIFIED

Acc. Nr:

AP0045141

Abstracting Service:

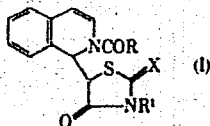
CHEMICAL ABST.

4170

Ref. Code:

UR0409

90355h Reaction of N-acylisoquinolinium salts in situ with thiazolidones. Sheinkman, A. K.; Deikalo, A. A.; Baranov, S. N. (Donets. Gos. Univ., Donetsk, USSR). *Khim. Geterotsykl. Soedin.* 1970, (1), 130-1 (Russ). Heating 3-phenyl-5-(2-benzoyl-1,2-dihydro-1-isoquinolyl)-2,4-thiazolidinedione, m. 189-90°, with KOH gave 2-benzoyl-1,2-dihydro-1-isoquinolylthioglycolic acid, m. 95.6°. Reaction of isoquinoline with various thiazolidinones in the presence of acyl halides gave 1-acyl-1,2-dihydroisoquinolyl thiazolidinones (I) (R, R', X and m.p. given): Ph, Et, S,



162.4-3°; Ph, Ph, NPh, 212.5-13°; Ph, Ph, S, 211-12°.

G. M. Kosolapoff

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REEL/FRAME  
19780041

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1/2 032 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--EFFECT OF SHEAR STRESS ON THE DIELECTRIC PROPERTIES OF HYDRATED  
CALCIUM GREASES -U-  
AUTHOR--(02)--KOVGANICH, N.YA., DEYMEGA, YU.F.  
COUNTRY OF INFO--USSR  
SOURCE--DOPOV. AKAD. NAUK UKR. RSE. SER. B 1970, 32(1), 64-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--GREASE, ORGANOCALCIUM COMPOUND, LUBRICANT, DIELECTRIC  
PROPERTY, PETROLEUM PRODUCT, SHEAR STRESS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1991/0069 STEP NO--UR/0442/70/032/001/0064/0067  
CIRC ACCESSION NO--AT0110049  
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0110049

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

ABSTRACT. THE EFFECT OF SHEAR STRESS ON DIELEC. CONST. EPSILON OF LUBRICANTS CONTG. CA SOAP HYDRATES WAS MEASURED. LAURIC, MYRISTIC, PALMITIC, STEARIC, AND BEHENIC ACIDS, VIGOROUSLY STIRRED IN PETROLEUM OIL (165 CST AT 20DEGREES), WERE SAPOND. WITH  $Ca(OH)_2$  AT 70-106DEGREES TO YIELD GREASES CONTG. 25PERCENT NEUTRAL SOAP AND 1.1PERCENT WATER OF HYDRATION. THE EPSILON OF LUBRICANTS WHICH CONTAINED ONLY ONE KIND OF SOAP WERE PROPORTIONAL TO THE LENGTHS OF SOAP ALKYL AND WERE NOT AFFECTED BY SHEAR RATE. IN LUBRICANTS CONTG. A MIXT. OF 3 AND 5 DIFFERENT SOAPS, THE EPSILON OF THE STATIC SYSTEM WERE HIGHER THAN FOR ANY SINGLE SOAP DISPERSION. WITH INCREASED SHEAR RATE, EPSILON DECLINED RAPIDLY. WHEN THE SHEAR RATE WAS DECREASING THE EPSILON WERE RISING BUT BY SMALLER INCREMENTS AND TO A SMALLER FINAL VALUE. ACCORDING TO ELECTRON MICROSCOPY THE MIXED SOAP CRYSTALS HAD STRUCTURE DEFECTS IN WHICH WATER MOLS. WERE LOCATED. IT WAS ASSUMED THAT, AS IN CA SOAPS OF HYDROXY ACIDS (E.G., RICINOLEIC) THERE WAS H BONDING BETWEEN ALKYL GROUPS AND WATER. UNDER SHEAR STRESS THE H BONDS WERE BROKEN, THUS EFFECTING TRANSFER OF PROTONS. AS IN RICINOLEATES, THIS CONTRIBUTED TO THE INCREASED POLARIZATION OF LUBRICANTS WHICH CONTAIN HYDRATED SOAPS OF DIFFERENT ALKYL LENGTHS.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--DETERMINATION OF DIFFUSIVITY BY THE METHOD OF INTEGRAL ANALOGS -U-  
AUTHOR-(02)-DEYMONTOVICH, V.B., RADOMYSELSKIY, I.D.  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 90-95  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATHEMATICAL SCIENCES, PHYSICS  
TOPIC TAGS--PHYSICAL DIFFUSION, INTEGRAL EQUATION, ANALOG SYSTEM,  
. COORDINATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0695 STEP NO--UR/0170/70/018/001/0090/0095  
CIRC ACCESSION NO--AP0126407  
UNCLASSIFIED



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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126407

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD FOR CALCULATION OF THE DIFFUSIVITIES USING AN INTEGRAL ANALOG OF THE DIFFUSION EQUATION AND EXPERIMENTAL DEPENDENCIES OF CONCENTRATION ON THE COORDINATE IS CONSIDERED WHICH ALLOWS CALCULATION OF THE DIFFUSIVITY WITH THE ERROR NOT EXCEEDING THAT IN EXPERIMENTAL DEPENDENCIES  $C(x)$ .

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--SELECTIVE ABDOMINAL HYPOTHERMY -U-  
AUTHOR--(03)-DEYNEKA, I.YA., LARIN, V.V., OSTASHKOV, K.V.  
COUNTRY OF INFO--USSR  
SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 363-368  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ABDOMEN, HYPOTHERMIA, DIGESTIVE SYSTEM, HEMORRHAGE, KIDNEY,  
SURGERY, BACTERIAL DISEASE  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1994/1120 STEP NO--UR/0238/70/016/003/0363/0368  
CIRC ACCESSION NO--AP0115139  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PERSPECTIVE APPLICATION OF SELECTIVE ABDOMINAL HYPOTHERMY IN CLINICAL PRACTICE IS GROUNDED AS ONE OF THE MOST EFFICIENT MEANS OF COMBATING PROFUSE GASTROENTERIC BLEEDINGS, FOR COMPLEX TREATMENT OF PANCREATITIS AND CHOLECYSTOPANCREATITIS, OF ACUTE KIDNEY INSUFFICIENCY AND FOR DECREASING THE INTOXICATION PHENOMENA IN ACUTE BACTERIAL INFECTIONS. THE FURTHER APPLICATION OF SELECTIVE ABDOMINAL HYPOTHERMY WILL MAKE IT POSSIBLE TO IMPROVE THE RESULTS OF TREATMENT OF MANY ABDOMINAL DISEASES AND PROVIDE MORE FAVOURABLE CONDITIONS FOR OPERATIVE PROCEDURES. FACILITY: DEPARTMENT OF NORMAL PHYSIOLOGY AND DEPARTMENT OF HOSPITAL SURGERY, MEDICAL INSTITUTE, ODESSA.

UNCLASSIFIED

USSR

UDC 621.791.011.019

GIRENKO, V. S., DEYNEGA, V. A., KHOLOLEYEV, A. M., Kiev

"Change in Ductility of Structural Steels at Rupture Under the Influence of Cyclical Loading"

Problemy Prochnosti, No 11, 1971, pp 16-22.

ABSTRACT: Experimental data are presented on the influence of preliminary cyclical loading and subsequent ageing on the resistance of low-carbon and low-alloy steels to brittle rupture. It is pointed out that it is useful to determine the ductility at rupture on the basis of the criterion of critical crack development. It is demonstrated that when structural materials are evaluated from the standpoint of rupture mechanics, the change in ductility of metal during the formation of actual cracks must be considered.

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Analysis and Testing

USSR

UDC 546.821:543.062

BASARGIN, N. N., YAKOVLEV, P. YA., and DEYNEKINA, R. S., Institute of Geology of Mining Deposits, Petrography, Mineralogy, and Geochemistry, Academy of Sciences USSR, Central Scientific Research Institute of Ferrous Metallurgy imeni Bardin, Moscow

"Dibromtichromine as a Reagent for Extraction-Photometric Determination of Titanium"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1043-1044

Abstract: Dibromtichromine forms with titanium a complex that extracts n-butanol from 0.001-1-n HCl ( $H_2SO_4$ ) in the presence of 500-fold amounts of diphenylguanidine or 50-fold amounts of triphenylguanidine with respect to the reagent. The molar ratio of the titanium-dibromtichromine in the extracting compound is 1:2. The authors developed a rapid method for determining 0,0n-0,n% Ti in steels. The relative error is  $\pm 5\%$ .

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USSR

BASARGIN, N. N., et al., *Zavodskaya Laboratoriya*, Vol 39, No 9, 1973,  
pp 1043-1044

Figure 1 illustrates the absorption spectra and Figure 2 shows the pH of the water phase as it is affected by the optical density. Table 1 shows the allowable weight amounts of materials and Table 2 gives the statistical characteristics of the method.

The article contains 2 illustrations, 2 tables, and 7 bibliographic references.

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Acc. Nr: AP0047201

Ref. Code: URO504

PRIMARY SOURCE: Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1, pp 34-37

**ELECTROLYTES AND HYPERTENSION**

Yu. D. Shulga, N. E. Deyneko

**Summary**

The authors investigated the main parameters of electrolyte metabolism: plasma concentration of sodium and potassium, their content in erythrocytes, value of the filtration charge, reabsorption and diurnal secretion of sodium and potassium. These indices were determined in the conditions of the salt restriction, prescription of symptolytic substances and aldosterone antagonists. In parallel with it the electric activity of the heart was studied by means of electrocardiography and vectorcardiography. No significant difference in the sodium content of patients with hypertensive disease and symptomatic hypertension were revealed. There was seen a tendency to hypersodiemia. The electrolyte metabolic function of the kidneys was characterized by intensive filtration and sodium reabsorption. Sodium reabsorption dropped under the influence of symatholytics and aldakton. A tendency to retention of sodium and loss of potassium in the myocardium was characterized vectorcardiographically by diminution of a total area of the QRS loops.

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REEL/FRAME  
**19790701**

22 2

USSR.

UDC: 621.383.8 : 621.039.66

BARYSHEV, B. A., GYAVGYANEN, L. V., ~~DIAMANT, I. M.~~, ISKOL'DSKIY, A. M., KRASNOGOLOVYY, I. I., and NESTERIKHIN, Yu. Ye.

"Nanosecond Electronic-Optical Photorecorder 'Channel' With Amplified Image Brightness"

Novosibirsk, Avtometriya, No 6, 1971, pp 53-58

Abstract: This paper represents a continuation of the work being done by the Institute of Automation and Electrometry on the design of devices for parallel recording and processing of optical signals obtained in the investigation of nanosecond and subnanosecond processes. A description is given in this paper of a multistage electronic-optical converter, developed by the authors, which has an electrostatic input chamber and two stages of image brightness magnification. A photograph and a functional diagram of the converter are given. Some of the advantages of this "Kanal" (Channel) instrument are low exposure time in frame operation, high electric field intensity near the photocathode due to the presence there of a control grid, a larger screen, high noise immunity, and a type of structure permitting assembly-line production by the Ministry of the Electronics Industry. The authors thank Yu. A. Shapiro for making the numerical computations, V. Yu. Sholokhov, Yu. N.

