

USSR

PIRUZYAN, L. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya,
No 1, 1972, pp 142-145

field shows that they are of a monotypic nature.

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1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--MICROCALORIMETRIC INVESTIGATIONS OF THE PROCESS OF BLOOD
COAGULATION -U-
AUTHOR-(03)-PIRUZYAN, L.A., ROZENFELD, M.A., GLEZER, V.M.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 2,
PP 299-302
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD COAGULATION, CALORIMETRY, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0950

STEP NO--UR/0216/70/000/002/0299/0302

CIRC ACCESSION NO--AP0109107

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109107

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CALORIMETRIC METHOD WAS USED FOR THE STUDY OF THERMAL EFFECTS CONNECTED WITH BLOOD COAGULATION. THERMOGRAMS WERE OBTAINED FOR THE FIRST TIME AND THE TOTAL QUANTITY OF HEAT FREED OWING TO THE PROCESS OF BLOOD COAGULATION WAS DETERMINED. CALORIMETRIC DATA CORRELATED WELL WITH TROMBOELASTOGRAPHIC VALUES. THE HIGHLY SENSITIVE CALORIMETRIC METHOD MAY BE USED AS A NEW TEST FOR THE INVESTIGATION OF THE COMPLICATED PROCESS OF BLOOD COAGULATION.
FACILITY: INSTITUTE OF CHEMICAL PHYSICS, ACADEMY OF SCIENCES, USSR.

UNCLASSIFIED

USSR

UDC: 621.317.77

GORSHKOV, A. I., VOYNO, L. V., GLEZER, Ya. V., MARLATOV, V. D.

"A Controllable Phase Shifter"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 12, Apr 71, Author's Certificate No 299947, Division H, filed 12 Jun 69, published 26 Mar 71, p 207

Translation: This Author's Certificate introduces a controllable phase shifter with integrating link. As a distinguishing feature of the patent, the phase shift is made independent of the change in frequency of the signal being regulated by connecting a phase switch at the output of the phase shifter, and connecting two limiters to the output of the integrating link through an amplifier with automatic gain control. These limiters are also connected to voltage sources of equal value and opposite sign. Connected to the outputs of the limiters through differentiating circuits and diodes are the opening and closing inputs of a flip-flop and an integrating link and limiter connected in series with the flip-flop.

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UDC 612.388-064:576.8.097.29

GLEZEROV, V. Z., Leningrad Pediatric Medical Institute and Institute of Experimental Medicine, Academy of Medical Sciences USSR

"Effect of Microbial Toxins on the Permeability of the Blood-Cell Barrier. II. Formation of Nonimmunologic Tolerance for the Effect of Toxins on the Permeability of the Blood-Cell Barrier in Mouse Kidney"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 121-124

Abstract: One-day-old mice received an injection of E. coli endotoxin and a similar injection 30 days later. Twenty-four hours after the second injection, the animals received an intravenous injection of horse serum globulin. The animals were sacrificed 30 minutes later to study changes in permeability of the blood-cell barrier of the kidney to horse globulin. The permeability of the barrier did not increase, an indication of the creation of tolerance for the endotoxin. However, this phenomenon occurred only when the endotoxin was administered on the first day of life. The tolerance for E. coli endotoxin was not caused by the presence of circulating specific antibodies to the endotoxin, as shown by the negative results of the complement-fixation reaction in over 75 percent of the mice. Another
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GLEZEROV, V. Z., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 121-124

series of experiments showed that in mice tolerant of the effect of E. coli endotoxin on permeability of the kidney blood-cell barrier to horse globulin, antibody formation in response to repeated antigenic stimulation with the same toxin was virtually the same as that in intact animals. In other words, tolerance for E. coli endotoxin according to the permeability test is unrelated to the state of immunologic tolerance.

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1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SYNTHESIS OF ANALOGS OF ACTINOMYCINS. V. THE SIMPLEST CHLORO
ANALOGS CONTAINING GLYCINE GROUPS -U-
AUTHOR-(03)-GLIBIN, YE.N., SINITSYN, V.G., GINZBURG, O.F.
COUNTRY OF INFO--USSR 6
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1020-2
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--ANTIBIOTIC, CHLORINATED ORGANIC COMPOUND, GLYCINE, CHEMICAL
SYNTHESIS, CATALYTIC HYDROGENATION, METAL CATALYST/(U)ACTINOMYCIN
ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1101 STEP NO--UR/0366/70/006/005/1020/1022
CIRC ACCESSION NO--AP0130134
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--A0130134

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATMENT OF
N-(3,BENZYLOXY,4,CHLORO,2,NITROBENZOYL)GLYCINE (I) WITH F SUB3 CCO SUB2
H GAVE THE 3,HYDROXY ANALOG (II) WHICH WAS ESTERIFIED TO THE ET ESTER
(III). ESTERIFICATION OF I WITH ABS. ETOH SATD. WITH DRY HCL GAVE I ET
ESTER AND SOME III. HYDROGENATION OF II OR III OVER RANEY NI GAVE THEIR
2 AMINO ANALOGS, WHICH WERE CONVERTED INTO 1,8,BIS(RCOCH SUB2
NHCO),2,AMINO,4,5,DICHLORO,3H,PHENOXAZIN,3, ONE (R IS OH OR OET) BY
TREATMENT WITH BUFFERED AQ. SOLNS. OF K SUB3 FE(CN) SUB6.
FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

172 012 UNCLASSIFIED PROCESSING DATE--02 OCT 70
TITLE--OXIDATION OF O, AMINOPHENOLS -U-
AUTHOR--(24)-KORSHUNOVA, Z.I., GLIBIN, YE.N., ZAKHS, E.R., GINZBURG, D.F.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970 (3) 510-12
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--OXIDATION, AMINE, PHENOL, BENZOIC ACID, CARBOXYLIC ACID ESTER,
THIN LAYER CHROMATOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY ROLL/FRAME--1992/1421 STEP NO--UR/0366/70/005/003/0510/0512
CIRC ACCESSION NO--AP0112415
UNCLASSIFIED

6

2/2 012

UNCLASSIFIED

PROCESSING DATE--0200T70

CIPC ACCESSION NO--AP0112415

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDN. OF A MIXT. OF ET
2,AMINO,3,HYDROXY,4,METHYLBENZATE AND ET
2,AMINO,3,HYDROXY,4,CHLOROBENZOATE WITH K SUB3 FE(CH) SUB6 IN A BUFFERED
SOLN. AT PH 7.2 GAVE A MIXT. OF DI ET 4,Y,
6,X,DISUBSTITUTED,2,AMINO,3,PHENOXO,ZONE 1,9,DICARBOXYLIC ACID ESTERS
(I) IN WHICH I (X EQUALS Y EQUALS CL), I (X EQUALS Y EQUALS ME), AND I
(X EQUALS ME, Y EQUALS CL) WERE ALSO OBTAINED AND ISOLATED BY THIN LAYER
CHROMATOG.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--160CT70
TITLE--SYNTHESIS OF ANALOGS OF ACTINOMYCINS. III. THE SIMPLEST CHLORO
ANALOGS CONTAINING OMEGA AMINO ACIDS -U-
AUTHOR--(03)-SINITSYN, V.G., GLIBIN, YE.N., GINZBURG, O.F. **C**
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(3), 500-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ACTINOMYCES, AMINO ACID, CONDENSATION REACTION,
ESTERIFICATION, ALIPHATIC ESTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0373 STEP NO--UR/0366/70/006/003/0500/0504
CIRC ACCESSION NO--AP0113291
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113291

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

ABSTRACT. THE CONDENSATION OF H SUB2 H(CH SUB2) SUBN CO SUB2 H WITH 2,NITRO,3,BENZOYLOXY,4,CHLOROBENZOYL CHLORIDE IN PHME SOLN. CONTG. NADH GAVE I (R IS NH(CH SUB2) SUB2 CO SUB2 H, WHICH SUB2) SUB3 CO SUB2 H, OR NH(CH SUB2) SUB5 CO SUB2 H). THE ESTERIFICATION OF I GAVE THE CORRESPONDING ET ESTERS. THE CATALYTIC HYDROGENATION OF I ACIDS OF I (R EQUALS NH-(CH SUB2) SUB3 CO SUB2 ET) GAVE II. THE OXIDN. OF II WITH K SUB3 FE(CN) SUB6 IN A PHOSPHATE BUFFER GAVE THE FOLLOWING ACTINOMYCIN ANALOGS: 2,AMINO,4,6,DICHLORO,3H,PHENOXAZIN,3,ONE,1,9,BIS(GAMMA,CARBONYLAMINO BUTYRIC ACID) (III), 2,AMINO,4,6,DICHLORO,3H,PHENOXAZIN,3,ONE,1,9,BIS(GAMMA,CARBONYLALANINE), 2,AMINO,4,6,DICHLORO,3H,PHENOXAZIN,3,ONE,1,9,BIS(EPSILON,CARBONYLAMINUCAPROIC ACID), AND THE DI,ET ESTER OF III. THE CATALYTIC HYDROGENATION OF I (R EQUALS NH(CH SUB2) SUB2-CO SUB2 ET) CAUSED THE REMOVAL OF CL AND GAVE THE CORRESPONDING DECHLORINATED II WHICH WAS OXIDIZED TO 2,AMINO,3H,PHENOXAZIN,3,ONE,1,9,BIS(BETA,CARBONYLALANINE) DI,ET ESTER. FACILITY: Leningrad. TEKHNOL. INST. IM. LENSIVETA, Leningrad, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ECONOMIC PROBLEMS OF QUALITY CONTROL -U-
AUTHOR-(02)-KOTLIKOV, YA.SH., GLICHEV, A.V.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 12-14
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--QUALITY CONTROL, INDUSTRIAL R AND D, INDUSTRIAL PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/2031 STEP NO--UR/0422/70/000/002/0012/0014
CIRC ACCESSION NO--AP0100596
UNCLASSIFIED

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CIRC ACCESSION NO--AP0100596

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEMS CONSIDERED ARE BASIC
IN THE ECONOMIC ASPECT OF PRODUCT QUALITY CONTROLLED AT ALL STAGES OF
THE CREATION AND USE OF PRODUCTS.

UNCLASSIFIED

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1/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ANOMALY OF THE VISCOSITY OF VISCOSE IN A STUDY OF ITS FILTRATION

AUTHOR--(02)--SHANKIN, P.A., GLICHEV, G.T.

