UNCLASSIFIED

ABSTRACT. EXPERIENCE GATHERED OVER A PERIOD
OF MANY YEARS IN STUDYING THE DYNAMICS OF THE ANTERIOR CILIARY ARTERIES
CALIBER IN GLAUCOMATOUS PATIENTS IS SUMMARIZED. DATA ON THE MEASUREMENT
OF THE CALIBER ALONG DIFFERENT LENGTHS OF THE ARTERIES IN PERSONS BELOW
AND ABOVE 40 YEARS OF AGE, BOTH WITH AND WITHOUT GALUCOMA, PRESENTING
DIFFERENT TENSION AT THE TIME OF EXAMINATION ARE REPORTED. IN
GALUCOMATOUS PATIENTS A CHARACTERISTIC ENLARGEMENT OF THE ANTERIOR
CILIARY ARTERIES NEAR THE SCLERAL EMISSARY (THE "COBRA" SYMPTOM),
CLOSELY ASSOCIATED WITH THE RISE OF TENSION, IS NOTED. THE DEGREE OF
DILATION AND THE LENGTH OF DISTENDED ARTERIES IN THE REGION OF THE
EMISSARY INCREASE PARALLEL WITH THE RISING INTRAOCULAR TENSION. THE
"COBRA" SYMPTOM CONTINUES FOR SOME TIME EVEN AFTER THE TENSION HAS
DROPPED, THIS ENABLING ITS UTILIZATION IN AN EARLY DIAGNOSIS OF
GLAUCOMA. THE "COBRA" SYMPTOM IS QUITE VALUABLE ALSO IN ASSESSING THE
EFFICACY OF THE TREATMENT AND IN PROGNOSTICATION OF GLAUCOMA.

UNCLASSIFIED

USSR   UDC: 550.834

REMIZOV, V. Ya., GORBUNOV, S. G., SLUTSKOVSKIY, A. I., All-Union Scientific Research Institute of Geophysical Prospecting Methods

"A Device for Recording Seismic Profiles"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, Aug 72, Author's Certificate No 346695, Division G, filed 20 Aug 71, published 28 Jul 72, p 188

Translation: This Author's Certificate introduces a device for recording seismic profiles in the form of triangles and trapezoids. The device contains a seismic signal source, an optimizer, a kipp oscillator, a source of high-frequency oscillations, a limiter amplifier, and a cathode ray tube. As a distinguishing feature of the patent, in order to improve the quality of recordings, the seismic signal source is connected to a memory cell which fixes the extremum value of a signal, the output of the integrator [sic] is connected to one of the inputs of a compensation module and to one of the inputs of an amplitude modulator whose other input is connected to the source of high-frequency oscillations, and the outputs of modulator and memory cell are connected through the limiter amplifier to the second input of the compensation module.

1/1

USSR

REMIZOV, V. YE., RAVIN, M. M., and ISLAMOV, R. N., Moscow

"Electroslag Welding of High-Strength Steel"

Abstract: In order to improve the process of manufacturing high-pressure containers, it is desirable to replace forged pieces with welded billets of KVK32 sheet steel with δ = 30 mm and an ultimate strength $\sigma_b \geq$ 160 kg/mm^2. This article contains a study of the properties of electroslag welds of billets of this type. The experiment was performed in two stages: preliminary checking of the properties of KVK32 steel joints obtained by electroslag welding and selection of the optimal version of the process and, secondly, welding of rings by this process. It was established that the microstructure of the base metal, the weld, and the fusion line is fine-grained and uniform. The structure of the weld metal is larger grained than that of the fusion line. After quenching and annealing, the structure of the weld-affected zone is fine-grained martensitic, and the weld metal is coarse-acicular martensitic. The test demonstrated that

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USSR

20KhSNVFA wire with AN-8 and AN-15 fluxes is unsuitable for electroslag welding of high-strength steel, but OKh4MA or SP28 wire and AN-8 and AN-15 fluxes give results on the level of the corresponding indexes of the base metal.

2/2

USSR

UDC 621.396.622

VOLKOV, A. A., REMIZOV, YE. N.

"Selecting the Intermediate Frequencies of the Receiver for Binary Frequency Conversion Circuits with One Heterodyne"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railroad Transportation Engineers), 1970, vyp. 30, pp 132-136 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D21)

Translation: In this article a procedure is proposed for determining the heterodyne frequencies and first intermediate frequency with respect to a given second intermediate frequency, and the signal frequency. Relations are obtained which relate the mentioned frequencies to each other for all possible cases. By the given second intermediate frequency, the harmonic number of the heterodyne and the frequency, it is possible to calculate the first intermediate frequency and then check the exclusion of combination noise in the signal reception channel graphically. The bibliography has two entries.

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USSR   UDC 621.382.3

FEDOTOV, YA. A., SIDOROV, V.G., GUSEV, V.A., VASIL'YEV, A.P., REMIZOVA, G.V.

"Definition Of The Determinant Factors During Physico-Mathematical Investigation Of The Quality Of Alloy-Type Low-Power Transistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, No 1(51), pp 3-24 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B176)

Translation: A method is proposed for analysis of the quality of alloy-type low-power transistors with the aid of physico-mathematical methods which define the determinate factors effecting the change of the individual parameters. Author's Summary.

1/1

USSR

UDC 615.747/.779

MOLOZHANOVA, YE. G., REMIZOVA, L. B., and BRANTSEVICH, L. G., All Union
Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers,
and Plastic Masses, and Kiev State University

"Detoxification of Chlorophos by Soil Microorganisms"

Abstract: It has been established that chlorophos may be decomposed in soil by
exoenzymes of soil microorganisms. The negligible amount of the agent that
remains in the soil up to two weeks may be explained by microbiological detoxi-
fication.

1/1

USSR

UDC 632.95

HOLOZHANOVA, YE. G., and REMIZOVA, L. B.

"Determination of Certain Organophosphorus Pesticides in the Soil When They are Present in Combination"

Tr. 2-go Vses. soveshch. po issled. ostatkov. pestitsidev i profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on Investigation of Residues of Pesticides, and Prevention of Pesticide Contamination of Foodstuffs, Fodder and the External Environment), Tallinn, 1971, pp 177-178 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N407)

Translation: The method of thin-layer chromatography on KSK silica gel in a fixed layer in the hexane - acetone system (1:1) is used for determining chlorophos, DDVF and rogor in the soil with development by a solution of iodine in alcohol and a solution of resorcinol in an alkaline medium. The pesticides are extracted from the soil with $CHCl_3$.

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- 48 -

TITLE--THE EARTHLY GRAVITATION OF ROCKETS -U-

AUTHOR--REMIZOVA M.

COUNTRY OF INFO--USSR

SOURCE--KNIZHNOYE OBOZRENIYE, JUNE 26, 1970, NR 26, P 4, COL 1

DATE PUBLISHED--26JUN70

SUBJECT AREAS--SPACE TECHNOLOGY, MISSILE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, ROCKET/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0893   STEP NO--UR/0567/70/000/026/0004/0004

CIRC ACCESSION NO--AN0107422
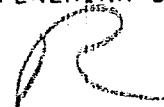   UNCLASSIFIED

CIRC ACCESSION NO--AN0107422
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN HIS BOOK "SPACE BLAZERS"
KOSMOPROKHODTSY, NIKOLAY MEL, NIKOV TELLS THE STORY OF THE PEOPLE WHO
MADE POSSIBLE THE FLIGHT OF THE "SOYUZ-9". THE BOOK HAS BEEN PUBLISHED
BY THE "SOVETSKAYA ROSSIYA" PUBLISHING HOUSE.

UNCLASSIFIED

1/2   009   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--ON THE AGE OF ERMANOV ROCK SERIES OF EASTERN SHORE OF PENZHINA GULF
-U-
AUTHOR--BESPALYY, V.G., FAYNBERG, F.S., REMIZOVSKIY, R.I.

COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 1 (121) P 123-129

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ABSOLUTE AGE, EARTH CRUST AGE, PALEOMAGNETISM, GEOCHRONOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1284   STEP NO--UR/0210/70/000/001/0123/0129

CIRC ACCESSION NO--AP0103166
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0103166
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF STUDY OF SECTION OF
CONTINENTAL SEDIMENTS OF ERMANOV ROCK SERIES AND UNDERLYING SEA
FORMATIONS OF ETALONSK ROCK SERIES ON THE SHORE OF REKINNIK GULF
(KAMCHATKA) ARE DESCRIBED IN THE PAPER. THE AUTHORS ESTABLISH THE UPPER
LIMIT OF SECTION AGE, ABOUT 3 MLN YEARS (MIDDLE PLIOCENE OR LOW PARTS OF
UPPER PLIOCENE) BASED UPON THE COMPARISON OF MAGNETIC POLARITY OF
ERMANOV SUITE ROCKS WITH PALEOMAGNETIC GEOCHRONOLOGICAL SCALE OF
PLIOCENE PLEISTOCENE.

UNCLASSIFIED

USSR

UDC 681.333

REMNEV, V. F.

"A Device for Solving Boundary Value Problems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, 1970, p 134, Abstract No 264803

Abstract: This Author's Certificate introduces a device for solving boundary value problems with processes of latent heat of fusion and soldification. The device contains a model grid unit, initial and boundary condition units, capacitors, an integrator, a comparison unit, and a switch for the grid intersection units. As a distinguishing feature of the patent, the class of problems which can be solved is expanded by connecting one plate of the capacitor for the latent heat of fusion and solidification in the grid intersection unit through the switch to a grid intersection point, while the other plate is connected to the output of the integrator. The adding inputs of the integrator are connected to the first plate of the capacitor for the latent heat of fusion and solidification and to the reference voltage source. A grid intersection point and the reference voltage source are connected to the first comparison

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USSR

REMNEV, V. P., Moscow, Otkrytiya, Izobreteniya, Promyshlennyye
Obraztsy, Tovarnyye Znaki, No 9, 1970, p 134 Abstract No 264803

unit and the output of the unit is connected to the "make" input
of the switch. The second and third comparison units are connected
to the output of the integrator and to the voltage source, and
their outputs are connected to the "make" inputs of the switch.

2/2

USSR

REMNEVA, Z. I.