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USSR

UDC: 621.383.8 : 621.039.66

BARYSHEV, B. A., et al, Avtometriya, No 6, 1971, pp 53-58

Yevgrafov, and V. A. Gubachenko for their help in the structural development of the instrument, and V. D. Prilepskikh for helping prepare the apparatus.

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USSR

UDC 621.391

PSURTSEV, V.P., DIANOV, A.P.

"Differential System Of Binary Detection"

Kiev, Izvestiya Vuzov SSSR--Radioelektronika, Vol XIV, No 10, 1971, pp 1203-1208

Abstract: A differential system of binary detection of pulse radio signals is theoretically investigated. Precise expressions are found for the characteristics of detection. A block diagram is presented of the differential system which contains a signal gate generator, a radar receiver, a control gate generator, a reversible counter, and a period counter. It is shown that a differential system is significantly less sensitive to fluctuations of the quantization threshold than the ordinary classic system of binary detection. Received by editors 6 July 70; after revision 8 Feb 71. 3 ref. 3 fig. 3 tab.

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USSR

UDC: 534.86

DIANOV, D. B., ZADIRIYENKO, I. M.

"Effect of Acoustically Soft Screens on Some Parameters of Broad-Band Cylindrical Converters With External Transition Regions"

Moscow, Izv. Leningr. elektrotekhn. in-ta (News of the Leningrad Electrical Engineering Institute), No 112, 1972, pp 15-18 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh667)

Translation: Experimental investigations of the directed radiation of broad-band cylindrical converters are described. Measurements are made of test radiators consisting of three radially polarized, piezoceramic rings with an external transition region in the form of a cylinder of plexiglass with a wall thickness equal to a quarter of the longitudinal wavelength in the region at the radially resonant frequency of the piezo ring. The direction of the radiation is provided by acoustical screens of porous, sound-reflecting resins 5 and 10 mm thick. The screening angle was varied at steps of  $30^\circ$  in a  $30-315^\circ$  range. It was found that for small screening angles, the pass band of the converter narrowed. It is concluded that the change in shape of the frequency characteristic as a function of the screening angle is complex. Measurements of the frequency characteristic for the ratio of the sound pressure to the square  $1/2$

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DIANOV, D. B., ZADIRIYENKO, I. M., Izv. Leningr. elektrotekhn. in-ta, No 112, 1972, pp 15-18

root of the electrical power required by the converter as a function of the screening angle showed a maximum for  $240^{\circ}$  at the frequency of the low-frequency maximum of the radiator sound pressure without the screen and the transmission layer. Measurement of the directional characteristic showed that for this type of converter, the optimum screening angle from the viewpoint of stability in the form of the directional characteristic and a sufficiently high level of sound pressure should be  $240^{\circ}$ . Ye. B. Kudashev

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USSR

UDC: 539.86

DIANOV, D. B., KUZ'MENKO, A. G.

"Theory of Spherical Piezoceramic Radiators Which Perform Radial Zero-Order Oscillations"

Izv. Leningr. elektrotekhn. in-ta (News of the Leningrad Electrical Engineering Institute), 1970, vyp. 89, pp 182-189 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 11, Nov 70, Abstract No 11.32.503)

Translation: The authors consider the problem of the radiation of a piezo ceramic **sphere** which performs radially symmetric oscillations. A solution is found which is true for arbitrary sphere wall thickness. The equivalent electro-ceramic circuit is obtained. Values are given for the parameters of an equivalent circuit which describes operation of the spherical transducer close to radial resonance. One illustration, bibliography of three titles.

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Acc. Nr:

A0050267

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

4R 0020

Handwritten mark resembling a stylized 'Z' or '7'.

103301q Thermo-optical characteristics of glasses activated by neodymium. Buzhinskii, I. M.; Dianov, E. M.; Mamonov, S. K.; Mikhailova, L. M.; Prokhorov, A. M. (Fiz. Inst. im. Lebedeva, Moscow, USSR). Dokl. Akad. Nauk SSSR 1970, 190(3), 558-61 [Phys] (Russ). A new method to measure the thermo-optical const.  $W = \alpha(n - 1) + \beta T_\lambda$  is given, where  $\alpha$  is the coeff. of linear expansion of a glass,  $n$  refractive index, and  $\beta T_\lambda$  the temp. coeff. of  $n$ . The measurement was done in the region 10-45° for wavelengths 0.63 and 1.15  $\mu$ , by using as a light source Ne-He laser LG-126. The temp. gradient, perpendicular to the light beam in the glass 10 X 60 X 130 mm, was produced by water baths, one of const. temp. at 10° and the other with temp. varying slowly 10-45°. A diaphragm with 2 holes (1 mm cross section) at 7 mm to sep. beams passing the glass through the zones with different temp., was used. By an optical system it was possible to follow the change of the optical path  $\Delta P = \Delta N \lambda = L W \Delta T$ , where  $\Delta N$  is the no. of interference fringes shifted after the temp. gradient was formed in the glass,

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19810195

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$L$  was the length of the rod,  $\lambda$  wavelength of the light used, and  $\Delta T$  the temp. difference. The values of  $W$  and  $\beta_{T,\lambda}$  were evaluated for a no. of laser glasses. Finally, the values of  $\beta_{T,\lambda}$  and  $W$  were evaluated, at which the distortion of the wave front of the wave passing the glass under the temp. gradient does not take place or is minimal. For  $W$  this was in the region  $(-10$  to  $+10) \times 10^{-7}$ /degree. The best glasses studied were those of the types KGSS-3 and LGS-41.

J. Havel

*JH*

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19810196

USSR.

UDC 681.333

DITMAN, A. O., and DIANOV, G. P.

"A Device for Simulating Flow Around Flat Blade Assemblies With an Infinite Number of Foils"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309377, Division G, filed 21 Oct 69, published 9 Jul 71, p 193

Translation: This Author's Certificate introduces a device for simulating flow around flat blade assemblies with an infinite number of foils. The device contains a model of the field to be studied made from an electrically conductive material into which the streamline foil is cut. The device also includes toroidal transformers and resistors. As a distinguishing feature of the patent, the research time is cut down and the device is simplified by connecting the edges of the model of the periodic region of the field of flow being studied by appropriate wiring in an electrically closed circuit which passes through the toroidal transformer, while the region which simulates the streamline foil is cut in the form of two parts along the edges of the periodic region of the flow field being studied. Appropriate points of  $1/2$



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DITMAN, A. O., and DIANOV, G. P., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309377, Division G, filed 21 Oct 69, published 9 Jul 71, p 193

the cross section of the foil are interconnected by wiring into the electric circuit which passes through the toroidal transformer, creating a longitudinal circulating electric field in the conducting medium.

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USSR

UDC 622.011.43

DIANOV, V.G.

"On the Problem of Anchoring in a Slightly Cracked Rock Massif"

Str-vo i arkhitektura Uzbekistana (Construction and Architecture of Uzbekistan), 1972, No. 2, pp 42-44 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8V599)

Translation: The economic effectiveness of anchor reinforcement of mine workings is shown in several examples. A method is proposed for determining the necessary depth  $h$  of the anchor in a "healthy" rock base characterized only by structural splits  $C$ . The total forces caused by tangential stresses from tension of the anchors  $q$  in the most dangerous direction are compared with the total forces acting against a shift in these directions. The distribution of stresses in the rock massif is determined on the basis of elasticity theory. After integration and conversion

$$h = q(1-\nu) \cos \alpha \sin(\alpha + \beta) / 6.28C,$$

where  $\nu$  is the Poisson coefficient,  $\alpha$  is the angle of inclination of the generating cone of the explosion to the direction of the anchor,  $\beta$  is the angle between the axis of the anchor and the normal to the surface of the

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USSR

DIANOV, V. G., Str-vo i arkhitektura Uzbekistana, 1972, No. 2, pp 42-44

base. Analysis of this relationship shows that an air hole in monolithic rock occurs at an angle  $\alpha = 45^\circ$  and the greatest bearing capacity of the base will be at  $\beta = 0^\circ$ . 7 ref. V. E. Darevskiy.

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USSR

UDC 621.375.82

BUBNOV, M. M., DIANOV, Ye. M., and NIKITIN, Ye. P.

"Dependence of Laser Resonator Thermal Strain on Initial Temperature of Neodymium Glass Rod"

Kratk. soobshch. po fiz. (Brief Communications on Physics), 1973, No 3, pp 26-30 (from RZh-Fizika, No 10, Oct 73, Abstract No 10D837 by K. O. I.)

Translation: The interferometric method is used to measure the variation, with temperature, of the thermal strain of an Nd glass-based laser resonator at temperatures ranging from -20 to +85° C. Measurements were taken for two types of Nd glasses -- series and experimental lime silicate glass, which provides low resonator thermal strains. It is shown that within the limits of experimental error the magnitude of the resonator thermal strain does not depend on the initial rod temperature for either type of glass. It is noted that the quantity  $dn/dT$  of the investigated glasses weakly depends on the temperature in the -20 to +85° C range. Bibliography with 10 titles.

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USSR

UDC 548.55 : 612.373.8

BUBNOV, M. M., BUZHINSKIY, I. M., DIANOV, Ye. M., MAMONOV, S. K., MIKHAYLOVA, L. I., and PROKHOROV, A. M., Academician, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR, Moscow

"Change in the Sign of the Thermal Lens of Glass Laser Rods With a Change in the Glass Thermo-optical Constant"

Moscow, Doklady Akademii Nauk SSSR, Vol 205, No 3, 1972, pp 556-559

Abstract: The article describes results of a study of glasses with both positive and negative, constant thermo-optical values. The focal distances of the thermal lens which forms during periodical laser rod pumping were measured by the autocollimation method. It was found that the thermal lens power decreases, as the thermo-optical constant decreases, and changes sign at some constant thermo-optical values. This correlation between lens power and the thermo-optical constant of the glass occurs for glasses of various compositions (silicate, boron phosphate, phosphate). The mechanisms leading to lens formation are considered in order to explain this relation.

The authors thank S. I. KURGACHEV for his aid in the experiments.

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USSR

UDC 621.378.325

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DIANOV, YE. M., PROKHOROV, A. M., Academician, Physics Institute  
Imeni P. N. Lebedev of the Academy of Sciences USSR, Moscow

"Thermal Distortions of Laser Resonators in the Case of Active  
Rods in the Form of Rectangular Plates"

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970,  
pp 531-533

Abstract: Thermal distortions of a laser resonator in the case  
of a neodymium glass rod in the form of a rectangular plate are  
analyzed. It is noted that many theoretical and experimental  
studies have been devoted to thermal distortions of laser radia-  
tors, but in all these papers the active elements were in the  
form of circular rods. It is also pointed out that neodymium  
glass is the basic laser material used for producing high radia-  
tion intensity, so the problem of thermal distortions of the  
resonator is a particularly pressing one; also, the possibility  
of varying the physical properties of the glass material by  
changing the composition of the glass makes it possible, in  
principle, to produce a glass for which the different mechanisms  
leading to thermal distortion of the resonator compensate one  
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USSR

DIANOV, YE. M., et al, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970, pp 531-533

another. An expression is derived for the change in the optical path length of a ray propagating along the x-axis through the point  $x = x'$  produced by an applied temperature gradient (Fig. 1).

