USSR

UDC: 621.315.6:537.226.33

CHETVERGOV, B. Ya.

"Effect of an Electric Field on the Nature of Hysteresis in Ferroelectrics"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1 (18), pp 43-46 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V456)

Translation: The author discusses causes of temperature hysteresis of permittivity in a barium titanate single crystal, a ceramic based on it, and varicaps. It is shown that temperature hysteresis of ε is due not only to a phase transition of the first kind, but also to irreversible changes in domain structure. Temperature hysteresis is observed in triglycine sulfate which has a phase transition of the second kind at the Curie point. Bibliography of 10 titles. Ye. M.

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USSR UDC 519.281

CHETVERGOV, V. A.

"Analysis of Distribution of Mixture of Random Quantities with Linearly Related Parameters"

Nauch. tr. Omsk. In-t. Inzh. Zh-d. Transp. [Scientific Works of Tomsk Institute of Railroad Transport Engineers], 1971, pp 123, 36-41, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V227 by the author).

Translation: A method is suggested for processing statistical data, consisting in determination of the parameters of the distributions of random quantities included in the mixture, based on the parameters of the general distribution and the specific weight of each random quantity in the mixture.

1/1

Oncology

USSR

VANIN, A. F., VAKHNINA, L. V., and CHETVERIKOV, A. G., Institute of Chemical Physics, Academy of Sciences USSR

"The Problem of a New Type of Electron Paramagnetic Resonance Signal Detected in Cancerous Tissues"

Moscow, Biofizika, Vol 15, No 6, Nov/Dec 70, pp 1044-1051

Abstract: Kidney, liver, intestinal, muscle, and other tissues of mice, rats, rabbits, frogs, and cats, as well as yeast cells were exposed to a variety of physical factors (heat, cold) and chemical agents (potassium ethyl- or heptylxanthogenate, sodium dodecylsulfate or potassium oleate in physiological saline). The parameters of the electron paramagnetic resonance signals (one with g = 2.03 and another with a triplet structure and g = 2.007) coincided completely with the EPR signals detected in cancerous tissues. As the tissues became necrotic, the 2.03 signal appeared and then gradually gave way to the signal with the triplet structure. This pattern is also characteristic of carcinogenesis, where the 2.03 signal arises in the early stage but diminishes as the tumor develops and the 2.007 signal intensifies. Some hypotheses are advanced on the physicochemical nature of the centers responsible for the two signals.
1/1

USSR UDC 620.193.43

CHETVERIKOV, A. V., PAVLENKO, N. A., TYUTYUNIK, O. A., and KORCHINSKAYA, O. A., Academy of Sciences UkrSSR, Institute of General and Inorganic Chemistry

"Investigation of the Corrosion Resistance of Nickel in $SnCl_2$-KCl Salt Melt"

Moscow, Zashchita Metallov, Vol 9, No 2, Mar-Apr 73, pp 192-194

Abstract: The corrosion resistance of Ni in 80% $SnCl_2$-20%KCl-melt was investigated by the weighing method at 300°, in order to obtain data necessary for the production of a semi-industrial unit for electrolytic tin-plating. The contents of metals in the melt, in wt.% after testing, are indicated and the results of corrosion tests of 4-64 hrs duration, conducted on a series of specimens in protective nitrogen atmosphere and without it, are discussed. A considerably higher corrosive pitting took place on specimens without protective atmosphere, the corrosion rate reaching a maximum after four testing hours. The corrosion rate of partially submerged specimens was four times higher than the corrosion rate of completely submerged specimens. In nitrogen atmosphere, the corrosion rate was independent of the degree of submersion. One figure, two tables, eight bibliographic references.

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USSR

CHETVERIKOV, A. V., Responsible Editor

Korroziya i Zashchita Metallov (Corrosion and the Protection of Metals), Kiev, "Naukova Dumka," 1972, 128 pp

Translation of Annotation: This collection of works presents materials on theory and processes of the fast annealing, deposition technology of polymer coatings, corrosion resistance of structural materials in aggressive chloride media, as well as data on the electrochemical behavior of molybdenum, titanium, and other metals during anode polarization in chromium sulfate solutions. Works are also included on the electroplating of corrosion-resistant indium-antimony and magnetic cobalt-nickel-phosphorus alloys with predetermined properties. The collection is intended for scientists and engineers working in the metallurgical, machine-building, chemical, food, and other industries dealing with the corrosion of metals and corrosion inhibitors.

Translation of Table of Contents: Page

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CHETVERIKOV, A. V., Korroziya i Zashchita Metallov, Kiev, "Naukova Dumka," 1972, 128 pp

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CHETVERIKOV, A. V., Korroziya i Zashchita Metallov, Kiev, "Naukova Dumka," 1972, 128 pp

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CHETVERIKOV, A. V., Korroziya i Zashchita Metallov, Kiev, "Naukova Dumka," 1972, 128 pp

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CHETVERIKOV, A. V., Korroziya i Zashchita Metallov, Kiev, "Naukova Dumka," 1972, 128 pp

USSR

CHETVERIKOV, A. V., Korroziya i Zashchita Metallov, Kiev, "Naukova Dumka," 1972, 128 pp

6/6

UDC: 541.133+546.621

DELIMARSKIY, Yu. K., MAKOGON, V. F., CHETVERIKOV, A. V., and ZHIGAYLO, A. Ya., Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR

"Formation of Slime on an Aluminum Anode in Chloride Melts"

Moscow, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 459-461

Abstract: In the electrodeposition of aluminum from a $2AlCl_3$-NaCl salt mixture it was observed that the surface of the soluble aluminum anode, under continuous service, became coated with a heavy layer of black slime, and the anode current yield exceeded 100% liberating gas bubbles. The objective of this study was to determine the causes of slime formation as well as its effect on the cathode current yield. Microscopic examination of the slime collected from the anode and rinsed with alcohol revealed a mass of glittering particles basically comprising aluminum. In a chloride melt the anode current density is the governing factor. At 1 amp/dm^2, the anode current yield recalculated to Al^{3+} considerably exceeds 100% and the mean ion valence of aluminum computed from loss in weight of the anode is below three. The anode dissolves evenly,

DELIMARSKIY, YU. K., et al, Zashchita Metallov, Vol 6, No. 4, Jul-Aug 70, pp 459-461

the slime is finely disperse. In this case, the deviation from Faraday's law is due to Al^+ formation. An entirely different picture was observed at an anode current density of 15 amp/dm^2. The powder on the anode is abundant, the anode current yield hardly exceeds the theoretical, and the mean calculated valence of aluminum is close to three. The slime structure is clearly defined. The anode dissolves unevenly, and its surface erosion is similar to intergranular failure. As for the effect of anodic current density on the cathodic current yield, it is suggested that in electrodeposition of aluminum from chloride melts care must be exercised in selecting along with the temperature, cathode current density, and inter-electrode space, also the proper anode current density: it must differ little from the optimum cathode current density.

2/2

Acc. Nr. AP0036568 Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16, Nr 1, pp 63-69

ANALYSIS OF THE EFFECT OF PHOSPHOORGANIC CHOLINE ESTERASE INHIBITORS ON PHOSPHOLIPIDS METABOLISM IN BRAIN

Dvorkin, V. Ya.; Rozengart, V. I.; Tofilo, A. P.; Chetverikov, D. A.

Laboratory of ~~Brain Metabolism Regulation~~, I. P. Pavlov Institute of Physiology and The Department of Biochemistry I. P. Pavlov I-st Medical Institute, Leningrad

The effect of intoxication by phosphoorganic choline esterase inhibitor (LG-63) on the content and rate of exchange of phosphate groups of phospholipids in rat and mice brain has been studied. In rat the intoxication with sublethal doses of LG-63 had no effect on the rate of phospholipids renewal in brain. On the oter hand the administration of LG-63 into mice at the same dose leads to decrease in the metabolism of phospholipids by 27% as compared to the control. The different picture obtained is explained by the significant body temperature fall in mice (an average by 9.2°). In rats the hypothermia was at a much low level. Intoxication of hypoxic rats with LG-63 leads to more pronounced decrease in phospholipids exchange in brain and to more pronounced hypothermia as compared to rats suffered with oxygen insufficiency only. So the inhibitory action of LG-63 on brain phospholipids metabolism was detected only when intoxication with LG-63 was followed by the significant decrease in body temperature.

D.11.

REEL/FRAME
1420

Pharmacology and Toxicology

USSR UDC 612.82.015.3.014.46:577.153.9.025.3

DVORKIN, V. YA., ROZENGART, V. I., TOPILO, A. P. and CHETVERIKOV, D. A., Laboratory of the Regulation of Brain Metabolism, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, and Chair of Biochemistry, First Medical Institute imeni I. P. Pavlov, Leningrad

"Mechanisms of Action of Organophosphorus Cholinesterase Inhibitors on Phospholipid Metabolism in the Brain"

Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, Jan/Feb 70, pp 63-69

Abstract: Poisoning of rats with the cholinesterase inhibitor O-ethyl-S-hexylmethylthiophosphonate (LG-63) in a sublethal dose did not affect the content or rate of metabolism of phosphate groups of phospholipids in the brain, whereas poisoning of mice with LG-63 in the same dose (5 mg/kg) significantly lowered the intensity of phospholipid metabolism in the brain. The difference was due to the fact that in mice, poisoning with LG-63 was accompanied by a pronounced drop in body temperature (by 9.2°C), while the drop in body temperature of rats (2.7%) was insignificant. Poisoning with LG-63 of rats subjected to acute hypoxia (created in a chamber with an air pressure

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200610002-8"

USSR

DVORKIN, V. YA., et al., Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, Jan/Feb 70, pp 63-69

of 240 mm Hg) produced a greater decrease in the rate of phospholipid metabolism in the brain and a more pronounced hypothermia than in rats poisoned with LG-63, but not subjected to hypoxia. This indicated that an inhibiting action of LG-63 on the brain phospholipid metabolism was exerted only when administration of this poison was followed by a significant drop in body temperature. When the body temperature of mice was kept at a normal level after poisoning with LG-63, the rate of phospholipid metabolism in the brain increased. The lethality of the poisoned mice also increased evidently the development of hypothermia in mice was a protective reaction.

