USSR

ANDON'YEV, S. M., Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey, Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

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USSR

ANDON'YEV, S. M., Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey,
Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

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USSR

ANDON'YEV, S. M., Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey, Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

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USSR

ANDON'YEV, S. M., Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey, Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

USSR

ANDON'YEV, S. M., Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey, Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

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Foundry

USSR

UDC 669.162.214

ANDON'YEV, S. M.

Isparitel'noye Okhlazhdeniye Metallurgicheskikh Pechey (Evaporative Cooling of Metallurgical Furnaces), Moscow, "Metallurgiya" Publishing House, 1970, 424 pp

Translation of Annotation: Special features of the theory, design, and operation of evaporative cooling systems for blast, open-hearth, heating, ferro-alloy, electric steel furnaces and furnaces for non-ferrous metallurgy are discussed. Also discussed are the theoretical bases of operation of installations, starting indices for the planning and design of installations and recommendations for the construction and exploitation of these installations. The first edition was published in 1961. The present, second, edition has been revised substantially and involves much new material.

The book is intended for engineers and technical personnel of metallurgical and machine-building enterprises and planning and research institutes, and may also be useful to students of metallurgical institutes. 224 illustrations, 81 tables, 95 references.

TABLE OF CONTENTS (Abridged)

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USSR

UDC 621.376.234

AKIMOV, YU. K., ANDERT, K., KALININ, A. I., CHURIN, I. N., SHURAVIN, V. K.

"Time Measurements with a Germanium Detector"

Moscow, Pribory i Tekhnika Eksperimenta, No 6, 1971, pp 51-54

Abstract: The basic factors determining the time resolution of semiconductor detectors are 1) the occurrence of time fluctuations as a result of superposition of signals on noise from the detector and amplifier; 2) shifting of the circuit response time on variation of the signal amplitude and 3) dependence of the response time on variations of the collection of free charge carriers in the detector with time. These factors were considered when developing the described low-noise preamplifier with a buildup time of 5 nanoseconds, and a high-speed shaper with compensation of the dependence of the time resolution on the amplitude dispersion and variations in the pulse front for time measurements with a germanium detector. When recording γ-quanta from ^{60}Co by a germanium detector with a volume of 3 cm^3 included for coincidence with a scintillation counter, a time resolution of 2.2 nanoseconds was obtained in the energy range of 0.07-1.5 megaelectron volts. The width of the coincidence curve on the 0.1 level of its height was 12.5 nanoseconds. A time resolution of 0.9 nanoseconds was obtained in a narrow energy range.
1/1

USSR

ITSKOVICH, I. A., ANDERSON, M. V., <u>Mat. metody resheniya ekon. zadach,</u> Novosibirsk, "Nauka", 1971, pp 153-166

Theorem. Let the direct and dual problems have unique optimum solutions $\bar{x}$ and $\bar{u}$. Then in whatever way the positive vectors $p^{(t)}, q^{(t)}$ may approach zero, the corresponding solutions of systems $x(p^{(t)}, q^{(t)})$, $u(p^{(t)}, q^{(t)})$ will approach the optimum solutions $\bar{x}, \bar{u}$.

An analogous result is obtained as well for the problem

$$\min \{\varphi(x) + cz \mid Ax + Bz \geqslant b, \; x \geqslant 0, \; z \geqslant 0\},$$

where $\phi(x)$ is a function which is strictly convex downward. S. Lebedev.

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USSR   UDC: 512.25/.26+519.3:330.115

ITSKOVICH, I. A., ANDERSON, M. V.

"Concerning the Stability of the Condition of Complementary Nonrigidity"

V sb. Mat. metody resheniya ekon. zadach (Mathematical Methods of Solv-
ing Economic Problems--collection of works), Novosibirsk, "Nauka", 1971,
pp 153-166 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V482)

Translation: The conditions of optimality for the problem of linear
programming $\max\{cx \mid Ax \leqslant b, \ x \geqslant 0\}$ may be written in the form

$$Ax + y = b, \quad A^T u - v = c, \qquad (1)$$
$$xv = 0, \quad uy = 0, \quad x, y, u, v \geqslant 0 \qquad (2)$$

The approximate method proposed by Parizo [transliterated from the Rus-
sian] (RZh-Mat, 1962, 5V444) is based on replacing (2) by the conditions

$$x_k v_k = p_k, \ k = 1, \ldots, n; \quad u_l y_l = q_l, \ l = 1, \ldots, m, \quad (3)$$

where p_k, q_l are positive numbers, and solving a sequence of systems of
equations (1), (3) for $p^{(i)}, q^{(i)} \to 0$. The stability of such a method is
proved in the article.