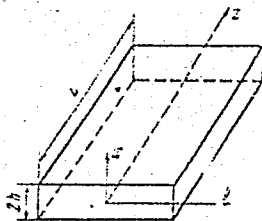


Fig. 1.

For light polarized along the x-axis this expression has the form

$$\Delta p_x(x') = L\{(n-1)\epsilon_{zz} + \beta_{T,\lambda}T(x') - B_{\parallel}\sigma_{xx} - B_{\perp}(\sigma_{yy} + \sigma_{zz})\}, \quad (1)$$

where  $T(x')$  is the temperature difference between the points  $x = x'$  and  $x = 0$ ;  $\epsilon_{zz}$  is the component of the deformation along the z-axis;  $\sigma_{ii}$  are the stress components;  $n$  is the index of refraction;

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DIANOV, YE. M., et al, Doklady Akademii Nauk SSSR, Vol 192,  
No 3, 1970, pp 531-533

$$\beta_{T,\lambda} = \partial n / \partial T; B_{\parallel} = \frac{n}{E} \left[ \frac{q}{V} - 2\nu \frac{p}{V} \right]; B_{\perp} = \frac{n}{E} \left[ (1-\nu) \frac{q}{V} - \nu \frac{p}{V} \right];$$

E is young's modulus;  $\nu$  is the Poisson coefficient;  $q/V$  and  $p/V$  are photoelastic constants characterizing the change in the index of refraction as a function of deformation in a direction parallel to or perpendicular to the plane of polarization of the passing light. The path difference  $\Delta'$  of the rays passing through the point  $x = 0$  and  $x = x'$  is given in the form

$$\Delta'_x = L \left[ \beta_{T,\lambda} + \frac{\alpha E}{(1-\nu)} (2B_{\perp}) \right] T(x'). \quad (2)$$

Similar formulas for light polarized along the y-axis are

$$\Delta p_y(x) = L \left\{ \left[ \beta_{T,\lambda} + \frac{\alpha E}{(1-\nu)} (B_{\perp} + B_{\parallel}) \right] T(x') + \left[ \alpha(n-1) - \frac{\alpha E}{(1-\nu)} (B_{\perp} + B_{\parallel}) \right] \frac{1}{2h} \int_{-h}^{+h} T(x) dx \right\}, \quad (3)$$

3/4

$$\Delta'_y = L \left[ \beta_{T,\lambda} + \frac{\alpha E}{1-\nu} (B_{\perp} + B_{\parallel}) \right] T(x'). \quad (4)$$



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DIANOV, YE. M., et al, Doklady Akademii Nauk SSSR, Vol 192  
No 3, 1970, pp 531-533

Formulas (2) and (4) show that the condition for the absence of thermal distortions of the resonator for a thin rectangular plate with a symmetric temperature distribution along its thickness is independent of the specific form of the temperature distribution and is determined only by the parameters of the glass material. A comparison of various laser glasses shows that (1) glasses of the type KGSS-3 and KGSS-7 satisfy the condition of minimum thermal distortion better than others for light polarized along the y-axis and (2) LGS-41 glass is best for light with a polarization along the x-axis.

4/4

- 83 -

USSR

UDC 548.55:612.373.8

D  
BUZHINSKIY, I. M., DIANOV, YE. M., MAMONOV, S. K., MIKHAYLOVA, L. M., and PROKHOROV, A. M., Academician, Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR, Moscow

"Thermo-optical Characteristic of Glasses Activated by Neodymium"

Moscow, Doklady Akademii Nauk SSSR, Vol. 190, No. 3, 21 Jan 70, pp 558-561

Abstract: The problem of the thermal distortion of laser resonators associated with the development of glass lasers with a high energy density is discussed. It is noted that the active elements of neodymium-activated glass lasers have a high optical homogeneity; the change in the refractive index in a transverse cross section of the rod does not exceed  $1 \cdot 10^{-7}$  for a 2.5-cm rod. However, this high homogeneity in the glass does not occur during laser operation, due to a temperature gradient developed by nonuniform pumping; this gradient, in turn, leads to a gradient in the index of refraction. A new method is presented for measuring directly the thermo-optical constant  $W$  of glasses, and values of  $W$  are given for the following neodymium-activated glasses: KGSS-3, KGSS-7, LGS-24-5, LGS-28-2, KGSS-46, LGS-36, and LGS-41. The LG-126 neon-helium laser was used as a source to measure the thermo-optical constants in the temperature interval 10-45°C at wave-

1/2

USSR

BUZHINSKIY, I. M., et al, Doklady Akademii Nauk SSSR, Vol. 190, No. 3, 21 Jan 70,  
pp 558-561

lengths 0.63 and 1.15  $\mu$ . The minimum thermal distortion at this temperature was  
exhibited by glasses with a thermo-optical constant in the limits  $(-10 - +10) \cdot 10^{-7}$ /  
 $^{\circ}\text{C}$ . Measurements showed that glasses KGSS-3 and LGS-41 satisfy conditions for  
minimum thermal distortion.

2/2

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USSR

UDC 542.91:547.1'118

ARBUZOV, B. A., DIANOVA, E. N., and VINOGRADOVA, V. S., Chemical Institute  
Imeni A. M. Butlerov, Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Reaction of 2,5-Diphenyl-3,4-diazacyclopentadien-1-one-3,4-dioxide With  
Trialkyl Phosphites"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 73,  
pp 1422-1424

Abstract: Trimethyl- and triethyl phosphite react with 2,5-diphenyl-  
3,4-diazacyclopentadien-1-one-3,4-dioxide yielding 1-alkyl-3,5-diphenyl-  
pyrazolyl-4 dialkyl phosphates.

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USSR

UDC: 547.26'118+547.775

ARBUZOV, B. A., DIANOVA E. N., VINOGRADOVA, V. S., Chemical Institute imeni A. M. Butlerov Affiliated With Kazan' State University imeni V. I. Ul'yanov-Lenin

"The Structure of Products of the Reaction of 1-Phenyl-3-Methyl-4-Isopropylidene-pyrazolone-5 With Dimethylphosphorous Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1212-1217

Abstract: The structure of dimethyl (1-phenyl-2,3-dimethylpyrazolone-5-yl-4) isopropyl phosphonate and dimethyl (1-phenyl-3-methyl-5-methoxypyrazolone-4) isopropyl phosphonate was identified by the addition of dimethylphosphorous acid to 1-phenyl-3-methyl-4-isopropylidene-pyrazolone-5 followed by alkylation. Tautomerism of the adduct of dimethylphosphorous acid with 1-phenyl-3-methyl-4-isopropylidene-pyrazolone is proved. The authors thank Yu. Yu. Samitov and E. I. Gol'dfarb for taking the nmr spectra.

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USSR

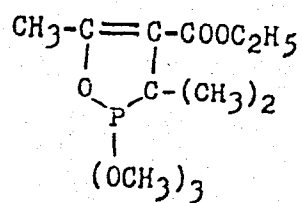
UDC: 661.718.1+547.241+541.6

ARBUZOV, B. A., DIANOVA, E. N., VINOGRADOVA, V. S., and PETROVA, M. V., Chemical Institute Imeni A. M. Butlerov at the Kazan' State University Imeni V. I. Ul'yanov-Lenin

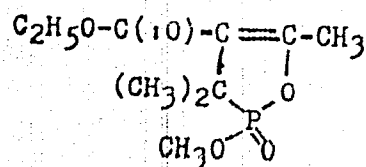
"Reaction of Trimethylphosphite With Isopropylideneacetoacetate"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 5, Dec 70, pp 1094-1096

Abstract: Trimethylphosphite reacts with isopropylidene acetoacetate at room temperature to yield the cyclic phosphorane A, b.p. 85-87° at 2·10<sup>-4</sup> mm Hg, n<sub>D</sub><sup>20</sup> = 1.4721, d<sub>0</sub><sup>20</sup> = 1.1132.



"A"



"C"

1/2

USSR

ARBUZOV, B. A., et al, Doklady Akademii Nauk SSSR, Vol 195, No 5, Dec 70, pp 1094-1096

At room temperature with a water excess A hydrolyzes to yield a dimethyl-2-acetyl-2-carbethoxyethylphosphinic acid (B),  $n_D^{20} = 1.4620$ ,  $d_4^{20} = 1.1722$ .

When acetic anhydride was reacted with A at  $70-80^\circ$  for 7 hrs, the product was an enol acetate of B, b.p.  $107-108^\circ / 2 \cdot 10^{-4}$  mm,  $n_D^{20} = 1.4630$ ,  $d_4^{20} = 1.1578$ .

When an attempt was made to distill B, the cyclic product C was obtained, b.p.  $133^\circ / 2 \cdot 10^{-4}$  mm,  $n_D^{20} = 1.4738$ .

2/2

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UDC 542.91 + 547.241 + 547.589.4

ARBUZOV, B. A., DIANOVA, E. N., and VINOGRADOVA, V. S., Chemical Institute imeni ~~A. M. Butlerov~~, Kazan' State University imeni V. I. U 'yanov-Lenin

"Reaction of Trimethyl Phosphite With Benzylidenebenzoylactic Ester"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No. 11, Nov 70, pp 2543-2548

Abstract: Continuing their study of phosphorane-type compounds obtained in reactions of trialkyl phosphites with  $\alpha, \beta$ -unsaturated carbonyl compounds, the authors found that the reaction of trimethyl phosphite with benzylidenebenzoylactic ester gives crystalline 2,2,2-trimethoxy-3,5-diphenyl-4-carbethoxy-1-oxo-2-phosnacyclo-4-pentene (I). The structure of I was proved by IR, NMR and UV spectral data, as well as a study of its chemical properties. I does not react with ethanol on heating to 70° for 7 hours even in the presence of phosphoric acid as catalyst, but is readily hydrolyzed on heating with an equimolar quantity of

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USSR

ARBUZOV, B. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 70, pp 2543-2548

water in ether, resulting in ring opening and the formation of the dimethyl ester of 1-phenyl-2-benzoyl-2-carbetoxyethylphosphonic acid, whose structure was confirmed by IR spectra. The action of acetic anhydride on I gives enol acetates.

The authors thank A. A. MUSINA for the NMR spectra.

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- 60 -

USSR

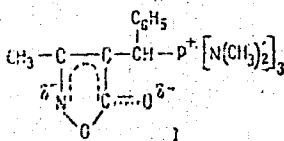
UDC 547.241

AREUZOV, B. A., DIANOVA, E. M., and VINOGRADOVA, V. S., Chemical Institute imeni A. M. Butlerov and Kazan State University imeni V. I. Ul'yanov-Lenin

"Reaction of 3-Methyl-4-benzylidenisoxazolone-5 and 1,3-diphenyl-4-benzylidene-pyrazolone-5 With Tri(dimethylamino)phosphine"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 750-753

Abstract: The title reactions result in the formation of 1:1 bipolar adducts. The adduct (I) of the 3-methyl compound is soluble only in polar



solvents; however, the adduct of the diphenyl compound is soluble in a wider range of solvents. Trace amounts of the product formed by the condensation of two pyrazolone rings were detected. Physical properties, NMR data, IR spectra, and experimental procedures are given.