"Control of Potato Pests and Diseases"

Minsk, Sel'skoye Khozyaystvo Belorussii, No 3, 1972, p 25

Abstract: Only about 20% of the expected potato yield is harvested in Belo-
russia because of the high incidence of disease. The commonest diseases are
scab, rhizoctonia, phytophthora, early dry leaf spot, stem nematode, bac-
terioses, and several viral diseases). Control measures include the planting
of healthy regionalized seeds, preparation of the soil, and spraying with
fungicides (Bordeaux mixture, zineb, captan, ziram). The most frequent
error committed by those responsible for chemical treatment is delaying the
first spraying, which should be done at the start of flowering. Early and
mid-season maturing varieties should be sprayed three to five times every
8 to 10 days and late varieties once or twice. Rain or other weather factors
should not interfere with the spraying schedule. The more favorable the
weather conditions are for the development of disease, the shorter the in-
tervals between sprayings should be. It is recommended that 20 kg of urea
per hectare be added to the fungicide to increase its stickiness and toxicity.
1/2

USSR

REMNEVA, Z. I., Sel'skoye Khozyaystvo Belorussii, No 3, 1972, p 25

If the Colorado potato beetle and its larvae are found to infest more than 1% of the plants, chlorophos or polychloropinene should be added to the fungicide.

2/2

USSR

UDC 620.172.251.1

KURKIN, S. A., REMOROV, V. YE. and GUBANOV, YU. N.

"A Device for Testing Metal Foil and Welded Junctions under Static and Small-Cycle Biaxial Stretch under Low-Temperature Conditions"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Mashinostroyeniye, No 4, 1973, pp 171-175

Abstract: A device for testing the buckling of flat or rolled metal foils, welded junctions, cylindrical vessels and pipes under conditions of biaxial stretch at low temperatures is described, which has a specified position for the power source in a special chamber, both cooled by the introduction of liquid air from a gas-cooling engine. Buckling is produced by static or small-cycle loading, by introducing a liquid under the sample. At the present time tests have been carried out to -60°C, using diesel fuel mark DA as the working liquid. However the cooling curve of the instrument indicates the possibility of lower temperature measurement.

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UDC 631.326

USSR

PRZHIYALKOVSKIY, V. V., SMIRNOV, G. D., PYRKIN, V. YA., VASILYEVSKIY, A. N.,
ZAPOL'SKIY, A. P., MAL'TSEVA, V. A., IVANOV, G. A., REMOROVA, R. A., KLEMMAN,
M. YE., and KUSHNEREV, N. T.

"Processor for Digital Data Processing System"

USSR Authors' Certificate No 305477 Cl. G06 f 15/16, filed 18 Apr 69,
published 29 Jul 71 (from Izh-Avtomatika, Telemekhanika i Vychislitel'naya
Tekhnika, No 5, May 72, Abstract No 5B220P)

Translation: The proposed device can be used in general-purpose computers
operating in the binary and decimal number systems, under fixed- and floating-
point conditions, and with representation of information in the form of machine
levels and alphanumeric symbols, which have the capability of a wide build-up
of peripherals. The processor contains arithmetic and logic units broken down
into sections, a data store with word addressing and symbolic addressing, a
control device to perform operations in accordance with a program routine,
built-in multiplex and selector channels to communicate with the set of periph-
erals operating simultaneously with the arithmetic and logic unit, a symbol
isolation unit, a number unit, and a storage address register.

1/1

TITLE--POSSIBLE FOR IULATION OF A SUBSTOICHIOMETRIC METHOD FOR DETERMINING
  TRACE AMOUNTS OF THORIUM -U-
AUTHOR-(02)-REMOV, A.G., SOBOTOVICH, E.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(1), 119-24

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TRACE ANALYSIS, THORIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0121   STEP NO--UR/0186/70/012/001/0119/0124

CIRC ACCESSION NO--AP0132414
UNCLASSIFIED

2/2   010
CIRC ACCESSION NO--AP0132414
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE SUBSTOICHIOMETRIC METHOD (A
  MODIFICATION OF ISOTOPIC DILN). DEVELOPED BY RUZICKA, ET AL. (1961), WAS
  APPLIED TO THE DETN. OF TH IN AQ. HCO SUB2 H SOLNS.   THE TH WAS EXTD.
  QUANT. WITH A 0.25M SOLNS. OF THENOYLTRIFLUOROACETONE IN CCL SUB4 AND
  WAS BACK EXTD. WITH A SUBSTOICHIOMETRIC AMT. OF AN AQ. SOLN. OF ARSENAZO
  III; PRIME234 TH WAS USED AS THE TRACER.   SINCE THE YIELD OF TH IN THE
  AQ. PHASE (IN THE BACK EXTN.) WAS A WELL DEFINED (ALBEIT NOT A LINEAR
  ONE) FUNCTION OF ITS INITIAL CONCN. IN THE ORG. PHASE, AT CONCNS. UP TO
  SIMILAR TO 10 MU G(IN THE ALIQUOT TAKEN FOR ANAL.), THE METHOD COULD BE
  USED FOR THE QUANT. DETN. OF TH AT SUCH CONCN., WITH AN ERROR OF PLUS OR
  MINUS 3PERCENT.

TITLE--USE OF SYNERGISM IN THE SUBSTOICHIOMETRIC ANALYSIS OF THORIUM -U-

AUTHOR-(02)-REMOV, A.G., SOBOTOVICH, E.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(1), 182-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL ANALYSIS, THORIUM, STOICHIOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0116   STEP NO--UR/0186/70/012/001/0182/0183

CIRC ACCESSION NO--AP0123888
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0123838
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   IN THE SUBSTOICHIOMETRIC DETN. OF
   TH BY THE METHOD OF REMOV, ET AL. (1970), THE SENSITIVITY AND ACCURACY
   ARE IMPROVED BY THE USE OF SYNERGETIC BACK EXTN. OF THE TH FROM THE ORG.
   TO THE AP. PHASE, E.G., THE USE OF A MIXT. OF ARSENAZO III (I) AND
   THORON (THE REAGENT) AT DCNCNS. OF 14 AND 9 MU G-3 ML, RESP., INCREASED
   THE AMT. OF TH IN THE AQ. PHASE TO 0.9 MU G, AS COMPARED WITH 0.6 MU G
   WHEN I ALONE WAS USED AT A CONCN. OF 14 MU G-3 ML.

UNCLASSIFIED

USSR   UDC 669.295.046.44

UTKOV, V. A., KUDINOV, B. Z., YAKOVLEV, V. A., TRUNOV, G. Z., KASHIN, V. V., REMPEL', P. S.

"Dilatometry of Titanium-Vanadium Agglomerate"

Tr. In-ta metallurii, Ural'sk. fil. AN SSSR (Works of the Institute of Metallurgy. Urals Branch of the USSR Academy of Sciences), 1970, vyp. 22, pp 140-142 (from Kzh-Metallurgiya, No 4, Apr 71, Abstract No 4G223)

Translation: The compositional and grain size characteristics of Kachkanarskiy concentrates determine its capacity for agglomeration. The ore has a high Fe content and low SiO_2 content. The ore composition is the following (in %):

Fe 59.9, FeO 26.0, SiO_2 5.4, TaO 2.0, V_2O_5 0.66, TiO_2 3.3, MgO 2.6, S 0.004.

The content of fractions in the concentrate is as follows (in %): +0.1 mm 23.3, +0.074 mm 15.7, -0.074 mm 61. This arises from the necessity for fine crushing of the ore. The temperature level of the sintering process is raised as a result of less development of the low-melting phases based on Ca, Si, and Fe oxides and also as a result of the presence of Ti and V oxides. The agglomerate is inclined toward crack formation as a result of internal stresses arising during cooling of the formed and hardened mass. There are 2 tables.
1/1

Acc. Nr. **AP0045148** Abstracting Service: Ref. Code
— CHEMICAL ABST. *5-70* *UR0138*

91293y **Properties of ebonites containing lignin treated by electrohydraulic shock.** Kochanova, O. M.; Zhdanova, S. V.; Storozheva, L. N.; Rempel, S. I. (Sverdlovsk. Filial Nauch.-Issled. Inst. Rezin. Prom., Sverdlovsk, USSR). *Kauch. Rezina* 1970, 29(1), 20–2 (Russ). Lignin (I) was washed with H_2O at 50–2°, acidified to pH 2.5–2.7, filtered, placed in a reactor contg. H_2O, and treated by electrohydraulic shock at a voltage of 45 kV for 8 min at 130 impulses/min. The modified I conferred on ebonite (II) superior elastic, physicomech., and dielec. properties. The physicomech. and dielec. properties of I-filled II were as good as those of II filled with II dust or kerogen-70. The max. vulcanization temp. of I-filled II was 180°.

CKJR

LD

REEL/FRAME

19780048

USSR

BERDYYEV, A. S., GLEBEZDIN, V. S., OVEZMUKHAMMEDOV, A., and REMYANNIKOVA, T. N.

"First Congress of the All-Union Society of Protozoologists (12-15 October 1971)"

Abstract: The first congress of the All-Union Society of Protozoologists, meeting in Baku, was attended by 250 delegates and guests, including nine persons from Turkmenia. There were three plenary sessions and four sections (General Protozoology; Medical Protozoology; Veterinary Protozoology; Parasitic Protozoa of Fish and Invertebrates). The president of the All-Union of Protozoologists, Professor Yu. I. Polyanskiy, spoke of "Prospects of Development of Protozoology in the USSR." Sh. D. Moshkovskiy, corresponding member of the Academy of Medical Sciences, USSR, spoke on "Protozoology and Immunology," Professor D. N. Zasukhin delivered a lecture on "I. I. Mechnikov and Contemporary Problems of Protozoology," Professor N. A. Kolabskiy spoke on "Professor V. L. Yakimov and his Role in the Development of Protozoology and Chemotherapy." Particular attention was attracted by the lecture of Professor Yu. I. Polyanskiy, "Some Aspects of the Evolution of Protozoa."
1/2

- 19 -

USSR

LUNICHKINA, K. P., and RENARD, B. V.