G

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLCKNA 1970, (2), 40-2

DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FILTRATION, NONNEWTONIAN FLOW, CELLULOSE RESIN, RAYON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0822

STEP NO--UR/0183/70/000/002/0040/0042

CIRC ACCESSION NO--AP0124489

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124489

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

ABSTRACT. THE FILTRATION OF A NON NEWTONIAN FLUID, IN WHICH A SMALL AMT. OF SOLID IS SUSPENDED, THROUGH A POROUS BARRIER IS DISCUSSED MATH. THE RESULTS ARE APPLICABLE TO THE FILTRATION OF VISCOSE CONTG. SUSPENDED IMPURITIES WHEN THERE IS PARTIAL CLOGGING OF THE FILTER AND THE FORMATION OF A FILTER CAKE.

FACILITY: MTI,
MOSCOW, USSR.

UNCLASSIFIED

. USSR. UDC 616.341:616.423)-092.9:612.014.477-063+)611.341:611.423)-019

GLIKINA, L. M., Chair of Normal Anatomy, First Leningrad Medical Institute
Imeni Academician I. P. Pavlov

"Lymphatics Within the Small Bowel Wall in the Rabbit Under Normal Conditions
and After Exposure to Ventro-Dorsal Accelerations"

Leningrad, Arkhiv Anatomii Gistologii i Embriologii, Vol 60, No 4, Apr 71,
pp 81-89

Abstract: To study the effects of the ventro-dorsal gravitational pull on the lymph system in the small bowel wall, rabbits were centrifuged for various periods and at various speeds. Anatomical and histological investigations of tissue slices yielded the following findings: a) a prolonged single exposure to intolerable acceleration (10 Gs) caused a nonuniform, moderate enlargement throughout the lymph system in the small bowel wall (all animals died within 20-25 minutes of centrifugation); b) after special training during which the rabbits were centrifuged for gradually increased periods and at gradually increased speeds, exposure to 10 Gs was no longer lethal (all animals survived) and changes developing in the lymph system were considerably smaller; c) regular exposure to prolonged, functionally tolerable accelerations (5.5 Gs) caused the greatest enlargement of the lymph system. The results indicate that
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GLIKINA, L. M., Arkhiv Anatomii Gistologii i Embriologii, Vol 60, No 4, Apr 71,
pp 81-89

accelerations can induce changes not only in lymph vessels located outside of
internal organs but also in those located within the organs.

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USSR

UDC 681.332.65

KOKURIN, V. A., GLIKLIKH, B. P., IL'INA, G. F., and SHIFMAN, F. N.

"Synchronizer for Multicycle and Ferrite-Transistor Systems with Nonsimultaneous Inhibition"

USSR Author's Certificate No 273517, filed 14 Apr 69, published 18 Sep 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6B220P)

Translation: Synchronizers made of ferrotransistor elements are known in which the operating principle based on the write level's exceeding the read level is used. These synchronizers are built from special cells with augmented loop data which impose rigid requirements on the parameters of the magnetizing pulses. This complicates the master clocks significantly. Such circuits are necessary for systems with simultaneous inhibition, but their application in systems with nonsimultaneous inhibition is unjustifiable. The purpose of the proposal is to simplify the synchronizer circuit, executing it as a system based on a standard ferrotransistor with nonsimultaneous inhibition and at the same time improving the reliability of the overall device as a whole. The proposed synchronizer has been constructed, just as the known ones, from three standard memory cells with 1/2

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KOKURIN, V. A., et al., USSR Author's Certificate No 273517, filed 14 Apr 69, published 18 Sep 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6B220P)

positive feedback and an AND-NOT circuit. In contrast to the known devices, the inputs of the AND-NOT circuit, the first and third memory cells, and the write input of the second memory cell are connected to sources of synchronizing cycle pulses, and the AND output of the AND-NOT circuit is connected to the write input of the third memory cell. The output of the first cell is connected to the read input of the second cell, the output of the second cell is connected to the second write input of the third cell, and the output of the third cell is connected to the NOT input of the AND-NOT circuit and the input of the multicycle system. The distinguishing feature of the proposed synchronizer is the principle of construction of the circuit using a read response threshold of the ferrotransistor cells with positive feedback and resistance in the emitter circuit, in which a pulse will occur at the cell output only if the read pulse energy is sufficient to overcome the response threshold and the pulse parameters at the cell output do not depend on the read pulse parameters.

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1/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--EFFECT OF ZINC CONTENT ON THE TENDENCY OF BRASS TOWARDS CORROSION
CRACKING -U-

AUTHOR--(03)-GLIKMAN, L.A., LOBOV, A.F., RUDIN, L.YE.

COUNTRY OF INFO--USSR

G

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 109-110

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BRASS, SOLID SOLUTION, CORROSION CRACKING, ZINC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0222

STEP NO--UR/0369/70/006/001/0109/0110

CIRC ACCESSION NO--AP0129478

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129478

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TENDENCY OF VARIOUS TYPES OF BRASS TOWARDS CORROSION CRACKING WAS STUDIED AS A FUNCTION OF ZN CONTENT. SOME REFINEMENTS WERE ACCORDINGLY INTRODUCED INTO THE EXISTING VIEWS, I.E. THAT INCREASING ZN CONTENT LEADS TO INCREASED CORROSION CRACKING. THIS IS IN FACT ONLY VALID FOR ALPHA AND BETA BRASSES. IN BRASSES RICHER IN ZN, PARTICULARLY THOSE WITH THE STRUCTURE OF THE GAMMA SOLID SOLUTION, THE TENDENCY TOWARDS CORROSION CRACKING IS GREATLY REDUCED. IN PURE AN THE TNEONENCY VANISHES ENTIRELY.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--LOW CYCLE FATIGUE OF TITANIUM ALLOYS IN A CORROSIVE MEDIUM -U-
AUTHOR--(02)-GLIKMAN, L.A., SHEKHOVTSEV, YE.D.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM, MEKH. MATER. 1970, 5(6), 744-6
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--TITANIUM ALLOY, METAL CORROSION, CYCLE FATIGUE LIFE, SODIUM
CHLORIDE, DISTILLED WATER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0635 STEP NO--UR/0369/70/005/006/0744/0746
CIRC ACCESSION NO--AP0105614
UNCLASSIFIED

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UNCLASSIFIED


PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0105614

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO TI ALLOYS, ONE CONTG. AL 4PERCENT AND TI THE REST, AND THE OTHER AL 6.5, SN 3.8, V 2.5, ZR 2.6PERCENT AND TI THE REST, WERE TESTED IN DISTD. WATER AND IN A 3PERCENT NACL SOLN. TWO KINDS OF SPECIMENS WERE TESTED: SMOOTH WITH A CUTOUT OF 30MM RADIUS IN THE CENTER, AND THE OTHER WITH A SHARP CIRCULAR NOTCH IN THE CENTER. THE SPECIMENS WERE ROTATED AT A RATE OF 1.6 CYCLES-MIN. THE SMOOTH SAMPLES REMAINED PRACTICALLY UNAFFECTED WHEREAS THE NOTCHED SPECIMENS SHOWED DEFINITE SIGNS OF CORROSION.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EVALUATION OF THE SUSCEPTIBILITY OF STEEL TO REVERSIBLE TEMPER
BRITTLENESS -U-

AUTHOR--(03)-GLIKMAN, YE.E., GRDINA, YU.V., KOTYSHEV, V.F. 

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 113-17

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL BRITTLENESS, STEEL HEAT TREATMENT, MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1994/1789

STEP NO--UR/0148/70/013/002/0113/0117

CIRC ACCESSION NO--AT0115618

UNCLASSIFIED

272 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0115618

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIVE STEELS WERE REFINED BY ANNEALING IN H, QUENCHING IN WATER FROM 1000-1150 AND 920-50DEGREES, AND SUBJECTED TO "DOUBLE TEMPERING" (E. E. GLIKMAN, ET AL., 1967). A TOUGH STATE WAS PRODUCED BY COOLING IN WATER FROM 650DEGREES, WHILE THE BRITTLE STATE WAS PRODUCED BY HOLDING AN ADDNL. 24 HR AT 530DEGREES. WITH STEELS CONTG. 1.50-1.85PERCENT MN, 2 TEMP. REGIONS OF BRITTLENESS DEVELOPMENT WERE DETD. (500-50 AND 600-50DEGREES). ADDNL. STUDIES ARE NECESSARY TO EXPLAIN THE NATURE OF HIGH TEMP. BRITTLENESS.
FACILITY: SIB. MET. INST., NOVOKUZNETSK, USSR.

UNCLASSIFIED

USSR

UDC: 621.315.592

ZUYEV, V. A., LITOVCHENKO, V. G., GLINCHUK, K. D., LITOVCHENKO,
N. M., SUKACH, G. A., and LINNIK, L. F.

"Current Carrier Recombination Processes on Ge and Si Surfaces
Under Laser Excitation"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1936-
1944

Abstract: While investigations of volume recombination processes of current carriers under laser excitation have been made and have yielded important information on the characteristics of local centers and new recombination mechanisms, investigations of surface processes have been limited to low excitation levels. The experiments described in this paper were designed to measure four effects: photoconductivity amplitude and relaxation time; absorption of infrared light by unbalanced current carriers; zone-zone recombination radiation intensity and relaxation; capacitor photo-emf. A block diagram of the experimental equipment is given. A neodymium laser operating at a wavelength of 1.06 microns and a ruby laser at 0.6943 microns, with maximum intensity of 10^{10} W/cm²·sec, were used to generate the unbalanced current carriers. A signal of
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UDC: 621.315.592

ZUYEV, V. A., et al, Fizika i tekhnika poluprovodnikov, No 10,
1972, pp 1936-1944

infrared radiation was supplied by a 300 watt incandescent lamp with a germanium filter, and the receiver of the infrared radiation was a low-inertia photoresistance using germanium with a gold impurity. The authors thank O. V. Snitko, D. Pataki, and A. V. Sachenko for their useful comments on a number of problems encountered in the course of this work.

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USSR

UDC: 539.293.5

GLINCHUK, K. D., Institute of Semiconductors, Academy of Sciences of the
UkrSSR

"Impurities in Germanium, Silicon and Gallium Arsenide (Recombination Characteristics)"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika. Resp. Mezhved. Sb.,
No 7, 1972, pp 51-60

Abstract: The author examines the recombination characteristics of impurity centers in germanium, silicon and gallium arsenide. The paper continues previous surveys on the properties of impurity centers in these semiconductors and on the influence which impurities have on their recombination properties. An appendix characterizes the nature of levels in the forbidden band in these three semiconductors. The bibliography lists 132 titles.