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1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DEPENDENCE OF THE SPECIFIC FORCE OF CUTTING ON THE MECHANICAL CHARACTERISTICS OF POLYMER MATERIALS -U-

AUTHOR-(03)-SYSOYEV, P.V., CHETVERIKOV, G.M., KUKHARENKO, L.B.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., MASHINOSTR. 1970, (2), 143-51

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--THERMOPLASTIC MATERIAL, FLUORINATED ORGANIC COMPOUND, POLYETHYLENE, VINYL RESIN, POLYFORMALDEHYDE, POLYMETHYLMETHACRYLATE, CAPROLACTAM, HARDNESS, ELONGATING, PLASTIC MECHANICAL PROPERTY, TEST METHOD/(U)FTOROPLAST FLUORINE RESIN, (U)VINIPLAST VINYL RESIN, (U)KAPROLON PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1117 STEP NO--UR/0145/70/000/002/0148/0151

CIRC ACCESSION NO--AT0134803

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--13NOV7C
CIRC ACCESSION NO--AT0134803
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE CUTTING STRENGTH (P SUB2) OF THERMOPLASTIC POLYMERS, E.G., FTOROPLAST, POLYETHYLENE, VINIPLAST, POLYFORMALDEHYDE, POLY(ME METHACRYLATE), POLYCAPROLACTAM, P,68, AND KAPROLON INDICATED THAT P SUB2 INCREASED WITH POLYMER HARDNESS AND RELATIVE ELONGATION. AN EXPONENTIAL EQUATION (EXPONENT SMALLER THAN 1), WHICH EXPRESSED P SUB2 AND POLYMER SHAVING CROSS SECTION AS A FUNCTION OF THE YIELD POINT, WAS DERIVED.
FACILITY: BELORUSS. INST. INZH. ZHELEZNODOROZH. TRANSP., USSR.

UNCLASSIFIED

AN0016972 UR0533

TITLE-- AUTOMATA IN THE WEATHER SERVICE

NEWSPAPER-- SOTSIALISTICHESKAYA INDUSTRIYA, FEBRUARY 1, 1970, P 4

ABSTRACT-- THE ENTIRE PAGE IS DEVOTED TO THE SOVIET WEATHER SERVICE AND THE "METEOR" SYSTEM. IT HAS BEEN PREPARED BY DOCTOR OF GEOGRAPHICAL SCIENCES YE. G. POPOV SMCLN CANDIDATES OF PHYSICAL-MATHEMATICAL SCIENCES S. L. BELOUSOV AND N. G. LEONOV SMCLN CHIEF OF THE DEPARTMENT OF ANALYSIS AND SATELLITE DATA OF THE HYDROMETEOROLOGICAL CENTER, U.S.S.R., I. A. CHETVERIKOV SMCLN AND CORRESPONDENT YU. GRACHEV.

WHEN THE "METEOR" SYSTEM WAS SET UP IN THE SOVIET UNION, THE HYDROMETEOROLOGICAL CENTER ESTABLISHED A SPECIAL UNIT FOR THE ANALYSIS OF METEOR DATA. THIS UNIT IS KNOWN AS "SPUTNIK VERTICAL".

THREE PHOTOGRAPHS ARE GIVEN SHOWING THE LAUNCH OF A WEATHER BALLOON AT THE AEROLOGICAL STATION "VYSOKAYA" NEAR SVERDLOVSK, THE WEATHER SATELLITE "METEOR", A PHOTOGRAPH OF A CYCLONE EYE MADE BY THE "METEOR-2", AND A TWO-COORDINATE DEVICE PROGRAMMED TO DRAW WEATHER MAPS.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--COMPOSITION FOR SURFACING -U-

AUTHOR-(03)-CHETVERIKOV, P.I., SELIVANOV, YU.A., YEGOROV, A.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,783

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METALLURGIC PATENT, CORUNDUM, CHROMIUM CONTAINING ALLOY, CARBON ALLOY, NICKEL CONTAINING ALLOY, SILICON CONTAINING ALLOY, IRON CONTAINING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1064 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130099

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0130099

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPN. FOR SURFACING CONTAINS 12-13PERCENT FUSED CORUNDUM POWDER, 75-6PERCENT SORMAIT (CR,C,NI,SR FERROUS ALLOY), AND 11-13PERCENT FLUX. FACILITY: ALTAISEL'MASH, PLANT.

UNCLASSIFIED

USSR

UDC 681.325.65

CHETVERIKOV, V. N., SOLOMONOV, L. A., MEN'KOV, A. V., and BAKAMOVICH, E. A., Moscow Higher Technical School

"Random Pulse Flow Generator"

USSR Authors' Certificate No 308431, Cl. G 06 f 15/34, filed 19 Dec 69, published 30 Sep 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B203P)

Translation: The proposed invention is related to computer technology and can be used in the construction of stochastic computers and models and the creation of random-number generators for digital computers; to simulate, if necessary, random effects with required probability characteristics of investigated objects; and in all those cases where it is necessary to obtain a flow of random pulse signals, the time intervals between which represent random variables distributed according to the required probability law.

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USSR UDC 681.332.65

CHETVERIKOV, V. N., BAKANOVICH, E. A., MEN'KOV, A. V., and SOLOMONOV, L. A., Moscow Higher Technical School

"Device for Forming Random Time Intervals"

USSR Authors' Certificate No 312253, Cl. G 06 f 1/02, filed 18 Mar 70, published 13 Oct 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B205P)

Translation: The invention is related to the field of computer technology and can be used in random process simulation. A well-known device containing a cyclic shift register, coincidence circuits, OR circuits, a noise voltage generator, a level quantizer, and commutator requires complex adjustment for the required distribution function. The proposed device differs from this one in that in it the control circuit for the advance of the cyclic shift register has connected to it a generator of random pulses following a known time interval distribution law, while the pulse inputs of the coincidence circuits have connected to them generators of periodic pulses, the frequency of which changes during adjustment for the required distribution law. This simplifies the process of adjusting for a given distribution law.

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USSR

UDC 681.332.65

CHETVERIKOV, V. N., BAKANOVICH, E. A., MEN'KOV, A. V., and SOLOMONOV, L. A.

"A Device for Shaping Random Time Intervals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 25, Sep 71, p 188. (G 06f 1/02, No 312253 (1416921/18-24 from 18 March 1970; Claimant: Moscow Higher Technical School imeni N. E. Bauman)

Abstract: This patent claims a device for the shaping of random time intervals, containing a cyclical shift register, to the outputs of each digit of which are connected potential inputs from the coincidence circuits; the outputs of these coincidence circuits are connected with the output of the device through the first "OR" circuit; the output of the device is connected to the inputs of the device's "0" and "1" through the second "OR" circuit of the cyclical register, distinguished by the fact that for the purpose of simplifying adjustment of the circuit a random impulse generator with a known law of distribution for the time intervals is connected to the circuit for controlling the advance of the cyclical shift register, and periodic impulse generators with a regular frequency are connected to the inputs of the coincidence circuits.

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USSR

UDC: 621.373.444.681.333

CHETVERIKOV, V. N., BAKANOVICH, E. A., MEN'KOV, A. V., SOLOMONOV, L. A.,
Moscow Higher Technical School imeni N. E. Bauman

"A Device for Shaping Streams of Random Events"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335684, Division G, filed 1 Jun 70, published 11 Apr 72, pp 204-205

Translation: This Author's Certificate introduces a device for shaping a stream of random events. The device contains a controllable frequency pulse generator whose outputs are connected to a block of coincidence gates. The device also contains a coincidence gate number register whose outputs are connected to a pulse counter. The unit also includes a blocking circuit and a pulse generator. As a distinguishing feature of the patent, the installation is designed for producing streams of random events which are distributed in space and in time. The device contains a unit for setting the duration of a random test, a coincidence gate number encoder whose inputs are connected to the outputs of the block of coincidence gates, while the outputs of the encoder are connected to the coincidence gate number register.

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USSR

CHETVERIKOV, V. N., et al., USSR Author's Certificate No 335684

The outputs of this number register are connected in addition to the corresponding inputs of the blocking circuit whose output is connected to the first potential input of the block of coincidence gates. The second potential input of this block is connected to the output of the unit for setting the random test duration. The output of the pulse generator is connected to the pulse counter, and the output of the pulse counter is connected in turn to the output of the device, and to the corresponding input of the coincidence gate number register.

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1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SUBSTITUTION ON THE BENZENE RING OF INDOLE. XI. SYNTHESIS OF SUBSTITUTED 5,NITRO,6,AMINOINDOLINES -U-

AUTHOR-(04)-TERENTYEV, A.P., VINOGRADOVA, YE.V., CHETVERIKOV, V.P., DASHKEVICH, S.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN, 1970, (2), 161-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE DERIVATIVE, INDOLE, ORGANIC NITRO COMPOUND, [illegible]NE, UV SPECTRUM, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1093 STEP NO--UR/0409/70/000/002/0161/0163

CIRC ACCESSION NO--AP0104491

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0104491
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CF. CA 71: 22110D. I (R PRIME1 EQUALS H, R PRIME2 EQUALS NO SUB2) WAS HEATED WITH EXCESS AMINE TO GIVE I (R PRIME1 EQUALS H) (R PRIME2, PERCENT YIELD, AND M.P. GIVEN): CYCLOHEXYLAMINO, 91, 184.5-5.5DEGREES (ALC.); PIPERIDINO, 80, 103-4DEGREES (HEPTANE); HO(CH SUB2)SUB2 NH, 76.5, 193-4DEGREES (MEOH OR MENO SUB2); BUNH (II) 69, 144-5DEGREES (AQ. MEOH); PHCH SUB2 NH (III), 90, 172.5-3.5DEGREES (ETOH). I (R PRIME1 EQUALS AC, R PRIME2 EQUALS NO SUB2) (IV) (3 G) AND 10 ML BUNH SUB2 WAS HEATED 6 HR AT 78DEGREES TO GIVE 82PERCENT II. IV (3.1 G) AND 15 ML BUNH SUB2 WAS REFLUXED 2 HR TO GIVE 30PERCENT I (R PRIME1 EQUALS AC, R PRIME2 EQUALS BUNH), M. 142-3DEGREES (MEOH). SIMILARLY PREPD. WAS 47.8PERCENT I (R PRIME1 EQUALS AC, R PRIME2 EQUALS PHCH SUB2 NH) (V), M. 221.5-22DEGREES (HCONME SUB2). III (0.1 G) AND 5 ML AC SUB2 O WAS HEATED 2.5 HR TO GIVE 86.5PERCENT V. N SUB2 H SUB4 .H SUB2 O (3 ML) WAS ADDED TO 3 G IV IN 25 ML ETOH TO GIVE 48PERCENT (R PRIME1 EQUALS AC, R PRIME2 EQUALS NHNH SUB2), M. 208-9DEGREES (ISO-PROH). SIMILARLY, 77PERCENT I (R PRIME1 EQUALS H, R PRIME2 EQUALS NHNH SUB2), M. 179-80DEGREES (ETOH), WAS OBTAINED FROM 10 ML N SUB2 H SUB4 .H SUB2 O AFTER 4 HR IN THE PRESENCE OF 0.4 G K SUB2 CO SUB3. UV SPECTRAL DATA WERE GIVEN.