"Extraction of Americium (III), Lanthanum (III), and Neodymium (III) from Lactic Acid Solutions with Di-(2-ethylhexyl)phosphoric Acid in the Presence of Large Amounts of Rare-Earth Elements"

Leningrad, Radiokhimiya, Vol 15, No 1, 1973, pp 30-35

Abstract: The effects of the pH of the aqueous phase, the concentration of the extracting agent di-(2-ethylhexyl)phosphoric acid (I) in a technical mixture of alkylbenzenes (PAB), and the concentration of La in the aqueous phase on the extraction of indicator quantities of ^{241}Am from lactate-nitrate solutions were studied. It was was established that coextraction of lactate ions L^{-} with Am(III) into I took place. The mechanism of the extraction of Am(III) depended on the presence of macroquantities of La that was also extracted. In the absence of La, the extraction of Am(III) proceeded by the mechanism AmL_n^{3-n} + $3(HR)_2 \leftrightarrows AmL_n(HR_2)_{3-n} \cdot n(HR)_2 + (3-n)H^+$, where R is a di-(2-ethylhexyl)phosphate anion and n = 1-2, while in the presence of large amounts of La in the system it took place according to the equation $AmL_n^{3-n} + (3-n)HR \leftrightarrows AmL_nR_{3-n} + (3-n)H^+$ (n=1-2). The capacity of I for La and Nd was determined. It was found that I
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USSR

LUNICHKINA, K. P., and RENARD, E. V., Radiokhimiya, Vol 15, No 1, 1973, pp 30-35

extracted macroquantities of La or Nd (Ln = La, Nd) from lactate solutions in the form of the complex LnR_2L.

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— 21 —

AA0040631 R Remedy by 6482 3-76

Soviet Inventions Illustrated, Section I Chemical, Derwent,

233657 MERCURATED POLYSTYRENE CATALYST used in preparation of polymerisable vinyl carboxylates ensures less toxicity of the process improved catalyst life and economy of production and also renders the process continuous. The catalyst is prepared by soaking 15.6g of polystyrene in 174.6g of nitrobenzene overnight at room temp. A further 40g. of nitrobenzene are then added and the mixt. heated to 120°C for 1½-2hrs followed by the addition of 52.5g mercuric acetate and 9 ml. acetic acid. The mixture is heated for a further 6-7 hrs. at 120°C with stirring. The product is washed with methylated spirit and acetone and,d ried at 60°C. The catalyst is used in amount of 5% wt. of the fatty or aromatic acid used. 29.7.67. as 1175988/23-4, DAVANKOV, A.B. et al. Iu. G. Mamedaliev Petrochemical Inst. Sumgait Filial. (30.6.69) Bul. 3/24.12.68. Class 12o, 21, 12c, 12. Int. Cl. C 07c. C 07c.

L.O 7

19750191

AA0040631

AUTHORS: Davankov, A. B.; Renard, T. L.; Pishnamazzade, B.-A. F.;
           Shabanova, D. A.; and Kotlyarevskaya, V. N.

           Sumgaytskiy Filial Instituta Neftekhimicheskikh Protsessov
           imeni Yu. G. Mamedaliyeva

19750192

1/2   023

UNCLASSIFIED

TITLE--THE ALL SOVIET TELEVISION CENTER OSTANKINO, PART I -U-

PROCESSING DATE--23OCT70

AUTHOR-(02)-OSTROVSKIY, J.V., RENARD, V.B.

COUNTRY OF INFO--USSR

SOURCE--BERLIN, NACHRICHTENTECHNIK, VOL 20, NO 4, APRIL 1970, PP 121-128

DATE PUBLISHED----APR70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--TV BROADCASTING, TV EQUIPMENT, TV NETWORK, TV ANTENNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0161

STEP NO--GE/9009/70/020/004/0121/0128

CIRC ACCESSION NO--AP0122414

UNCLASSIFIED

CIRC ACCESSION NO--AP0122414
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. THE ARTICLE DESCRIBES THE NEW
   TELEVISION CENTER WHICH HAS BEEN ERECTED WITH A 533 M HIGH TRANSMITTER
   TOWER AT THE NORTHERN OUTSKIRTS OF MOSCOW.   THE CONSTRUCTION OF THAT
   TOWER AND THE ADJOINING STUDIO FACILITIES TOOK ABOUT 3 AND ONE HALF
   YEARS; IT NOW PROVIDES SIX PROGRAMS (350 PROGRAM HOURS WEEKLY) OVER A
   NETWORK COVERING THE ENTIRE SOVIET UNION.   BOTH BLACK AND WHITE AND
   COLOR BROADCASTING IS POSSIBLE, ALSO EXCHANGE AND HOOK UP WITH OTHER
   COUNTRIES.   BOTH THE VIDEO AND AUDIO EQUIPMENT IS OF HIGHEST QUALITY,
   THE FILM CAMERAS ARE PROVIDED WITH ELECTRONIC SCANNERS AND ELECTRONIC
   PICTURE CONTROL, THE LIGHT SOURCES ARE OF THE LATEST MODELS WHOSE
   SPECTRAL AND BRIGHTNESS SENSITIVITIES MATCH CLOSELY THOSE OF THE HUMAN
   EYE.   THE VARIOUS TECHNICAL ASPECTS OF THE PROGRAMS AS WELL AS THE
   GENERAL CONSTRUCTION AND OPERATION OF THE TRANSMITTER STATION ARE
   DESCRIBED.   OF PARTICULAR INTEREST IS THE ANTENNA POLE: THE CHOICE OF
   THE TYPE OF CONSTRUCTION IS DISCUSSED, BASIC DESIGN CALCULATIONS ARE
   SHOWN WHICH TAKE INTO CONSIDERATION ALSO MAXIMUM PERMISSIBLE DEFLECTION
   OF THE POLE, AND THE ESSENTIAL APPARATUS COMPONENTS ARE DESCRIBED.
   CONTINUATION OF THE ARTICLE IS TO FOLLOW.   NO BIBL. REF. ARE LISTED.
   MANUSCRIPT DATE NOT GIVEN.   FACILITY: ALL SOVIET TELEVISION
   CENTER, MOSCOW.

UNCLASSIFIED

USSR

BESSMERTNYKH, V.N., RENCH, YE.I.

UDC 621.385.6.001.2

"Computation Of The Temperature Of The Collector Wall Of Type O Microwave Power Devices"

Elektron.tekhnika. Nauch.-tekhn.sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1971, No 9, pp 26-33 (from RZh:Elektronika i yeye primeneniye, No 1, Jan 72, Abstract No 1A150)

Translation: On the basis of an approximation of the distribution of specific dissipation power along the generating inner cavity of the collector, a computation is made by exponential and linear functions of the wall temperature of the collector, which makes it possible to evaluate the wall temperature at an early stage of planning of the collector. Measurements of the temperature in an actual collector showed good agreement with the results of computation. The error of the computation does not exceed 10 percent. 7 ref. Summary.

1/1

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USSR

UDC 539.4

RENDOLL, DZH., and ERLI, K.

"On the Dependences of Applied Ultimate Tensile Stress, Critical Tensile Stress, the Yield Limit and the Coefficient of Stress Concentration for High-Strength Steels"

Moscow, Novyye metody otsenki soprotivleniya met. khrupkomu razrusheniyu (New Methods of Evaluating the Resistance of Metals to Cleavage Fracture, Collection of Works), Mir, 1972, pp 198-212 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V1369 by P. F. Koshelev)

Translation: Experiments were conducted on geometrically similar samples to the Sharp type with a wedge notch and dimensions of transverse cross section 10x10 mm and 25X25 mm, divided into three types of laboratory fusions of secondarily congealed alloys; the samples were tested to destruction in three-point bending with a static speed of loading at temperatures +20, -78 and -196°. The samples of small dimensions and the samples for determining the mechanical properties were divided from the destroyed half of the large samples. It is shown that the value of the destroying load during bending tests is decreased with an increase in the yield point of the steel higher than 120 kg/mm² independent of the method of measurement of this characteristic. The basic relationships
1/2

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USSR

RENDOLL, DZH, and ERLI, K., Novyye metody otsenki soprotivleniya met. khrupkomu razrusheniyu, 1972, pp 198-212

between the normal ultimate tensile stress, the critical value of the maximal tensile stress at a certain point around the notch, the yield limit and stress concentration in the plastic region are determined. It is also shown that the decrease of the normal tensile stress observed with an increase in the yield point, can be explained as the relationship between the coefficient of stress concentration in the plastic region and the value of the ratio of maximal bending stress of the notch foundation without a calculation of the elastic concentration to the yield point of the material; a numerical evaluation of the dependences demonstrated is conducted. (13 bibliographic entries)

2/2

USSR

TRONEVA, N. V., RENEV, V. K., SPITSYN, P. K., and ANTONOV, A. V.,
State Scientific Research and Planning Institute of the Rare Metal
Industry, Moscow, State Committee for Ferrous and Nonferrous
Metallurgy USSR

"Determination of Total Rare Earths and Yttrium in Industrial Solu-
tions by the X-Ray Absorption Method"

Abstract: The authors devised and tested experimentally a new
variant of X-ray absorption for testing industrial solutions used
in the production of rare-earth elements.

Using a "Mineral-3" analyzer, they were able to determine
yttrium on the basis of absorption jump, and total rare earths on
the basis of the absorption coefficient for MoK_α -radiation.

Data thus obtained did not differ by more than 3 - 5% from
those obtained with the usual chemical means. The new method is
equally advantage of being more rapid than the chemical method.
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1/2   024   UNCLASSIFIED

TITLE--DETERMINATION OF THE AMOUNT OF RARE EARTH ELEMENTS AN YTTRIUM IN
    INDUSTRIAL SOLUTIONS BY AN X RAY ABSORPTION METHOD --U-

PROCESSING DATE--13NOV70

AUTHOR-(04)-TRONEVA, N.V., RENEV, V.K., SPITSYN, P.K., ANTONOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 378-80

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--X RAY ABSORPTION, RARE EARTH COMPOUND, YTTRIUM, SOLUTION
    CONCENTRATION, NITRIC ACID, SOLUTION ACIDITY, X RAY ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1878

STEP NO--UR/0075/70/025/002/0378/0380

CIRC ACCESSION NO--AP0115697
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0115697   UNCLASSIFIED   PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW MODIFICATION OF THE X RAY
ABSORPTION METHOD FOR THE ANAL. OF INDUSTRIAL SOLNS., INTERMEDIATES OF
RARE EARTH PRODUCTION, WAS DEVELOPED.   THE METHOD PERMITS THE USE OF A
SINGLE INSTRUMENT TO DET. THE TOTAL CONTENT OF THE RARE EARTH BY THE
ABSORPTION COEFF. OF THE MO TARGET IRRADN. AND THAT OF Y BY THE
ABSORPTION JUMP.   IN HNO SUB3 SOLNS., PH HAS NO EFFECT ON THE SHAPE OF
THE CALIBRATION GRAPH.