1/1

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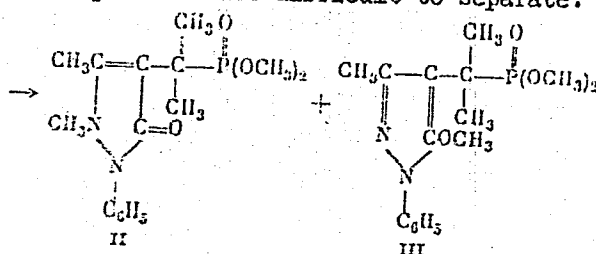
UDC 547.775.547.26'118

AREUZOV, B. A., DIANOVA, E. N., VINOGRADOV, V. S., and PETROVA, M. V., Chemical Institute imeni A. M. Butlerov and Kazan State University imeni V. I. Ul'yanov-Lenin

"Reaction of Trimethyl Phosphite With 1-Phenyl-3-methyl-4-isopropylidene-pyrazolone-5"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 746-749

Abstract: The title reaction does not occur at room temperature; however, if the reactants are allowed to react for 6 hours at 130°C in an atmosphere of dry nitrogen, two products are formed: compound (II), if the entering methyl group bonds to the 2-nitrogen and compound (III), if the methyl group bonds to the keto oxygen. The two products are difficult to separate.



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USSR

UDC 528.517:535.8

DIANOVA, V. A., MOVSESYAN, R. A., PARYGIN, V. N., and  
PAPYAN, V. A.

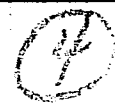
"Modulation of the Helium-Neon Laser Emission With the Help of  
Lithium Niobate Crystals"

Moscow, Geodeziya i Kartografiya, No 1, Jan 72, pp 32—36

Abstract : Experiments conducted with new electro-optical materials, lithium niobate (  $\text{LiNbO}_3$  ) crystals, at the Yerevan Polytechnic Institute imeni K. Marx, are described. The results are discussed by reference to experimental and calculated modulation depth - modulating power curves of  $\text{LiNbO}_3$ , shown in comparison with KDP curves. It was found that the use of  $\text{LiNbO}_3$  crystals instead of KDP crystals in the capacity of electro-optical element in a photometric range finder with a modulator of toroidal type possesses advantages over ADP and KDP crystals, including: 1) the required power to obtain the same efficiency of the modulator decreases by 2—2.5 times; 2) the size of the modulator can be reduced by  $\sim 4$  times; 3) the  $\text{LiNbO}_3$  crystals are not hygroscopic and are much stronger than KDP crystals; 4) thermal effects have not been observed in modulators with  $\text{LiNbO}_3$  crystal at the average power of 6 w. Three illustr., six biblio. refs.

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Environmental & Ecological Problems



USSR

BLIZHEYEV, V. I., D'YACHKOV, V. I., LERNER, I. B., MISHIN, V. K., NEKHLAMKINA, G.S.  
NIKITINA, Ye. I., DIANOVA, Ye. F., and MAKLONOVA, R. Ye.

"Joint Hygienic Study of Atmospheric Pollution in Certain Industrial Centers of  
the Central Volga Region"

Sb. nauch. tr. Kuybyshev, NII gigiyeny (Collection of Scientific Works of the  
Kuybyshev Scientific Research Institute of Hygiene), No 7, 1972, pp 92-93  
(from RZh-Geofizika, Svodnyy tom, No 5, 1973, Abstract No 5B504 by L.S.G.)

Translation: A study was made of the contamination of the atmosphere by chem-  
ical and oil-refining complexes and of the impact of pollutants on the health  
and sickness rate of children and on immunohematological indexes of animals.  
Measures have been elaborated for the elimination and reduction of specific  
discharges into the atmosphere, for the organization of sanitary shielding of  
industrial sites, and for improving the health of the child population.

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Acc. Nr:

AP0048443

Abstracting Service:

INTERNAT. AEROSPACE ABST

Ref. Code:

5-70 UR0030

A70-25126 # <sup>D</sup> Certain characteristics of light propagation in different layers of the atmosphere (Nekotorye osobennosti rasprostraneniia sveta v razlichnykh sloiakh atmosfery). G. V. Rozenberg, V. I. Tatarskij, and V. I. Dianov-Klokov. *Akademiia Nauk SSSR, Vestnik*, vol. 40, Feb. 1970, p. 21-29. In Russian.

Study of physical phenomena involved in the scattering of light in atmospheric layers, turbulent disturbances of light beams, and light absorption by binary oxygen complexes. Diagrams are presented showing the vertical behavior of the ratio of the scattering coefficient of the dispersed phase to that of the gas phase (wavelength of 0.65 micron); the behavior of the scattering coefficient of atmospheric mist as a function of the relative humidity; and typical spectral relations of the scattering coefficient in the atmospheric transmittance windows for finely and coarsely dispersed atmospheric mist. Comparative graphs of theoretical and experimental mean-square values of the fluctuations of the light intensity logarithm (for a helium-neon laser) and of the mean diameter of a light beam as a function of the meteorological conditions are also given. The importance of considering the influence of binary oxygen complexes (particularly in the ultraviolet) in the construction of optical models of planetary atmospheres is noted.

V.P.

REEL/FRAME

19800151

1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--EFFECT OF HIGH TYROSINE, METHIONINE AND LYSINE LOADING ON THE  
REGIONAL DISTRIBUTION OF NONESSENTIAL AMINO ACIDS POOLS IN RAT BRAIN -U-  
AUTHOR--DIASAMIDZE, G.A.  
COUNTRY OF INFO--USSR  
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 244-250  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--TYROSINE, METHIONINE, LYCINE, AMINO ACID, BRAIN, NUTRITION,  
ASPARTIC ACID, GLUTAMIC ACID  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1998/0270 STEP NO--UR/0301/70/016/003/0244/0250  
CIRC ACCESSION NO--AP0120960  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120960

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF HIGH TYROSINE, METHIONINE, AND LYSINE LOADING (I. P. ADMINISTRATION) ON THE REGIONAL DISTRIBUTION OF FREE MAIN NONESSENTIAL AMINO ACIDS IN BRAIN (GLUTAMIC ACID, ASPARTIC ACID AND GAMMA AMINOBUTYRIC ACID) HAS BEEN STUDIED. HIGH TYROSINE LOADING LEADS TO A SIGNIFICANT INCREASE IN THE CONCENTRATION OF THESE AMINO ACIDS IN ALL THE REGIONAL AREA OF THE BRAIN STUDIED (CORTEX, CORPUS STRIATUM, CORPORA QUADRIGEMINA, THALAMUS OPTICI, CEREBELLUM, PONS VAROLII). POSITIVE EFFECT OF THYROSINE IS ESPECIALLY STRIKING DURING THE FIRST 30 MIN, BUT IT DECREASES AFTER TWO HOURS FOLLOWING THE ADMINISTRATION. HIGH METHIONINE LOADING CAUSES AN INCREASE IN THE CONCENTRATION OF ALL THREE AMINO ACIDS TESTED, BUT THIS EFFECT IS MORE STABLE COMPARED WITH THAT PRODUCED BY THYROSINE. HIGH LYSINE LOADING RESULTS IN A MARKED INCREASE IN ASPARTIC ACID CONTENT, IT DECREASES GLUTAMIC ACID AND EFFECTS SLIGHTLY THE CONCENTRATION OF GAMMA AMINOBUTYRIC ACID. THE SIGNIFICANCE OF THESE RESULTS IN THE STUDY OF A ROLE OF FREE AMINO ACIDS AS THE MAIN POSSIBLE COMPLEMENTARY FACTORS OF NUTRITION IS DISCUSSED. FACILITY: STATE UNIVERSITY OF TBILISI, TBILISI.

UNCLASSIFIED



1/3 019 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--COMPARATIVE DATA OF THE STUDY OF ALKALINE AND ACID PHOSPHATASE  
ACTIVITY OF THE BLOOD SERUM AND NEUTROPHILS IN PATIENTS WITH NONSPECIFIC  
AUTHOR--(03)-MASUYEV, A.M., MINKAILOV, M.O., DIBIROV, D.A.,

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 4, PP 94-97

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHOSPHATASE, BLOOD SERUM, LUNG, RESPIRATORY SYSTEM DISEASE,  
PNEUMONIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1993/1985

STEP NO--UR/0504/70/042/004/0094/0097

CIRC ACCESSION NO--AP0114378

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114378

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS INVESTIGATED ALKALINE AND ACID PHOSPHOTASE IN THE BLOOD SERUM AND NEUTROPHILS IN 26 HEALTHY INDIVIDUALS AND 109 PATIENTS WITH DIFFERENT NONSPECIFIC INFLAMMATORY DISEASES OF THE LUNGS. (47 SUFFERED FROM ACUTE PNEUMONIA, 34, CHRONIC PNEUMONIA OF THE 1ST STAGE AND 28, FROM BRONCHIAL ASTHMA AND ASTHMATIC BRONCHITIS). THE ACTIVITY OF ALKALINE AND ACID PHOSPHOTASE IN THE BLOOD SERUM WAS DETERMINED WITH THE AID OF A. BODANSKY'S TECHNIQUE, IN NEUTROPHILS, BY THE METHOD OF NITROGEN COMPOUND, QUANTITATIVE DETERMINATION OF THE ACTIVITY, ACCORDING TO THE PRINCIPLE SUGGESTED BY KEFLOW. IT WAS ESTABLISHED THAT THE ACTIVITY OF ALKALINE IN THE BLOOD SERUM OF HEALTHY PERSONS WAS 3.65 PLUS OR MINUS 23 UNITS, IN NEUTROPHILS, 36.0 PLUS OR MINUS 3.6 UNITS, OF ACID PHOSPHOTASE IN THE BLOOD SERUM, 0.54 PLUS OR MINUS 0.31 UNITS, IN NEUTROPHILS, 30.0 PLUS OR MINUS 3.0 UNITS. ACTIVITY OF THE ALKALINE PHOSPHOTASE IN THE BLOOD SERUM IN ACUTE PNEUMONIA WAS EQUAL TO 15.19 PLUS OR MINUS 0.22 UNITS, IN CHRONIC PNEUMONIA, 15.35 PLUS OR MINUS 0.56 UNITS AND ASTHMATIC BRONCHITIS AND BRONCHIAL ASTHMA, 15.83 PLUS OR MINUS 0.94 UNITS; IN NEUTROPHILS IT CONSTITUTED 193.0 PLUS OR MINUS 6.9 UNITS IN ACUTE PNEUMONIA, 128.0 PLUS OR MINUS 6.4 UNITS, IN CHRONIC PNEUMONIA AND 158.0 PLUS OR MINUS 10.0 UNITS IN BRONCHIAL ASTHMA. ACTIVITY OF ACID PHOSPHOTASE IN THE BLOOD SERUM OF PATIENTS WITH ACUTE PNEUMONIA WAS 2.6 PLUS OR MINUS 0.09 UNITS, NEUTROPHILS, 135.0 PLUS OR MINUS 6.0 UNITS; IN CHRONIC PNEUMONIA CORRESPONDINGLY, 2.3 PLUS OR MINUS 0.07 AND 114.0 PLUS OR MINUS 7.6 UNITS; IN BRONCHIAL ASTHMA, 2.5 MINUS 0.08 AND 110.0 PLUS OR MINUS 9.6 UNITS.