1/2

USSR

ANDERS, B. N.

"Some Properties of Maximum Probability Estimates"

Translation: Let n_1 objects out of N have the feature C_1, while n_2 have the feature C_2, the (unknown) probability that an object has feature $C_1(C_2)$ being equal to $p_1(p_2)$. The author takes up the construction of estimates with minimum bias for $\max(p_1, p_2)$, and the relations between the biases and the variances of the estimates of maximum probability.

Abstractor's note: The formulation in which the author treats the problem of maximum bias and variance fails since it leads to a comparison of estimates when $p_1 = p_2$. It is in just this case that the order of bias changes. When $p_1 \neq p_2$, the bias of the estimate $\max(n_1/N, n_2/N)$ as $N \to \infty$ decreases exponentially (the author's estimate has order C/N). I. Volodiy.

USSR

ANDERS, B. N.

"On Estimating the Parameter of a Sample Distribution"

Translation: The random quantities ξ_1 and ξ_2 with normal distributions $N(\mu_1, 1)$ and $N(\mu_2, 1)$ are observed. The author considers estimation of the parameter

$$\psi = (\mu_1 + \mu_2)/2 + (\mu_1 - \mu_2)(P\{\xi_1 > \xi_2\} - 1/2). \quad (1)$$

Abstractor's note: The interpretation of ϕ as "the parameter of a sample distribution" is not clear as there is no precise definition of this concept. If the first sentence in section 3 is taken seriously, the author means $M(\max\{\xi_1, \xi_2\})$ in which case formula (1) is in error. D. Chibisov.

1/1

USSR

UDC: 519.2

ANDERS, B. N.

"Some Characteristics of Maximum Probability Value Estimates"

Translation: Suppose that of N objects of a sampling, n_1 has the symbol C_1 and n_2 has the symbol C_2, the probability (unknown) being such that an object has the symbol C_1 (C_2) equal to p_1 (p_2). The author sets himself the problem of obtaining estimates with minimum displacement for $\max(p_1, p_2)$ and relationships between the quantities of the displacement and the dispersion of maximum probability estimates.

Abstracter's note: The statement of the problem in which the displacement and dispersion maxima are considered is unsatisfactory, since it leads to the comparison of estimates at $p_1 = p_2$. It is in this case that the order of the displacement varies. Thus, for $p_1 \neq p_2$, the displacement of the estimate of $\max(n_1/N, n_2/N)$ as $N \to \infty$ drops off exponentially (the author's estimate has a displacement of the order of C/N). I. Volodin

1/1

USSR   UDC: 519.2

ANDERS, B. N.

"Evaluating the Parameter of a Selected Distribution"

Tr. In-t elektron. upravl. mashin (Transactions, Institute of Electronically Controlled Machines) 1971, No 16, pp 27-41 (from RZh--Matematika, No 6, 1972, Abstract No 6V105)

Translation: Independent random quantities ξ_1 and ξ_2, distributed normally in $N(\mu_1, 1)$ and $N(\mu_2, 1)$, are observed. The evaluated parameter is considered:

$$\vartheta = (\mu_1 + \mu_2)/2 + (\mu_1 - \mu_2)(P\{\xi_1 > \xi_2\} - \tfrac{1}{2}). \qquad (1)$$

Abstractor's note: The interpretation of ϑ as "the parameter of the selected distribution" is incomprehensible in view of the absence of a precise definition of this concept. According to the first sentence in Section 3, it seems that $M(\max\{\xi_1, \xi_2\})$ is involved; in that case, formula (1) is wrong. L. Chilisov.