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UDC: 539.293:535.215.12

GLINCHUK, K. D., RODIONOV, V. Ye., Institute of Semiconductors, Academy of Sciences of the UkrSSR

"Time Constant of Si(Zn) Photoresistors"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika, Resp. Mezhved. Sb., No 7, 1972, pp 27-31

Abstract: The authors study the kinetic characteristics of Si(Zn) photoresistors made by high-temperature diffusion of zinc atoms into low-resistance N-type silicon. An investigation was made of the kinetics of the intrinsic photoconductivity of Si(Zn) with partially compensated levels of zinc $\epsilon_1 = 0.31$ eV and $\epsilon_2 = 0.55$ eV. Alloyed ohmic contacts were used. In Si(Zn) with a weakly compensated 0.31 eV level, the relaxation constant for intrinsic photoconductivity was less than 0.1 μ s. In the case of investigation of the photoconductivity kinetics for Si(Zn) with strongly compensated 0.31 eV levels or with a partially compensated 0.55 eV level, a much more complicated picture was observed. Relaxation of photoconductivity in these cases was characterized by several time constants depending on the concentration of surplus electrons, with values ranging from 0.01 μ s to

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GLINCHUK, K. D., RODIONOV, V. Ye., Poluprovodn. Tekh. i Mikroelektron.
Resp. Mezhved. Sb., No 7, 1972, pp 27-31

10 ms. The observed differences in relaxation behavior are attributed to nonhomogeneity. Direct measurements show that the recombination properties in different regions of nonhomogeneous Si(Zn) photoconductors differ sharply. In the high-resistance region with partially compensated 0.31 eV level the neutral atoms of zinc play a predominant role in recombination, whereas the centers created in high-temperature heating of the silicon are decisive in the low-resistance region with completely filled 0.31 and 0.55 eV levels.

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USSR

UDC 621.332.1

VOROBKALO, F. M., GLINCHUK, K. D., PROKHOROVICH, A. V.

"Electroluminescence of GaAs-Alloy Diodes"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

Abstract: The study of the electroluminescent properties of GaAs-alloy diodes is continued [F. M. Vorobkalo, et al., Poluprovodnikov tekhnika i mikroelektronika, No 4, Naukova dumka Press, Kiev, 1970]. The processes of photoluminescence and electroluminescence of GaAs are studied, and the radiation of the homogeneous (initial GaAs) and inhomogeneous (p-n-junction) systems is compared. Both the n and p-regions and the space charge layer make a defined contribution to the recombination radiation of the GaAs-alloy diodes. During the process of creation of the p-n-junction the initial properties of the GaAs do not change. The dependence of the intensity of the electroluminescence on the temperature and injection current is determined both by the initial properties of the GaAs and the properties of the p-n junction.

The intensity of electroluminescence of diodes made of the same sample of GaAs can differ by tens and even hundreds of times. At the same time, the intensity of the photoluminescence in these samples differs by appreciably less -- approximately 2-3 times. This indicates that significant scattering of the
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USSR

VOROBKALO, F. M., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

magnitudes of the quantum yield of the electroluminescence of GaAs alloy diodes is connected with insufficient reproducibility of construction of the diodes (the p-n junctions) and not the properties of the initial material (with respect to photoluminescence properties it is more homogeneous). The fact that in the majority of diodes made of n-GaAs, the variation in intensity of the electroluminescence with temperature was appreciably weaker than the intensity of photoluminescence indicates that with a drop in temperature the proportion of the injection electron-hole current decreases, just as discovered previously [F. M. Vorobkalo, et al., UFZh, No 13, 1810, 1968; FTP, No 3, 150, 1969].

2/2

- 96 -

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RECOMBINATION OF HOT ELECTRONS AT NICKEL AND GERMANIUM ATOMS -U-
AUTHOR--(02)-KLIPKA, L.A., GLINCHUK, K.D. G
COUNTRY OF INFO--USSR
SOURCE--FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL. 4, APR. 1970, P. 673-678
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--NICKEL, GERMANIUM PN JUNCTION, BIBLIOGRAPHY, DOPED ALLOY,
ELECTRON RECOMBINATION, ELECTRON CAPTURE, ELECTRIF FIELD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0379 STEP NO--UR/0449/70/004/000/0673/0678
CIRC ACCESSION NO--AP0126134
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126134

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL INVESTIGATION OF THE RECOMBINATION CHARACTERISTICS OF NICKEL DOPED AND P AND N TYPE GERMANIUM IN STRONG ELECTRIC FIELDS. PARTICULAR ATTENTION IS GIVEN TO THE INFLUENCE OF THE ELECTRIC FIELD STRENGTH ON THE ELECTRON CAPTURE CROSS SECTION AT NEUTRAL AND REPULSING CENTERS OF NICKEL IN GERMANIUM. IT IS FOUND THAT THE COEFFICIENT OF ELECTRON CAPTURE AT REPULSING NICKEL IONS INCREASES APPRECIABLY WITH THE FIELD, WHILE THE COEFFICIENT OF ELECTRON CAPTURE AT NEUTRAL NICKEL ATOMS IS INDEPENDENT OF THE FIELD.

FACILITY: AKADEMIIA NAUK LITOVSKOI SSR, INSTITUT FIZIKI

POLUPROVDNIKOV, VILNYUS, LITHUANIAN SSR.

FACILITY: AKADEMIIA

NAUK UKRAINSKOI SSR, INSTITUT POLUPOROVODNIKOV, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--KINETICS OF THE PHOTOCONDUCTIVITY OF GALLIUM ARSENIDE -U-

AUTHOR--(03)-VOROBKALO, F.M., GLINCHUK, K.D., LITOVCHENKO, N.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(5), 487-52

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOCONDUCTIVITY, GALLIUM ARSENIDE, HEAT RESISTANCE, PHOTON
EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0893

STEP NO--UR/0449/70/004/005/0847/0852

CIRC ACCESSION NO--AP0136327

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136327

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RELAXATION KINETICS OF THE PHOTOCOND. OF N AND P-GAAS, AT A PULSE DURATION OF 10 PRIME MEGATIVE6 SEC, WERE INVESTIGATED TO DET. PARAMETERS OF THE CENTERS CONTROLLING THE RECOMBINATION PROCESSES; STEADY PHOTOCOND. WAS STUDIED BY THE PHOTOCOND. MODULATION METHOD AND THE RESULTS WERE COMPARED WITH THE KINETIC DATA. THE REGULARITIES OBSD. WERE CONNECTED WITH THE PROCESSES TAKING PLACE WITHIN THE CRYSTAL AND NOT ON ITS SURFACE. SHARPLY MONOPOLAR PHOTOCOND. OBSD. IS CONTROLLED BY A SYSTEM OF RAPID AND SLOW LEVELS. FOR 2 OF THEM (SLOW), THE CAPTURE CROSS SECTIONS FOR THE MAIN CHARGE CARRIERS (ELECTRONS IN N-GAAS AND VACANCIES IN P-GAAS), THE FRACTION OF CARRIERS RECOMBINING THROUGH EACH CENTER, IONIZATION ENERGIES OF THE CENTERS, AND CONC. OF THE RECOMBINATION. CANALS DETG. THE PHOTOCOND. WERE DETD. THE MECHANISM OF ENERGY EMISSION DURING THE RECOMBINATION OF THE CARRIERS ON THE CENTERS IS NONRADIATIVE (SMALLER THAN OR EQUAL TO 0.01PERCENT CARRIERS RECOMBINE WITH A PHOTON EMISSION). THE RECOMBINATION CENTERS ARE VERY HEAT RESISTANT. FACILITY: INST. POLUPROV., KIEV, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
 TITLE--WIDTH OF (GD SUB2 0 SUB3) SUBX (GD CRD SUB3) SUB1 MINUS X EPR LINES
 -U-
 AUTHOR--~~GLINCHUK, M.D.~~, KARMAZIN, A.A., KOSTYRYA, A.A., LOPATO, L.M.,
 SHEVCHENKO, A.V.
 COUNTRY OF INFO--USSR
 SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(1) 59-62
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS
 TOPIC TAGS--EPR SPECTRUM, LINE WIDTH, LINE BROADENING, CHROMIUM OXIDE,
 GADOLINIUM COMPOUND, METAL OXIDE, CHEMICAL COMPOSITION, TEMPERATURE
 DEPENDENCE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1989/1345 STEP NO--UP/0185/70/015/001/0059/0062
 CIRC ACCESSION NO--AP0107818
 7777777777 UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--A00107818
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SYSTEM G0 SUB2 0 SUB3-CA
SUB2 0 SUB3 THE G0 SUB2 0 SUB3 CONTENT WAS VARIED BETWEEN 50 AND
100PERCENT. THE OBSD. INCREASE IN THE WIDTH OF THE EPR LINE WITH
INCREASING G0 SUB2 0 SUB3 CONTENT AROSE FROM DIPOLE DIPOLE AND EXCHANGE
INTERACTION. AT LOWER TEMP. THE INTENSITY OF THE EPR SIGNAL OF G0G0
SUB3 DECREASED; THE DISAPPEARANCE OF THE LINE AT 170DEGREEK WAS
ASSIGNED TO A MAGNETIC ORDERING OF THE CR ION SUBLATTICE.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--300670
TITLE--ANGULAR AND TEMPERATURE DEPENDENCES OF THE WIDTHS OF EPR LINES -U-

AUTHOR--(03)--DEYGEN, M.F., GLINCHUK, M.D., KOROBKO, G.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2), 507-15

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LINE WIDTH, EPR SPECTRUM, ANGULAR DISTRIBUTION, TEMPERATURE
DEPENDENCE, SPIN LATTICE RELAXATION, CRYSTAL DEFECT, CRYSTAL LATTICE
VIBRATION, ZINC COMPOUND, TUNGSTATE, CHROMIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1612

STEP NO--UR/0181/70/012/002/0507/0515

CIRC ACCESSION NO--AP0054462

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0054462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANGULAR AND TEMP. DEPENDENCES OF THE WIDTH OF EPR LINES WERE INVESTIGATED. IT IS ASSUMED THAT THE MAIN CONTRIBUTIONS TO THE WIDTH OF THE EPR LINE ARE MADE BY THE ELEC. FIELDS OF DEFECTS, DIPOLE DIPOLE INTERACTIONS, AND SPIN LATTICE RELAXATION. TEMP. VARIATION OF THE WIDTH OF THE LINE IS RELATED MAINLY TO MODULATION OF THE CRYSTAL FIELD CONSTS. BY LATTICE VIBRATIONS. ANGULAR DEPENDENCE OF THE WIDTH OF THE LINE IS DETD. BY ALL 3 EFFECTS. EVALUATION WAS MADE OF THE CONTRIBUTION TO TEMP. VARIATION OF THE LINEWIDTH OF THE DEFECT MECHANISM, WHICH IS RELATED TO MODULATION BY LATTICE VIBRATIONS OF ELEC. FIELD OF THE DEFECT AS WELL AS TO THE THERMAL EXPANSION OF THE CRYSTAL. THEORY WAS COMPARED WITH EXPT. DATA FOR THESE ANGULAR AND TEMP. DEPENDENCES OF THE WIDTH WERE DETD. FOR CR PRIME3 POSITIVE IN ZNWO SUB4. FACILITY: INST. POLUPROV., KIEV, USSR.