UNCLASSIFIED

1/2   023
TITLE--DRAWING OF STRIP THROUGH A DRAW PLATE WITH A SIGMOIDAL FORM -U-
UNCLASSIFIED   PROCESSING DATE--13NOV70

AUTHOR-(02)-RENNE, I.P., IVANOVA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z, TSVETNAYA MET., 1970, (1), 136-140

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL STRIP, ALUMINUM ALLOY, COPPER ALLOY, CARBON STE,
    BIBLIOGRAPHY, METAL BRITTLENESS, DIE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0542
                              STEP NO--UR/0149/70/000/001/0136/0140
CIRC ACCESSION NO--AP0124237
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0124237   UNCLASSIFIED   PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUESTION AT TO THE OPTIMUM PROFILE OF DRAW PLATE FOR THE DRAWING OF METAL STRIP IS DISCUSSED AND THE ADVANTAGES OF SIGMOIDAL PLATES RATHER THAN THOSE WITH WEDGE OR RADIAL PROFILES ARE CONSIDERED ON THE BASIS OF PRACTICAL DATA OBTAINED FOR AL AND CU ALLOYS AND C STEEL. THE NEW PLATE GIVES A MORE UNIFORM DISTRIBUTION OF DEFORMATION THROUGHOUT THE THICKNESS OF THE STRIP AND THUS IMPARTS A GENERAL IMPROVEMENT TO THE QUALITY OF THE PRODUCT. THIS IS PARTICULARLY MARKED IN THE CASE OF BRITTLE METALS.

UNCLASSIFIED

1/2   013
TITLE--THE EFFECT OF ELECTRIFYING A SYNTHETIC FILM DURING MANUFACTURE OF
    WOUND CONDENSERS --U-   UNCLASSIFIED
                                                    PROCESSING DATE--04DEC70
AUTHOR-(02)-RENNE, V.T., DARBINYAN, SH.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESTVO, NO 2, 1970, PP 74-78

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENC., MATERIALS

TOPIC TAGS--ELECTRIC CAPACITOR, SURFACE FILM, PRODUCTION ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1200

                              STEP NO--UR/0105/70/000/002/0074/0078

CIRC ACCESSION NO--AP0123167

                    UNCLASSIFIED

CIRC ACCESSION NO--AP0123167   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN FROM A STUDY ON THE NATURE OF DEFECTS WHICH ARISE DURING TESTING OF CONDENSERS AT SHARPLY DIMINISHED FIELD INTENSITY. THE REASONS FOR CONSIDERABLE WASTE DURING FILM PRODUCTION WERE ALSO STUDIED. IT IS SHOWN THAT A DECREASE IN DISRUPTIVE STRENGTH OF THE FILM IS CONDITIONED BY PUNCTURES CAUSED BY HARD PARTICLES FALLING ON THE FILM SURFACE AFTER MANUFACTURE. THE FORMATION OF CREASES, FILM ROLL IRREGULARITIES, AND DEVIATION FROM RATED THICKNESS, ETC. ARE CAUSED BY THE STICKING OF THE FILM TO THE MACHINE TOOL GUIDE ROLLERS DURING WINDING AND ALSO BY THE STICKING OF THE ROLL LOOPS TO EACH OTHER. THE ENUMERATED PROCESSES OF STICKING AND FILM CONTAMINATION ARE CONDITIONED BY THE ELECTROSTATIC ATTRACTION OF FILM SURFACE CHARGES RESULTING FROM ELECTRIFICATION. A METHOD IS INVESTIGATED FOR LOWERING THE DEGREE OF FILM ELECTRIFICATION AND FOR LIQUIDATING STICKING BY INTRODUCING CERTAIN DIOXIDES INTO THE FILM COMPOSITION. THE EFFECT MECHANISM OF THESE OXIDES CONSISTS IN INCREASING THE SURFACE MICROROUGHNESS OF THE FILM.

UNCLASSIFIED

1/2   012

UNCLASSIFIED

TITLE--INTRINSIC ELECTRICAL STRENGTH OF A POLYPROPYLENE FILM -U-   PROCESSING DATE--27NOV70

AUTHOR-(02)-RENNE, V.T., FORSILOVA, I.D.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 358-60

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC FILM, DIELECTRIC STRENGTH, MEASUREMENT, POLYPROPYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1237

STEP NO--UR/0460/70/012/005/0358/0360

CIRC ACCESSION NO--AP0134911

UNCLASSIFIED

CIRC ACCESSION NO--AP0134911   UNCLASSIFIED   PROCESSING DATE--27NOV70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE EXPTL. VALUE OF THE ELEC.
STRENGTH OF DEFECT FREE POLYPROPYLENE FILM WAS 4140 KV PER CM COMPARED
TO A THEORETICAL VALUE OF 4800 KV PER CM.   FACILITY: POLITEKH.
INST. IM. KALININA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 539.3/.5

RENSKIY, A. B., MURATOV, Ya. M.

"On the Problem of Determining Errors in Measurements of Internal Deformations"

Sb. tr. Azerb. NII stroymaterialov i sooruzh. (Collected Works of the Azerbaydzhan Scientific Research Institute of Construction Materials and Structures), 1970, No 34, pp 254-261 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V1275)

Translation: It is shown that in order to evaluate the stressed and de-formed state of autoclave-set concretes in the process of hygrothermal treatment, it is necessary to make reliable measurements of deformations both on the surface and within concrete volumes. Since measurement of in-ternal deformations necessarily involves the distorting effect of the primary pickup device on the force field in the zone where it is located, this paper proposes a method for determining the coefficient of distortion of deformation which characterizes the error of such measurements. On the basis of solution of a problem in mathematical elasticity theory, the authors determine the coefficient of distortion of deformation and plot a

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RENSKIY, A. B., MURATOV, Ya. M., Sb. tr. Azerb. NII stroymaterialov i sooruzh., 1970, No 34, pp 254-261

graph for this coefficient as a function of the ratio of the reduced moduli of elasticity of the medium and the pickup. It is shown that the resultant graph can be used to judge the magnitude of the overall error which determines the deviation of the measured deformation from its true value as well as the magnitude of the differential error which characterizes the change in readings of the pickup of deformation when there is a change in the modulus of elasticity of the medium during measurements. N. A. Petrova.

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1/2   023
TITLE--EMV-100L ELECTRON MICROSCOPE -U-   UNCLASSIFIED   PROCESSING DATE--27NOV70

AUTHOR-(04)-STOYANOV, P.A., MOSEYEV, V.V., ROZORENOVA, K.M., RENSKIY, I.S.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 211-16

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON MICROSCOPE, PERMALLOY, OPTIC LENS, MOLYBDENUM OXIDE,
    INORGANIC CRYSTAL/(U)EMV100L ELECTRON MICROSCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1863
                                        STEP NO--UR/0120/70/001/000/0211/0216
CIRC ACCESSION NO--AP0118827
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0118827   UNCLASSIFIED   PROCESSING DATE--27NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW ELECTRON MICROSCOPE WITH
HIGH RESOLN. IS DESCRIBED. ALL ITS LENSES ARE MADE FROM DIFFERENT TYPES
OF PERMALLOY. THE COLUMN OF THE MICROSCOPE HAS HIGH MECH. STABILITY.
THE THEORETICAL RESOLN. OF 2 ANGSTROM WAS REALIZED IN PRACTICE. THE
ELECTRON OPTICAL MAGNIFICATION IN PHOTOGRAPHING IR PARTICLES ON A C
SUBLAYER WAS 440,000 TIMES. PHOTOGRAPHS OF THE AU LATTICE, (200) PLANE,
AND FRESNEL DIFFRACTION BANDS ON THE EDGE OF MOO SUB3 CRYSTALS ARE
GIVEN.

UNCLASSIFIED

USSR

STOYANOV, P. A., MOSEYEV, V. V., ROZORENOVA, K. M., RENSKIY, I. S.

"EMV-100L Electron Microscope of Limiting Resolution"

Moscow, Izvestiya Akademii Nauk, Seriya Fizicheskaya, Vol 34, No 7, 1970, pp 1388-1395

Abstract: This article is devoted to the electron microscope model EMV-100L and its construction, specifications, and capabilities. It has an accelerating voltage of 100 kV and a resolving power equal to the theoretical limit. Its column consists of the electron gun, two condensor lenses, the objective, and an intermediate and projection lens. There is also a second intermediate lens in the form of a modification of the objective tube; it is used to obtain electronograms. The column is very stable mechanically. All lenses are made of precision permalloy of various brands and, as a result, the field dispersion in the space between the lenses is substantially reduced and its effect on the miscroscope's adjustment practically eliminated. The article is liberally illustrated with cross-sectional diagrams of the instrument, photographs of its external appearance, and 1/1 some of the photomicrographs made with it.

USSR

RENTEL', V.F., POROKHIN, V.I.

UDC 62-531

"Hydraulic Spacing Tracking Drive"

USSR Author's Certificate No 256407, Filed 23/07/68, Published 27/03/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'-
naya Tekhnika, No 12, 1970, Abstract No 12 A275P by V.D.)

Translation: The drive system suggested consists of two double-action hydrau-
lic cylinders (C), controlling and actuating, and a valve distributor, the
stem of which is rigidly connected to the moving controlling C (CC), while
the valve portion is rigidly connected to the nonmoving base. The control or-
gan is connected to the shaft of the piston of the CC. The shaft of the piston
of the actuating C (AC) is connected to the load. The cavities of the C are
connected together, as well as to a source of pressure or drain through the
distributor. Movement of the shaft of the piston in the CC is transmitted to
the C, since its cavities at the initial moment of motion are covered with the
distributor, and to the shaft of the distributor. One cavity of the AC is

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USSR

connected to the pressure supply, the other of the CC is connected to the
drain. Movement of the AC piston is transmitted by means of the fluid to
the CC piston which, by moving, returns the distributor stem to its neutral
position relative to the valve, thus causing the AC piston to "track" the
movement of the control organ. The control system includes an electric-
hydraulic switch connecting the cavities of the AC to the drain, when the
control organ is set in the central position, and a spring setting the posi-
tion of the AC in the central position when its cavity is connected to the
drain, in order to compensate for leaks and temperature deformations. One
figure.