UNCLASSIFIED

3/3 019

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114378

ABSTRACT/EXTRACT--ALL THE DATA ARE STATISTICALLY SIGNIFICANT. THE INCREASE OF THE PHOSPHOTASE ACTIVITY IN THE BLOOD SERUM AND NEUTROPHILS IS INTERCONNECTED AND SERVE AS AN INDEX OF THE ACTIVITY OF THE INFLAMMATORY PROCESS IN THE LUNGS. FACILITY: KAFEDRA FAKUL'TETSKOY TERAPII DEGESTANSKOGO MED. INST.

UNCLASSIFIED

Welding

USSR

UDC: 621.791.019

MAKARA, A. M., GORDONNY, V. G., DIBETS, A. T., SARZHEVSKIY, V. A.,  
PARFESSA, G. I., Institute of Electric Welding imeni Ye. O. Paton

"Remelting of High-Strength Steels as a Means of Increasing the Resistance  
to the Formation of Cold Cracks During Welding"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 73, pp 1-5.

Abstract: One method of improving the properties of high strength structural steels is refining of the initial metal, i.e., decreasing the content of harmful impurities, gasses, nonmetallic inclusions, and improvement of the initial structure of the metal. The use of electric-slag and cathode-ray remelting can significantly improve the ductility and toughness of the remelted steel by decreasing the content of sulphur, phosphorus, oxygen, nitrogen, hydrogen and nonmetallic inclusions. Following refining remelting, the resistance to the formation of cold cracks near a welded seam in type 35Kh2N2M and 42Kh2GSNM steels is increased by 50-60%.

1/1

Nuclear Science and Technology

USSR

UDC: 621.039.58,68:539.6

DIBOBS, I. K., KHYAZEV, V. A., MOISEYEV, A. A., MOSKALEV, YU. I., SIVINSEV, YU. V., TEVEROVSKIY, YE. N., TERMAN, A. V., and SHAMOV, V. P.

"Radiation Safety Standards (NRB-69)"

Moscow, Atomnaya energiya, Vol. 28, No 6, Jun 70, pp 463-467

Abstract: In August 1969 the Ministry of Health of the USSR approved the Radiation Safety Standards (NRB-69) developed by the National Commission on Radiation Protection. Recommendations of the International Commission of Radiological Protection served as the basis for the new standards. These standards set the basic permissible levels for ionizing radiation along with the permissible admission of radioactive isotopes into an organism. This includes three categories of people: Category A including service personnel, Category B including specific individuals in the population who live in areas where the permissible radiation doses may have been exceeded and where radiation conditions are checked, and Category C which includes the entire population with respect to estimating a genetically significant radiation dosage. The new standards are mandatory for the enterprises and establishments of all ministries and agencies using, applying, processing, transporting, storing, and burying radioactive substances and ionizing radiation sources. A short summary is given of the scientific basis which served as the framework for the new standards. The new standards are differentiated from the old. Tables are 1/2

USSR

DIEOBES, I. K., et al., *Atomnaya energiya*, Vol 28, No 6, Jun 70, pp 463-467

given showing permissible somatic and genetic doses. Permissible surface contamination levels are also given.

2/2

USSR

UDC 621.039.58

LETAVET, A. A., <sup>D</sup>DIEOBES, I. K. TEVEROVSKIY, YE. N., and TERMAN, A. V.

"Development of Approaches to Radiological Protection"

Moscow, Akademiya Nauk SSSR, Atomnaya Energiya, Vol 28, No 3, Mar 70, pp 225-231

Abstract: A review is made of the approaches to radiological safety used by the International Commission on Radiological Protection (ICRP) from its inception in 1928 to the present. The review is based entirely on the recommendations and publications of I.C.R.P. and does not contain any new material. The authors state that the National Commission on Radiological Protection of the Ministry of Health USSR is constantly reviewing radiological safety standards and endeavoring to bring Soviet practice into conformity with the recommendations of I.C.R.P. and with the standards of the International Atomic Energy Agency. The revised USSR standards on radiological protection are scheduled for publication in 1970. Orig. art. has: 10 references.

1/1

- 20 -

USSR

UDC 621.372.823.09

DIDENKO, A. N., KAMINSKAYA, R. G.

"Study of the Dispersion Properties of Iris Wave Guides of Elliptic Cross Section"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 399-402

Abstract: The problem of wave propagation in an elliptic iris wave guide is investigated. The equations for the elliptic wave guide are derived, and results are presented from an experimental study of the wave guide. The type of oscillation was determined by the frequency drift of small disturbing bodies. The calculated and experimental delay factors as functions of the wavelength for even  $E_{01}$  and  $H_{01}$  waves are presented. Good agreement is obtained. The electrodynamic characteristics of iris wave guides of elliptic and round cross section are compared in a table. The efficiency of an elliptic wave guide accelerating system approaches the efficiency of a circular wave guide with a coupling opening equal to the minor halfaxis, and the operating pass band is appreciably higher. Execution of additional spurious oscillations in the elliptic iris wave guide by comparison with the round wave guide was observed in the higher frequency range, but they do not affect the acceleration process.

1/1



USSR

UDC: 621.384.6

DIDENKO, A. N., FOMENKO, G. P.

"Effect Which Intense Fluxes of Accelerated Particles Have on the Parameters of Superconducting Traveling-Wave and Standing-Wave Resonators"

Moscow, Radiotekhnika i Elektronika, Vol. 16, No 6, Jun 71, pp 1017-1023

Abstract: A detailed analytical investigation is made of processes of energy accumulation and the effect of beam loading on the electrodynamic parameters of superconducting systems in the standing-wave mode and in a system which utilizes the traveling-wave mode with a feedback ring in linear accelerators. It is shown that traveling-wave resonators have appreciable advantages over standing-wave resonators under certain accelerator operating conditions.

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- 140 -

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--THE POSSIBILITY OF MAKING HIGH QUALITY RESONATORS AND SEGMENTS OF  
DIAPHRAGM WAVE GUIDES WITH LARGE APERTURE FOR THE FLIGHT OF PARTICLES  
AUTHOR--(02)-DIDENKO, A.N., KAMINSKAYA, R.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZH TEKH. FIZ. (USSR), VOL 39, NO. 11, P 2029-33 1969  
DATE PUBLISHED-----69  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--PARTICLE ACCELERATOR, WAVEGUIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1984/0693 STEP NO--UR/0057/69/039/011/2029/2033  
CIRC ACCESSION NO--AP0055396  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055396

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE EXISTS CONSIDERABLE INTEREST IN ACCELERATOR TECHNOLOGY IN HIGH QUALITY ACCELERATING SYSTEMS IN WHICH THE APERTURE FOR THE FLIGHT OF THE PARTICLES DOES NOT DECREASE ITS QUALITY. THE USE OF SEGMENTS OF LIMITED WAVE GUIDES OF DETERMINED DIMENSIONS AND LENGTH CAN CREATE CONDITIONS IN WHICH APERTURES COMPARABLE WITH THE WAVE LENGTH DO NOT LEAD TO A DECREASE IN THE QUALITY OF THE RESONANT SYSTEM. REFLECTION FROM THE EDGES OF THE PLATES PERMITS THE CREATION OF RESONATORS WITH HIGHER QUALITY THAN BY CHANGE OF THE CROSS SECTION OF THE WAVE GUIDE TO LIMITED DIMENSIONAL JUMPS. EXPERIMENTAL RESULTS ARE GIVEN CONFIRMING THE THEORETICAL PROPOSITIONS.

UNCLASSIFIED

AA0044814

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243712 INCREASING THE RESOLVING POWER OF A MEASURING  
BRIDGE without higher requirements from  
 sensing elements can be achieved thus. The  
 bridge is fed with bipolar impulses of potential  
 with positive and negative impulses equal in  
 amplitude and duration. The energy, carrying  
 information on the parameter under control (e.g.  
 light beam) is commutated in step with the feeding  
 potential. Therefore, the useful output signal of  
 the bridge does not change the sign, and the signal  
 resulting from the drift of parameters of bridge  
 elements will be changing the sign in step with  
 the feeding potential. Averaging the output signal  
 for the period of feeding potential allows to  
 separate the useful signal and thus to eliminate  
 the influence of the drift in bridge elements on its  
 metrological performance.

4

g.c.

24.7.67 as 1175104/18-10.B.L.RUDNITSKII et al.  
 (26.9.69) Bul 17/14.5.69. Class 2le. Int.Cl.G 01 r.

AUTHORS: Rudnitskiy, B. L.; Burtov, Ya, L.; Didenko, D. A.

1/1

19771664

USSR

UDC 621.317.7.087.92-932

DIDENKO, K. I., LASKAVYY, V. N., LYSYY, L. T., CHEREPAKHA, A. K.

"Convertor of Frequency Signal to Amplitude Signal"

USSR Author's Certificate No 290440, Filed 7/08/69, Published 12/04/71,  
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A185 P from the Resume).

Translation: A device which converts a frequency signal to an ac amplitude signal is suggested, containing a condensor frequency convertor. In order to increase the accuracy and simplify the device, it contains an additional transformer, the primary winding of which is connected to an ac voltage supply of constant frequency, while the secondary winding is connected in series with the power supply of the convertor. 1 Figure.

1/1

- 31 -

AA90278Q8.

*D. DENKO, K.I.*

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 12

215611 ORDERS OF VARIABLE LENGTH SHAPING DEVICE

of the type comprising a memory device, a configuration circuit and registers.

The proposed device comprises a circuit for determination of the order end (6) whose one output is connected with the input of the order end criterion register (7) and the other output with the order transmission number register input (8) Its input is connected with the memory device (1) output register (2), order end criterion register (7) output is connected through "reset" circuit (5) to the memory device output register (2).

This eliminates group errors when the orders are carried out consecutively.

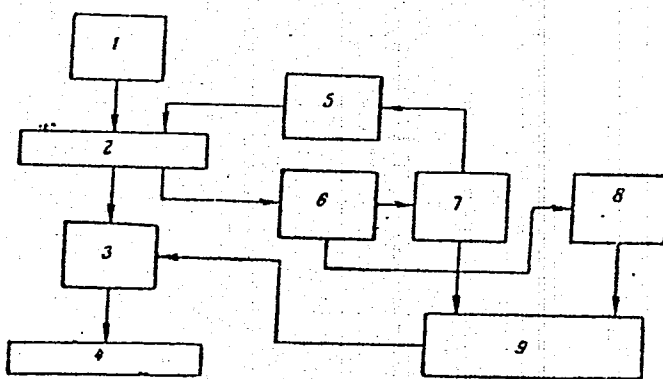
The device comprises in addition a circuit for order transmission direction selection (3), order shaping register (4) and a decoder for order transmission direction (9).

*1/2*

*4*

*1936 2557*

AA9027808.



10.2.67. as 1132575/26-24, DIDENKO, K.I. et al.  
Special Design Office for Automatic Control Systems  
(9.7.68) Bul. 13/3.4.68. Class 42m, Int. Cl.  
G 06f.