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0129426
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTL. AND THEORETICAL
INVESTIGATIONS WERE CARRIED OUT OF THE TEMP. DEPENDENCE OF THE WIDTH OF
EPR LINES OF FE PRIME3 POSITIVE IN AL SUB2 O SUB3, MEASUREMENTS WERE
MADE AT 3 CM BETWEEN 4.2 AND 1100DEGREESK. AT HIGH TEMPS., CONSIDERABLE
CONTRIBUTION TO THE EPR LINEWIDTH IS MADE BY 4 PHONON PROCESSES WITH
PARTICIPATION OF OPTICAL PHONONS. FACILITY: INST. POLYPROV.,
KIEV, USSR.

UNCLASSIFIED

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/FRAME--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 LORENTZIAN OR GAUSSIAN SHAPES OR MIXT. OF LORENTZIAN 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

USSR UDC 621.385.832.032.36.002.237(088.8)-(47):621.397,62:621.397.132

ALEKSEYEV, I. A., ZHUKOVSKAYA, E. I., GLINKA, A. P., MOROZOVA, A. V., and RUMYANTSEVA, T. Ya.

"Luminous Coating for Screens of Cathode-Ray Tubes"

USSR Author's Certificate No 275240, filed 7 Mar 69, published 18 Nov 70 (from RZh-Elektronika i yeye primeneniye, No 7, July 1971, Abstract No 7A284P)

Translation: The proposed luminophor covering consists of 2-component ($V_3Al_5O_{12}Ce$ 60--70 percent, $Sr_3(PO_4)_2 \cdot Eu$ 30--40 percent) or 3-component ($V_3Al_5O_{12} \cdot Ce$ 60 to 70 percent, $Sr_3(PO_4)_2 \cdot Eu$ 20 to 15 percent, V_2SiO_5Ce 20 to 15 percent) mixture of luminophors. The high efficiency and short time of afterglow, amounting to 0.15--0.20 microsecond at a level of five percent from the brightness at the moment of cessation of excitation, makes it possible to increase the signal-to-noise ratio in all the color channels of a television picture tube and to improve the quality of the image. The method of precipitation in water of a solution of a silicate of K and $Sr(NO_3)_2$ is used for deposition of the luminophor covering.

1/1

USSR

UDC: 621.385.832.032.36

ALEKSEYEV, I. A., ZHUKOVSKAYA, E. I., GLINKA, A. P., MOROZOVA, A. V., RUMYANTSEVA, T. Ya.

"A Luminescent Coating for the Screens of Cathode Ray Tubes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275240, Class 21, filed 7 Mar 69, p 58

Abstract: This Author's Certificate introduces: 1. A luminescent coating for the screens of cathode ray tubes based on cerium-activated yttrium aluminate $Y_3Al_5O_{12} \cdot Ce$. As a distinguishing feature of the patent, the effectiveness of screen emission in the blue region of the spectrum is improved and the time of afterglow is reduced by introducing the phosphor $Sr_3(PO_4)_2 \cdot Eu$ into the composition of the coating. 2. A modification of this coating distinguished by the fact that color saturation is increased by additional introduction of the phosphor $Y_2SiO_5 \cdot Ce$. 3. A modification of coating No 1 distinguished by the fact that its ingredients are taken in the following proportions (in percent by weight): $Y_3Al_5O_{12} \cdot Ce$ --60-70; $Sr_3(PO_4)_2 \cdot Eu$ --30-40. 4. A modification of coating No 2 distinguished by the fact that the ingredients are taken in the following proportions (in percent by weight): $Y_3Al_5O_{12} \cdot Ce$ --60-70; $Sr_3(PO_4)_2 \cdot Eu$ --20-15; $Y_2SiO_5 \cdot Ce$ --20-15.

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Steels

USSR

UDC 669,15,018,44;620.186

SPASSKIY, V. V., POPOV, V. I., GLINKIN, A. S., KRAVTSOVA, T. K., BOBYLEV, F. K.,
MESHCHERYAKOV, A. S., TROSHKIN, G. B.

"Effect of Phase Composition on the Properties of Austenitic Chromium-Nickel
Steels in Castings and Welded Parts"

Liteyn, proiz-vo (Casting Production), 1970, No 11, pp 29-30 (from RZh-Metal-
lurgiya, No 4, Apr 71, Abstract No 4I649)

Translation: A study is made of EI572 heat-resistant steel containing (in %) C 0.28-0.33, Mn 1.08-1.27, Si 0.60-0.80, Cr 18.20-20, Ni 8.1-9.7, W 1.48-1.50, Mo 1.20-1.35, Ti 0.22-0.78, Nb 0.26-0.50. The castings were austenitized at 1,160°, and they were cooled in water before aging at 650-820° for 15 hours. The δ-ferrite content in the samples was determined after austenitization and aging. Increasing the Cr, Ni, and Ti content increases the δ-ferrite content. With an increase in the content of C > 0.30%, the amount of $M_{23}C_6$ carbides increased along the grain boundaries. The cooling rate of the casting has a noticeable effect on the amount of δ-ferrite in the steel; in the case of accelerated cooling of the casting in water (4°/second) the amount of δ-ferrite was about twice that obtained with ordinary cooling in the air (0.15°/second). Castings made of EI572 steel for welding must contain 3-5% 1/2

USSR

SPASSKIY, V. V., et al., Liteyn, proiz-vo, 1970, No 11, pp 29-30

δ -ferrite. This is somewhat higher than for the same steel during hot working. The required amount of δ -ferrite is insured by a 0,3-0,45% Ti content in steel.

2/2

- 64 -

USSR

UDC:629.78.015:533.697:621.4

DAVIDSON, V. Ye., NESHCHERET, P. A., GLINKIN, B. A.

"Exhaust of an Underexpanded Supersonic Jet into a Cylindrical Pipe with a Step"

Gidraeromekh. i Teoriya Uprugosti. Mezhvuz. Nauch. Sb. [Hydroaeromechanics and the Theory of Elasticity. Inter-University Scientific Collection], 1973, No 16, pp 38-41 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 9, 1973, Abstract No 9.41.92)

Translation: Results are presented from experimental studies of the flow of an underexpanded stream from a conical nozzle at numbers $M_n = 1.6-3.0$ with half-aperture angle $\alpha = 15^\circ$. The flow occurs into a cylindrical pipe up to 10 calibers in length along its axis. The geometric structure of the wave picture is studied and curves of the distribution of pressure along the generatrix of the pipe are presented in the self-similar flow mode for ratios of diameters of nozzle and pipe $d = 0.1-1.0$. Approximating dependences are produced for the pressure curves. 5 Figures; 1 Biblio Ref.
Resume

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CHARACTERISTICS OF CONTINUOUS STEELMAKING PROCESS -U-

AUTHOR--(02)-KHRISTOV, V.N., GLINKOV, G.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(3), 159-62

DATE PUBLISHED-----70

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

TOPIC TAGS--METALLURGIC PROCESS CONTROL, STEEL PRODUCTION, INDUSTRIAL
AUTOMATIC CONTROL, TIME CONSTANT, GAS ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0835

STEP NO--UR/0148/70/013/003/0159/0152

CIRC ACCESSION NO--AT0132925

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132925

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STATIC AND DYNAMIC CHARACTERISTICS OF A CONTINUOUS STEELMAKING PROCESS WERE STUDIED. WITH RESPECT TO AUTOMATIC CONTROL, THE FLOW PROCESS IS NONLINEAR IN RELATION TO THE FLOW OF THE TREATED STREAM AND THE AMT. OF ASSIMILATED GAS AND LINEAR IN RELATION TO THE CONCNS. IN THE TREATED STREAM, THE CHARACTERISTICS OF THE PROCESS WERE STUDIED FOR STEPWISE CHANGES IN THE PARAMETERS. THE SYSTEM HAS BOTH TRANSPORT AND SIZE LAGS. THE SIZE LAG TIME IS ATTRIBUTED TO THE PRESENCE OF NONIDEAL FLOW DISPLACEMENT. RELATIONS BETWEEN THE TIME CONSTS. AND THE PARAMETERS OF THE PROCESS WERE ESTABLISHED. FACILITY: ZHDANOV. MET. INST., ZHDANOV, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SELECTION OF THE DESIGN AND OPERATING PRACTICE FOR OXYGEN LANCES
-U-
AUTHOR--(05)-GLINKOV, M.A., DEMIN, G.I., PERMINOV, E.M., CHUKHANOV, Z.F.,
KHMELEVSKAYA, E.D.
COUNTRY OF INFO--USSR
SOURCE--STAL' 1970, 30-(2), 119-23
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--OXYGEN, OPEN HEARTH FURNACE, NOZZLE, ABSORPTION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1995/0214

STEP NO--UR/0133/70/030/002/0119/0123

CIRC ACCESSION NO--AP0115918

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115918

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RATE OF CHEM. AND HEAT ABSORPTION AS A FUNCTION OF THE DEGREE OF LANCE INCLINATION TO OPEN HEARTH BATH WAS DETD. ON MODELS, IN WHICH ABSORPTION OF NH SUB3 IN WATER FROM ITS MIXT. WITH AIR WAS MEASURED AND THAT OF HEAT SUPPLIED BY HOT AIR TO AN OIL BATH WAS EVALUATED. THE ABSORPTION COEFF. FOR A SPECIFIC RANGE OF OPTIMUM GAS CONSUMPTION, WHICH INCREASES WITH A LARGE NOZZLE DIAM., REACHES ITS MAX. VALUE WITH VERTICAL NOZZLES. NO LOWERING OF THE ABSORPTION COEFF. AFTER REACHING ITS OPTIMUM VALUE WAS NOTED FOR NOZZLES INCLINED 30-75DEGREES TO THE VERTICAL. GAS CONSUMPTION AND NOZZLE DIAM. ARE ASSOCD. BY THE ARCHIMEDES CRITERION AR (AR EQUALS w PRIME² GAMMA G-GD GAMMA L). THE MAX. ABSORPTION IS OBTAINED WITH AR 100, AND ABSORPTION COEFF. N CAN BE GIVEN WITHIN 5PERCENT AS N EQUALS $0.96-(AR PLUS 4.55)$. FOR A GROUP OF NOZZLES SUFFICIENTLY DISTANT (SIMILAR TO 10 DIAM. MIN.) IT IS ABOUT THE SAME FOR A GROUP OR INDIVIDUAL NOZZ.E THE ANGLE OF NOZZLE INCLINATION TO THE VERTICAL AFFECTS BOTH THE RATE OF ABSORPTION AND THE DEGREE OF STIRRING, THE OPTIMUM FOR THE PURPOSE BEING 55DEGREES FOR CLOSELY PLACED NOZZLES AND 45DEGREES FOR MORE DISTANT ONES. FACILITY: MOSK. INST. STALI SPLAVGV, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 669.783

GLINOV, S. V. and NASHEL'SKIY, A. Ya.