1/1

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CIRC ACCESSION NO--AP0114769

ABSTRACT/EXTRACT--(U) ... ABSTRACT. ... MOTOR ... ... USSR IS AT PRESENT UNDERGOING A VERY CONSIDERABLE EXPANSION. THIS ARTICLE DEALS WITH THE MANNER IN WHICH, BOTH IN THE PAST AND IN THE PRESENT, THE MOTOR VEHICLE INDUSTRY INTRODUCED ... ... INDUSTRIES IN THE SOVIET ... THAT ARE ASSOCIATED WITH IT. FOR EXAMPLE, THE PRESENT EXPANSION OF THE MOTOR VEHICLE INDUSTRY IS CONSIDERABLY ... ... INDUSTRY AND ... ... NETWORK OF ROADS. THE USER OF THE MOTOR VEHICLE INDUSTRY IN THE USSR HAS CONTRIBUTED TO THE DEVELOPMENT OF THE ... ... NEEDS. EXAMPLES OF THIS ARE TAKEN FROM THE ... ... PETROCHEMICAL, AND MANY OTHER INDUSTRIES.

TITLE--THE MOTOR VEHICLE INDUSTRY AND THE DEVELOPMENT OF ASSOCIATED
   BRANCHES OF INDUSTRY -U-

AUTHOR--ANDERS, A.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NR 2, 1970, P 1-2

DATE PUBLISHED--------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, MECH., IND., CIVIL AND
   MARINE ENGR

TOPIC TAGS--AUTOMOTIVE INDUSTRY, METALLURGIC INDUSTRY, PETROLEUM INDUSTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1775   STEP NO--UR/0257/70/000/002/0001/0002

CIRC ACCESSION NO--AP0114269

                        UNCLASSIFIED

ACTIVITY OF LACTATEDEHYDROGENASE IN SOME DISEASES OF THE KIDNEYS

G. P. Shultsev, Ya. P. Tsalenchuk, A. A. Anders

The authors studied the activity of lactatedehydrogenase (LDH) in 15 healthy persons and in 74 patients suffering from various diseases of the kidneys and the urinary tracts. It was found that determination of LDH activity in the blood and urine served as a valubale auxiliary diagnostic test. A rise of urinary excretion of this enzyme may point to affection of the kidneys. Determination of LDH in the urine may be of value in the diagnosis of latent pyelonephritis and of malignant tumours of the kidney and the urinary bladder.

CIRC ACCESSION NO--AP0113137
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEX ADDITIVES CONSISTING OF
  MOLASSES AND NA SUB2 SO SUB4 (OR CACL SUB2) ARE EFFECTIVE HARDENING
  ACCELERATORS OF MORTAR AND CONCRETE. THE ORG. ADDITIVE SHOULD BE
  INTRODUCED 1ST, FOLLOWED BY THE ELECTROLYTE. CRUSHING STRENGTH OF
  CONCRETES WITH COMPLEX ADDITIVES WAS 30-40PERCENT MORE AFTER 24 HR FOR
  STEAMED SAMPLES AND 50-5PERCENT FOR USUALLY HARDENED SAMPLES.

UNCLASSIFIED

TITLE--EFFECT OF THE SEQUENCE OF INTRODUCING COMPLEX ADDITIVES INTO
   SOLUTIONS AND CONCRETES -U-

AUTHOR-(02)-AYAPOV, U.A., ANDARBAYEV, O.S.

COUNTRY OF INFO--USSR

SOURCE--VESTN. AKAD. NAUK KAZ. SSR 1970, 26(1), 52-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CONCRETE, PROCESSED PLANT PRODUCT, ELECTROLYTE, HARDNESS,
   SODIUM SULFATE, CALCIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0195   STEP NO--UR/0031/70/026/001/0052/0054

CIRC ACCESSION NO--AP0113137
                         UNCLASSIFIED

USSR

UDC 547.779.+547.78

AKHREM, A. A., MOISEYENKOV, A. M., ANDABURSKAYA, M. B., and STRAKOV, A. Ya.,
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences
USSR, and Riga Polytechnic Institute, Riga

"1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole"

Abstract: 1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole (I) with
m. pt. 130-1° was prepared by boiling 3,6,6-trimethyl-4-oxo-4,5,6,7-tetra-
hydrobenz(d-1,2)isoxazole with hydrazine hydrate and pyridine. By boiling I
in acetic anhydride, 1-N-acetylamino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahy-
droindazole (m. pt. 188-9°) was obtained. On boiling of equimolar amounts
of I and benzaldehyde in EtOH, formation of 1-N-benzalamino-3,6,6-trimethyl-
-4-oxo-4,5,6,7-tetrahydroindazole (m. pt. 101-3°) took place. Derivatives of
4,5,6,7-tetrahydroindazole were found to exhibit a wide range of physiological
activity; 1-amino derivatives of this compound may be of interest from this
standpoint.