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USSR

MASALOV, S. A., REPA, YU. T.

"Wave Diffraction on an Array of Rectangular Dielectric Bars"

Translation: The solution of the problem of diffraction of an H-polarized normally incident wave on a dialectric array is obtained in the strict statement. An analytical and numerical analysis of the problems of E and H-polarization are performed. It is demonstrated that the truncation method is applicable to the systems obtained, and in individual cases the method of successive approximations can be used. They are found with an error estimate for the resonance transmission points. It is established numerically that in the E and H cases for certain values of the parameters of the problem, the array will have total resonance reflection. It is noted that the investigated method of investigation can be extended to other diffraction problems. There are 5 illustrations and a 2-entry bibliography.

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USSR

ASEYEV, G. G., KUZNETSOVA, G. G., REPALOV, N. S., KHIZHNYAK, N. A., Physical-
-Technical Institute, Academy of Sciences of the UkrSSR, Khar'kov

"Parametric Instability of an Electron Beam Modulated by an External Elec-
trostatic Field"

Abstract: The paper presents the results of experiments on studying the
instability of an electron beam passing through a spatially periodic electric
field. The conditions of existence of instability are experimentally de-
termined. The increment of instability is measured together with its de-
pendence on the electric field. The energy distributions of the electrons
in the beam are measured in various operating modes. Some nonlinear limi-
tations of stability are observed. The results agree with the theoretical
model of parametric instability. The authors thank A. P. Voronin for pre-
paring the experiment and assisting with the measurements.

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UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--NONLINEAR INTERACTION OF LONGITUDINAL WAVES IN A NONISOTHERMAL
PLASMA -U-

AUTHOR-(02)-VODYANITSKIY, A.A., REPALOV, N.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, JAN. 1970, P. 32-40

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--INHOMOGENEOUS PLASMA, PLASMA OSCILLATION, PLASMA INTERACTION,
PLASMA WAVE PROPAGATION, TURBULENT PLASMA, NONLINEAR EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1219   STEP NO--UR/0057/70/040/000/0032/0040

CIRC ACCESSION NO--AP0046142
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0046142   UNCLASSIFIED   PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DERIVATION OF EQUATIONS FOR THE AMPLITUDES AND PHASES OF THE INTERACTING ION ACOUSTIC LANGMUIR OSCILLATIONS IN A NONISOTHERMAL PLASMA. ON THIS BASIS, A STUDY IS MADE OF THE INTERACTION OF LOW FREQUENCY ION ACOUSTIC WAVE WITH A DISCRETE SET OF HIGH FREQUENCY LANGMUIR WAVES, USING THREE FOLLOWING ASSUMPTIONS: (1) A FINITE NUMBER OF LANGMUIR WAVES, (2) TWO LANGMUIR WAVES WITH DIFFERENT PHASES, AND (3) AN INFINITE SET OF PHASED LANGMUIR WAVES. USING OBTAINED SOLUTIONS, A COMPARISON IS MADE OF THE CHARACTERISTICS TIMES OF THE NONLINEAR INTERACTIONS AS WELL AS EVALUATION OF THE ENERGY FRACTION TRANSFERED TO THE IONIC SOUND BY LANGMUIR OSCILLATIONS. THE CRITERIA FOR TURBULENCE OF AN ION PLASMA ARE ESTABLISHED.

UNCLASSIFIED

USSR

VODYANITSKIY, A. A., REPALOV, N. S.

"Spatial Echo and Nonlinear Interaction of Waves in a Plasma"

Translation: Spatial echo is investigated considering the motion of electrons and ions in all frequency regions. An expression is obtained for the echo signal at the natural oscillations of the plasma under the condition that at least one of the three frequencies of the external sources and the echo belong to the transparency region. The signal for the nonlinear interaction of waves is compared with the echo in the plasma.

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USSR

UDC 533.916

ASEYEV, G. G.,KUZNETSOVA, G. G., REPALOV, N. S., SAFRONOV, B. G.,
KHIZHNYAK, N. A .

"Parametric Instability of an Electron Beam in a Spatially Periodic Electric
Field"

Translation: Experimental studies of parametric instability of an electron
beam as it passes through a spatially periodic electric field are described.
The functional relationship between the level of the high-frequency radia-
tion and the accelerating voltage and the current of the gun and also the
magnitude of the external electric field is investigated. It was established
that these relationships have a resonance character. Theoretical and experi-
mental results for the case of resonance at the second harmonic of the
plasma frequency of the beam agree quite satisfactorily. The results are
analyzed.

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Coatings

USSR

UDC 621.763

FRANTSEVICH, I. N., KARPINOS, D. M., BESPYATYY, V. A., BESPYATYY, A. A., and REPECHENKO, G. A., Institute of Problems of Material Sciences, Academy of Sciences Ukrainian SSR; Zaporozh'ye "Kommunar" Automobile Plant

"Barrier Coating on Tungsten Fibers for Reinforced Nickel-Base Compositions"

Abstract: The potentials of metal-base reinforced compositions appear to be limited due to the problem of stability of this class of materials, particularly by the stability of the interphase boundary of the composition at high temperatures. This study concerns a new technology of applying an antidiffusion coating to tungsten fibers as well as its reinforcing properties in a nickel-base composition. The experiment involved a WAl_{12} compound applied by spraying in vacuum to tungsten fibers. The compound was

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USSR

FRANTSEVICH, I. N., et al., Poroshkovaya Metallurgiya, No 10,
Oct 70, pp 38-43

found to provide a stable interphase boundary in a nickel-base
composition at 1200° C for a minimum of 100 hours and at 1100°C
for a minimum of 300 hours. The findings were confirmed by
microstructural x-ray spectral analysis of the interphase
boundary in a WAl$_{12}$ coating applied in 0.01-mm layers. Use was
made of an MAR-1 microanalyzer to study the tungsten distribu-
tion in the composition along the interphase boundary after
various durations of heat treatment.

2/2

USSR

REPETSKIY, L.

"Explosion in the Laboratory"

Moscow, Leninskoye Znamya, 26 Aug 73, p 4

Abstract: Staff members of the Institute of Chemical Physics, USSR Academy of Sciences, in Chernogolovka, Noginskiy Rayon, have constructed a device capable of creating a "shock wave" generating a pressure of 100,000 to 200,000 atmospheres. Exposure of organic matter to such a shock wave causes simple molecules to combine instantly with one another to form long polymer chains consisting of tens of thousamds of monomers. Shock waves of different intensities acting on the same molecules produce polymers with different structures and properties. Amino acids are transformed into polypeptides. Terrestrial life may have originated as a result of shock waves. It is not known whether polymerization takes place during a shock wave or is a consequence of it.

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USSR

UDC: 539.3:534.001

REPIN, A. A., Moscow

"Free Oscillations of Conical Shells Under Various Boundary Conditions"

Kiev, Prikladnaya Mekhanika, Vol. 8, No. 1, 1972, pp 35-40

Abstract: Results are presented from solution of the problem of determination of
the natural frequencies and forms of oscillations of conical shells. The study is
based on analysis of the solution of the equations for asymmetrical oscillations
of smooth shells using the method of finite differences. The influence of various
boundary conditions on the minimal oscillating frequencies of conical shells is
studied. The results of the solutions are presented as functions of two
similarity parameters of the conical shells. As the number of waves increases, the
maximum amplitude is shifted toward the larger base, and the bending at the smaller
base approaches 0. Essentially, where the number of waves is sufficiently high,
only the portion of the cone adjacent to the larger base oscillates.

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USSR

REPIN, A.M.

UDC 621.314.61

"Transients In A Multiphase Converter With Finite Cathode Inductance"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works Of The Moscow Electrical Engineering Institute Of Communications), 1970, No [not shown], pp 167-168 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B505)

Translation: A computation is presented of transient and steady-state regimes in the circuit of a multiphase rectifier [ventil'] converter, by the methods of operational and relative equivalents and equivalent reactions. The reaction is considered of a RL-circuit during nontrivial initial conditions to the effect of a single pulse corresponding to the form of the feed voltage for one of the phases in the period of conductivity of the corresponding rectifier. Computations are presented of the instantaneous, average, and effective values of the currents of the rectifier and load, and also the voltage at the choke coil during switching of the converter. 3 ill. A.S.

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Microelectronics

USSR   *1*

UDC 621.382

VERGUNAS, F. I., Doctor of Physical and Mathematical Sciences, IVANOVA, G. A.,
ABDIYEV, S., REPIN, A. V., VARFOLOMEYLV, I. N., Engineers

"Some Possibilities of Using Optoelectronic Switches in Microelectronic Circuits"

Moscow, Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46

Abstract: The OEK-2 optoelectronic converters -- a film photoresistor and
gallium phosphide light diode couple mounted in the TO-5 housing -- were described
previously [F. I. Vergunas, et al., Pribory i sistemy upravleniya, No 1, 1972].
In the present article a study is made of the possibilities of using OEK-2 in
phase automatic frequency control circuits, in automatic phase control systems
and as a controllable divider. The operating characteristics of the OEK-2 in
the various applications are described. Some advantages of the three mentioned
circuits using the OEK-2 include the following, respectively: 1) the filter
band width switching circuit using the OEK-2 is very simple, does not require
regulation and has an intake of no more than 10-20 milliwatts; 2) absence of
a galvanic coupling between the control voltage from the discriminator and the
signal the phase of which must be reversed in the automatic phase control sys-
tem; 3) application of a photoresistor as the controllable element permits a
divider to be obtained which is linear in a broad range of operating voltages
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USSR

VERGUNAS, F. I., et al., Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46

-- from units of microvolts to several volts, the control signal is quite small, and electrical decoupling is insured between the controlling and controlled signals.

USSR

UDC 621.385.185

YEGERMAN, L.YA., REPIN, G.I.