UNCLASSIFIED

USSR

UDC 615.217.34.099.07:616-008.934.5

ROZENGART, V. I., CHETVERIKOVA, Ye. K., and MOZGOVAYA, I. A., Chair of Biochemistry, First Leningrad Medical Institute imeni I. P. Pavlov

"Carbohydrate Metabolism During Intoxication by the Cholinesterase Inhibitor O-Ethyl S-Hexyl Methylthiophosphonate"

Moscow, Voprosy Meditsinskoy Khimii, No 4, 1971, pp 403-407

Abstract: Intraperitoneal injection of white rats with 10 mg/kg of the cholinesterase inhibitor O-ethyl S-hexyl methylthiophosphonate (LG-63) produced symptoms of intoxication within 10 to 15 min and death 15 to 30 min later, at which time the animals were dissected and their organs analyzed chemically. LG-63 decreased the glycogen content of the liver, while increasing the sugar content of the blood and liver, and also the amount of bisulfite-binding substances, pyruvic acid, and ketone bodies. Ketone bodies and pyruvic acid accumulated in the skeletal muscles and myocardium, but decreased in the brain. One of the causes of these metabolic disorders may be hypoxia, which usually develops after intoxication by organophosphorus compounds.

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1/3 030 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--FEATURE ARTICLE ON METEOR SYSTEM. THE METEOR SYSTEM -U-

AUTHOR--POPOV, YE.G., BELOUSOV, S.L., LEONOV, N.G., CHETVERNIKOV, I.A., GRACHEV, YU.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SOTSIALISTICHESKAYA INDUSTRIYA, 1 FEBRUARY 1970, P 4

DATE PUBLISHED--01FEB70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY

TOPIC TAGS--METEOROLOGIC SATELLITE, PHOTOGRAPH, METEOROLOGIC STATION, UNMANNED ORBITAL LABORATORY, SPACEBORNE EARTH PHOTOGRAPHY, WEATHER CHART, METEOROLOGIC DATA, COMPUTER APPLICATION/(U)METEOR METEOROLOGIC SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1743 STEP NO--UR/0533/70/000/000/0004/0004

CIRC ACCESSION NO--AN0104926

UNCLASSIFIED

2/3 030 UNCLASSIFIED

CIRC ACCESSION NO--AN0104926 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SPACE METEOROLOGICAL STATION IN A CIRCUMTERRESTRIAL ORBIC CAN DAY AND NIGHT TRANSMIT WEATHER DATA MAKING IT POSSIBLE TO WARN THE COUNTRY OF IMPENDING DANGEROUS METEOROLOGICAL PHENOMENA. THE INFORMATION IS TRANSMITTED IN THE FORM OF PHOTOGRAPHS. THESE PHOTOGRAPHS CLEARLY PINPOINT THE LOCATION OF STORMS AND THEIR DIRECTION. THE HYDROMETEOROLOGICAL CENTER USSR IS EVEN NOW RECEIVING SUCH INFORMATION FROM A WHOLE SERIES OF METEOR SATELLITES. CREATED ON THE BASIS OF THE LATEST ADVANCES IN SOVIET SCIENCE, IT IS OF THE GREATEST SERVICE IN COMPILING BOTH LONG AND SHORT RANGE FORECASTS. HOWEVER, ALL THIS REQUIRES WELL TRAINED GROUND PERSONNEL, SINCE POOR INTERPRETATION OF THE PHOTOGRAPHS WOULD CANCEL OUT THIS NEW SOPHISTICATED SOURCE OF INFORMATION. A SPECIAL SECTION AT THE HYDROMETEOROLOGICAL CENTER HANDLES SUCH WORK; IT HAS THE RATHER ROMANTIC NAME OF SATELLITE VERTICAL. THE SECTION IS MANNED BY DEDICATED PIONEERS IN THIS NEW BRANCH OF METEOROLOGY. ALL SATELLITE DATA MUST BE CORRELATED WITH GROUND DATA FOR COMPILING MAPS OF CLOUD COVER DISTRIBUTION. THE COMPLEX TASK OF INTERPRETING PHOTOGRAPHS CANNOT YET BE AUTOMATED. HOWEVER, PROCESSING OF DATA ON RADIATION FLUXES IS COMPLETELY AUTOMATED. A SPECIAL PROGRAM DEVELOPED AT THE CENTER ENSURES THAT COMPUTERS CAN HANDLE THE VAST AMOUNT OF DATA ON RADIATION IN A VERY SHORT TIME. THE VOLUME OF RADIATION DATA RECEIVED FROM SATELLITES EXCEEDS THAT WHICH IS RECEIVED FROM GROUND STATIONS THROUGHOUT THE COUNTRY. SATELLITE DATA ARE SORTED BY COMPUTER BY TYPES: SOLAR RADIATION, LIGHT REFLECTED BY THE EARTH, RADIATION OF THE EARTH ITSELF, ENERGY OF ELECTROMAGNETIC WAVES.

UNCLASSIFIED

3/3 030 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AN0104926

ABSTRACT/EXTRACT--USING THESE DATA THE MACHINE CAN COMPUTE THE ALTITUDE OF THE UPPER CLOUD BOUNDARY, THE RADIATION TEMPERATURE OF SEAS, THE ATMOSPHERE AND DIFFERENT CONTINENTS. THE VOLUME OF DATA RECEIVED BY THE HYDROMETEOROLOGICAL CENTER IS CONSTANTLY INCREASING. HIGH SPEED, HIGH CAPACITY COMPUTERS ARE BEING BROUGHT IN TO HANDLE THE LOAD. IMPROVED FORECASTING ACCURACY WILL INEVITABLY RESULT. (A PHOTOGRAPH ACCOMPANYING THE TEXT SHOWS THE GENERATION OF A LOW PRESSURE SYSTEM OVER THE PACIFIC OCEAN TAKEN FROM AN ALTITUDE OF 650 KM BY THE "METEOR-2" WEATHER SATELLITE ON 15 JANUARY 1970 AT 0100 HOURS MOSCOW TIME).

UNCLASSIFIED

USSR

UDC 669.243

POZNYAKOV, V. YA., and CHETVERTKOV, M. S.

"Removal of Lead, Zinc, and Arsenic During the Production of Nickel from Sulfide Ores"

Tsvetnye Metally, No 4, Apr 71, pp 18-23

Abstract: Copper-nickel sulfide ores used for the production of pure nickel contain small amounts of lead, zinc, and arsenic which reduce the quality of the nickel obtained if not removed. Lead in the ore ranges from 0.001 to 0.007%, averaging 0.002%. In the electrofilter dust there is 2-3%, in the matte about 0.013%, and in the slag about 0.0003%. It is present in the ore as a sulfide and as an oxide and sulfate in the dust. It was shown that the high rate of sublimation of lead in the converter helps to concentrate it in the fine dust of the electrofilter, where the amount of lead reaches 3%. Therefore, it is necessary to introduce a separate cycle to remove the lead from the dust.

Approximately 85% of the zinc impurities enter with the ore feed as both the oxide and the sulfide. Ore electrosmelting and a two-stage liquid processing of the converter slag removes 99% of the zinc entering and with proper control of reagents makes it possible to avoid costly purification of

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POZNYAKOV, V. YA., and CHETVERTKOV, M. S., Tsvetnye Metally, No 4, Apr 71, pp 18-23

the catholyte.

The arsenic, for the most part, also ends up in the converter dust and can be removed along with the lead.

Acc. Nr: AP0044596 Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48, Nr 1, PP 42-45

THE DYNAMICS OF ELECTROCARDIOGRAPHIC CHANGES IN PATIENTS OPERATED FOR SEVERE INJURY OF THE SKULL AND BRAIN

B. G. Zhilis, L. L. Stazhadze, B. V. Chetverushkin

Summary

The authors studied problems relevant to the influence of severe injury of the skull and brain on electrocardiographic indices in 87 patients. During the first hours there were noted a disturbance in the correlation between the duration of P—Q and R—R intervals. The notches on the ascending and descending curve of R wave, displacement of the S—T segment below the isoline in a smoothened T wave. Cardiac and narcotic preparations exerted no essential effect on the electrocardiogram. The greatest electrocardiographic changes appeared during manipulations on the dura mater and brain matter. In the postoperative period the lability of the heart to pharmacological agents was marked significantly. And there was a dependence between electrocardiographic changes and the localization of the pathological focus.

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REEL/FRAME 19771272

4A 02

USSR

UDC 621.394.625

CHETYRKIN, I. V.

"A Synchronous Reception Method"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, Feb 72, Author's Certificate No 326749, Division H, filed 10 Mar 70, published 19 Jan 72, p 218

Translation: This Author's Certificate introduces a synchronous reception method for frequency-keyed signals without phase interruption with carrier residue when the space between the make-and-break frequencies and the carrier is the keying frequency interval, with integration by elements after the detector. As a distinguishing feature of the patent, interference suppression in demodulation and synchronization of signals is improved by scanning the input signals in phase and antiphase by means of the discriminated carrier, isolating the synchronization-frequency signals, and multiplying the latter by the result of scanning, which contains the information.

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USSR

UDC: 621.396.669.8(088.8)

CHETYRKIN, I. V.

"Device With Discrete Automatic Selection for Two-Channel Recivers"

Avt. sv. SSSR (Authors Certificate USSR) Class 21a^4, 22/01, (H 03 d 3/18), No. 272388, Application 11.04.68, Publication 22.09.70 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D44P)

Translation: A device is proposed which contains demodulators and gates in each channel, the outputs of which are connected to a summing circuit. To improve the noise immunity, the channel inputs are connected with the controlling inputs of the channel gates through signal/noise ratio meters and a difference circuit. Resume

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USSR UDC 621.376.52

CHETYRKIN, I. V.

"A Phase Keyer"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290475, division H, filed 25 Mar 68, published 22 Dec 70, p 166

Translation: This Author's Certificate introduces a phase keyer which contains a carrier frequency oscillator, a modulating signal source and an amplitude modulator. As a distinguishing feature of the patent, the device is designed for directly shaping a phase-keyed signal with symmetric pilot signal. The unit contains two additional phase keyers whose outputs are connected to the inputs of the amplitude modulator, and a subcarrier frequency oscillator. The inputs of one phase keyer are connected to the outputs of the carrier frequency oscillator and of the modulating signal source, while the outputs of the second keyer are connected to the outputs of the subcarrier frequency oscillator and the source of modulating signals.

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CHETYRKIN, N.V.

Radio engr

SO: JPRS 56145
31 June 1972

N. V. Chetyrkin, Candidate of Technical Sciences

Frequency modulation is widely known, and modulation systems [illegible] is considered as its equivalent. However, period modulation has a number of signal reception through zero has a significant difference from frequency modulation, especially in the reception method.