"Coefficients of Admixture Distribution in Germanium Crystals"

Moscow, Tsvetnyye Metally, No 9, Sep 73, pp 34-35

Abstract: The authors make the equilibrium factors more precise for In, Cu, Al, and As admixtures in germanium. Rate dependences were established for the coefficients of the admixture distributions for indium, copper, aluminum, and arsenic in germanium. The values for the equilibrium coefficients of the admixture distributions for indium and copper are $9.5 \cdot 10^{-4}$ and $1 \cdot 10^{-5}$ respectively. This dependence is also shown for gallium.

1/1

GLINSKAYA, O.V.

UNCLASSIFIED

SECTION IV

Sci Selected Abstracts Project
Facilities

PC5-89
June 1971

16

Biochemistry

Name: Protein Research Institute, Pushchino
Description:

(U) During this quarterly reporting period, two new articles were located from the Protein Research Institute at Pushchino. On the basis of one of the articles, which dealt with eschlerichia coli ribosomes, it was possible to associate one new person, N. I. Smlnov, with the Institute (32). The other article, also on eschlerichia coli, was issued jointly from the Institute of Genetics and Selection of Microorganisms, Moscow, and the Protein Research Institute at Pushchino (33). Previous articles by V. I. Pernoigorov have been issued from the former Institute. No previous facility association could be located for V. D. Vasil'yev, but it is likely that he represents the latter Institute. This article probably represents some joint work between the two Institutes.

(U) As a ready source of reference, given below is a complete listing of personalities identified with the Protein Research Institute to the present time:

all - doctors

- | | |
|------------------------------------|----------------------------|
| <u>Belitsina, N. V.</u> | <u>Privalov, P. I.</u> |
| <u>Berzheyn, T. H.</u> | <u>Pileyn, O. B.</u> |
| <u>Chirgadz, Yu. B.</u> | <u>Rashovskaya, Ye. P.</u> |
| <u>Pedorov, B. A.</u> | <u>Sedyuk, I. N.</u> |
| <u>Finkel'shteyn, A. V.</u> | <u>Smlnov, N. I.</u> |
| <u>Glinokaya, O. V.</u> | <u>Spirin, A. S.</u> |
| <u>Lavrilova, L. P.</u> | <u>Tkocpolo, Ye. I.</u> |
| <u>Glinskaya, O. V.</u> | <u>Vasil'yev, V. D.</u> |
| <u>Mitin, Yu. V.</u> | |

ИНСТИТУТ

1/2 032 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--KINETICS OF INTERIMPURITY RADIATIVE RECOMBINATION IN GALLIUM
PHOSPHIDE -U-
AUTHOR--(03)-PIKHTIN, A.N., YASKOV, D.A., GLINSKIY, G.F.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(2), 386-93
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--RADIATIVE RECOMBINATION, PHOSPHIDE, GALLIUM COMPOUND,
ELECTROLUMINESCENCE, LUMINECENCE SPECTRUM, IMPURITY CENTER, ZINC,
TELLURIUM, PN JUNCTION, REACTION KINETICS, LUMINESCENCE QUENCHING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1895 STEP NO--UR/0181/70/012/002/0386/0393
CIRC ACCESSION NO--AP0054698
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054698

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INSIDE THE SPECTRAL BAND DETD. BY RADIATIVE RECOMBINATION OF AN ELECTRON, CAPTURED BY A DONOR, WITH A HOLE, CAPTURED BY A SPATIALLY CAPTURED ACCEPTOR, DEPENDENCE SHOULD BE OBSD. OF THE RELAXATION TIME τ , τ , ON THE ENERGY OF PHOTONS, $h \omega$. THE THEORETICAL DEPENDENCE $\tau(h \omega)$ IS EXPTL. CONFIRMED FOR INTERIMPURITY (ZN AND TE) RADIATIVE RECOMBINATION IN GAP (GREEN BAND AT 80DEGREEK EXPTL. DATA WERE OBTAINED IN THE INVESTIGATION OF THE KINETICS OF ELECTROLUMINESCENCE OF GAP DIODES IN THE PULSE INJECTION OF CHARGE CARRIERS ACROSS THE P-N JUNCTION. IN THE RED BAND OF ELECTROLUMINESCENCE, THE MAGNITUDE OF τ WAS INDEPENDENT OF $h \omega$. THE SPECTRAL COMPN. OF THE RADIATION WAS INVESTIGATED IN THE PROCESS OF QUENCHING OF LUMINESCENCE AND THE EFFECT OF TEMP. ON THE KINETICS OF RADIATIVE RECOMBINATION IN GAP. FACILITY: LENINGRAD, ELEKTROTEKH. INTS. IN UL'VANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: [621.3.051.024:537.312.62]:621.3.016.34:681.3

BOGACHKOV, M. L., GLINTERNIK, S. R., Leningrad

"Relation Between Transient Processes and Control Conditions on the One Hand and the Parameters of a Superconducting Cable in a DC Transmission Line on the Other"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 14-20

Abstract: The paper deals with the relation between the parameters of a superconducting cable, transient processes in a DC line, and control conditions to limit the maximum emergency currents in the case of inter-terminal short circuits. An estimate is made of the effect of individual parameters on the static stability of a controllable superconducting DC electric power transmission line. The analysis shows that with the existing cost of cryogenic materials and equipment, a nominal working voltage of the order of 100 kV should be used in such a line. A reduction in voltage would make the cable more expensive, while an increase would raise the cost of transforming equipment as well as increasing overloads. In order to limit overloads during emergencies in the transmission of direct current, a current regulator should be used which is

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USSR

BOGACHKOV, M. L., GLINTERNIK, S. R., Izv. AN SSSR: Energetika i Transport, No 4, 1972, pp 14-20

based on a rectifier with channels for deviation and for the integral of the current. In the case of disruptions in the operation of the channel for the integral of the current when there is a short circuit in the DC line, the rectified current attains a new value determined by the coefficient of amplification with respect to deviation. When there is a failure in the channel for deviation, the rectified current returns to the initial value; this process takes place slowly since attenuation is sharply reduced. In the case of disruptions in the operation of the channels for deviation and for the integral of the current, the rectified current gradually goes to the new steady-state value, which is quite high since it is determined only by the resistance of the rectifier commutation circuit. In designing a cryogenic cable for a DC transmission line, the wave impedance of the cable must be maximized since this has a favorable effect on transmission operating stability.

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UDC: 621.374.33(088.8)

LAZER, I. M., GLINTERNIK, V. R.

"A Pulse Signal Decoder"

USSR Author's Certificate No 259958, filed 12 Dec 68, published 4 May 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 123266 P)

Translation: This Author's Certificate introduces a pulse signal decoder which contains a time selection circuit and a shift register. This shift register in turn contains main and auxiliary flip-flops and "zero" and "one" diodes. To improve accuracy in time selection of pulses and to increase the speed of the device, the shift register contains an additional diode with one input connected to the information input of the decoder, the second input connected to the inverse cadence pulse line, and the output connected to the set terminals of the main and auxiliary flip-flops of the first digital place of the shift register, and also to the input of the "zero" diode of the auxiliary flip-flop for the first digital place. The output of the "one" diode for the main flip-flop of the first digital place is connected in addition to the set terminal of the auxiliary flip-flop of the first digital place in the register.

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1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ELECTROMAGNETIC PROCESSES AND BEHAVIORS OF POWERFUL STATIC
TRANSFORMERS -U-
AUTHOR--GLINTENNIK, S.R. G
COUNTRY OF INFO--USSR
SOURCE--ELECTROMAGNETIC PROCESSES AND BEHAVIORS OF POWERFUL STATIC
TRANSFORMERS (ELEKTROMAGNITNYE PROTSESSY I REZHIMY MOSHCHNYKH
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--ELECTRIC-TRANSFORMER, ELECTROMAGNETIC EFFECT, ELECTROMAGNETIC
FIELD, NONROTARY ELECTRIC POWER CONVERTER, HARMONIC ANALYSIS, HANDBOOK
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1265 STEP NO--UR/0000/70/000/000/0001/0307
CIRC ACCESSION NO--AM0130256
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AM0130256

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 3. INTRODUCTION 6. CHAPTER I GENERAL EQUATIONS OF ELECTROMAGNETIC PROCESSES IN CONVERTERS 12. II ELECTROMAGNETIC PROCESSES IN CONVERTERS WITH PARALLELY CONNECTED CONDENSERS 38. III ELECTROMAGNETIC PROCESSES IN CONVERTERS WITH CONDENSERS CONNECTED IN SERIES 123. IV ELECTROMAGNETIC PROCESSES IN NONCOMPENSATED CONVERTERS AS A PARTICULAR AND EXTREME CASE OF PROCESSES IN COMPENSATED CONVERTERS 158. V GENERALIZATION OF THE RESULTS OF ANALYSIS OF ESTABLISHED ELECTROMAGNETIC PROCESSES IN COMPENSATED AND NOT COMPENSATED CONVERTERS INTO AN APPROXIMATE GENERAL METHOD OF CALCULATING NORMAL BEHAVIORS OF CONVERTERS 175. VI EXTERNAL CHARACTERISTICS AND HARMONIC ANALYSIS OF CURRENTS AND VOLTAGE OF CONVERTERS 195. VII POWER CHARACTERISTICS OF CONVERTERS AND WAYS TO IMPROVE THEM 243. VIII STATIC AND DYNAMIC CHARACTERISTICS OF CONVERTERS 266. LITERATURE 297. IN THE MONOGRAPH IS DESCRIBED THE THEORY OF ESTABLISHED ELECTROMAGNETIC PROCESSES IN POWERFUL THREE PHASE, ONE BRIDGE AND TWO BRIDGE CONVERTERS WHICH RECTIFY THE ALTERNATING CURRENT TO A DIRECT AND INVERT THE DIRECT TO ALTERNATING CURRENT. FOR CONVENIENT PRACTICAL USE OF THE RESULTS OF THE THEORY THE BOOK HAS SETS OF CALCULATION CHARACTERISTICS OF COMPENSATED AND UNCOMPENSATED CONVERTERS.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DEPENDENCE OF THE CAST IRON FLOW FACTOR ON THE GEOMETRY OF CASTING
CHANNELS OF A MOLD -U-
AUTHOR-(04)-PETRICHENKO, A.M., GLIZER, Z.KH., GOLDMAKHER, P.E.,
LUKASHCHUK, T.I.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, 2, 30-1
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CAST IRON, FOUNDRY TECHNOLOGY, FERROUS LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1376

STEP NO--UR/0128/70/002/000/0030/0031

CIRC ACCESSION NO--AP0116825

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPTL. MOLD ALLOWING A SIMULTANEOUS OUTFLOW OF MOLTEN IRON THROUGH 4 CHANNELS HAS BEEN USED TO DET. THE INFLUENCE OF THE SHAPE OF THE CHANNEL CROSS SECTION ON THE FLOW FACTOR. A FLAT CHANNEL WITH A PLANE UPPER SURFACE AND A CYLINDRICAL BOTTOM ONE, FORMED WITH A LARGE RADIUS, SHOWS THE HIGHEST FLOW FACTOR (0.61-0.69), LEAST AFFECTED BY VARIATIONS OF THE METAL TEMP. EXPTS. WITH RECTANGULAR SECTIONS SHOW THAT MAX. FLOW IS OBTAINED WHEN THE WIDTH TO HEIGHT RATIO IS 3:1. APPROACHING A SQUARE CROSS SECTION CAUSES THE FLOW FACTOR TO FALL.