"On The Anticipated Requirement Of The National Economy For Receiving Tubes And The Prospective Growth Of Industrial Enterprises"

Nauchno-tekhn. sb. Priyemno-usilit. lampy (Scientific-Technical Collection. Receiving Tubes), 1970, Issue 1(16), pp 111-114 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A4)

Translation: A 15-20 year forecast is given of the requirement of the national economy for receiving tubes. By 1985, a decrease up to 48% (from 100% in 1970) of the requirement for these tubes is anticipated, in connection with their replacement by semiconductor devices and the use of microassemblies. Summing up the situation as to the requirement for receiving tubes and its possible abrupt decrease in the next five years requires changes in the structure of the special enterprises manufacturing these tubes. 5 tables. G.B.

1/1

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USSR   UDC 613.646:613.13

MALYSHEVA, A. Ye., Professor, REPIN, G. N., and NIKOLAYEVA, Ye. N., Institute
of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR,
Moscow

"The Significance of the Microclimate of Industrial Premises for Human
Seasonal Adaptation"

Abstract: Male workers in three occupational groups, working in different
industrial microclimatic conditions, have been investigated in recent years.
The first group consisted of construction workers who worked outside the
year round (Moscow); the second group consisted of workers in machine as--
sembly shops working in ventilated quarters with normal microclimate (city
of Elektrostal'); and the third group comprised "hot" shop workers, who were
subjected to infrared radiation, high air temperatures -- especially in the
summer, and also to large temperature drops (Lipetsk).

More than 1,000 workers in these occupational groups underwent physiological
and immunobiological tests. A total of 5,000 workers in the same groups
1/2

USSR

MALYSHEVA, A. Ye., et al, Gigiyena i Sanitariya, No 11, 1970, pp 24-29

were subjected to a detailed analysis of their morbidity with temporary work disability. Differences in the skin temperature response to local cooling must be evaluated as an indicator of higher functional lability of skin vessels to cooling in construction workers.

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USSR

UDC 549.21

LITVINOV, A. N., and REPIN, I. I., Institute of Mathematics, Academy of Sciences Ukrainian SSR

"Closeness of Distributions of Two Markovian Sums of Random Variables Without the Condition of Neglecting Limits"

Kiev, Ukrainskiy Matematicheskiy Zhurnal, Vol 23, No 2, 1971, pp 248-253

Abstract: The article considers the two sequences of series of random variables

$$\xi_0^{(n)}, \xi_1^{(n)}, \ldots, \xi_n^{(n)} \quad \text{and} \quad \bar{\xi}_0^{(n)}, \bar{\xi}_1^{(n)}, \ldots, \bar{\xi}_n^{(n)}$$

such that the successive sums in each sequence

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USSR

convergence of the two Markovian sums of random variables without the
condition of neglecting limits. An evaluation of the difference of the dis-
tributions of these sums is obtained according to the value of the pseudo-
moments. A theorem is also formulated for the case of lattice distribution
functions.

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USSR

$$\eta_0^{(n)} = \xi_0^{(n)}, \quad \eta_1^{(n)} = \xi_0^{(n)} + \xi_1^{(n)}, \ldots, \quad \eta_n^{(n)} = \sum_{k=0}^{n} \xi_k^{(n)},$$

$$\bar{\eta}_0^{(n)} = \bar{\xi}_0^{(n)}, \quad \bar{\eta}_1^{(n)} = \bar{\xi}_0^{(n)} + \bar{\xi}_1^{(n)}, \ldots, \quad \bar{\eta}_n^{(n)} = \sum_{k=0}^{n} \bar{\xi}_k^{(n)}$$

form Markov chains. Instead of the condition of neglecting limits there is closeness between the corresponding addends in these sums by means of the pseudomoments first considered by V. M. ZOLOTAREV for the sums of independent random variables. A theorem is formulated defining the conditions for

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USSR

LYTVYNOV, O. M., and REPIN, I. I., Institute of Mathematics, Academy of Sciences Ukrainian SSR

UDC 519.21

"On the Closeness of the Distribution of Two Markov Sums of Random Variables Without the Condition of Limiting Negligibility"

Abstract: The article considers two successive series of random variables in which the successive sums in each sequence form a Markov chain. Instead of the condition of limiting negligibility, the closeness between the corresponding addends in the sums are given by means of pseudomoments, first considered by V. M. Zolotarev for the sums of independent random variables. A theorem is formulated which defines the conditions for the convergence of the two Markov sums of random variables without the condition of limiting negligibility, and on the basis of this theorem a theorem is formulated for the case of lattice distribution functions. Both theorems are analogs of Zolotarev's theorems for the case of Markov sums.

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USSR

UDC 612.57+611.814

KHUDAYBERDIYEV, M. D., and REPIN, I. S. Institute of Experimental Medicine,
Academy of Medical Sciences USSR, Leningrad

"The Effect of the Pyrogenic Albumin Fraction of Polymorphonuclear Leukocytes on
the Thermoregulating Structure of the Hypothalamus"

Moscow, Doklady Akademii Nauk SSSR, Vol 194, No 4, 1970, pp 961-963

Abstract: Microinjection of an aqueous acellular extract of granulocytes into the
medial preoptical region (MPR) leads to an increase in internal body temperature.
The pyrogenic activity of such extracts in rabbits was studied by internal testing
after either intravenous or intraventricular introduction of various albumin frac-
tions. In both cases, a centrogenic mechanism was established for the effect of the
leukofactor on thermoregulation. Microinjections of the active fraction were intro-
duced into different parts of the hypothalamus. The pyrogenic effect was propor-
tional to the doses used. On introduction of purified granulocytes into the MPR,
the body temperature increase was considerably faster (around 3-5 min) than when
an unpurified extract was used. Similar injections of hydrocortisone, insulin, and
several other substances (even at higher doses and concentrations) did not repro-
duce the effect of the leukocyte extracts. The brain threshold value was established
at 10^{-7}g. This value corresponds to a concentration of 10^{-11}M and indicates the
high specificity of the thermoregulating components in the MPR.
1/1

UNCLASSIFIED

TITLE--TO WORK FOR NEPTUNE -U-

PROCESSING DATE--27NOV70

AUTHOR--REPIN, L.

COUNTRY OF INFO--USSR

SOURCE--KOMSOMOL, SKAYA PRAVDA, AUGUST 15, 1970, P 4, COLS 6-8

DATE PUBLISHED--15AUG70

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

TOPIC TAGS--CATAMARAN, UNDERWATER EQUIPMENT, UNDERWATER INSTALLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1884

CIRC ACCESSION NO--AN0125488

STEP NO--UR/9007/70/000/000/0004/0004

UNCLASSIFIED

CIRC ACCESSION NO--AN0125488   UNCLASSIFIED

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

STRUCTURE, THE COMPREHENSIVE SELFSUPPORTING MARINE STATION, HAS BEEN
PROPOSED FOR UNDERWATER WORK BY ENGINEER V. A. STEPANOV.   IT IS A
CATAMARAN VESSEL WITH A STEEL TUBE ABOUT 4 METERS IN DIAMETER AND ABOUT
100 METERS LONG MOUNTED BETWEEN ITS TWIN HULLS. WHEN THE VESSEL HAS
REACHED THE WORKING AREA, THE TUBE WOULD BE PLACED IN VERTICAL POSITION.
THIS TUBE IS PARTITIONED INTO THREE SECTIONS. THE LOWEST ONE IS
ACTUALLY AN ELEVATOR CAPABLE OF TAKING DOWN A CREW OF SEVEN. ABOVE IT
IS THE DECOMPRESSION CHAMBER. THE UPPERMOST SECTION IS THE LIVING
QUARTER FOR 9 TO 12 MEN. AFTER THE ELEVATOR TAKES THE CREW DOWN IT
WOULD BECOME AN AUTONOMOUS SUBMERSIBLE VEHICLE POWERED BY WATER JET
MOTORS. IT WOULD TRAVEL TO THE ASSIGNED TARGET AREA, PUT DOWN HYDRAULIC
SUPPORTS, AND LET OUT THE AQUANAUTS. THE MATERIALS AND TOOLS WOULD BE
LOWERED DOWN BY A BRIDGE CRANE. THE FORE SECTION OF THE CATAMARAN WILL
HAVE FOUR DECKS. THE UPPER DECK WILL HOUSE.LIVING QUARTERS. THE ONE
BELOW IT WOULD SERVE DIVERS, AND CONTAIN UNDERWATER COMMUNICATION AND
NAVIGATION INSTRUMENTS, AND GAS ANALYSIS APPARATUS. THE OTHER TWO DECKS
WILL BE RESERVED FOR SUCH EQUIPMENT AS PUMPS AND COMPRESSORS. PLANS
ALSO CALL FOR A HELICOPTER LANDING DECK.

UNCLASSIFIED

USSR

FEDOROV, V. A., POPOV, D. I., REPIN, N. K.

UDC: 621.396.96:681.32

"A Device Based on Potential Logic Elements for Amplitude-Time Quantization With Respect to the Center of Pulses"

Tr. Ryazan. radiotekhn. in-ta (Works of the Ryazan Radio Engineering Institute), 1972, vyp. 33, pp 219-227 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G17)

Translation: The paper presents the circuit of a device in which the time position of a standard pulse is determined by the center of the input pulse rather than by the edge of the pulse. The operation of the individual elements of the device is considered. Six illustrations, bibliography of two titles. N. S.