In the case of period modulation, variation of the high-frequency oscillation period by the law of the modulating frequency takes place. The period modulation oscillation can be described in the form

$$u = U_m \sin \int \frac{2\pi}{T_0 + \Delta T_m f(t)}, \qquad (1)$$

where U_m is the oscillation amplitude which is constant in the case of period modulation;

ΔT_m is the period amplitude;

$f(t)$ is the normalized modulation function which represents on the type of modulating signal can be positive for

$$0 < f(t) < 1,$$

negative for

$$-1 < f(t) < 0,$$

or sign-variable for

$$-1 < f(t) < 1.$$

The conditions (2), (3) are satisfied for the television signal, and for addition (4) is satisfied by a telephone signal.

In general form, the period modulation oscillation [illegible] the frequency made by an arbitrary frequency ω_0. In this case, the oscillations will be described in the following way:

USSR

UDC 621.315.592:546.28

CHETYRKINA, N.A., KARACHENTSEVA, Z.V., MITROFANOV, V.V., DEDEGKAYEV, T.T., BELOV, N.A., ERLIKH, R.N., VASYUTINA, Z.V.

"Carbon Insertion In Epitaxial Layers Of Silicon And Effect Of Growth Conditions On Their Formation"

Elektron.tekhnika. Nauch.-tekhn.sb. Poluprovodn.pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 1(58), pp 47-50 (from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9B79)

Translation: A study is made of the defectiveness of epitaxial layers of Si connected with a high carbon content. It is shown that in the initial state epitaxial layers grown by hydrogen reduction of tetrachlorated silicon have a microuniformity characteristic of the presence of finely-divided insertions of the second phase. In the process of heat treatment at 1150° C in an oxygen atmosphere, a decrease takes place of the density of microdefects and an increase of separation of the second phase containing carbon and oxygen. The results are presented of tests of preparation of epitaxial layers with a reduced carbon content. 6 ref. Summary.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INERT GASES IN THE GAS DEPOSITS OF ESTONIA -U-

AUTHOR-(02)-VORONOV, A.B., CHEUSOVA, YE.

COUNTRY OF INFO--USSR

SOURCE--EESTI NSV TEAD. AKAD. TIOM., KEEM., GEOL. 1970, 19(1), 80-3

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, CHEMISTRY

TOPIC TAGS--GEOGRAPHIC LOCATION, GAS, NATURAL GAS, NITROGEN, CARBON DIOXIDE, ARGON, HELIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1522 STEP NO--UR/0470/70/019/001/0080/0083

CIRC ACCESSION NO--AP0118509

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118509

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAS OCCURRENCES WERE STUDIED IN THE SUUR PRANGH ISLAND, ESTONIAN SSR. THE ISLAND HAS A SIMPLE GEOL. STRUCTURE: THE GRANITES OF THE CRYST. BASEMENT, SITUATED AT DEPTHS OF 128-35 M, ARE OVERLAIN BY THE QUATERNARY LACUSTRINE, GLACIAL, AND MARINE ROCKS. THE VARVED CLAYS, RICH IN ORG. SUBSTANCES WERE SOURCE ROCKS. THE AV. COMPN. OF GASES FROM THE 2 LAYERS (HAVING NO COM. SIGNIFICANCE) WAS CH SUB4 93.7, HEAVY HYDROCARBONS 0.3, N 5.0, CO SUB2 1.0, AR 0.073, AND HE 0.006PERCENT. FORMATION WATERS CONTAIN AN AV. OF N 27.9PERCENT AT 1.6 ATM, AR 0.40PERCENT AT 0.1 ATM, AND HE 0.002PERCENT AT 0.0004 ATM OF PARTIAL PRESSURE. MORE THAN HALF OF THE ENTIRE HE, PRESENT IN GASES AND FORMATION WATERS, MIGRATED FROM THE ROCKS OF THE BASEMENT. THE ANAL. OF INERT GAS CONCN. SUBSTANTIATED THE RECENT ORIGIN OF HYDROCARBON DEPOSITS IN QUATERNARY FORMATIONS. SIMILAR DEPOSITS ARE WIDELY DISTRIBUTED IN ESTONIA, THE LENINGRAD REGION, AND ADJACENT AREAS. THEY HAVE SIMILAR COMPNS. AND SMALL SOURCES WHICH ARE INSUFFICIENT FOR COM. PRODUCTION. FACILITY: VSES. NEFT. NAUCH.-ISSLED. GEOL.-RAZVED. INST., USSR.

UNCLASSIFIED

USSR

UDC 621.793.6

CHEVELA, O. B., ORLOVA, L. M., and MOROZOV, I. A., Voronezh

"Investigation of the Shearing Strength of Plasma Coatings"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug 70, pp 83-86

Abstract: The article considers the shearing strength of tungsten coating with stainless steel Kh18N10T. It is shown that spraying distance has a definite effect on the shearing strength. A correlation between the shearing strength with microstructure and residual stresses in the coating is shown. The fracture during shear tests takes place between layers-flakes of sprayed coating, and not in the zone coating--sublayer interface.

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USSR

UDC 619:576.809.518:576.858.2

BADAYEV, F. A., CHEVELEV, S. F., MITIN, N. I., ARKHIPOV, N. I., and PERSHIN, G. N., All-Union Scientific Research Institute of Veterinary Virology and Microbiology and All-Union Scientific Research Chemico-Pharmaceutical Institute

"The Antivirus Activity of Synthetic Compounds"

Moscow, Veterinariya, No 6, Jun 73, pp 44-46

Abstract: Indolyl-3-propiohydroxamic acid (1), indolyl-3-acetohydroxamic acid (2), 2,4,6-trichlororesorcinol (3), 2,4,6-trichlorophloroglucinol (4), 2,4,6-tribromophloroglucinol (5), N-(o-tolyl)-N-cyanoethylaminobenzoquinone (6), tetrahydrotetraoxonaphthalene dihydrate (oxolin) (7), beta-indolyl-propionic acid (8), and beta-indolylbutyric acid (9) inhibited to 98.4% of more the propagation of the virus of Aujeszky's disease in a cell culture. The prophylactic and therapeutic activities of (1), (2), (3), and (7) and the prophylactic activity of (4), (5), (6), (7), and (8) in connection with the experimental infection of rabbits with the virus were studied. A prophylactic activity was exhibited by (1), (3), and (8): 16.6-40% of the infected rabbits that had been treated with these compounds survived, whereas all of 1/2

USSR

BADAYEV, F. A., et al., Veterinariya, No 6, Jun 73, pp 44-46

the controls died. A slight therapeutic effect was exerted by (2) and (6): the rabbits treated with (2) died 7 days later than controls, while one out of three animals treated with (7) survived. (1), (3), and (8) were also tested in connection with experiments in which sheep were infected with Aujeszky's disease. These compounds had a slight therapeutic effect on the sheep.

USSR

UDC 616-001.28+591.8.481.1

PISHCHINSKIY, A. V. and CHEVLYTKO, A. A., Minsk Medical Institute

"Neurosecretory Cells of the Hypothalamus in Dogs After Acute Radiation Sickness"

Minsk, Doklady Akademii Nauk BSSR, Vol 15, No 3, 1971, pp 277-279

Abstract: Histological examination revealed substantial changes in the neurosecretory cells of the hypothalamus in dogs that died or were killed in the terminal state 12 to 13 days after single exposure to x-ray irradiation (66 r). The neurosecretory cells were highly polymorphic. Besides neurons containing a moderate quantity of neurosecretion, there were many cells whose cytoplasm was rich in an aldehyde-fuchsinophilic material. Wide processes with granules of neurosecretion protruded from the cells. The supraoptic and paraventricular nuclei frequently contained cells whose bodies were jagged and had irregular outlines. A number of cells had fairly large vacuoles. Destructive changes were also evident in the nuclei (vacuolation, wrinkling, pyknosis). In some cells the nuclei had indistinct outlines or could not be discerned at all. These signs of vulnerability to radiation of the neurosecretory cells of the hypothalamus are related to the high physiological activity of this section of the brain.

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USSR

UDC 616.001.28+591.8.434-05

TALAPIN, V. I., CHEVLYTKO, A. A., and MUKOSEY, N. V.

"Condition of Enterochromaffin Cells in Acute Radiation Sickness"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 1, 1971, pp 114-116

Abstract: Histochemical studies were conducted to determine shifts in the serotonin content in enterochromaffin cells of random-bred dogs with acute radiation sickness. Acute radiation sickness was induced in the animals by a single irradiation with filtered x-rays in a total dose of 600 rad. The irradiated but untreated animals all perished within 15-21 days after irradiation. The treated dogs were kept under observation for periods of up to five years. Enterochromaffin cells were extracted from transverse sections of the large and small intestines. The survivors were divided into three groups, with group one sacrificed and examined within 3-5 months, group two -- within 6-9

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USSR

TALAPIN, V. I., CHEVLYTKO, A. A., and MUKOSEY, N. V., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 1, 1971, pp 114-116

months, and group three -- within 15 months to five years after the beginning of the tests. Practically no enterochromaffin cells were found in the animals perishing from acute radiation sickness, and the number of serotonin granules in those cells which were found was very small. In the animals which survived acute radiation sickness and fully recovered as a result of medical treatment, the complete restoration of enterochromaffin cells saturated with serotonin was observed.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CHANGES IN THE PHONOCARDIOGRAM DURING EXPERIMENTAL RADIATION DISEASE -U-

AUTHOR-(02)-SIDORENKO, YE.R., CHEVLYTKO, A.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK BSSR, DOKLADY, VOL. 14, MAR. 1970, P. 283-285

DATE PUBLISHED----MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARDIOGRAPHY, DOG, X RAY RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1092 STEP NO--UR/0250/70/014/000/0283/0285

CIRC ACCESSION NO--AT0119951

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0119951

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF PHONOCARDIOGRAMS, EKGS, CARDIAC ACTIVITY PHASES AND KUNOS GARAN MECHANOELECTRICAL COEFFICIENT (1956) IN 5 DOGS PRIOR TO AND AFTER EXPOSURE TO SINGLE X RAY DOSES OF 600 R. STATISTICAL DATA ANALYSIS INDICATES AN INCREASE IN THE STRENGTH OF Q TO I TONES AND IN THE DURATION OF I AND II TONES, AND A DECREASE IN THE TONE AMPLITUDES AND IN THE MECHANOELECTRICAL COEFFICIENT DURING THE ENSUING RADIATION DESEASE. THESE CHANGES REACH A MAXIMUM ON THE 10TH TO 17TH DAY AFTER EXPOSURES. FACILITY: MINSKII MEDITSINSKII INSTITUT, MINXK, BELORUSSIAN SSR.