UNCLASSIFIED

USSR

UDC: 621.396.6:621.315.61(088.8)

PROKOPOVA, T. V., ZOLOTAREV, L. L., ZAVARZINA, Z. Ya., GLOBA, G. G., PEY-
KAROVA, A. A., SUND'YA, G. A.

"A Photosensitive Electrical Insulating Lacquer"

USSR Author's Certificate No 270940, filed 15 Dec 67, published 18 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V506)

Translation: This Author's Certificate introduces an electrical insulating photosensitive lacquer based on epoxidized rubber stock with the addition of thermo- and photopolymerization initiators, a plasticizer and a modifier.

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USSR

UDC 628.16.08+628.322+682.162.8

GLOBA, L. I., LASTOVETS', L. M., ROTMISTROV, M. M., GOLUB, M. F., and RADOLITS-
KA, L. S., Institute of Colloid Chemistry and Chemistry of Water, Academy
of Sciences UkSSR, and Institute of Infectious Diseases, Ministry of Health,
UkSSR

"Removing Water from Viruses with Some Materials With Adsorption and Adhesive
Properties"

Kiev, Doklady Akademii Nauk Ukrains'koy SSR, Seriya B. Geologiya, Geofizika,
Khimiya i Biologiya, Vol 33, No 11, 1971, pp 1036-1038

Abstract: The problem of water decontamination to a degree adequate for
complete prevention of spread of contagious diseases has not yet been fully
resolved. This is particularly true with respect to contamination with
pathogenic microorganisms, which are present in water in the form of suspensions
or colloids (usually as a mixture of both). An attempt was made to convert
finely dispersed mixtures into coarse ones, to facilitate removal from the
medium. Various clay-like materials were studied as catalysts of the process.
First, virus cultures were introduced into tap water. Then samples of
infected water were treated with 800 mg/l of each of the materials tested,
with the addition of 50 mg/l of aluminum sulfate. Samples were left to stand
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USSR"

GLOBA, L. I., et al., Doklady Akademii Nauk Ukrain's'koy SSR, Seriya B. Geologiya, Geofizika, Khimiya i Biologiya, Vol 33, No 11, Nov 71, pp 1036-1038

for 2 hours. During that time, the adsorbents precipitated. The liquid left above the precipitate was then filtered and tested for virus content. Tests indicated that viruses were removed to the extent of 90.0 to 99.9%. This was taken as a positive proof of the effectiveness of the method; the use of highly dispersed materials for water purification.

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1/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THEORY AND TECHNOLOGY OF PRODUCING THE MATERIALS OF ELECTRODE TOOLS .
FOR ELECTROEROSION MACHINING. 4. STRUCTURAL AND PHASE COMPONENTS OF
AUTHOR--SAMSONOV, G.V., MUKHA, I.M., GLOBA, L.V.

COUNTRY OF INFO--USSR

SOURCE--POROSH. MET. 1970, 10(11), 71-5

DATE PUBLISHED-----70

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

TOPIC TAGS--ELECTRON MICROSCOPY, ELECTROEROSION MACHINE TOOL, TOOL STEEL,
CRYSTAL STRUCTURE, TUNGSTEN CARBIDE, COBALT, COPPER/(U)VK ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0588

STEP NO--UR/0226/70/010/001/0071/0075

CIRC ACCESSION NO--AP0107185

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107185

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURES OF THE COMPNS. WERE STUDIED, FOR THE BASES OF WHICH SERVED THE WASTES OF THE VK TYPE SOLID ALLOYS CONTG. CU, NI, AND BN ADDNS. AN ELECTRON MICROSCOPE AT MAGNIFICATIONS OF 100-1150X WAS USED FOR THIS STUDY. MICROSECTIONS WERE EXAMD. BOTH BEFORE AND AFTER ETCHING. THE NO. OF CU INCLUSIONS IN WC,CO,CU COMPNS. AND THEIR SIZES INCREASE WITH THEIR INCREASING CONTENT IN THE ALLOYS. THE HIGH EROSION STABILITY OF WC,CO,CU,BN COMPNS. CAN BE EXPLAINED BY THE FORMATION OF A PECULIAR HONEYCOMBED STRUCTURE, IN WHICH THE LOW MELTING CU AND CO ARE ENCLOSED IN THE REFRACTORY BN CELLS. THE HIGH EROSION STABILITY OF THE MATERIAL MADE OF CU WITH ADDN. OF 2-3 WT. PERCENT BN IS GENERALLY ASSOCD. ALSO WITH THE EXTINGUISHING OF THE ARC BY THE VAPORS OF THE EASILY DISSOCS. BN. IT IS OBVIOUS THAT THIS TAKES PLACE ALSO WHEN SUCH MATERIAL IS EMPLOYED FOR ELECTRODE TOOLS.

UNCLASSIFIED

AA0046400

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

242986 SCANNING SYSTEM FOR CIRCULAR SURVEY

2/70

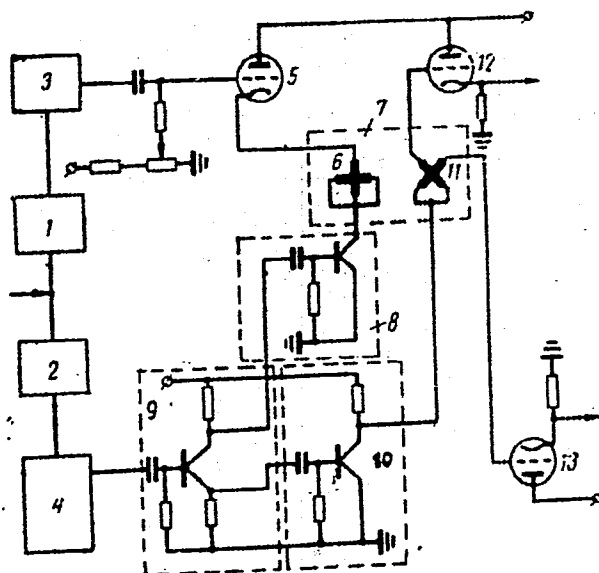
Synchronizing pulses are applied to two multivibrators (1) and (2). Multivibrator (1) controls sawtooth generator (3) and multivibrator (2) is controlling electronic commutator (4). The saw-tooth voltage through the cathode follower is applied to the stator winding (6) of the sin-cos. transformer (7). Initially valve (5) is shut through the switch (8). Pulses from the commutator (4) are applied to the phase inverter (9). Its positive output is controlled by switch (8), while negative pulses are controlled opening switch (10) to the rotary winding of the transformer (7). Sin-Cos output voltages through the cathode followers (12) & (13) are applied to the output system of the scanning.

15.6.64 as 906093/26-9. IV. M. GLOBIN & A. G. PINCHUK.
(25.9.69.) Bul 16/5.5.69. Class 21a⁴. Int. Cl. G 015.

1/2 AUTHORS: Globin, N. M.; Pinchuk, A. G. *if*

19781592

AA0046400



19781593

USSR

UDC 577.4

GLOBUS, I. A.

"Binary Coding in Asynchronous Systems"

Dvoichnoye kodirovaniye v asinkhronnykh sistemakh (Binary Coding in Asynchronous Systems), Moscow, Svyaz Press, 1972, 108 pp, ill., 52 k. (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V445)

Translation: A study was made of the basic problems of binary encoding of digital signals for asynchronous transmission systems. The concept of a single-frequency (unipolar) composite signal with passive spacing is introduced; the set of signals used in the transmission system is represented in the form of a special block binary code. Primary attention is given to the analysis and synthesis of such codes. A regular method of synthesizing compact signals (codes) with given correlation properties was developed. Various synthesis procedures are illustrated by examples and tables. The basic arguments with respect to constructing the coding and decoding circuits, determination of the error probabilities and calculating the efficient signal parameters as applied to foreign and intrasystem noise are discussed.

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USSR

UDC 577.4

GIORIS, I. A.

"Binary Coding in Asynchronous Systems"

Moscow, "Svyaz" 1972, 108 pp illustrated (from RZh-Matematika, No 7, 1972, Abstract No 7V445)

Translation: An examination is made of the basic problems in binary coding of discrete signals for asynchronous transmission systems. The author introduces the concept of a single-frequency (single-polar), composite signal with passive pauses; an ensemble (set) of signals used in the transmission system is put in the form of block binary code. A good deal of attention is given to the analysis and synthesis of such codes. A regular method is developed for synthesizing compact signals (codes) with specified correlation characteristics. Various methods of synthesis are illustrated by examples and tables. An explanation is given of the basic concepts in constructing coding and decoding devices, determining the probability of error, and computing the rational parameters of the signal in connection with outside and intrasystem noise. From the annotation.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--EFFECT OF THE DIRECTIONAL DIAGRAM OF LIGHT ON THE OPTICAL
CHARACTERISTICS OF A SCINTILLATOR -U-

AUTHOR--GLOBUS, M.YE.