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UNCLASSIFIED

TITLE--TRANSISTORIZED CONVERTER FOR AUTOMATIC CHARGING OF SILVER CADMIUM STORAGE BATTERIES -U-

PROCESSING DATE--13NOV70

AUTHOR-(04)-VENEDIKTOV, YU.P., LEONTYEV, N.I., REPIN, O.M., SAYMUKOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--ELEKTRICHESTVO (ELECTRICITY), 1970, NO 1, PP 82-83

DATE PUBLISHED-------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--ELECTROMECHANIC CONVERTER, TRANSISTORIZED GENERATOR, BATTERY CHARGER, STORAGE BATTERY/(U)24SK 100 SILVER CADMIUM BATTERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0260

CIRC ACCESSION NO--AP0130992

STEP NO--UR/0105/70/000/001/0082/0083

UNCLASSIFIED

CIRC ACCESSION NO--AP0130992   UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BLOCK DIAGRAM IS PRESENTED OF A TRANSISTORIZED 1.5 KW CONVERTER WITH AN EFFICIENCY OF 85PERCENT WHICH IS USED FOR SIMULTANEOUS CHARGING OF TWO TYPE 24SK-100 STORAGE BATTERIES. THE CONVERTER HAS AN OUTPUT VOLTAGE STABILIZING CIRCUIT WHICH OPERATES ON THE PULSE WIDTH MODULATION PRINCIPLE. PROVISIONS ARE MADE FOR AUTOMATIC SELECTION OF THE CHARGING REGIME CORRESPONDING TO THE DEGREE OF DISCHARGE OF THE BATTERY AND FOR PROTECTION AGAINST CONVERTER OVERLOADING. SOME CHARACTERISTIC FEATURES OF THE CHARGING OF SILVER CADMIUM BATTERIES ARE EXAMINED. EXPERIMENTAL CHARACTERISTICS OF THE CONVERTER ARE GIVEN.

UNCLASSIFIED

USSR

SEVERDENKO, V. P., LOZHECHNIKOV, YE. B., and REPIN, R. A., Belorussian
Polytechnic Institute

UDC: 621.016.3:669.71

"Structure and Technological Heredity of Rolled Metal From Aluminum
Grains"

Kiev, Poroshkovaya metallurgiya, No 12, Dec 71, pp 25-31

Abstract: This study concerns the effects of various factors, including
grain size, temperature, degree of cogging, roll gap, structure,
resistivity, etc. on the properties of rolled metal made from aluminum
grains. The test material was AD-1 granular aluminum produced by
centrifugation. Involved were five standard grain sizes of nearly
spheroidal shape. The rolling was both cold and heated to 300, 350,
400, 450, 500,and 550°C. Cited are test data on above temperature ranges,
annealing temperatures, number of passes, cogging degrees, changes in
mechanical properties versus grain size, and changes in resistivities
versus grain size. The data show that the optimal rolling temperatures
of aluminum granules range from 400 to 450°C. The first cogging of the
granules determines the mechanical properties of the end product: with

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an increase in cogging, both the mechanical and physical properties of the material increase. The highest properties for the material were achieved at 40-50% reductions in area followed by annealing. Inclusions of oxides of the granular boundaries disintegrated during deformation and distributed over the matrix have no appreciable effect on the mechanical properties of the material. A 2% addition of aluminum powder appears to strengthen the material without a perceptible reduction of plasticity. (4 illustrations, 1 table, 7 biblio. references)

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PHYSICS
Acoustics

USSR

SEVERDENKO, V. P., Academician of the Academy of Sciences BSSR; KLUBOVICH, V. V.;
KONYSHEV, L. K.; REPIN, R. A., Physicotechnical Institute, Academy of Sciences
BSSR

UDC 621.778-861.1

"Drawing of Wire From Strainproof Materials With the Application of
Longitudinal Ultrasonic Vibrations"

Minsk, Doklady Akademii Nauk BSSR, Vol. 14, No. 5, May 70, pp 415-418

Abstract: Drawing of titanium, molybdenum, manganese nickel NMts 2.5, and stain-
less steel of various dimensions and different initial states was studied under
the application of longitudinal ultrasonic oscillations and without them. The
investigations were conducted on a testing machine with a drawing rate of 20-
-150 mm/min. The effectiveness of the action of acoustical energy on the metal
being drawn was basically a function of the intensity of the ultrasonic oscilla-
tions applied to the deformation focus. The tests showed that a supply of ultra-
sonic energy to the deformation focus has a considerable effect on the force
conditions of the drawing process. The relative drop in drawing force can
reach 80%. A comparison of the drawing of wire from annealed and hardened

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USSR

SEVERDENKO, V. P., et al, Physicotechnical Institute, Academy of Sciences BSSR

manganese nickel shows that the effectiveness of the action of ultrasonics on the drawing force somewhat increases with a growth in the degree of hardening. The effectiveness of the action of ultrasonic oscillations on the force conditions of the drawing changes with a change in the drawing rate. If the drawing force was 22 kg at a rate of 22 mm/min, the drawing force increased to 28 kg at a rate of 150 mm/min for the same intensities of the ultrasonic oscillations. It is also shown that if ultrasonic oscillations are applied in rolling, the breaking point of the metal drops somewhat and the plastic properties rise. This is attributed to a decrease in the shear and a partial softening of the metal during deformation under the action of the alternating stresses of the ultrasonic frequency.

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USSR

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UDC 621.382.002

KOROBOV, A.I., ABALMAZOVA, M.G., KARASEV, V.I., NAUMCHENKO, A.S., REPIN, V.A.

"Methods Of Control Of The Imperfections Of The Film Structures Metal--
Dielectric--Metal"

Elektron. tekhnika. Nauch.-tekhn.sb.Upr.kachestvom i standartiz. (Electronics
Technology. Scientific-Technical Collection. Control Of Quality And Standard-
ization), 1971, No 4(10), pp 12-19 (from RZh:Elektronika i yeye primeneniye, No
1, Jan 72, Abstract No 1B115)

Translation: Methods are considered for control of imperfections of the thin-
film structure metal--dielectric--metal: electrochemical coloration of the
channels of high conductivity in the dielectric film, observation of local
charges on the surface of the film with the aid of a mirror electron microscope,
measurement of the dependence of the number of partial breakdowns on the magni-
tude of the applied voltage, and also the frequency dependence C and $\tan\delta$ of
capacitors in the low-frequency (40...5000 Hz) region, and measurement of the
residual polarization. The characteristics are presented of the degree of im-
perfection of a number of structures which are used in thin-film microcircuits.
The qualitative agreement is shown of the evaluation of the imperfection of
these structures by various methods. Summary.
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USSR

VOZHENIN, I.N., KOROBOV, A.I., NAUMENKO, A.S., (_____, A.F., REPIN, V.A.

"Quality Of Films Of Barium-Borosilicate Glasses Produced In A Vacuum By Thermal Evaporation"

Elektron. tekhnika. Nauch.-tekhn. sb. Upr.kachestvom i standartiz (Electronics Technology. Scientific-Technical Collection. Quality Control and Standards), 1971, Issue 1(7), pp 84-90 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B432)

Translation: The properties of a film of optimum composition 20 B_2O_3:80 O_2 produced by vacuum-thermal evaporation by the flash method of powdered glass are equal to the basic properties of massive glass of the same composition. The films differ from massive glass by the increased defectiveness of the structure and the deficiency of oxygen. By annealing of the films in air and introduction of the corresponding impurities it is possible to improve the structure and to vary the electrical properties. The infrared absorption spectra of the films is presented, as well as the dependence of the breakdown voltage of the films on the thickness. With the introduction of BaO into the films, the dielectric constant of the films is linearly increased to six. During this, the tangent of the loss angle is smoothly increased and at 2-3 orders of magnitude, the breakdown voltage and the volume resistivity are decreased. Simultaneously, the magnitude of the internal mechanical stress is reduced. 6 ill. 2 tab. 8 ref. I.M.

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USSR

UDC: 621.396.6-181.5

KARASEV, V. I., KOROBOV, A. I., REPIN, V. A., MILOVA, G. P.

"Some Peculiarities in the Breakdown of Thin Films of Photoresist"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific and Technical Collection. Materials), 1970, vyp. 5, pp 73-78 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V186)

Translation: It is found that breakdown processes in a photoresist film are similar to the ionization processes which take place in gases in nonhomogeneous fields. Gas inclusions play a decisive part in the breakdown processes. The microrelief of electrode surfaces has an appreciable effect on breakdown of thin films of photoresist (up to one micron thick).

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RESHETNYAK, Yu. G.

"Several Integral Representations of Differentiable Functions"

Abstract: This paper establishes integral representations for functions of the type $u:R^n \longrightarrow R^m$ through differential operations. The operators are such that the system discussed is fully integrable. Integrable formulas from various sources are obtained as the specific case. The article discusses in detail eight definitions and provides the necessary formulas for computation. (1) R^n denotes the n-dimensional arithmetic Euclidean space over the field of real numbers; (2) $[x, y]$ is used to denote the segment of R^n connecting points x and y; (3) U is an arbitrary open set in R^n; (4) The set $T \subset R^n$ is a cone if the point $tx \in T$ for any $x \in T$ and number t such that $0 < t \leqslant 1$. (5) the properties of the functions $K_1(x, y; \varphi)$ and $K_2(x; \varphi)$ are studied in detail; (6) the author indicates how the integral formulas of Sobolev can be derived by using the results on the properties of the above functions. (7) The problem of arbitrarily assigning integers is examined and an integral formula is derived to express the functions through its various derivatives. (8) Finally, the

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USSR

RESHETNYAK, Yu. G., Sibirskiy Matematicheskiy Zhurnal, Vol 12, No 2, 1971,
pp 420-432

author gives an example and determines the operator Q through the use of appro-
priate formulas. A final formula is then found through integration by parts.
The article contains four bibliographic citations.

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USSR

UDC 536.46:533.6

GABIDOVSKIY, A. G., GAFAROV, A. S., REPIN, V. B., KHALITOV, N. Kh.

"Area of Existence as a Function of Diameter of Injection Pipe"

Sb. Aspirantsk. Rabot. Kazan. Un-t. Tochn. Nauki. Mekh. Fiz. [Collected Post Graduate Writings of Kazan' University, Precision Mechanics, Mechanical Physics], No 2, 1972, pp 91-94, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B776 by G. M. Makhviladze).

Translation: An experimental study is performed into the influence of the diameter of an injection pipe on the area of existence of relaxation vibration combustion. The fuel mixture used is city gas and air. The experiments were performed at room temperature and atmospheric pressure. The area of existence of relaxation vibration combustion was determined in the coordinates gas mixture consumption vs. mixture concentration. The boundaries of flame-out and breakthrough are determined for various diameters of injection tubes. The area of existence of relaxation vibration combustion is displaced in the direction of higher consumptions and higher concentrations as the diameter of the injection tube is increased.

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UDC: 62-505

USSR

TARTAKOVSKIY, G. P., REPIN, V. G.