UNCLASSIFIED

USSR

BETEROV, I. M., MATYUGIN, YU. A., and CHEVOTAYEV, V. P., Institute of the Physics of Semiconductors of the Academy of Sciences USSR, Siberian Department

"Measurement of the Relaxation Constants of Levels by the Three-Level Laser Spectroscopy Method"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 12, No. 4, 20 Aug 70, pp 174-177

Abstract: A new method of laser spectroscopy using a three-level scheme which makes it possible to measure relaxation constants of individual levels is proposed. The method is based on measuring the widths of the lines of forced (or spontaneous) resonance shift scattering in a gas. The experiments were conducted on neon transitions $2s_2$-$2p_1$ (λ = 1.52 μ) and $2s_2$-$2p_4$ (λ = 1.15 μ) which have a common level $2s_2$. The experimental setup was generally similar to one described earlier for studying the diffusion of excitation in the capture of resonance radiation. An important difference was that the setup provided for recording the form of a line excluding the effect of the Doppler "cushion" arising from capture of resonance radiation. Analysis of the results extrapolating the field to zero gave the following values for the widths of the scattering lines forward Γ_- and back Γ_0 as a function of pressure:

USSR

BETEROV, I. M., et al, Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki, Vol. 12, No. 4, 20 Aug 70, pp 174-177

$$\Gamma_0 = (87 + 46p) \pm 3 \text{ MHz},$$

$$\Gamma_- = (32 + 17p) \pm 2 \text{ MHz},$$

where p is the neon pressure in mmHg. This gives for the width of the $2s_2$ level

$$\gamma_{2s_2}(27.5 + 14p) \pm 5 \text{ MHz}.$$

An earlier experiment using multichannel techniques gave a value of 20.5±2.1 MHz for γ_{2s_2}; such good agreement with the direct measurement of the width of the $2s_2$ level demonstrates the applicability of the proposed method.

USSR UDC: 621.3.049.75:774

KHOLODOV, A. V., CHEVYCHELOV, V. A., SIN'KO, N. A.

"A Method of Metallizing the Holes in Printed Circuit Boards"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280597, Class 21, filed 20 Sep 68, p 52

Abstract: This Author's Certificate introduces a method of metallizing the holes in printed circuit boards. The procedure is based on galvanic plating of a metal layer onto the inner surfaces of the holes, which are precoated with a layer of chemically deposited metal, and using a continuous metal layer for bridging in the plating process. As a distinguishing feature of the patent, the metallizing process is simplified by coating the circuit board with a weakly adhering lacquer such as chlorinated polyvinyl chloride lacquer before drilling the holes for chemical deposition of the metal. The lacquer surface is then metallized and the layer of lacquer and the metal coating are removed from the side of the board which has the most printed circuit conductors, after which the board is coated with a layer of the same lacquer plus a lacquer which adheres weakly to the first lacquer, such as nitrocellulose lacquer. After drilling and chemical metallization of the holes, The second layer of lacquer is removed together with the metal which has been chemically deposited on it. A metal layer is then galvanically plated on the inner walls of the holes, and the first layer of lacquer is removed from both sides of the circuit board.

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USSR UDC 621.372.832.8

MERKIN, E. I., CHEVYKALOV, G. P.

"Analysis of a Single-Plane Four-Armed Circulator"

Elektron. tekhnika. Nauch.-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1971, vyp. 1(28), pp 101-108 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12B211)

Translation: A single-plane transresonance circulator based on a four-armed strip hook-up is considered. In the center of the hook-up are two ferrite discs, and in the center of each disc are brass rods. Formulas and graphs are given for approximate calculation of the geometric dimensions of the circulator. Five illustrations, bibliography of five titles. Resumé.

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USSR

UDC 53.088:519.24

PUSHNOY, B. M., CHEYDO, G. P.

"Method of Using Structural Redundancy of a Measuring System when Processing Experimental Data with Systematic Errors"

Tr. IV Vses. soveshch. po avtomat. upr. 1968. Tekhn. sredstva avtomatiki (Works of the 4th All Union Conference on Automatic Control, 1968. Technical Automation Media), Moscow, Nauka Press, 1971, pp 369-377 (from RZh--Metrologiya i Izmeritel'naya Tekhnika, No 3, Mar 72, Abstract No 3.32.36)

Translation: If in accordance with the mathematical expectation of the investigated process it is defined by a minimum number of basic parameters, it is usually possible to indicate a number of additional (redundant) parameters which are functionally related to the basic ones. The possibility of using this redundancy for lowering the systematic measurement errors is demonstrated. It was proposed that the results of measuring each parameter contains independent additive normal random errors with known correlation functions and also slowly varying systematic errors which are represented by finite series. The problem of estimating the coefficients of these series was stated. The presence of redunancy was imposed on the results of measuring the restrictions and control conditions the number of which is equal to the number of parameters. Violation

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USSR

PUSHNOY, V. M., et al., Tr. IV Vses. soveshch. po avtomat. upr. 1968. Tekhn. sredstva avtomatiki, Moscow, Nauka Press, 1971, pp 369-377

of the control conditions in the presence of errors has led to the occurrence of discrepancies. If the control conditions are nonlinear, by means of statistical processing of the discrepancies estimates were found for the coefficients of the series describing the systematic errors, and corrections were made to the measurement results. For small relative errors in the measurement results, linearization of the discrepancies is possible and it is possible to use linear methods of mathematical statistics. The method is easily implemented when processing experimental data on digital computers. The bibliography has 2 entries.

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Metrology, Surveying, Mapping, Graphics

UDC 621.317.08+519.281

USSR.

LUTSENKO, B. N., and CHEYDO, G. P., Novosibirsk

"Limiting Accuracy for Estimating Systematic Errors in a Redundant Measuring Complex"

Novosibirsk, Avtometriya, No 6, 1970, pp 3-9

Abstract: This article is the continuation of an earlier paper by the two authors noted above, published in the No 5, 1970 issue of the same journal. The earlier paper analyzed two methods for estimating system error parameters, both of which were based on the application of structural redundancy in a combination of measuring instruments, with the difference that the first could determine only the system errors while the second could also determine the parameters of the measuring process. The present paper reinvestigates both these estimating procedures in greater detail and with greater attention to their accuracy, and indicates the upper limit of that accuracy. The authors consider a simple model with additive system errors, constant in time, for noncorrelated measurements of equal accuracy, and obtain the lower limit for the estimate dispersions. The possibility of using the method of structural redundancy for more complex system errors when they are multiplicative is also investigated.

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USSR

UDC: 621.317.08+519.281

PUSHNOY, B. M. and CHEYDO, G. P., Novosibirsk

"Method of Using Structural Redundance in a Measuring System in Processing Experimental Data with Systematic Errors"

Novosibirsk, Avtometriya, No. 5, 1970, pp 20-28

Abstract: Because of the conditions under which measuring systems usually work, when an analytic expression for the measured process cannot be specified or when a checking signal specified with an accuracy exceeding that of the system cannot be introduced into it, the usual methods of analyzing system errors are ineffective. The authors therefore suggest an entirely different approach in which the structural redundance of the measurement system is used. An expression is found for measurement discrepancies which is used to solve the basic problem, that of obtaining information concerning the system error for each measured function. The problem is solved first for the case of minimum redundance, in which the number of controlling equations is unity, and then for the generalized case when there are more than one such equation. The authors assert that this method is designed for use in processing the results of a single experiment, when there is no a priori information concerning the nature of the signal and the system error.

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USSR

UDC 681.325.65

CHEYSHVILI, N. SH., Tbilisi Scientific Research Institute of Instrument Building and Automation Equipment

"Potential Logic NOT Circuit"

USSR Author's Certificate No 312387, Cl. H 03 k 19/08, H 03 k 19/40, filed 11 Jun 69, published 17 Nov 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B141P)

Translation: These are well-known potential logic NOT circuits which contain a common-emitter transistor, whose base is connected through a diode to the input of the device. The proposed device differs from these in that it contains a network consisting of an antiseries-connected voltage-stabilizing tube and diode, with this network connecting the collector of the transistor to the input of the device. In addition, the diode of the network is connected to the input of the device in a direction opposite to the base-emitter junction of the transistor. This makes it possible to expand the functional capabilities of the potential logic circuit: i.e., to use it as a voltage detector. One illustration.

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Acc. Nr: AP0043781 Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 3, pp 913-917

CONTRIBUTION TO THE THEORY OF TUNNEL ANOMALIES

O. D. Cheishvili

Tunnelling through a normal metal — dielectric — normal metal system is investigated by applying the Abrikosov diagram technique and assuming the presence of paramagnetic impurities near the barrier. It is shown that in the case of ferromagnetic coupling between the electron and paramagnetic impurity the resistance of the system decreases with decrease of applied potential. In the case of antiferromagnetic coupling the effect, however, is of opposite sign and is more pronounced. In both cases the effect increases with growth of the effective surface density of the paramagnetic impurities near the barrier.

REEL/FRAME
19770189

USSR

UDC 539.3

VAYNBERG, D. V., GULYAYEV, V. I., CHIBIRYAKOV, V. K.

"Projection Method in the Theory of Shells and Its Computer Solution"

Soprotivl. materialov i teoriya sooruzh. Resp. mezhved. nauch.-tekhn. sb. (Resistance of Materials and the Theory of Structures. Republic Interdepartmental Scientific-Technical Collection), 1972, No. 18, pp 19-31 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V131)

Translation: A method is given for reducing three-dimensional equations of elasticity theory to two-dimensional equations of the theory of shells. The resulting equations are free from simplifying static and geometric hypotheses of the classical theory of shells. 9 ref. Authors' abstract.

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USSR UDC 620.186.14:669.24

(2)

TARNOVSKIY, G. A., GRATSIANOV, YU. A., OVCHAROV, V. P., YAKUKHINA, L. I., CHIRKOVA, S. N., and KULIKOVA, L. P., Ural Scientific Research Institute of Ferrous Metals

"Nature of Nonmetallic Inclusions in Alloy 58N Billets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73, pp 44-46

Abstract: Results of correlated studies on the contamination of billets with nonmetallic inclusions are presented. The billets were batch produced (vacuum-induction melting) and produced by new means using electron-beam (EBR) and plasma-arc (PAR) remelting, and were made from 58N invar alloy containing (in %): 58 Ni, 0.02 C (max), 0.5-0.8 Mn, 0.2 Si, balance-Fe. The contaminants consist mainly of titanium nitride and alumina minerals. The technological schemes of melting: open induction melting + EBR and open induction melting + PAR provide not only significant lowering of inclusion content but alos producing metal free from large (greater than 7.5 microns) inclusions. Both production methods can be recommended for the industrial manufacture of alloy 58N. From the aspect of minimum inclusion content the EBR method is preferred, but for producing the required nature of inclusions and degree of dispersity the PAR method is better. Two tables.
1/1

CHMUTOV, Konstantin Vasil'yevich

gas chromatography

USE OF GAS CHROMATOGRAPHY IN PETROCHEMISTRY

(Conference in Moscow)

[Article by Doctor of Chemical Sciences V.V. Gur'yanova, Vestnik Akademii Nauk SSSR, Russian, No 6, June 1973, pp 129-130]

Increase of the effectiveness of scientific investigations and growth of the productivity and rate of chemical processes used in industry are stipulated to a considerable degree by the successful development of new physicochemical methods of conducting scientific experiments and controlling production. One such method is gas chromatography. Many quantitative determinations previously considered practically impossible are performed by means of gas chromatography in the course of minutes, and in some cases even of seconds. The method has high resolution and sensitivity, is readily automated, and makes it possible to effectively control technological processes.