2/2

1936 2558

2wd

4

1/2 020 UNCLASSIFIED PROCESSING DATE--02 OCT 70  
TITLE--A FREQUENCY FERRODYNAMIC SYSTEM OF CONTROL AND REGULATION  
INSTRUMENTS -U-  
AUTHOR--(05)-DIDENKO, K.I., BRAUDE, V.A., GAFANOVICH, M.D., ZAGARIY, S.I.,  
LEVIN, V.M.  
COUNTRY OF INFO--USSR *P*  
SOURCE--A FREQUENCY FERRODYNAMIC SYSTEM OF CONTROL AND REGULATION  
INSTRUMENTS. CHASTOTNO FERRODINAMICHESKAYA SISTEMA PROBOROV KONTROLYA I  
DATE PUBLISHED-----70.

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MECH., IND., CIVIL AND  
MARINE ENGR.  
TOPIC TAGS--FREQUENCY CONTROL, FERROMAGNETIC STRUCTURE, ELECTRONIC  
EQUIPMENT, DESIGN BUREAU, INDUSTRIAL AUTOMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1991/0576

STEP NO--UR/0000/70/000/000/0001/0222

CIRC ACCESSION NO--AM0110369

UNCLASSIFIED



2/2 020

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AM0110369  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREFACE 3. CHAPTER I THE  
COMPOSITION AND STRUCTURE OF A COMPLEX OF FREQUENCY FERRODYNAMIC  
EQUIPMENT 4. II UNIFIED NODES, UNITS AND ELEMENTS 14. III  
PRIMARY MEASURING INSTRUMENTS AND COMPLEXES 100. IV SECONDARY  
INSTRUMENTS AND MECHANISMS 169. V REGULATORS AND AUXILIARY  
MECHANISMS 207. LITERATURE 221. EXAMINED ARE COMPOSITION,  
STRUCTURE, PRINCIPLES OF DESIGN AND BASIC TECHNICAL CHARACTERISTICS OF A  
COMPLEX OF EQUIPMENT DESIGNED AT THE SPECIAL CONSTRUCTION BUREAU OF  
SYSTEMS OF AUTOMATIC CONTROL IN KHARKOV FOR THE CONSTRUCTION OF VARIOUS  
AUTOMIZED SYSTEMS OF CONTROL AND REGULATION IN VARIOUS BRANCHES OF  
INDUSTRY. THE BOOK IS FOR SPECIALISTS IN THE FIELD OF AUTOMATION OF  
PRODUCTION DESIGNING SYSTEMS OF AUTOMATION IN THEIR INDUSTRIAL  
OPERATION.

UNCLASSIFIED

USSR

UDC 666.112.92:546.18

SECHAVELEV, O. S., BABKINA, V. A., and DIDENKO, L. A.

"Optical Glass"

USSR Author's Certificate No 366159, Filed 29 Sep 71, Published 16 Jan 73  
(from Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7,  
Mar (a) 73, Claim No 1701960/29-33)

Translation: An optical glass including  $P_2O_5$ , BaO, PbO;  $La_2O_3$ ,  $Al_2O_3$ ,  $B_2O_3$ ,  
 $K_2O$ ;  $Nb_2O_5$ ; and  $CeO_2$  is distinguished by the fact that in order to guarantee a  
small thermo-optical constant with a characteristic refraction of 1.1611 and a  
mean dispersion of 0.01095, it contains the above components in the following  
quantities, weight %:  $P_2O_5$  42-45, BaO 36.5-39.5, PbO 8.5-10.5,  $La_2O_3$  2-3,  
 $Al_2O_3$  1-2,  $B_2O_3$  1-2,  $K_2O$  2-3,  $Nb_2O_5$  0.1-1,  $CeO_2$  0.1-1.

1/1

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USSR

UDC 621.438.621.43.056

DIDENKO, V. I., KHRISTICH, V. A., SHEVCHENKO, A. M.

"Stability and Completeness of Combustion in the Ring-Tube Chamber of an Aviation Jet Engine Burning Natural Gas"

Vestn. Kiev. Politekhn. In-ta. Ser. Teploenerg. [Herald of Kiev Polytechnical Institute, Heat Engineering Series], No 9, 1972, pp 57-59, (Translated from Referativnyy Zhurnal, Aviatsionnye i Raketnye Dvigateli, No 8, 1972, Abstract No 8.34.16, from the Resume).

Translation: Results are presented from an experimental study of the stability and completeness of combustion in a ring-tube aviation gas turbine engine burning natural gas. With a certain plan for gas distribution and unchanged combustion chamber design, in chamber operating modes with  $\alpha \approx 5$ , the fuel combustion stability is rather high ( $\alpha_{av} \approx 44$ ), completeness of combustion  $\eta_z \approx 0.91-0.92$  (studies performed with cold air at near atmospheric pressure  $t_b \approx 80^\circ\text{C}$ ;  $P_b \approx 1.5$  atm.). 3 Figures; 3 Biblio. Refs.

1/1

ENGINEERING  
Aeronautical and Space

USSR

UDC 621.438.056(088.8)

SHEVCHENKO, A. M., YAZICK, A. V., DIDENKO, V. I., and PANURIN, V. M.

"The Effect of the Gas Distribution Arrangement on the Characteristics of the Gas Turbine Combustion Chamber"

Kiev, Vestn. Kiyev. Politekhn In-ta. Ser. Teploenerg. (Journal of the Kiev Polytechnical Institute. Series on Thermal Power) No. 8, 1971, pp 14-17 (from Referativnyy Zhurnal - Turbostroyeniye, No. 9, Sep 71, Abstract No. 9.49.117)

Translation: The effect of the gas delivery arrangement on the fundamental characteristics of the gas turbine combustion chamber of an aviation engine are considered. Characteristics covered include completeness of combustion, temperature field of the gas stream, temperature level of the hot pipe walls, ignition and stability of combustion. Tests were conducted with natural gas with four types of atomizers. The air speed at the chamber intake was approximately 120 meters per second, the temperature 80 degrees C. and the pressure approximately 1.3 bar. It is shown that in this chamber the tested arrangements of gas delivery primarily influence the completeness of combustion and the stability of the process. 3 illustrations, 2 tables, 3 bibliographic entries.

1/1

USSR

UDC 539.4:[624.011.1+624.014]

DIDENKO, V. N.

"Development and Study of New Prestressed Supports for Overhead Electric Power Transmission Lines made from Spans with Sprengel Elements"

V sb. III Mezhdunar. konf. po predvarit. napryazhennym metal. konstruktsivam. T. 2 (Third International Conference on Prestressed Metal Structural Elements, Vol 2--collection of works), pp 80-93 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V953)

Translation: In 1964-1970, analytical and experimental studies of the operation of prestressed sprengel rods made of steel tubes were performed at the Central Scientific Research Institute of Structural Elements imeni V. A. Kucherenko, and a scheme was developed for supporting overhead electric power transmission lines the uprights of which are executed in the form of rods with a three-branched sprengel. The results of these studies are presented, and practical recommendations are made with respect to introduction of these structural elements.

1/1

- 24 -

USSR

UDC: 577.4

DIDENKO, V. P., POKUDIN, K. N.

"Minimizing Structures of Relay Devices by the Method of Meta-  
yard Isolation"

V sb. Primeneniye vychisl. tekhn. v mashinostr. (Use of Com-  
puter Technology in Machine Building--collection of works),  
Izhevsk, 1971, pp 124-126 (from RZh-Kibernetika, No 8, Aug  
72, Abstract No 8V439)

[No abstract]

1/1

USSR

UDC: 51.621.391

DIDENKO, V. P., POKUDIN, K. N.

"On Some Methods of Minimizing Multiple-Output Structures of Relay Devices"

Tr. Frunz. politekhn. in-ta (Works of the Frunze Polytechnical Institute),  
1971, vyp. 50, pp 194-211 (from RZh-Kibernetika, No 12, Dec 71, Abstract  
No 12V702)

[No abstract]

1/1

USSR

UDC 51.621.391

DIDENKO, V. P., POKUDIN, K. N.

"Minimization of Boolean Functions by Separation of the Metakernel"

Avtomat. Ustroystva Ucheta i Kontrolya [Automatic Accounting and Testing Devices  
-- Collection of Works], No. 6, Izhevsk, 1970, pp 293-299 (Translated from  
Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V481).

Translation: Certain approximate methods of minimization of Boolean functions  
are studied.

1/1



USSR

UDC: 537.312.62

BRONNIKOV, A. N., POPOV, I. G., DIDKOVSKAYA, O. S.

"A Miniature Thermocryostat for Measuring the Electric Characteristics of Nonlinear Dielectrics"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Parts), 1972, vyp. 1(26), pp 101-103 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D547 by A. K.)

Translation: The paper describes a miniature cryostat which operates in a set with an MLCh-2M high-frequency bridge in the temperature range from -80 to +165°C. The cryostat is designed for determining the capacitance, loss tangent and leakage current of nonlinear dielectrics as functions of temperature and electric field strength on different frequencies. The temperature in the cryostat is monitored by a copper-constantan thermocouple shielded by an electrostatic screen. Temperature is held constant with an accuracy of 1-2°C. A conventional method is used for determining the characteristics of nonlinear dielectrics with application of a DC field. The error in determination of capacitance and loss tangent with regard to the inherent capacitance and losses of the thermocryostat is no greater

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USSR

BRONNIKOV, A. N. et al., Elektron. tekhnika. Nauch.-tekh. sb. Radiodstali, 1972, vyp. 1(26), pp 101-103

than the error of the MLCh-2M bridge. The minimum measurable loss tangent was 0.0002. The range of working frequencies of the thermocryostat is 0.1-10 MHz, maximum bias voltage is 7 kV. Liquid dielectrics can be used as the ambient for test specimens.

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USSR

UDC 666.638

SAVENKOVA, G. Ye., DIDKOVSKAYA, O. S., KLIMOV, V. V., VENEVTSEV, Yu. N.

"A Piezoceramic Material"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 23, Aug 71, Author's Certificate No 310354, Division H, filed 3 Mar 70, published 26 Jul 71, p 177

Translation: This Author's Certificate introduces a piezoceramic material based on lead zirconate-titanate solid solutions containing an additive in the form of a mixture of oxides of tungsten and one of the bivalent elements. As a distinguishing feature of the patent, the sintering temperature of the material is reduced by using the above-mentioned additive in the form of tungsten oxide in amounts of 0.3-3.5 mol.%, oxide of one of the bivalent elements (Sr, Ca, Zn, Ba) in amounts of 1.0-10 mol.%, and by the addition of bismuth trioxide in amounts of 0.25-5 mol.%.

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USSR

UDC 621.315.61.537.226

DIDKOVSKAYA, O. S., SAVENKOVA, G. Ye., KLIMOV, V. V., VENEVTSEV, Yu. N.

"A Piezoceramic Material"

Moscow, Otkrytiya, izobreneniya, promyshlennyye obraztsy, tovarnyye znaki, No 23, Aug 71, Author's Certificate No 310310, Division H, filed 8 Dec 69, published 26 Jul 71, p 167

Translation: This Author's Certificate introduces a piezoceramic material based on solid solutions of  $Pb(Zr_xTi_{1-x})O_3$  with  $x = 0.4-0.6$  with the addition of 0.5-5 mol.%  $Bi_2O_3$  and 0.25-10 mol.%  $Li_2O$ . As a distinguishing feature of the patent, the sintering temperature is reduced and the dielectric and piezoelectric properties of the material are improved by adding 0.25-3.0 Mol.%  $Nb_2O_5$ .