1/1

CIRC ACCESSICN NO--AT0119905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DEVISED FOR DETG. THE
  COND. TENSOR CCMPONENTS BY USING A SYSTEM OF 2 PAIRS OF ELECTRODES
  PLACED IN FRONT OF CNE ANOTHER ON BOTH SIDES OF THE FILMS.
  MEASUREMENTS ARE OBTAINED BY ROTATING THE ELECTRODE SYSTEM AROUND THE
  CRYSTAL AXIS.   FACILITY: CHERNOVITS. GOSUNIV., CHERNOVTSY,
  USSR.

UNCLASSIFIED

1/2   017   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--MEASUREMENT OF AN ELECTRICAL CONDUCTIVITY TENSOR FOR SINGLE
    CRYSTALLINE FILMS -U-
AUTHOR-(04)-ANATYCHUK, L.I., DIMITRASHCHUK, V.T., LUSTE, O.YA.,
    TERESHCHENKO, YE.B.
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13 (2), 146-8

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MEASUREMENT, ELECTRIC CONDUCTIVITY, TENSOR, ELECTRODE, SINGLE
    CRYSTAL FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1038   STEP NO--UR/0139/70/013/002/0146/0148

CIRC ACCESSION NO--AT0119905
                        UNCLASSIFIED

ANATYCHUK, L.I.

generators

TECHNICAL TRANSLATION

FSTC-HT-23-1579-72

ENGLISH TITLE: The Effect of Impurities on the Thermal Efficiency of a Short Circuited Generator

FOREIGN TITLE: Vliyaniye Primesey Na Termoeffektivnost' Korotkozamknutogo Generatora

AUTHOR: L. I. Anatychuk

SOURCE: Izvestiya Vysshikh Uchebnykh Zavedeniy — Fizika No. 8, 197...

Translated for FSTC by Leo Kanner Associates

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USSR

SURKOV, YU. A., and ANDREYCHIKOV, B. M., Geokhimiya, No 10, Oct 73, pp 1435-1440

Above this layer a mixture of ammonium compounds including NH_4Cl and ammonium carbonates ispresent. Any ammonium salts that precipitate downwards in the Venus atmosphere decompose, whereupon the NH_3 that is formed diffuses upwards together with water vapor. Only very small amounts of NH_3 and H_2O are present in the lower layers of the atmosphere.

2/2

Miscellaneous

USSR

UDC 550.4

SURKOV, YU. A., and ANDREYCHIKOV, B. M., Institute of Geochemistry and
Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR, Moscow

"The Composition and Structure of the Venus Cloud Layer"

Abstract: Gasanalytical measurements carried out by menas of equipment
installed on the automatic interplanetary stations Venera-4, Venera-5,
and Venera-6 indicated that the principal component of the atmosphere of
Venus is CO_2 and that the content of N_2 in this atmosphere is $\approx$ 2% and
the content of $O_2 \lesssim$ 0.1%. Consideration of all available data on Venus from
the geochemical standpoint and determinations of NH_3 by an apparatus installed
on Venera-8, in which tetrabromosulfophthalein was used as an indicator
(cf. Surkov et al, DAN SSSR, Vol 213, No 6, 1973), led to the following
conclusions in regard to the composition of the cloud layer of Venus. The
bottom layer of clouds, which have a very low density and a lowest elevation
corresponding to a pressure of 10 atm, consists of NH_4Cl. The layer above
this, starting with a pressure of 1-2 atm, consists mainly of NH_4 carbonates.
1/2

2/2   011   UNCLASSIFIED   PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127473