The scientific councils for Petrochemistry and Chromatography, the Institute of Petrochemical Synthesis imeni A. V. Topchiyev of the AS USSR and the Scientific and Technological Council of the Ministry of Petroleum-Refining and Petrochemical Industry USSR conducted on 5-8 February the first All-Union Conference on the Use of Gas Chromatography in Petrochemistry. Participating in it were over 200 persons representing over 90 scientific research organizations, enterprises, special design offices and VUZ. Thirty-four reports were heard.

In his introductory speech the Chairman of the Scientific Council for Chromatography of the AS USSR K. V. Chmutov noted the ever-increasing importance of gas chromatography in the analysis of complex mixtures in petroleum refining and petrochemistry, in studying the thermodynamics of absorption and adsorption and the processes of chemisorption and catalysis, and in determining the diffusive characteristics of gases and liquids and other physicochemical characteristics.

USSR UDC: 519.1

BASENSHPILER, V. Ya., CHOYNZONOVA, Ye. L.

"On the Problem of Reconstructing Graphs"

Irkutsk, Tr. po prikl. mat. i kibernet. Sib. energ. in-t Sib. otd. AN SSSR (Works on Applied Mathematics and Cybernetics. Siberian Power Engineering Institute of the Siberian Department of the Academy of Sciences of the USSR), 1972, pp 49-55, ill., bibl. of 2 titles (manuscript deposited in VINITI 26 Dec 72, No 5285-72 Dep.) (from RZh-Kibernetika, No 5, May 73, abstract No 5V507 DEP by the authors)

Translation: The paper poses the problem of reconstructing an ordinary graph G from all its coupled graphs (i. e. graphs obtained from G by identification of two of its adjacent vertices). Those characteristics of the graph are studied which can be determined from the set of its coupled graphs, and classes of graphs are indicated for which this problem is solvable.

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SUSCEPTIBILITY OF SR SUB2 COSBO SUB6 AND SOLID SOLUTIONS OF SR SUB2 COSBO SUB6 IN SR SUB2 ALSBO SUB6 -U-
AUTHOR--ARIYA, S.M., CHEZHINA, N.V., BORISOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 267-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNETIC SUSCEPTIBILITY, SOLID SOLUTION, COBALT COMPOUND, MAGNESIUM OXIDE, STRONTIUM COMPOUND, CRYSTAL STRUCTURE, THERMAL EFFECT, ANTIMONY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0683 STEP NO--UR/0076/70/044/001/0267/0268

CIRC ACCESSION NO--AP0105659

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105659

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SUSCEPTIBILITY OF TRIVALENT CO IN SR SUB2 COSBO SUB6 DISSOLVED IN DIAMAGNETIC SR SUB2 ALSBO SUB6 WAS SOUGHT. SOLID SOLNS. CONTG. 3, 5, AND 10PERCENT SR SUB2 COSBO SUB6 WERE SYNTHESIZED WITH A STRUCTURE OF DISORDERED PEROVSKITE. A STUDY OF THE I-CHICO PRIMEPARA DEPENDENCE ON TEMP. (77, 133, 295DEGREESK) SHOWED THAT ALL COMPOS. OBEY THE CURIE WEISS LAW. VALUES OF THE EFFECTIVE MAGNETIC MOMENT, MU SUBEFF, SHOW NOTICEABLE SCATTERING, BUT WITHIN 5.8-9.5 MUB, WHEN APPROX. EXTRAPOLATED TO ZERO CO CONCN. A DEPENDENCE OF CHI ON THE COMPN. OF SOLID SOLNS. IS TYPICAL FOR DIL. ANTIFERROMAGNETS, AS OPPOSED TO BIVALENT CO IN COO-MGO. FOR PURE SR SUB2 COSBO SUB6, MU SUBEFF EQUALS 4.47 MUB.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--A BLOOD SUBSTITUTE -U-

AUTHOR--CHIAYEVA, S.

COUNTRY OF INFO--USSR

SOURCE--ZARYA VOSTOKA, JULY 21, 1970, P 4, COLS 5-6

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD PLASMA SUBSTITUTE, BLOOD PRESSURE, TRAUMATIC SHOCK, BONE MARROW TRANSPLANT, RADIATION SICKNESS, GEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0849 STEP NO--UR/9029/70/000/000/0004/0004

CIRC ACCESSION NO--AN0122893

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AN0122893
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. T. TKESHELASHVILI, M.D., AN ASSOCIATE OF THE SCIENTIFIC RESEARCH INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION IMENI MUKHADZE, HAS DEVELOPED "ZHELATININ", A BLOOD SUBSTITUTE MADE OF FOOD GELATINE WHICH SOON WILL BE INTRODUCED INTO MEDICAL PARCTICE. IN CONTRAST TO THE BLOOD SUBSTITUTE, "ZHELATINOL", DEVELOPED AT THE LENINGRAD INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION, THE NEW SUBSTITUTE IS CHARACTERIZED BY A CONSTANT MOLECULAR WEIGHT. IT RAISES BLOOD PRESSURE DURING SHOCK AND HAS NO AFTER EFFECTS. IT ALSO APPRECIABLY INTENSIFIES THE CURATIVE EFFECT OF MARROW TRANSPLANTATION PERFORMED AFTER RADIATION EXPOSURE.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200610002-8"

1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--A BLOOD SUBSTITUTE -U-

AUTHOR--CHIAYEVA, S.

COUNTRY OF INFO--USSR

SOURCE--ZARYA VOSTOKA, JULY 21, 1970, P 4, COLS 5-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD PLASMA SUBSTITUTE, BLOOD PRESSURE, TRAUMATIC SHOCK, BONE MARROW TRANSPLANT, RADIATION SICKNESS, GEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0849 STEP NO--UR/9029/70/000/000/0004/0004

CIRC ACCESSION NO--AN0122893

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AN0122893
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. T. TKESHELASHVILI, M.D., AN ASSOCIATE OF THE SCIENTIFIC RESEARCH INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION IMENI MUKHADZE, HAS DEVELOPED "ZHELATININ", A BLOOD SUBSTITUTE MADE OF FOOD GELATINE WHICH SOON WILL BE INTRODUCED INTO MEDICAL PARCTICE. IN CONTRAST TO THE BLOOD SUBSTITUTE, "ZHELATINOL", DEVELOPED AT THE LENINGRAD INSTITUTE OF HEMATOLOGY AND BLOOD TRANSFUSION, THE NEW SUBSTITUTE IS CHARACTERIZED BY A CONSTANT MOLECULAR WEIGHT. IT RAISES BLOOD PRESSURE DURING SHOCK AND HAS NO AFTER EFFECTS. IT ALSO APPRECIABLY INTENSIFIES THE CURATIVE EFFECT OF MARROW TRANSPLANTATION PERFORMED AFTER RADIATION EXPOSURE.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200610002-8"

C

Hematology

USSR

CHIAYEVA, S.

"Plasma Expander"

Tbilisi, Zarya Vostoka, 21 Jul 70, p 4

Translation: The Scientific Research Institute of Hematology and Blood Transfusion imeni G. M. Mukhadze of the Georgian SSR Ministry of Health in a scientific, therapeutic, and pedagogical institution and a center of organization and methodology.

One of the institute's staff members, Doctor of Medical Sciences T. Tkeshelashvili, has developed and tested (experimentally and clinically) a new blood substitute -- gelatinin, which will soon be introduced into medical practice.

The preparation is made of edible gelatin. As distinguished from gelatinol, the plasma expander developed by the Leningrad Institute of Hematology and Blood Transfusion, the new plasma expander has a constant and uniform molecular weight.

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USSR

CHIAYEVA, S., Zarya Vostoka, 21 Jul 70, p 4

Experimental study of the new preparation has shown that gelatinin can restore blood pressure after it has fallen as a result of a shock or a serious hemorrhage. The preparation is totally harmless.

In radiation sickness, infusion of the new plasma expander magnifies the therapeutic effect of bone marrow transplantation and prevents hemorrhage.

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USSR UDC: 621.791.3

POZDEYEVA, N. V., CHIBIREVA, V. A., METELKIN, I. I., KOVALEVSKIY, R. Ye., PERSHINA, L. K., Moscow

"Soldering of Metallized High-Alumina Ceramics with Metals by Means of Copper-Germanium Solder"

Moscow, Fizika i Khimiya Obrabotki Materialov [The Physics and Chemistry of Materials Processing], No 6, Nov-Dec 73, pp 104-110.

Abstract: Data are presented from a study of the interaction of copper-germanium solder containing from 5 to 10 wt. % germanium with the molybdenum-manganese metallization coating on a high-alumina ceramic, type 22KhS, during the process of soldering with various structural metal alloys. In relationship to the metallization coating, the most active element in combination with copper-germanium solder is nickel, which facilitates rupture of the metallization layer, thus reducing the quality of joints produced. Recommendations are given for the selection of a protective coating for the metallization layer as a function of the structural metal used. If the ceramic is to be soldered to alloys containing nickel, the metallization surface should be protected with a galvanic layer of copper.

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USSR

UDC 577.45

BORISOV, A. Yu., GODIK, V. I., and CHIBISOV, A. K. Department of Bioenergetics, Laboratory of Bioorganic Chemistry, Moscow State University imeni M. V. Lomonosov, and Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR, Moscow

"On the Types of Energy Transfer in Bacterial Photosynthesis"

Moscow, Molekulyarnaya Biologiya, Vol 4, No 4, Jul/Aug 70, pp 500-508

Abstract: The formation of triplet states of bacterial chlorophyll induced by flash illumination was studied in Rhodospirillum rubrum chromatophores. At saturating light intensity and in the presence of dithionite triplet states were not observed either under normal conditions or at low temperatures. The quantum yield of triplet states was low, since nonradiating transitions diminished the triplet state lifetime to no more than 6.6×10^{-5} sec (a value well above the sensitivity limit of the method used). On the basis of experimental data three possible types of energy transfer and photoinduced transformations in the reaction centers are considered. For each type, requirements are formulated for the rate of energy conversion at the reaction centers and the bacterial chlorophyll intersystem crossing rate. The results of the analyses show that energy transfer and transformation processes within the reaction centers are likely to take place without the participation of bacterial chlorophyll triplet states.