1/1

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1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--EFFECT OF LITHIUM OXIDE ON THE PROPERTIES OF A SERIES OF  
FERROELECTRIC MATERIALS -U-  
AUTHOR-(03)-KLIMOV, V.V., DIDKOVSKAYA, O.S., ZVONIK, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1) 182-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--FERROELECTRIC MATERIAL, LITHIUM OXIDE, PIEZOELECTRIC MATERIAL,  
ABRIUM TITANATE, DIELECTRIC CONSTANT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1986/0258 STEP NO--UR/0363/70/006/001/0182/0183  
CIRC ACCESSION NO--AP0102308  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102308

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF LI SUB2 O ADDNS. ON SINTERING AND PROPERTIES OF TIO SUB2 AND SEVERAL TITANATES WITH THE PEROVSKITE STRUCTURE WAS EXAMD. THE SAMPLES TO BE STUDIED WERE PREPD. BY CONVENTIONAL CERAMIC TECHNOLOGY BY FIRING TWICE MIXTS. OF TIO SUB2, LI SUB2 CO SUB3, BACO SUB3, PBCO SUB3, FE SUB2 O SUB3, AND NB SUB2 O SUB3. THE FIRING TEMP. WAS VARIED OVER A BROAD RANGE AS A FUNCTION OF THE COMPN. THE SHRINKAGE COEFF. OF TIO SUB2 WITHOUT ADDNS. IS SIGNIFICANTLY LOWER THAN THAT WITH LI SUB2 O ADDN. THE MAX. SHRINKAGE WAS OBSD. AT 1000 TO 1200DEGREES. SMALL LI SUB2 O ADDNS. ALSO CHANGE THE CHEM. PROPERTIES OF TIO SUB2 SIGNIFICANTLY, IN PARTICULAR ITS REACTIVITY. THE EFFECT OF LI SUB2 O ADDNS. ON THE ELECTROPHYS. PROPERTIES OF BATIO SUB3, AS WELL AS OF SOLID SOLNS. OF THE SYSTEM PBTIO SUB3 NEGATIVE PB(FE SUBONE HALF NB SUBONE HALF)O SUB3, WAS INVESTIGATED. IN THE LATTER SYSTEM, A CONTINUOUS SERIES OF SOLID SOLNS. IS FORMED. AT SIMILAR TO 93 MOL. PERCENT PR(FE SUBONE HALF NB SUBONE HALF)O SUB3, THE TETRAGONAL MODIFICATION CHANGES INTO THE RHOMBOHEDRAL PHASE, AND THE COMPNS. CLOSE TO THE MORPHOTROPIC BOUNDARY HAVE HIGH VALUES OF PIEZOELEC. PARAMETERS. HOWEVER, WITHOUT MODIFYING ADDITIVES, THESE SOLID SOLNS. HAVE A RELATIVELY HIGH COND. AND POLARIZE POORLY, WHICH MAKES THEIR INVESTIGATION AND APPLICATION DIFFICULT. ADDNS. OF LI SUB2 O ENHANCE A MARKED DECREASE IN COND. THIS DECREASE IN COND. IMPROVES THE POLARIZATION CONDITIONS OF THE CERAMIC, AS A RESULT OF WHICH PIEZOELEC. MATERIALS WITH HIGH VALUES OF THE PIEZOELEC. MODULUS, ELECTROMECH. COUPLING COEFF., AND DIELEC. CONST. ARE OBTAINED.

UNCLASSIFIED

1/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--A NONLINEAR CERAMIC DIELECTRIC -U-

AUTHOR--(05)-~~DIDKOVS~~KAYA, O.S., ZHABKINA, G.I., BRONNIKOV, A.N., SHVORNEVA,  
L.I., KLIMOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,201

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--26JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PATENT, CERAMIC DIELECTRIC, NONLINEAR SYSTEM, LEAD, TITANATE,  
STRONTIUM, ZINC OXIDE, CALCIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1990/1784

STEP NO--UR/0402/70/000/000/0000/0000

CIRC ACCESSION NO--AA0109745

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0109745

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM OTDRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(6), 42. THE TITLE DIELEC. CONTAINS A SOLID SOLN. OF A PB TITANATE AND SR TITANATE, 1-30 MOLE PERCENT ZN OXIDE (OR TITANATE) AND SMALLER THAN 45 MOLE PERCENT CA TITANATE.

UNCLASSIFIED



1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--PIEZOCERAMICS BASED ON LEAD ZIRCONATE TITANATE WITH COMPLEX  
ADDITIVES CONTAINING GERMANIUM -U-  
AUTHOR--(03)-DIDKOVSAYA, O.S., KLIMOV, V.V., VENEVTSEV, YU.N.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 606-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--GERMANIUM CONTAINING ALLOY, ZIRCONATE, TITANATE, PIEZOELECTRIC  
CERAMIC  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/1511 STEP NO--UR/0363/70/005/003/0606/0607  
CIRC ACCESSION NO--AP0120292  
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70  
CIRC ACCESSION NO--AP0120292  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN OF THE STUDY OF THE EFFECT OF ADDNS. BI(B SUBONE HALF PRIME2 POSITIVE GE SUBONE HALF) O SUB3 (WHERE B PRIME2 POSITIVE EQUALS BA PRIME2 POSITIVE, SR PRIME2 POSITIVE, CA PRIME2 POSITIVE, MG PRIME2 POSITIVE, AND CU PRIME2 POSITIVE) ON THE SINTERING AND THE PROPERTIES OF PBTIO SUB3 PBZRO SUB3 SOLID SOLNS. NEAR THE MORPHOTROPIC TETRAGONAL RHOMBOHEDRAL BOUNDARY. THE SAMPLES STUDIED WERE PREPD. BY CONVENTIONAL CERAMIC TECHNOLOGY BE TWO TIME FIRING AT 800DEGREES FOR 2 HR. AND AT 1000-1050DEGREES FOR 1.5 HR. X RAY DIFFRACTION STUDIES SHOWED THAT THE POSITION OF THE MORPHOTROPIC TETRAGONAL RHOMBOHEDRAL BOUNDARY WITH THE INTRODUCTION OF THE ADDNS. IS SHIFTED TOWARDS THE SIDE OF THE TETRAGONAL REGION. THE BEST CHARACTERISTICS IN THE CASE OF A 2PERCENT ADDN. ARE SHOWN BY COMPNS. WITH THE RATIO (ZR PRIME4 POSITIVE):(TI PRIME4 POSITIVE) EQUALS 52:48. THE PROPERTIES OF A NO. OF THE PREPD. MATERIALS ARE TABULATED. THE PROPERTIES OF THE SOLID SOLNS; PREPD. WERE INVESTIGATED AS A FUNCTION OF THE TEMP. AS WELL AS IN STRONGLY VARIABLE FIELDS. TEMP. DEPENDENCE OF DIELEC. PERMEABILITY WAS DETD. INVESTIGATION OF THE TEMP. DEPENDENCE OF THE COEFF. OF THE ELECTROMECH. BOND AND OF THE PIEZOMODULUS SHOWED THAT THE RESULTS OBTAINED DIFFER BUT LITTLE FROM THE TEMP. DEPENDENCES OF THESE PARAMETERS FOR KNOWN MATERIALS BASED ON PBTIO SUB3 PBZRO SUB3.

UNCLASSIFIED

USSR

UDC: 621.362.2(088.8)

KHANIN, M. A., DIDORENKO, N. S., DUDKIN, L. D., MAZUR, V. A., KOLOMOYERS,  
N. V., ZYKOVA, N. P.

"A Commutation Line"

USSR Author's Certificate No 256002, filed 2 Jan 68, published 19 Mar 70  
(from RZh-Elektrotehnika i Energetika, No 10, Oct 70, Abstract No 10A163 P)

Translation: This Author's Certificate introduces a commutation line for  
a thermocouple produced by combined hot powder pressing. As a distinguish-  
ing feature of the patent, the line is made from aluminum powder which is  
partially oxidized (by 5-20 percent). This makes it possible to increase  
the working temperature to 600°C.

1/1

- 145 -

DIDOSIAN, Yu. S.

SO: BCS

Inter. Conf. on MAGNETICS, DENVER  
13-16 APRIL 71

6604572  
PRIMARY EFFECT IN YFeO<sub>3</sub> ARKHOVINA  
Yu. S. DIDOSIAN, A.I. ANTONOVA  
Moscow State University.

Faraday effect in YFeO<sub>3</sub> was investigated in the wavelength  
region from 0.6  $\mu$  to 3.20  $\mu$ . Gas laser operating at 0.63, 1.15  
and 3.20  $\mu$  was used. Faraday rotation at wavelengths 0.63  $\mu$   
and 1.15  $\mu$  is equal to -2800 deg/cm and -550 deg/cm respec-  
tively, decreasing for the large  $\lambda$  by law  $\frac{1}{\lambda^2}$ . These values  
coincide with figures calculated from the measurement when light  
propagates along c axis. The sign of rotation is opposite to  
that in FeO.

Optical axis lies in the a plane. An angle between their di-  
rections at  $\lambda = 0.63 \mu$  and  $\lambda = 1.15 \mu$  equals 5°. The highest  
dispersion of the optical axis was observed in the shortwave  
range from 0.6  $\mu$  to 0.8  $\mu$ . Absorption coefficient of the  
used samples was 200 cm<sup>-1</sup> at  $\lambda = 0.65 \mu$ .

*I do not believe these authors were present*

USSR

UDC 539.4.016.2+535.561+535.391.2+535.15

DIDRIKIL', L. N., SHKLYAR, A. N., KOSHKAREV, Ye. A., Physicotechnical Institute  
imeni S. U. Umarov of the Academy of Sciences Tadjik SSR

"Study of the Effect of Treatment on the Surface Structure of Quartz by the IR  
Spectroscopy Method"

Dushanbe, Izvestiya Akademii Nauk Tadjikskoy SSR, Otdeleniye Fizikomatematicheskikh  
i Geologo-Khimicheskikh Nauk, No. 4, 1970, pp 10-14

Abstract: The infrared reflection spectra from the AT-cut of a quartz surface (the shear plane is parallel to the  $x$ -axis and forms an angle of  $35^{\circ} 15'$  with the  $z$ -axis) after cutting and polishing were investigated in the region  $1300-900 \text{ cm}^{-1}$ . The reflection spectrum of a polished surface, which in this range of wavelengths coincides with the spectrum of the pickled surface, was used as a comparison spectrum. A graph is given showing the reflection spectrum of quartz with various treatments of the surface in polarized light. The polished sample has maximum reflections at  $1115 \text{ cm}^{-1}$  and  $1180 \text{ cm}^{-1}$  and a trough at  $1160 \text{ cm}^{-1}$ . Small displacements in the trough for different samples are attributed to residual stresses in the surface layer. The reflection curves in unpolarized light practically coincided

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USSR

DIDRIKIL', L. N., et al, Izvestiya Akademii nauk Tadzhikskoy SSR, Otdeleniye fizikomatematicheskikh i geologo-khimicheskikh nauk, No. 4, 1970, pp 10-14

with the corresponding curves in polarized light. It was concluded from analysis of the data that a thin anisotropic layer of  $\alpha$ -cristobalite is formed on the surface of  $\alpha$ -quartz under cutting and polishing.