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISSOLN. KINTEICS OF COLD
PRESSED ACTIVE SILICA IN 0.01N NAOH WAS DETD. AT 23-88DEGREES BY SUING
THE ROTATING DISK METHOD. THE DISSOLN. CURVES WERE SLIGHTLY CONCAVE
BELOW 55DEGREES, BUT BECAME LINEAR ABOVE 55DEGREES. THE TEMP.
DEPENDENCE OF THE NONLINEAR CURVES COULD BE REPRESENTED BY 2 ARRHENIUS
ACTIVATION ENERGIES, 14.7 AND 13.5 KCAL.-MOLE, INDICATING THE PRESENCE
OF BOTH KINETIC AND DIFFUSIVE DISSOLN. MECHANISMS. THE DISSOLN. OF
SIMILAR CA(OH) SUB2 DISKS IN AQ. SILICIC ACID, HOWEVER, WAS LIMITED BY
DIFFUSION THROUGH A SURFACE LAYER FO HYDRATED CA SILICATE SO THAT THE
AMT. OF DISSOLVED CA(OH) SUB2 INCREASED AS THE SQUARE ROOT OF TIME.
    FACILITY: MOSK. AVTO.-DOROZH. INST., MOSCOW, USSR.

1/2   011   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--REACTION OF HYDROXIDES OF ALKALI AND ALKALINE EARTH METALS WITH
   ACTIVE SILICA -U-

AUTHOR-(02)-ANATSKIY, F.I., RATINOV, V.B.   *A*

COUNTRY OF INFO--USSR

SOURCE--ZOVOD. LAB. 1970, 36(3), 283-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROXIDE, SILICA, ALKALINE EARTH METAL, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2100   STEP NO--UR/0032/70/036/003/0283/0285

CIRC ACCESSION NO--AP0127473
                           UNCLASSIFIED

USSR

UDC 616.981.25-092.9

ANATOLIY, S. A., ANTONOVSKAYA, I. I., TASK, S. Ya., and PADERINA, Ye. M.,
Institute of Experimental Medicine, Academy of Medical Sciences USSR,
First Leningrad Medical Institute imeni Akad. I. P. Pavlov, and Leningrad
Sanitary-Hygiene Medical Institute

"Comparison of Some Experimental Models of Staphylococcal Infection"

Abstract: A comparison of four models of staphylococcal infection --- intra-
orbital, intravenous, intraperitoneal, and intranasal --- showed that mice
inoculated in the first two modes died within 9 to 12 hours, while those
inoculated in the last two modes died 3 to 5 days later. The rapid death
and disappearance of Staphylococci in the animals inoculated intraperiton-
eally or intranasally indicate a toxic process, whereas the longer survival
time of the animals inoculated intraorbitally or intravenously point to a
true infectious process. The latter two models are, therefore, to be pre-
ferred when studying the virulence of Staphylococci, immunity to these
microorganisms, and pathogenesis of generalized infection.

1/1

USSR

ANASTASYUK, N. V., et al., Neorganicheskiye materialy, Vol 8, No 1, 1972, pp 198-199

chemical inhomogeneity and density, which indicates that distinctions due to the chemical prehistory of the powders cannot be completely eliminated by adjustments in sintering conditions. (Two illustrations, 1 bibliographic reference).

2/2

Powder Metallurgy

ANASTASYUK, N. V., KUZMOV, E. N., OLEYNIKOV, N. N., and TRET'YAKOV, YU. D.,
Department of Chemistry, Moscow State University imeni M. V. Lomonosov

"Properties of Nickel-Cobalt Ferrites with a Different Chemical Prehistory"

Abstract: The objective of the study was to determine the extent to which
sintering conditions can eliminate the distinctions related to the chemical
prehistory of ferrite powders and the extent to which sintering conditions
would compensate for the inhomogeneity and low activity of ceramic specimens
compared to schoenite specimens. Involved in the experiment were specimens
of $Ni_{1-x}Co_xFe_2O_4$ ($x = 0.0$; 0.2; 0.4; 0.6; 0.8; 1.0). Regardless of the x
value in the formula $Ni_{1-x}Co_xFe_2O_4$, the optimal sintering temperature for the
schoenite specimens was determined to be $1270^\circ C$ and for ceramic specimens
$1350^\circ C$. The mean crystallite size was slightly smaller in the ceramic
specimens as compared to that in the schoenite specimens (5.5 ± 0.3 and 6 ± 0.3
respectively). A major factor here is that the state of magnetostriction
saturation is attained in much lower fields in schoenite materials than in
ceramic materials. This is obviously related to the different degree of
1/2

USSR

two mentioned, the rate of survival of the animals was reduced, reaching
zero on the 30th day after irradiation.