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1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PULSED ILLUMINATION STUDY OF THE HYDROXYL RADICAL IN CONDENSED SYSTEMS -U-

AUTHOR-(02)-KUZMIN, V.A., CHIBISOV, A.K.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(2), 171-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AQUEOUS SOLUTION, ABSORPTION SPECTRUM, RADIATION EFFECT, PEROXIDE, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1624 STEP NO--UR/0456/70/004/002/0171/0172

CIRC ACCESSION NO--AP0112618

UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112618

ABSTRACT/EXTRACT--(U) GP-0- ABATRACT. PULSED PHOTOLYSIS WAS USED TO SHOW THE FORMATION OF OH RADICALS WHEN AN AQ. SOLN. OF H SUB2 O SUB2 AND TERT,BUTYL HYDROPEROXIDE (5 TIMES 10 PRIME NEGATIVE4 M) IN THE PRESENCE OF NA SUB2 CO SUB3 (10 PRIME NEGATIVE1 M) IA IRRADIATED. IN THE SPECTRUM THE ABSORPTION BAND (600 NM) OF THE SHORT LIVED ANION RADICAL CO SUB3 APPEARS. THE REACTION IS: H SUB2 O SUB2 (TERT,C SUB3 H SUB7 OOH) PLUS HV YIELDS TIMES OH PLUS TIMES OH (TERT,C SUB3 H SUB7 O TIMES); TIMES OH PLUS CO SUB3 PRIME2 NEGATIVE YIELDS OH PRIME NEGATIVE PLUS TIMES CO SUB3 PRIME NEGATIVE. IRRADN. OF A ALK. PERSULFATE SOLN. FORMS TIMES OH AND THE ANION RADICAL OZONIDE TIMES O SUB3 PRIME NEGATIVE. THE ABSORPTION SPECTRUM OF THIS RADICAL (430 NM) WAS RECORDED IN A PERSULFATE SOLN. PURIFIED FROM O SUB2 AFTER PRELIMINARY IRRADN. AT LAMBDA IS LARGER THAN 240 NM. THE FORMATION OF TIMES OH IN AN AQ. SOLN. CAN CAUSE EVOLUTION OF O. PULSED IRRADN. OF AN AIR SATD. NA SUB2 SIO SUB3 SOLN. FORMS TIMES O SUB3 PRIME NEGATIVE. FACILITY: INST. GEOKHIM. ANAL. KHIM. IM. VERNADSKOGO, MOSCOW, USSR.

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0130079
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FLASH EXCITATION SYSTEM DESCRIBED USED A XE PULSE LAMP FOR EXCITATION, EITHER WITH A SINGLE LIGHT PULSE OF DURATION 5 TIMES 10 PRIME NEGATIVE5 SEC OR MULTIPULSE EXCITATION AT A FREQUENCY OF 300 PULSES-SEC (DURATION OF EACH PULSE 10 PRIME NEGATIVE3). LIGHT INTENSITY FALLING ON THE SAMPLE WAS 400 ERGS-CM PRIME2-SEC. THE DETECTING SYSTEM WAS FORMED BY A FILTER SYSTEM FOR VARIOUS WAVELENGTHS IN THE REGION 390-560 NM. THE DIFFERENTIAL ABSORPTION SPECTRA (LIGHT VS. DARK) OF PHOTOSYNTHESIZING SYSTEMS WERE MEASURED IN CHLORELLA, ISOLATED (ACTIVE AND REACTIVATED BY PHENAZINE METHOSULFATE AND ASCORBIC ACID) CHLOROPLASTS FROM PEA, AND CHLOROPLAST FRAGMENTS PRODUCED BY SONICATION. PULSE EXCITATION INDUCED SEVERE SPECTRAL CHANGES, ESP. IN REACTIVATED CHLOROPLASTS. ABSORPTION BANDS AT 440 AND 515-52 NM WERE OBDS.; THESE BANDS WERE NOT DETECTED BY OTHER TECHNIQUES AND MAY BE DUE TO REVERSED ELECTRON TRANSFER OXIDIZING CHLOROPHYLL A TO CHLOROPHYLL B. ADDN. OF DICHLOROINDOPHENOL (I) TO REACTIVATED CHLOROPLASTS COMPLETELY INHIBITED BOTH 400 AND 515 NM BANDS DUE TO EFFECTIVE ELECTRON TRANSFER, (CHLOROPHYLL B) PRIME NEGATIVE PLUS I YIELDS CHLOROPHYLL B PLUS I PRIME NEGATIVE. DIFFERENTIAL SPECTRA OF SONICATED CHLOROPLASTS WERE IDENTICAL WITH THOSE OF REACTIVATED ONES EXCEPT THAT THE 475 BAND WAS SHIFTED TO 425 NM, WHICH IS CHARACTERISTIC FOR ACTIVE CHLOROPLASTS.

UNCLASSIFIED

USSR

UDC 621.224.35(088.8)

CHIBISOV, I. T.

"Procedure for Evacuating the Rotor Chamber of a Hydroturbine"

USSR Author's Certificate No 270615, filed 13 Apr 67, pulished 14 Aug 70 (From RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D124 P)

Translation: A procedure for evacuating the rotor chamber of a hydroturbine on converting the hydrogenerator to the synchronous compensator mode with a covered rotor chamber is patented. This procedure is distinguished by the fact that the hydroturbine is converted to the pumping mode and atmospheric air is fed to the rotor chamber in order to improve the efficiency of the hydraulic assembly.

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USSR

UDC 77

CHIBISOV, K. V.

"The Nature of Chemical Sensitization"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 10-27 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1314)

Translation: The works of the author and his coworkers are chiefly surveyed. The following questions are considered: (1) the photochemical characteristics of AgHal-emulsions with various anion sublattices (investigations using pulse photolysis, investigations of photochemical properties of oxidized and converted emulsions); (2) topochemical transformations in chemical sensitization (topography of sensitivity centers, the interaction of deep and surface centers, the bromacceptor function of chemical sensitization and its products); (3) chemical sensitization and fog formation (the change in light sensitivity and fog

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USSR

USSR UDC 535.37.541.77

BELOUS, V. M., MEL'NICHUK, L. P., ORLOVSKAYA, N. A., and CHIBISOV, K. V., Odessa Construction Engineering Institute, Odessa, Ministry of Higher and Secondary Specialized Education Ukrainian SSR; Corresponding Member of the Academy, Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of Higher and Secondary Specialized Education USSR

"Mechanism of the Formation of Photographic Sensitivity of Bromoiodosilver Emulsions as Investigated by the Luminescence Method"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 5, Aug 70, pp 1086-1089

Abstract: Data are reported on the study of luminescent and photographic properties of AgBr(I) subjected to the action of a solution of hydrazine chloride and thiourea. The results obtained showed that the ratio of I_2/I_1 -- intensity at a selected band to the maximum in the green band from the range of orange-red luminescence -- increases after treatment with solutions of thiourea and hydrazine chloride, indicating that in case of sulfur sensitation silver centers may form similar to those forming during reductive sensitation. The digestive action of thiourea is also very important in this process. The increase in light sensitivity of the investigated materials is accom-

USSR

BELOUS, V. N., et al, Doklady Akademii Nauk SSSR, Vol 193, No , Aug 70, pp 1086-1089

panied by an increase in the I_2/I_1 ratio. On the other hand, appearance of silver sulfide microcrystals on the surface of AgBr(I) results in a lowered I_2/I_1, meaning that the light sensitivity is principally predetermined by the atom-molecular dispersed silver centers, a portion of which is responsible for the orange-red band in the luminescence at low temperature. This principally holds for low sensitivity emulsions; highly sensitive emulsions did exhibit a flash of orange-red luminescence in some cases, and the reason for this is still unknown. It is proposed that the center of green luminescence of the microcrystals consists of an iodide ion and some kind of a defect. The energy resulting from the recombination of the free hole and the electron localized on the defect is transmitted to the iodide ion, and excites it.

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SOVIET PHOTOGRAPHIC SCIENCE -U-

AUTHOR-(02)-CHIBISOV, K.V., SHEBERTSOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NAUCH. PRIKL. FOTOGR. KINEMATOGR, 1970, 15(2) 85-119

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--PHOTOGRAPHIC MATERIAL, RESEARCH AND DEVELOPMENT, PHOTOGRAPHIC EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1487 STEP NO--UR/0077/70/015/002/0085/0119

CIRC ACCESSION NO--AP0054343

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0054343
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STATE OF THE ART REVIEW ON THE THEORY AND PRACTICE OF PHOTOGRAPHIC MATERIALS PREPN. AND USE. 296 REFS.

UNCLASSIFIED

UDC: 8.74

USSR

CHIBISOV, V. V.

"Use of Wide-Format Digital Computer Printout to Make Sketches of Nomograms"

Nomogr. sb. Vychisl. tsentr. AN SSSR (Nomogram Collection. Computing Center of the Academy of Sciences of the USSR), 1971, No 8, pp 135-144 (from RZh--Kibernetika, No 4, Apr 72, Abstract No 4V555)

Translation: The paper demonstrates the feasibility of automating computation and application of reference points on a nomogram sketch using an alphanumeric printer on the BESM-6 computer.

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1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THE NATURE OF INTRANUCLEAR HERPETIC INCLUSIONS -U-

AUTHOR-(03)-BIKBULATOV, R.M., GOFMAN, YU.P., CHIBISOVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 199-204

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ELECTRON MICROSCOPY, VIRUS, DNA, RNA, GLYCOGEN, ACID PHOSPHATASE, LIPID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0733 STEP NO--UR/0402/70/000/002/0199/0204

CIRC ACCESSION NO--AP0108939

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108939

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON MICROSCOPIC, CYTOCHEMICAL AND IMMUNOFLUORESCENT EXAMINATION OF SPECIFIC HERPETIC INTRANUCLEAR INCLUSIONS WAS CARRIED OUT. IT WAS SHOWN THAT CLASSICAL INCLUSIONS OF THE A TYPE DESCRIBED BY COWDRY DID NOT TAKE PART IN SYNTHESIS OR FORMATION OF VIRUS PARTICLES. THEY CONTAINED DNA, BUT NO RNA, GLYCOGEN, LIPIDS OR ACID PHOSPHATASE COULD BE FOUND IN THEM. INCLUSION OF THE B TYPE CONSISTED OF FRAGMENTED NUCLEOLUS MATERIAL WHICH HAD CHANGED ITS TINCTORIAL PROPERTIES UNDER THE INFLUENCE OF INFECTION. DIFFERENT MECHANISMS EXPLAINING THE NATURE OF SPECIFIC HERPETIC INTRANUCLEAR INCLUSIONS ARE SUGGESTED.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200610002-8"

Polymers and Polymerization

USSR

UDC 678.06-419.8:677.521

GOLUBENKOVA, L. I., DEMEKHINA, YE. M., CHIBISOVA, YE. I., and NIKONOVA, S. N.