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USSR

UDC 681.3.06:51

DIDUK, N. N.

"Algorithmic Language for Communications Between Digital Computer User and Programmer"

Kibernet. i Vychisl. Tekhn. Resp. Mezhd. Sb. [Cybernetics and Computer Engineering, Republic Interdepartmental Collection], No 4, 1970, pp 35-57, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V595 by the author).

Translation: An incompletely defined graph-diagram algorithmic language is suggested, allowing all means of ordinary mathematics to be used in writing programs. The language is convenient for planning of algorithmization problems, for development of algorithms and for publication.

USSR

UDC: 621.317.373(088.8)

DIDUKH, N. N., KRAVCHUK, M. I.

"A Two-Channel Pulse Phase Shifter"

USSR Author's Certificate No 261574, filed 21 Oct 68, published 13 May 70  
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A332 P)

Translation: This Author's Certificate introduces a two-channel pulse phase shifter for producing a precise  $180^\circ$  phase shift between two cophased input signals on the same frequency. The device contains switches, a flip-flop and pulse-potential coincidence circuits. In order to improve the interference resistance of the phase shifter, the flip-flop output in the first channel is connected through a series circuit comprised of an integrating network, emitter follower and transistor switch to the controlling input of the pulse-potential coincidence circuit in the second channel. E. L.

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DIDURA, V. G.

**TECHNICAL TRANSLATION**

FSTC-HT-23-726-71

ENGLISH TITLE: Chemical Reinforcement of Soils in Airfield and Road Construction

FOREIGN TITLE: Khimicheskoye Ukrepleniye Gruntov V Aerodromnom I Dorozhnom Stroitel'stve

AUTHOR: <sup>NC</sup> M. F. Mishchenko, <sup>NC</sup> M. M. Sidorov, <sup>NC</sup> I. A. Starikov, <sup>NC</sup> M. I. Kovalov, <sup>NC</sup> V. M. Kost'ko, <sup>NC</sup> I. V. Yegorov, <sup>NC</sup> V. G. Didura, and <sup>NC</sup> V. A. Pilatov

SOURCE: Chemical Stabilization of Soil in Airfield and Road Construction, 1967, 212 pages

Translated for FSTC by ACSF

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USSR

UDC 658.562:62-192

DIDUSEV, B. A., Candidate of Technical Sciences

"On Methods of Evaluating Circuit Reliability in Relation to the Design Stage"

Moscow, Nadezhnost' i Kontrol' Kachestva, No 5, 1973, pp 45-51

Abstract: The article considers conditions for limiting the use of block diagrams for systems reliability analysis in the design stage. It is shown that logic circuits can be used to determine the no-failure probability of single-function systems and a matrix of stages to evaluate the reliability of multifunction systems. Examples are given of the use of both.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--THE EFFICIENCY OF KAPRON NUTS IN SCREW COUPLES -U-  
AUTHOR-(02)-DIDUSEV, B.A., ZEMLYAKOV, I.P.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, VESTNIK MASHINOSTROYENIYA, NO 2, PP 52-53 1970  
DATE PUBLISHED-----70  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS  
TOPIC TAGS--NYLON, BRONZE, BRASS, MECHANICAL FASTENER, WEAR RESISTANCE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1993/1755 STEP NO--UR/0122/70/000/002/0052/0053  
CIRC ACCESSION NO--AP0114254  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0114254

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN AN ATTEMPT TO FIND MORE HIGHLY WEAR RESISTANT MATERIALS THAN THE CURRENTLY USED SCARCE BRONZES AND BRASSES FOR THE PRODUCTION OF SLIDING NUTS, RESEARCH WAS CARRIED OUT ON THE ANTI-FRICTION PROPERTIES AND WEAR RESISTANCE OF COARSE THREAD NUTS MADE OF KAPRON. IT WAS FOUND THAT WHEN USED IN SCREW COUPLES FOR LIGHT AND MEDIUM OPERATING CONDITIONS, USE MAY BE RECOMMENDED ONLY WITH A PRESSURE UPON THE THREAD SURFACE NOT IN EXCESS OF 50-75 KG (FORCE)-CM<sup>2</sup>. DUE TO THE HIGH MOISTURE ABSORPTION PROPERTIES OF KAPRON, A SCREW PAIR WITH A KAPRON NUT SHOULD BE PROTECTED AGAINST DAMPNES.

UNCLASSIFIED

USSR

UDC 547.821+546.185

MAKITRA, R. G., MAKARUK, M. S., and DIDYCH, M. N., L'vov Polytechnic Institute

"Study of the Systems of Pyridine With Phosphorus Oxychloride, Phosphorus Trichloride, Thionyl Chloride, and Carbon Tetrachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 8, 1972, pp 1877-1878

**Abstract:** Pyridine forms a complex with phosphorus oxychloride having a melting point of  $-55.6^{\circ}$  and a composition of 74.6% pyridine. The formula of this adduct is  $\text{POCl}_3 \cdot 2\text{Pyr}$ . or  $\text{POCl}_3 \cdot 3\text{Pyr}$ .  $\text{PCl}_3$  forms an adduct having the formula  $\text{PCl}_3 \cdot 2\text{Pyr}$  having a melting point at  $-42^{\circ}\text{C}$ . The thionyl chloride forms two adducts:  $\text{SOCl}_2 \cdot 2\text{Pyr}$  having a reported melting point of both  $-20^{\circ}\text{C}$  and  $+107^{\circ}\text{C}$ , and  $\text{SPCl}_2 \cdot \text{Pyr}$  with a melting point of  $-50^{\circ}\text{C}$ . In the presence of moisture both complexes become hydrated with one molecule of water and the melting point is increased to about  $100^{\circ}\text{C}$ .  $\text{CCl}_4$  forms a complex containing 18% pyridine, having a melting point of  $-56^{\circ}\text{C}$ .

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USSR

UDC 539.4

GREBENIK, V. M., DIDYK, R. P., TESLENKO, A. G., TSANKO, V. K., (Dnepropetrovsk)

"Fatigue Strength of Metals with Explosive Hardening"

Kiev, Problemy Prochnosti, No 8, 1972, pp 114-116.

Abstract: The fatigue strengths of metals subjected to explosive hardening is estimated. Analysis of the data produced experimentally showed that the change in fatigue strength (increase in fatigue limit) resulting from explosive hardening is approximately 1.5 kg/mm<sup>2</sup> for a steel containing 0.42% C, 0.52% Mn, 0.25% Si, 0.61% Cr and 1.14% Ni following an explosion producing a pressure at the division boundary between explosion products and metal of 220 kbar. The sharp increase in strength characteristics and changes in hardness of surfaces produced for a steel with 0.46% C, 0.77% Mn, 0.39% Si, 1.16% Cr and 0.15% Ni make this material particularly resistant to wear and the influence of sign-changing loads.

USSR

UDC 678.674.004.14:621.397

6

SED OV, L. N., VLADIMIROVA, Z. V., SAPOZHNIKOVA, YE. L., MAKEYEVA,  
A. A., SEMENOV, L. G., MAK-MILLIN, D. M., BAKANOV, YU. A.,  
DIDZHYULENE, D. I., MALKINA, F. S., and ZHLABIS, S. B.

"Polyester Hermetic-Sealing Compounds"

Moscow, Plasticheskiye Massy, No 6, 1970, pp 61-62

Abstract: The authors studied compounds for the hermetic sealing of horizontal output transformer coils for television receivers. These compounds should have low viscosity in the initial state and a high hardening rate up to 100°C. In the hardened state they should possess self-extinguishability, water resistance, good mechanical and electric insulation properties, and stability of properties up to 120°C. The principal components chosen were polyester resins PN-1 and PN-69. Because of the requirement of self-extinguishability, special additives (antimony trioxide and chlorine- or fluorine-containing polymers) were introduced into the resins. In addition, mineral fillers (talc, mica, powdered quartz, titanium dioxide, powdered silica gel, etc.) were added to give the sealing compounds

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USSR

SEDOV, L. N., et al, Plasticheskiye Massy, No 6, 1970, pp 61-62

the requisite viscosity and to lower their cost. The article gives data on the hermetic sealing process. These self-extinguishing compounds are being used for the hermetic sealing of horizontal output transformers for black-and-white (1 class) and color television sets and viewing monitors.

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USSR

UDC 621.039.512.001.5

MARGULOVA, T. Kh., VORONOVA, V. P., DIK, V. P.

"Experimental Setup for Studying the Applicability of Carbon Steels in the Primary Loops of an Atomic Power Station With a Water-Moderated, Water-Cooled Power Reactor"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, No. 126, pp 1-8 (from RZh-50. Yadernyye reaktory, No 11, Nov 72, Abstract No 11.50.95)

Translation: A semi-production installation simulating conditions of the primary loop of an atomic power station with a water-moderated, water-cooled power reactor was developed and put into operation by the Chair of Atomic Power Stations in conjunction with the Heat and Electric Power Plant of the Moscow Power Engineering Institute and the Planning Office of the Moscow Regional Administration of Power System Management. The device can reproduce any water regimes and one can study the effect of individual water admixtures on the structural material and primarily on pearlite steel and zirconium alloys. Results of studies made on various experimental installations are given. 1 ill.

1/1

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243028 ELECTRIC MACHINE TRANSVERSE FIELD AMPLIFIER

with divided magnet system forming longitudinal and transverse poles. The compensation winding on the former and the magnetising winding on the latter are combined in the form of concentrated coils each of which covers two adjacent poles and which are switched in pairs into the circuit of the short-circuited brushes.

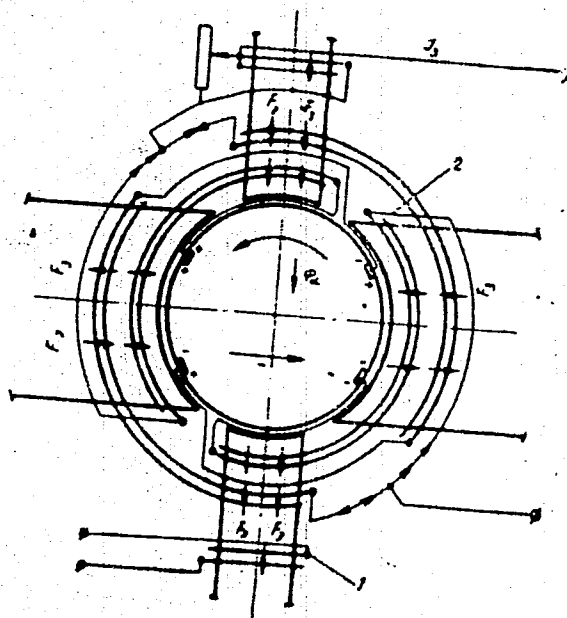
5.5.67. as 1157585/24-7. B. A. DIKAREV (30.9.69.)  
Bul.16/5.5.69. Class 21d. Int.Cl. H02k.

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