2/2

USSR

UDC 577.391

SHASHKOV, V. S., ANASHKIN, O. D., SUVOROV, N. N., and MANAYEVA, I. A.,

"Effectiveness of Serotonin, Mexamine, AET, and Cystamine Administered
Repeatedly After Gamma-Irradiation"

Abstract: After rats had been irradiated with gamma-rays in a dose of 800
r, serotonin, mexamine (5-methoxytryptamine HCl), AET (S-betaaminoethylthioi-
souronium bromide HBr), or cystamine was administered to them intraperitoneally
four times (5, 15, 30, and 45 min after irradiation). As compared with a 10%
rate of survival for control rats 30 days after irradiation, the rate of
survival on administration of serotonin in four single doses of 2.3 and 3
mg/kg was 50 and 40%, respectively; on administration of mexamine in single
doses of 2.5 and 4 mg/kg, 18 and 23.5%, respectively; on administration of
cystamine in single doses of 3.33 and 5 mg/kg, 36 and 19%, respectively; and
on administration of AET in single doses of 2 and 5 mg/kg, 44 and 23.5%,
respectively. The results showed that the radiation protectors exerted a
therapeutic effect in the doses indicated, which were small in comparison with
the optimal doses effective on administration before irradiation. When the
single doses of the substances tested were increased above the higher of the
1/2

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USSR

UDC: 621.396.4

RAMLAU, P. N., ANASHKIN, B. T.

"Evaluating the Effectiveness of Some Versions of Standby Provisions for Radio Relay Lines in Railway Transportation From Their Effect on Communications Reliability"

Sb. tr. Leningr. in-t inzh. zh.-d. transp. (Collected Works of the Leningrad Institute of Railway Transportation Engineers), 1971, vyp. 316, pp 91-99 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D399)

Translation: An evaluation is made of the effect of increased reliability indices as a result of using automatic 100-percent hot standby provisions for the equipment at each intermediate point. Four illustrations, four tables, bibliography of three titles. Resumé.

1/1

USSR

ANAH'YEVSKIY, S. A., STEBLYANKO, V. G.

"Use of ALGOL to Simulate Microprograms"

Translation: Some problems of algorithmic simulation of digital devices are discussed. Data are presented on the possibilities of using algorithmic languages for these purposes.

1/1

USSR

ANAN'YEVSKIY, M. G., et al., Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79), Jan/Feb 73, pp 36-38

Boron in amount 0.0025-0.0030% was ineffective with respect to magnetic properties of steel, while it made the steel structure nonuniform. The concentration of nitrogen in steel increased with increasing concentration of Ti and V. For practical purposes the use of Ti as a modifier is recommended.

2/2

USSR

ANAN'YEVSKIY, M. G., BOCHKOV, N. G., SPEVAK, YE. YA., PARSHIKOV, G. V., and MYL'NIKOV, R. M.

"The Effect of Vanadium, Titanium, and Boron Modification on the Structure, Magnetic Properties, and Aging of Electric Unalloyed Steel"

Abstract: In order to prevent E0100-E0300 electric steel from magnetic aging, which takes place primarily on account of nitrogen, an attempt was made to modify these steels with vanadium, titanium, and boron. Magnetic properties, aging coefficient, and microstructure of modified steels were studied after 200 hours of heat treatment at 120°C. Addition of 0.1-0.2% Ti (as ferrotitanium) to molten steel almost completely suppressed the magnetic aging while the magnetic reversal losses were $P_{1.5/50} = 7.3$ W/kg.

Higher amounts (0.04%) of titanium decreased considerably the size of grains. The aging of steel was completely suppressed with the addition of 0.3% V (as ferrovanadium) but the magnetic reversal losses were $P_{1.5/50} > 9$ W/kg.

High magnetic reversal losses in this case are attributed to small ferrite grains formed in steel (10-9 relative units, control 6-7 relative units).

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USSR

VERZILIN, N. N., et al, Vestnik Leningradskogo Universiteta, No 21,
Biologiya, No 4, 1970, pp 121-129

in the medium, viability is maintained through the consumption of carbo-
hydrates in the form of starches. No changes occur in the content of
other carbohydrate fractions and lipids, and no decomposition or loss of
cells takes place. The algae, when transplanted to normal medium and under
normal light conditions develop as rapidly as algae grown under conditions
of uninterrupted light.