6

COUNTRY OF INFO--USSR

SOURCE--UKRAINS'KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970, P. 201-208

DATE PUBLISHED----FEB 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SCINTILLATOR, PLASTIC, LUMINESCENCE, LIGHT SCATTERING, SODIUM
COMPOUND, THALLIUM, IODINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1477

STEP NO--UR/0185/70/015/000/0201/0208

CIRC ACCESSION NO--AP0112471

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0112471

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY OF THE EFFECT OF THE DIRECTIONAL DIAGRAM OF LIGHT MULTIPLY REFLECTED FROM A SCINTILLATING SURFACE ON THE LUMINESCENCE YIELD AS A FUNCTION OF THE COORDINATES OF THE FLASH POINT. CONDITIONS FOR OBTAINING AN OPTIMAL LIGHT SCATTERING INDICATRIX ARE DETERMINED TO OBTAIN A LUMINESCENT YIELD OF MAXIMUM HOMOGENEITY WITH AN ADEQUATE MEAN LEVEL FROM A SCINTILLATING SURFACE. A RELATION IS ESTABLISHED BETWEEN THE FORM OF THE DIRECTIONAL DIAGRAM OF LIGHT AND THE GRADIENT OF THE LIGHT SCATTERING FUNCTION. SODIUM IODIDE (THALLIUM) SCINTILLATORS AND PLASTIC SCINTILLATORS ARE USED IN THE STUDY. FACILITY: VESEDIUZNII NAUKOVO-DOSLIDNII INSTITUT MONOKRISTALIV, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF SOME DRUGS ON ANIMAL TOLERANCE TO EXTREME STRESS -U-
AUTHOR--BELAY, V.YE., VASILYEV, P.V., GLOD, G.D.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, KOSMICHESKAYA BIOLOGIYA I MEDITSINA, RUSSIAN, VOL 4, NO 1,
JANUARY FEBRUARY 1970, PP 77-79
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HYPOXIA, ACCELERATION STRESS, ALTITUDE CHAMBER, SPACE
MEDICINE, NERVOUS SYSTEM DRUG
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0753 STEP NO--UR/0453/70/004/001/007/0079
CIRC ACCESSION NO--AP0102718
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102718

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WE MADE A COMPARATIVE STUDY OF THE EFFECT OF SOME NEUROTROPIC DRUGS WHICH HAVE DIFFERENT EFFECTS ON ANIMAL TOLERANCE TO ACUTE HYPOXIC HYPOXIA, PROLONGED TRANSVERSE ACCELERATIONS AND MAXIMUM PHYSICAL LOADS. THE EXPERIMENTS WERE MADE ON 1,684 ALBINO MICE AND 116 WHITE RATS. THE ACCELERATIONS WERE ON A CENTRIFUGE WITH A ROTATION RADIUS OF 4.25 M AND HYPOXIA WAS PRODUCED IN A PRESSURE CHAMBER WITH ASCENT TO AN "ALTITUDE" OF 10.5-11 KM. AS THE MODEL OF MAXIMUM PHYSICAL LOAD WE USED THE METHOD OF FORCED SWIMMING OF ANIMALS (AS DESCRIBED BY I. I. SPEKHMAN) WITH AN ADDITIONAL WEIGHT (10 PERCENT OF THE BODY WEIGHT) UNTIL THEY DROWNED. WE DETERMINED THE DEATH RATE FROM ACCELERATIONS OF 42 G LASTING VARIOUS TIMES, LIFETIME "ALOFT" AND THE LENGTH OF TIME WHICH THE ANIMALS SWAM. THESE DATA WERE STATISTICALLY ANALYZED.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF SOME PHARMACOLOGICAL SUBSTANCES ON THE STABILITY OF
ANIMALS UNDER CERTAIN EXTREMAL LOADS -U-
AUTHOR--(03)-GLOD, G.D., BELAY, V.YE., VASILYEV, P.V.
COUNTRY OF INFO--USSR
SOURCE--KOSMICHESKAIA BIOLOGIIA I MEDITSINA, VOL. 4, JAN.-FEB. 1970, P.
77-79
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BIOLOGIC ACCELERATION EFFECT, DRUG TREATMENT, HYPOXIA, SPACE
MEDICINE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1973 STEP NO--UR/0453/70/004/000/0077/0079
CIRC ACCESSION NO--AP0120616
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 024

CIRC ACCESSION NO--AP0120616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECTS OF PHENAMINE, SIONOCARB. STRYCHNINE, SECURININE, ARALESIDE, TRIOXAZINE, BANACTISINE AND CHLORDIAZEPOXIDE INJECTIONS ON THE RESISTANCE OF 1684 WHITE MICE AND 116 WHITE RATS TO G ACCELERATIONS AND TO ACUTE HYPOXIA AT ATMOSPHERIC PRESSURES CORRESPONDING TO ALTITUDES OF 10.5-11 KM. THE FLOATING CAPABILITY OF EXPERIMENTAL ANIMALS WITH ATTACHED WEIGHTS WAS USED AS A CRITERION OF THEIR PHYSICAL CONDITION IN SOME OF THE EXPERIMENTS. THE DIVERSE EFFECTS OF THESE INJECTIONS ON THE RESISTANCE OF MICE AND RATS TO DIFFERENT STRESSES ARE INDICATED. THUS, THE ACCELERATION AND HYPOXIA RESISTANCE OF EXPERIMENTAL ANIMALS WERE INCREASED SUBSTANTIALLY BUT THEIR PHYSICAL CONDITION WAS WEAKENED AFTER CHLORDIAZEPOXIDE INJECTIONS.

UNCLASSIFIED

USSR

GLOGOVSKIY, V. M.

"The Solution of Linear Equations with Random Coefficients"

Neft' i Gaz i Ikh Produkty [Oil and Gas and Their Products -- Collection of Works], Moscow, 1971, 258 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V92).

NO ABSTRACT.

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1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--AUTGLYSIS OF YEASTS, STUDIED WITH RADIOISOTOPES -U-
 AUTHOR-(03)-DRBOGLAV, YE.S., GLONINA, N.N., DUBINCHUK, L.V.
 COUNTRY OF INFO--USSR
 SOURCE--VINODEL. VINOGRAD. SSSR 1970, 30(2), 22-5
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--YEAST, CULTURE MEDIUM, ALANINE, RADIOACTIVITY MEASUREMENT,
 RADIOISOTOPE

CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--3002/0372 STEP NO--UR/0505/70/030/002/0022/0025
 CIRC ACCESSION NO--AP0127953
 UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127953

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. YEASTS WERE CULTIVATED IN MEDIUM
CONTG. ALANINE, 2, PRIME 14 C, THEN ADDED TO WINE (10.8 PERCENT ALC., PH
3.0, SO SUB 2.120 PPM). RADIOACTIVITY OF THE WINE, WHICH WAS KEPT AT
MINUS 5, 5, 18, AND 40 DEGREES, WAS MEASURED FOR 6 SUBSEQUENT DAYS. NO
RADIOACTIVITY WAS OBSD. IN WINE KEPT AT MINUS 5 DEGREES AND 5 DEGREES.
YEASTS CELLS WERE PHYSICL NORMAL. A SLIGHT INCREASE IN RADIOACTIVITY
WAS OBSD. IN THE WINE KEPT AT 18 DEGREES. AT 40 DEGREES 30 PERCENT OF THE
TOTAL RADIOISOTOPE WAS FOUND IN THE WINE AFTER 24 HR AND 90-5 PERCENT OF
YEASTS CELLS WERE DEAD. THE PRESENCE OF SUGAR IN WINE DECREASED
AUTOLYSIS OF THE YEAST. FACILITY: VSES. ZAUCH. INST. PISHCH.
PROM., MGSCGW, USSR.

UNCLASSIFIED

PROCESSING DATE--09OCT70

UNCLASSIFIED

1/2 . 009

TITLE--MASS SPECTRA OF PHENYLPYRIDINES -U-

AUTHOR--(05)-TERENTYEV, P.B., KHMELNITSKIY, R.A., KHROMOV, I.S., KOST,
A.N., GLORIOZOV, I.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3) 606-10

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MASS SPECTRUM, BENZENE DERIVATIVE, PYRIDINE, AZO COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1583

STEP NO--UR/0366/70/006/003/0606/0610

CIRC ACCESSION NO--AP0112577

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--090C170

2/2 009

CIRC ACCESSION NO--AP0112577

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MASS SPECTRA WERE OBTAINED OF
2, 3, OR 4, PHENYLPYRIDINES, 2, METHYL, 5, PHENYLPYRIDINE, AND
2, 6, DIPHENYLPYRIDINE. THE POSSIBLE IONIC STRUCTURES OF LARGE IONIC
FRAGMENTS WERE DEDUCED BY AN LCAO CALC. METHOD. THE PYRIDINE RING
ISOMERIZES, DURING MASS SPECTROSCOPY TO AZO PRISMANE OR AZOBENZOVALENE
TRICYCLIC STRUCTURES.

UNCLASSIFIED

JSSR

UDC: 621.315.592

GLORIOZOVA, R. I., GRACHEV, V. M., and KOLESNIK, L. I., State Scientific-Research and Design Institute for Rare Metal Industries, Moscow

"Electrical Characteristics of n-Type GaP Grown from Melts Containing Oxygen"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1623-1625

Abstract: Results are given of experiments performed on n-type GaP grown from melts of nonstoichiometric alloys containing oxygen. A number of phenomena accompanying the alloying of GaP by oxygen that are not directly connected with oxygen donor action were detected during the experimentation. The specimens were GaP crystals doped with tellurium, or oxygen, or both combined. The oxygen doping was done by adding Ga_2O_3 in quantities of 0 to $2.5 \cdot 10^{-1}$ molecular % to the melt. A table is given of the electrical parameters of the investigated crystals. It was found that in the specimens grown from melts containing both tellurium and oxygen, there was a substantial increase in Te ionization energy which is probably

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GLORIOZOVA, R. I., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1623-1625

connected with a reduction in the degree of compensation of the crystals. Curves are plotted for Te ionization energy as a function of donor concentration, and for the degree of compensation in n-type GaP crystals, the low end of the band spectral radiation from n-p junctions, and the photoluminescence intensity as functions of the Ga₂O₃ content in the melts. The authors express their gratitude to M. G. Mil'vidskiy for his comments.