"Cements for Plexiglas Based on Epoxy-Novolak Resins"

Moscow, Plasticheskiye Massy, No 4, 1973, pp 12-14

Abstract: The strength characteristics of the bonding resins 6EN and 18EN were determined. These compounds contain 18-22% epoxy groups and have a drop depression temperature of 60-70°C. Addition of anilinephenol formaldehyde resin (211) to both 6EN and 18EN significantly improved the properties. The strength characteristics for both resins are similar and rather high at room temperature and up to about 200°C. However, the resin 6EN+211 is better suited to technical applications because impregnation of the plexiglass by the resin results in only a small change in the properties of the plexiglass.

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UDC 678.643.01:53

USSR

GOLUBENKOVA, L. I., DEMEKHINA, YE. M., CHIBISOVA, YE. I., SMIRNOVA, L. N., EKSANOVA, N. D., and YUDIN, V. F.

"Binders for Fiberglass-reinforced Plastics Based on Epoxy Resin ETF"

Moscow, Plasticheskiye Massy, No 6, 1970, pp 13-15

Abstract: In order to increase the thermostability of fiberglass-reinforced plastics, work is being done to create binders based on epoxy resins which differ in structure from diane resins, primarily cycloaliphatic and polyfunctional epoxy resins. Polyfunctional resin ETF, which is the product of condensation of 1,1,3-tri-(hydroxy-phenyl)-propane and epichlorohydrin, has a molecular weight of 540-700 and contains 20-24 percent epoxy groups. Hardening of this resin with amine or acid hardeners makes it possible to obtain specimens possessing higher thermostability than diane epoxy resins. The greatest bending strength is found in specimens hardened with aniline-phenol-formaldehyde resin 211, the greatest compression strength in specimens hardened with maleic anhydride. Aniline-phenol-formaldehyde

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USSR

GOLUBENKOVA, L. I., et al., Plasticheskiye Massy, No 6, 1970, pp 13-15

resin 211 was chosen as the main hardener. The binder representing a composite of resins ETF and 211 has been given the brand designation T-71-S. Since resin ETF softens in the 35-55° C range, it can be used for the "dry" process of fiberglass-reinforced plastics manufacture. The properties of the binder applied to the glass cloth, as well as of the resultant fiberglass-reinforced plastics depend on the character of the solvent used to impregnate the glass filler and the storage conditions for the impregnated cloth.

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THERMAL AND OXIDATIVE THERMAL DEGRADATION OF AROMATIC AND AROMATIC ALIPHATIC POLYAMIDES AND POLYUREAS -U-

AUTHOR-(05)-FEDOTOVA, O.YA., CHIBISOVA, YE.I., KOLESNIKOV, G.S., GOROKHOV, V.I., KOVARSKAYA, B.M.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(1) 26-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DEGRADATION, OXIDATIVE DEGRADATION, POLYAMIDE COMPOUND, POLYUREA, DIAMINE, ORGANIC ISOCYANATE, COPOLYMERIZATION, POLYMER CROSSLINKING, POLYCONDENSATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1195 STEP NO--UR/0459/70/012/001/0026/0030

CIRC ACCESSION NO--AP0104561

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104561

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYAMIDES (PREPD. BY INTERFACIAL POLYCONDENSATION) AND POLYUREAS (PREPD. BY COPOLYMN. OF DIAMINES WITH DIISOCYANATES SUCH AS HEXAMETHYLENE DIISOCYANATE), E.G., POLY(DITOLYL,METHANEFURMARAMIDE) (I), POLY(DITOLYL-N,N'-DIETHYLFUMARAMIDE) (II), POLY(DITOLYLMETHANE-N,N'-DIETHYLADIPAMIDE) (III), POLY(DITOLYLMETHANEHEXAMETHYLENEUREA) (IV) AND POLY(DITOLYLMETHANEFUMARAMIDE) (I), POLY(DITOLYL-N,N'-DIETHYLFUMARAMIDE) TOLYLMETHANE MOIETY IS DERIVED FROM 4,4'-METHYLENEDI-O-TOLUIDINE OR FROM 4,4'-METHYLENEBIS(N-ETHYL-O-TOLUIDINE)) WERE DEGRADED AT 200-320DEGREES, I, II, AND III WERE MORE STABLE THAN IV OR V. I AND II EXHIBITED HIGHER THERMAL STABILITY THAN III. THE OXION. OF POLYAMIDES AND POLYUREAS (BASED ON A PRIMARY DIAMINE) WAS ACCOMPANIED BY CROSSLINKING. CO, CO SUB2, H SUB2 O, AND ACH (IDENTIFIED BY POLAROGRAPHY AND CHROMATOG.) RESULTED FROM THE OXIDATIVE THERMAL DEGRADATION OF THE CITED POLYMERS.

UNCLASSIFIED

USSR UDC 591.044

PIRUZYAN, L. A., BARSEGYAN, L. Kh., MUKHORTOVA, O. M., SAVCHENKO, G. S., and CHIBRIKIN, V. M., Institute of Chemical Physics, Academy of Sciences USSR

"Effect of a Permanent Magnetic Field on the Concentration of Free Radicals in Mouse Organs and Tissues"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1971, pp 128-132

Abstract: Exposure of mice to a permanent magnetic field (500 oersteds) for 4, 24, and 72 hours resulted in a marked decrease in the free radical content of the liver, spleen, kidneys, muscles, heart, and spleen (but not the brain). The low point, reached 2 to 7 days after the action was halted, varied with the organ and length of exposure, ranging from 28 to 55% of the control level. The normal concentration of free radicals was restored during the ensuing days. The maximum decrease in relation to the length of exposure up to 3 days was directly proportional to the square root of the exposure time, i.e., the effect of the 1/2

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PIRUZYAN, L. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1971, pp 128-132

magnetic field was not enhanced by increased exposure of up to 72 hours. Three days' exposure markedly increased the weight of the spleen but not that of the liver or kidneys. (The weight of the spleen remained abnormally high even on day 25, while the content of free radicals in the organ reached the normal level by day 20). Histological examination of the liver and kidneys revealed protein degeneration, impairment of the cytoplasmatic structure, and redistribution of the cytoplasm toward the nuclear and cellular membranes.

USSR UDC 591.1.05

PIRUZYAN, L. A., GLEZER, V. M., DEMENT'YEV, V. A., LOMONOSOV, V. A. and CHIBRIKIN, V. M., Institute of Chemical Physics, Academy of Sciences USSR

"The Mechanism of the Biological Effect of Permanent Magnetic Fields"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1970, pp 535-539

Abstract: This review of the Soviet and foreign literature on the biological effect ofmagnetic fields discusses the effects of a permanent magnetic field on the electrical properties of axons, the rate of chemical reactions associated with free radicals in nervous tissue, the effects produced by impairment of spatial orientation of biomolecules, and conformational changes in protein mitochondria. The effects of a permanent magnetic field on electrolytes, water, and currents circulating in living systems are treated at some length.

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USSR UDC: 621.317.37

OSOKIN, V. I., DUBOVOY, N. D., CHIBRIKOV, S. I., KARPOV, R. G., GRUZDEV, S.V.

"A Microwave Pulse Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331325, Division G, filed 23 Mar 70, published 7 Mar 72, p 135

Translation: This Author's Certificate introduces a microwave pulse power meter which contains a bolometric bridge, a detector and an amplifier. As a distinguishing feature of the patent, measurement accuracy is improved by feeding the output signal simultaneously to the inputs of a slave multivibrator and a slave sawtooth voltage oscillator. The output of the sawtooth voltage oscillator is connected to the input of a memory unit. The output signal from the memory unit is sent to one of the inputs of a two-coil ratiometer, and the signal from the output of the bolometric bridge is sent to the second input of the two-coil ratiometer through a second memory unit. A signal is sent to the input of the bolometric bridge through a high-frequency switch from the output of a flip-flop. A signal from the output of the slave multivibrator is sent to one input of the flip-flop

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OSOKIN, V. I. et al., USSR Author's Certificate No 331325

through a pulse duration shaper, a frequency divider and a delay line. The second input of the flip-flop is connected to the output of the pulse duration shaper.

USSR UDC: 621.317.784.023(088.8)

OSOKIN, V. I., DUBOVOY, N. D., KARPOV, R. G., GRUZDEV, S. V., CHIBRIKOV, S. I.

"An Automatic SHF Power Meter"

USSR Author's Certificate No 268519, filed 18 Nov 68, published 14 Aug 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A275 P)

Translation: This Author's Certificate introduces an automatic SHF power meter with double comparison which contains an automatically balancing thermistor bridge, a microwave cutoff switch and a power indication circuit. The proposed meter differs from conventional units in the fact that the rectifier input is connected to the bridge output, and the rectifier output is connected to one of the comparator inputs; the other comparator input is connected to the output of an integrator, and the comparator output is connected to the inputs of flip-flops; the output of a sawtooth voltage generator is connected to a thermistor and to a meter, resulting in increased speed and accuracy of measurement over a wide temperature range. E. L.

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USSR UDC: 621.317.78 +/

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"An SHF Power Meter"

USSR Author's Certificate No 270888, filed 8 Dec 68, published 24 Aug 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A329)

Translation: An SHF power meter is proposed which contains a thermistor bridge, amplifier, variable-frequency oscillator and sensitivity control circuit. As a distinguishing feature of the patent, the proposed meter utilizes automatic sensitivity control which is effected by varying the frequency of the substituting voltage. This frequency is compared with that of the reference oscillations, and the difference between these frequencies is presented in digital form. The ultimate result is an increase in measurement precision. E. L.

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USSR UDC: 621.317.784.023(088.8)

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"A Pulse-Frequency SHF Power Meter"

USSR Author's Certificate No 270887, filed 8 Dec 68, published 24 Aug 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A334 P)

Translation: This Author's Certificate introduces a meter which contains a bolometric bridge, pulse amplifier, amplitude detector, variable-frequency oscillator and a subtraction device. As a distinguishing feature of the patent, a prf divider for the VFO pulse output is connected in the feedback circuit of the bridge resulting in an increase in meter sensitivity proportional to the division coefficient of the divider. E. L.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200610002-8"

UDC 621.317.328

USSR

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, 12 May 70, p 56, Patent No 270886, Filed 8 Dec 68

Translation: This Author's Certificate introduces a superhigh-frequency power meter containing a thermistor bridge, a selective amplifier and a power indicating circuit. In order to increase the measurement accuracy, in the power indicating circuit the output of the balancing oscillation rectifier is connected to a comparator and an integrator, the integrator output is connected to the second input of the comparator, and the output of the comparator is connected via the control circuit to the saw oscillator the output of which is connected to the thermistor.

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UDC 621.317.744

USSR

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Pulse-Frequency Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, 12 May 70, p 56, Patent No 270887, Filed 8 Dec 65

Translation: This Author's Certificate introduces a pulse-frequency super-high-frequency power meter containing a bolometric bridge, a pulse amplifier, an amplitude detector, a generator with controlled frequency, an auxiliary generator and a subtracting circuit. In order to increase the sensitivity the output pulse repetition frequency divider of the controlled generator is connected to the feedback circuit of the bridge circuit.

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