2/2

- 10 -

USSR

UDC 582.26

VERZILIN, N. N., ANAN'YEVA, T. I., and MUKHINA, K. M.

"The Effect of Protracted Darkness on the Metabolism and Viability of Chlorella Sp. K."

Abstract: Metabolic shifts in Chlorella sp. K. cultured on a medium deficient in organic nutrients and kept in the dark for a period of two months were studied. Before the beginning of the experiment, algae in suspension were cultured on a mineral medium under luminescent lamps, and continuously aerated by air containing 5% CO_2. The biomass was then centrifuged, resuspended on a culture medium deprived of KNO_3, poured into 3-liter conical glass vessels and placed in the dark. The suspension was aerated at the rate of 0.8 l/min. Samples for analysis and determination of the cell content in millions per milliliters, dry matter in grams per liter, and the chemical composition of the biomass were periodically obtained. The data obtained revealed that Chlorella sp. K. cells are highly resistant to dark conditions. Despite the deficiency of organic nutrients
1/2

USSR   UDC 547.241'341

FEDOROVA, G. K., ANAN'YEVA, L. G., KONONENKO, I. M., MAKSYUTINA, L. I., and
KIRSANOV, A. V.

"Derivatives of β-Chloroalkyl- and Alken-1-ylphosphonic and Thiophosphonic
Acids"

Abstract: Heating β-chloroalkylphosphonic acids with sodium in octane yields
monosodium salts of these acids which upon solution in water split along the
C-P bond. Alkoxylation of β-chloroalkylthiophosphonic acid dichlorides with
alcohols in presence of acrylonitrile yields diesters of β-chloroalkylthio-
phosphonic acids, while alkoxylation with sodium alkoxides -- the diesters
of alken-1-ylthiophosphonic acids. Amidation of β-chloroalkylphosphonic
acid dichlorides with aliphatic amines produces diamides of alken-1-
ylphosphonic acids, and the use of aromatic amines leads to the formation
of the diamides of β-chloroalkylphosphonic acids. The reaction of trie-
thylamine with β-chloroalkylthiophosphonic acid dichlorides yields the
dichlorides of alken-1-ylphosphonic and alken-1-yl-thiophosphonic acids.

1/1

USSR UDC 666.3.046.46'16

VOLYNETS, F. K., Candidate of Technical Sciences, ANDLYUK, G. V., STRELYI,
Ye. P.

"Roentgenostructural Investigation of the Texture of Optical Ceramics KO-1"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 12, December 1971,
pp 10-14

Abstract: On the basis of x-ray investigations (by the method of Debye powder
diagrams and pole figures), it is shown that optical ceramics KO-1 (polycrystal-
line magnesium fluoride), samples of which were obtained at various parameters
of the technological process, and in particular, at various pressures (deforma-
tion stages) of hot pressing, manifests a fully expressed axial texture, the
axis of the texture being the direction of pressure application. It is shown
that the texture is formed in the process of compaction of the magnesium
fluoride by hot pressing due to plastic deformation of the individual grains.
2 figures. 1 table. 5 references.

1/1

UNCLASSIFIED   PROCESSING DATE--25NOV70
CIRC ACCESSION NO--AA0132084
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A FERROELEC. CONTAINS BA,PB
  ZIRCONATE AND HAS THE FOLLOWING COMPN.: PB OXIDE 26-32, BACO SUB3
  14-21.3, NO PENTOXIDE 48.2-54, AND ZRO SUB2 0.5-5 WT. PERCENT.

UNCLASSIFIED

TITLE--FERROELECTRIC -U-

AUTHOR-(02)-UGRYUMOVA, M.A., ANANYEVA, A.A.

COUNTRY CF INFO--USSR

SOURCE--U.S.S.R. 263,709
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY TOVARNYE ZNAKI 1970, 47(8),
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL COMPOSITION, FERROELECTRIC MATERIAL,
  ZIRCONATE, BARIUM COMPOUND, LEAD COMPOUND, NIOBIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1619   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132064

USSR   UDC 534.232.46-8

UGRYUMOVA, M.A., ANAN'YEVA, A.A.