"Adaptation Based on Knowledge of Losses in Preceding Steps in Multistep, Decision-Making Processes"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 11, Nov 72, pp 2304-2312

Abstract: A principle is formulated and an algorithm is found for developing optimum, multistep, decision-making processes based on minimizing the instantaneous a posteriori risk when the losses in past steps are known and the a priori indeterminacy has been parametrically assigned. The solution of the problem is applied to the case of verification of hypotheses. An example of multistep pattern recognition is given.

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USSR   UDC 621.391.1

REPIN, V. G., TARTAKOVSKIY, G. P.

"Effectiveness of Algorithm for Differentiation of Signals with Unknown
Parameters"

Abstract: The probabilities of correct decisions are found for an algorithm
for differentiation of signals with unknown parameters, observed in a mixture
with Gaussian noise. A number of characteristic examples are analyzed. The
loss of effectiveness resulting from lack of knowledge of parameters is eval-
uated. The results are generalized to cover the case of correlated noise.

1/1

1/2   012   UNCLASSIFIED   PROCESSING DATE—30OCT70
TITLE—ANALYSIS OF CERTAIN CLASS OF SYSTEMS WITH RANDOM VARYING PARAMETERS
—U—
AUTHOR—REPIN, V.G.

COUNTRY OF INFO—USSR

SOURCE—AVTOMATIKA I TELEMEKHANIKA, 1970, NR 6, PP 21-28

DATE PUBLISHED————70

SUBJECT AREAS—MATHEMATICAL SCIENCES, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS—LINEAR SYSTEM, CONTROL SYSTEM STABILITY, PARAMETER

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/1017   STEP NO—UR/0103/70/000/006/0021/0028

CIRC ACCESSION NO—AP0124676
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0124676
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LINEAR SYSTEMS WITH RANDOM INPUT
ACTIONS AND RANCOM JUMP VARYING PARAMETERS ARE CONSIDERED. THERE ARE
OBTAINED THE EQUATIONS DESCRIBING THE CHANGE IN THE TIME OF THE
DISTRIBUTION OF PROBABILITIES AND MOMENT CHARACTERISTICS FOR THE SYSTEM
COORDINATES. THE CONDITIONS OF THE SYSTEM STABILITY ARE DETERMINED BY
MEANS OF THESE EQUATIONS. EXAMPLES HAVE BEEN CONSIDERED.

UNCLASSIFIED

USSR   UDC: 681.327.12

KOROVIN, V. G., KOTIKOV, Yu. P., REPIN, V. I., SAMORUKOV, V. A., SYSOYEV,
N. V., TEL'NYKH, O. A.

"A Computer Tape-Punching Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 13, May 72, Author's Certificate No 335704, Division G, filed 3 Jul 69,
published 11 Apr 72, p 210

Translation: This Author's Certificate introduces a device for punching
computer tape. The device contains a perforating mechanism connected to
the driven shaft of a single-turn drive clutch. The code electromagnets
of the perforating mechanism are electrically connected to the program
head of a readout module. The device also incorporates a tape transport
mechanism with two geared drive drums and the wheel of a ratchet mechanism
fastened on a common shaft. The dog of the ratchet mechanism is connected
to the driven shaft of the single-turn drive clutch. As a distinguishing
feature of the patent, the working precision of the device is improved by
fastening the eccentric of the punching mechanism drive and the crank of a
quadric-crank mechanism on the driven shaft of the single-turn drive clutch

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KOROVIN, V. G. et al., USSR Author's Certificate No 335704

and by fastening the dog of the ratchet mechanism on the rocker arm of the quadric-crank mechanism, which is mounted on the common shaft of the tape--transport mechanism.

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USSR

UDC 681.2.083.8

RAKOV, A. I., KOVALENKO, V. A., REPIN, V. N.

"Automatic Monitoring Devices for Radio Relay Lines"

Tr. ucheb. in-tov svyazi. M-vo svyazi SSSR (Works of the Communications Train-
ing Institutes. USSR Communications Ministry), 1971, No 54, pp 32-38 (from
RZH--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Ab-
stract No 4A566).

Translation: A study was made of automatic monitoring devices for radio relay
lines which increase the reliability and stability of the operation of these
lines. There is 1 table and a 1-entry bibliography.

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USSR

KOTIN, A. M., and REPIN, V. S.

"The Effects of 2.4-Diamino-5-Chlorphenyl-6-Ethylpyrimidine ("Chloridine" on the Nucleic Acid Metabolism of White Rat Embryos"

Translation: It is shown that the intragastric introduction of $\female$ chloridine in rats (50 mg/kg on the thirteenth day of pregnancy) results in the development of identical morphological anomalies in the development of all of the embryos (the chloridine syndrome). In tests with radioactive predecessors (P^{32} and C^{14}-formate) it was observed that chloridine evokes blocking of deoxyribonuclease and ribonucleic acid synthesis in rat embryos 15 to 20 minutes after introduction. The rate of inclusion of C^{14}-thymidine in the deoxyribonuclease of the abnormal embryos after the introduction of chroridine is unchanged in the course of four hours. A twofold increase is observed in the inclusion of the C^{14}-formate in the gross albumen fraction of abnormally developing rat embryos. The obtained data are in agreement with earlier results obtained by the authors in that the mechanism of the teratogenic effect

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USSR

KOTIN, A. M., and REPIN, V. S., Ontogenez, 1973, 4, No 2, pp 128-138

of chloridine on the thirteenth day of development is obviously related to
the primary deactivation of dihydropholatreductase and the blocking of the
pholate cycle in embryos.

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USSR   UDC: 621.396.6-181.5(088.8)

GAVRILOV, R. A., REPIN, V. V., ALEKHIN, M. I., BOGACHEV, N. M.

"A Device for Transport and Registration of Substrates and Masks"

USSR Author's Certificate No 268523, filed 27 May 68, published 14 Aug 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V243 P)

Translation: A device is proposed for transport and registration of masks
and substrates for making thin-film microcircuits. The device contains
substrate holders and mask holders which are connected to the drive mecha-
nism and located on transporting discs. The holders are equipped with
centering mechanisms such as pins and sockets, and with heating and cooling
elements. To simplify the design of the device and improve the quality
of the microcircuits, the mask holder is made in the form of a conical
rectangular base with its beveled surfaces resting on the socket of the
transporting disc, which is equipped with spring-loaded fingers. The upper
face of the substrate holder rests on stationary supports on the transport
disc socket, which is also fitted with spring-loaded fingers.

1/1

1/2   026   UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--DYNAMICS OF LIVER REGENERATION AND CERTAIN BIOCHEMICAL CHANGES IN
THE BLOOD AND PROTOPLASMA OF THE LIVER CELLS AFTER PRIMARY AND REPECTED
AUTHOR--REPIN, YU. M.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 2, PP
41-44
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, SURGERY, SCLEROSIS, HYPOGLYCEMIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0644   STEP NO--UR/0481/70/000/002/0041/0044

CIRC ACCESSION NO--AP0108855
                        UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. IN A SERIES OF EXPERIMENTS ON 17
DOGS THE AUTHOR STUDIED THE EFFECTS AFTER PRIMARY AND REPEATED
RESECTIONS OF THE LIVER. IT HAS FOUND THAT AFTER REPEATED RESECTIONS,
UP TO 3 AND 4, THE MAGNITUDE OF METABOLIC PROCESSES INCREASED AND THE
RESTORATIVE PERIOD EXTENDED BY 40PERCENT IN THE AVERAGE AS COMPARED TO
PRIMARY RESECTIONS, DESPITE THE FACT THAT THE EXTENT OF SUGICAL
MANIPULATIONS DECREASED WITH REPEATED RESECTIONS. THIS IS DUE TO
PROGRESSIVE EXHAUSTION OF ENERGETIC RESOURSES AND DEGENERATIVE CHANGES
IN THE LIVER CELL PROTOPLASM. AT TIMES THERE WAS A ROUGH REARRANGEMENT
OF ARGYROPHILE CARCAS OF THE LIVER WITH DEVELOPMENT OF MARKED SCLEROTIC
CHANGES. REPEATED RESECTIONS IN THESE CONDITIONS PRODUCE MORE PROFOUND
AND DELAYED HYPOGLYCAEMIA AND MARKED CHANGES IN THE COMPOSITION OF THE
SERUM PROTEINS.   FACILITY: KLINIKA KHIRURGICHESKIKH BOLEZNEY
LENINGRADSKOGO SANITARNO GIGYENICHESKOGO MEDITSINSKOGO INSTITUTA AND
LENINGRAD. N-I INSTITUT TUBERKULEZA.

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USSR   UDC 615.372:576.851.49].011.4

SHAPIRO, N. I., VASIL'YEVA, T. G., MOSKVICHEVA, I. V., SAZOVETS, G. I., and
REPINA, G. V., Leningrad Institute of Vaccines and Sera

"Molecular Heterogeneity of Endotoxins of Typhoid and Paratyphoid Bacteria.
I. A Method of Fractionation and Some Physicochemical Properties of the
Resulting Fractions"

Abstract: Preparations of S. typhi (4446) and S. paratyphi B (50602) endo-
toxins obtained by different methods of chemical disintegration of stab
cultures were fractionated by gel filtration on columns of sepharose 2 B
and 4 B. The optical density (at λ=260 and 280 mμ), carbohydrate and
protein contents were determined in successive samples. The original
preparations were found to be heterogeneous in molecular weight and chemi-
cal composition. A large protein-polysaccharide fraction with a molecular
weight of about 9×10^6 and a polydisperse low-molecular fraction were
isolated from all the preparations. Besides proteins and carbohydrates,
the second fraction contained nucleic acids not present in the first
fraction.
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REPINA, L. K., and SOLNTSEV, V. N.

"The Solution of Two Applied Problems by the Random Search Method"

V sb. Issled. operatisy i stat. modelir (Operations Research and Statistical Modeling--collection of works), First Edition, Leningrad, Leningrad University, 1972, pp 136 - 145 (from RZh Matematika, No 11, Nov 73, abstract No 11 V704)

Translation: This article examines several modifications of random search algorithms as applied to the solution of two problems. Numerical data obtained in the process of solving these problems are given, making it possible to compare the efficiency of the algorithms considered. The "non-local" search algorithm is recommended for further use.

Abstract from the introduction.

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