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USSR

UDC 546.681'181.1:541.67

GLORIOZOVA, R. I., IGNATKIN, A. D., MARINA, L. I., and NASHEL'SKIY, A. YA., Giredmet, State Scientific Research and Planning Institute of Rare Metals

"Electrical Properties of GaP Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 10, Oct 70, pp 1768-1771

Abstract: The article describes results of a study of the electrical properties of GaP single crystals obtained by the floating zone method. Undoped, as well as tellurium- and zinc-doped single crystals were used. The Hall effect and conductance were measured at 77-400° K. Undoped crystals have n-type conductivity and a carrier concentration at room temperature of 10^{15} - 10^7 cm⁻³. The activation energy of the residual uncontrolled centers for them is 0.24 and 0.7 ev. The carrier concentration of the doped crystals is 10^{17} - 10^{18} cm⁻³. The ionization energy of tellurium varies according to the Te concentration. The

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USSR

GLORIOZOVA, R. I., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 10, Oct 70, pp 1768-1771

ionization energy of zinc is ~ 0.05 ev. The electron and hole mobility is $\sim 80-150$ sq cm/volt sec at room temperature, $250-550$ sq cm/volt sec at 100° K, and varies as $T^{-1.5}$ in the high temperature region.

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USSR

UDC 599.323.4

YERDAKOV, L. N., GLOTOV, I. N., and NIKOLAYEV, A. S., Institute of Biology, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Dynamics of the Mobility of Murine Rodents and the Effect on Mobility of Some Abiotic Factors"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 161-168

Abstract: Field study of 12 species of voles mice, and other rodents (*Sicista betulina*, *Apodemus agrarius*, *Micromys minutus*, *Phodopus sungorus*, *Cricetus cricetus*, *Clethrionomys glareolus*, *Clethrionomys rutilus*, *Clethrionomys rufocanus*, *Arvicola terrestris*, *Microtus gregalis*, *Microtus agrestis*, *Microtus oeconomus*) in forest biocenoses in the northern part of the Baraba Lowland (Western Siberia). Each species develops a definite seasonal rhythm in its movements about its range, the determining factors being the local climate and ecology of the species. Species periodicity is fairly conservative and it is little affected by slight fluctuations in temperature and moisture, although it can shift in time as a result of abrupt climatic changes. Significant changes in the rhythm of rodent mobility take place only when climatic factors coincide or nearly coincide with peak activity.

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USSR

UDC 616-008.922.1.04-085.272.6:547.466.64]-07:
616-008.931:577.158.429-074

GLOTOV, N. A., Sverdlovsk Medical Institute

"Effect of Glutamic Acid on the Activity of Glutamate Dehydrogenase, Mg^{2+} - and Dinitrophenol-Stimulated Adenosinetriphosphatases in Rat Kidney, Heart, and Liver Mitochondria During Acute and Chronic Hypoxia"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 5, 1971,
pp 61-64

Abstract: In pressure-chamber experiments with white rats, acute hypoxia inhibited the activity of both Mg^{2+} - and dinitrophenol-stimulated ATPase in kidney, heart, and liver mitochondria and that of liver and kidney glutamate dehydrogenase. After the animals adapted to hypoxia, the activity of both ATPases of heart mitochondria and DNP-stimulated ATPase of liver mitochondria decreased while liver mitochondria glutamate dehydrogenase activity increased. Glutamic acid in the experiments with acute hypoxia stimulated the activity of glutamate, dehydrogenase and that of both ATPases in kidney, heart, and liver mitochondria. After the animals that received glutamic acid adapted to

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GLOTOV, N. A., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 5, 1971, pp 61-64

hypoxia, there was increased activity of both ATPases and glutamate dehydrogenase in heart mitochondria, of glutamate dehydrogenase and DNP-stimulated ATPase of liver mitochondria, and of Mg^{2+} -stimulated ATPase of kidney mitochondria. Glutamic acid is transported across the mitochondrial membranes with a loss of energy and participation of ATPase. Therefore, the introduction of exogenous glutamic acid and its subsequent incorporation into the mitochondria results in intensified ATPase activity.

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Physiology

USSR

UDC 577.15:547.965:612.014.1

GLOTOV, N. A., Sverdlovsk Medical Institute

"The Effect of Glutamic Acid on the Activity of Oxidative Enzymes in Cardiac Mitochondria During Hypoxia"

Kiev, Ukrayins'kyy Biokhimichnyy Zhurnal, Vol 43, No 4, Jul/Aug 71, pp 540-543

Abstract: Acute hypoxia was induced in white male rats by exposing the animals for one hour to hypoxia conditions in a pressure chamber (simulated altitude of 8,000 m). Chronic hypoxia was developed in rats by placing them daily for six hours in a pressure chamber with simulated altitude of 6,000 for a period of 14 days. Sodium glutamate was administered subcutaneously in the case of acute hypoxia, and in the case of daily adaptation to hypoxia, directly into the stomach in a dose of 1 mg/g, before animals were placed in the chamber. Cardiac mitochondria were isolated by the method of differential centrifugation in suerase. Enzymatic activity was determined during the first minute after the beginning of the reaction. Adaptation to hypoxia increased the activity only of malate dehydrogenase. Data obtained established that as a result of the daily administration of glutamate in the course of adaptation to hypoxia, the
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GLOTOV, N. A., Ukrayins'kyy Biokhimichnyy Zhurnal, Vol 43, No 4, Jul/Aug 71,
pp 540-543

activity of succinate dehydrogenase increased by 40% NAD activity by 48%
and cytochrome oxidase activity by 48%. The activity of other enzymes was
not affected. The administration of glutamic acid increased glutamate
dehydrogenase activity by 32% and succinate dehydrogenase activity by 23%
in the case of acute hypoxia, and increased glutamate dehydrogenase activity
by 100% and malate dehydrogenase activity by 24% in the case of chronic
hypoxia.

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USSR

UDC 624.131.43:539.21.084-492.3

GLOTOV, N. H., RYZHENKO, A. P.

"Study of the Supporting Capacity of Gravel Bases for Deep Foundations"

Tr. VNIIT transp. str-va (Works of the All-Union Scientific Research Institute of Transport Construction), 1971, vyp. 78, pp 3-13 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V621)

Translation: The results of studying the strength of gravel bases for shell foundations are discussed. The studies were performed using troughs, a test unit, a large hydraulic departure meter and under natural conditions. On the basis of these experiments it was confirmed that coarsely ground gravel and conglomerate behaves analogously to sand under load; therefore, it is possible to study these two materials by the same procedure. Proposals were developed with respect to calculating the supporting capacity of gravel considering their stressed state use of which offers the possibility of more precise determination and increasing the calculated resistances of the coarsely ground material up to 2 times by comparison with the existing norms.

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USSR

UDC 575.23

TIMOFEYEV-RESOVSKIY, N. V., GINTER, Ye. K., GLOTOV, N. V., and IVANOV, V. I.,
Institute of Medico-Biological Problems, Ministry of Health USSR, Institute of
Medical Radiology, Academy of Medical Sciences USSR, Obninsk, and Chair of
Genetics and Selection, Moscow State University

"Genetic and Somatic Effects of X-rays and Fast Neutrons (Experiments on
Arabidopsis and Drosophila"

Moscow, Genetika, No 4, 1971, pp 42-52

Abstract: Fast neutrons (average energy ~ 5.6 Mev, average LET ~ 30 to 35 kev/mcm, dose rate ~ 6 krad/hour) were more effective than x-rays (average energy ~ 0.1 Mev, average LET ~ 1.6 kev/mcm, dose rate ~ 6 krad/hour) in inducing visible sex-linked mutations and recessive sex-linked lethals, loss and nondisjunction of X chromosomes in *Drosophila melanogaster* and recessive embryonal and chlorophyll mutations in *Arabidopsis thaliana* seeds at high spontaneous levels, i.e., the radiation-genetic reactions caused by gene and chromosome mutations. At low spontaneous levels of nondisjunction of X chromosomes in *Drosophila*, the rate of nondisjunction tended to increase with the dose of both x-ray and neutron irradiation, but there were no significant

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TIMOFEYEV-RESOVSKIY, N. V., et al, Genetika, No 4, 1971, pp 42-52

differences in the effectiveness of the two forms of irradiation. The values of the RBE of fast neutrons in their lethal effect on Arabidopsis and in inhibiting plant growth and development, in decreasing fertility, and in inducing embryonic and chlorophyll mutations were very similar.

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Controls

USSR

UDC 621.314.632

GLOTCOV, Y.G.

"Method Of Single-Channel Optical Control Of High-Voltage Thyristorized Converter"

Tr. Mosk. in-ta inzh. geod. aerofotos"yemki i kartorg. (Works Of The Moscow Institute Of Engineers Of Geodetic Aerial Photography And Cartography), 1971, Issue 58, pp 162-169 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 58540)

Translation: An optical system is considered which makes it possible to accomplish transmission of control pulses at high potential with one channel. The flux from the source is gathered by an optical system into a parallel beam which, traversing the interference filter, falls on a polarizer and an electro-optical modulator. After the modulator the flux falls on a Fresnel prism which passes the flux in only one direction. With the aid of a lens the fluxes are gathered at the input of photoelectric receivers which pass the electrical signal from an amplifier to a former. The matrices of functional elements are determined which exert an effect on the polarized state of the flux. The dependence is constructed of the intensity of the flux at the input of the photoelectric receivers on the voltage at the modulator. 2 ill. 5 ref. A.T.
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USSR

UDC: 621.396.666(088.8)

GLOTOV, V. I.

"A Device for Automatic Gain Control"

USSR Author's Certificate No 263688, filed 27 Jul 67, published 4 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D81 P)

Translation: An AGC device is proposed which contains series connected amplitude detector, low-frequency filter and DC amplifier in the feedback circuit, and also a clamping circuit. To reduce the time for recovery of normal operability after a long signal absence, the clamping circuit is made in the form of a semiconductor diode biased in the reverse direction and connected to the output of the low-frequency filter. The bias voltage, which is equal to or less than the delay voltage, is provided by a resistor divider.

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USSR

UDC 621.791.72

BASHKATOV, A. V., RYZHKOV, F. N., GLOTOV, V. S., GOL'TSOVA, V. P.

"Features of Welding of OT4 Titanium Alloy by an Oscillating Electron Beam"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 72, pp 68-69

Abstract: The Voronezh Polytechnic Institute has studied the possibility of improving seam characteristics in OT4 alloy by the use of an oscillating electron beam. Studies were performed using specimens 2, 4 and 6 mm thick. Beam oscillation was varied between 5 and 2,000 Hz, both along and across the seam. Beam oscillation amplitudes reached 7.5 mm for longitudinal oscillation, 2.0 mm for transverse oscillation. Transverse oscillation causes grain size to equalize over the cross section of the seam, while longitudinal oscillation also reduces grain size. Longitudinal saw tooth oscillations are most effective in reducing grain size. Different welding speeds correspond to different optimal oscillation frequencies. Increased oscillating amplitude results in finer grain size, but the oscillating amplitude must be limited to a value dependent on welding rate: welding rates of 15, 25 and 35 m/hr correspond to optimal longitudinal saw tooth oscillation amplitudes of 4, 3 and 2 mm.

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1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70
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