"Ferroelectric"

USSR Author's Certificate No 263709, filed 22 Nov 68, published 4 June 70 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A340P)

Translation: A ferroelectric is proposed for electroacoustical transducers, with improved dielectric and piezoelectric properties, in the composition of which is introduced a solid solution on the basis of niobate of lead barium with supplementary use of zirconate of lead barium. The initial ingredients of the mixture are taken in the following proportions (percent by weight): lead oxide, 26-32; barium carbonate, 21.3--14; niobium pentoxide, 48.2-54; zirconium dioxide, 5-0.5. The ceramic obtained has practically zero open porosity and differs from the two component composition of the system $(Pb_xBa_{1-x})Nb_2O_6$ by the increased values of the piezoelectric modulus $d_{31} \simeq 3.8 \times 10^{-6}$ unit CGSE and the dielectric constant $(\varepsilon > 3500)$. L.K.

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CIRC ACCESSION NO--AP0124961

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SURVEY OF INFORMATION CONCERNING
  THE RESONATOR DEFORMATIONS OCCURRING DURING THE PUMPING OF LARGE
  DIAMETER INTERFEROMETER RODS IN ILLUMINATORS OF VARIOUS CONFIGURATIONS.
  FORMULAS FOR DETERMINING THE RESONATOR DISTORTIONS DURING PUMPING ARE
  GIVEN FOR CIRCULAR CYLINDRICAL RODS AND ACTIVE ELEMENTS IN THE FORM OF
  FLAT PLATES. IT IS SHOWN THAT THERMAL DEFORMATIONS OF THE RESONATOR
  DEPEND ON TWO THERMOOPTICAL CONSTANTS OF THE ACTIVE MEDIUM. THE RESULTS
  OF MEASUREMENTS OF THE THERMOOPTICAL CONSTANTS OF THE MOST WIDELY USED
  BRANDS OF NEODYMIUM GLASS ARE CITED AND ARE SHOWN TO BE IN GOOD
  AGREEMENT WITH THE RESULTS OF CALCULATIONS.

UNCLASSIFIED

TITLE--DEFORMATION OF ACTIVE INTERFEROMETER ELEMENTS AND THERMOOPTICAL
  CONSTANTS OF NEODYMIUM GLASS -U-

AUTHOR-(02)-GRISHMANOVA, N.I., ANANYEV, YU.A.

A

CCUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, APR. 1970, P. 668-673

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--INTERFEROMETER, FLAT PLATE, OPTIC CONSTANT, NEODYMIUM GLASS,
  RESONATOR, MATHEMATIC EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1310   STEP NO--UR/0368/70/012/C00/0668/0673

CIRC ACCESSICN NO--AP0124961
                    UNCLASSIFIED

TELESCOPIC RESONATOR LASER

Anan'yev, Yu. A.; Vinokurov, G. N.; Koval'chuk, L. V.;
Sventsitskaya, N. A.; Shertsobitov, V. Ye.

The properties of an unstable resonator laser with large Fresnel numbers and radiative losses are considered. The feasibility of describing some properties of such lasers in the geometric optics approximation without applying the diffraction theory of open resonators is discussed. Results are presented of an experimental study of a generator with an unstable resonator formed by a telescopic system of mirrors.

USSR   UDC: 621.373:530.145.6

ANAN'YEV, Yu. A., SHERSTOBITOV, V. Ye., SHOROKHOV, O. A.

"Calculation of the Effectiveness of Lasers With High Emission Losses"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1,
Moscow, 1971, pp 91-95 (from RZh-Radiotekhnika, No 5, May 71, Abstract No
5D178)

Translation: The paper presents the results of calculation of the energy
characteristics of a laser with unstable cavity of the telescopic type. The
results show that in selecting the efficiency-optimum cavity parameters,
use may be made of the standard formulas of probability theory derived for
the use of a flat cavity. It is shown that when there are appreciable in-
active losses and when the emission threshold is considerably surpassed,
these formulas are no longer applicable. A simple method is proposed for
calculating the effectiveness of a laser in situations of this type. Three
illustrations, bibliography of six titles.

1/1

USSR

UDC: 621.373:530.145.6

ANAN'YEV, Yu. A., SVENTSITSKAYA, N. A., and SHERSTOBITOV, V. Ye.

"Laser"

Translation: A laser, containing an active element, a pumping system, and a resonator made of concave and convex reflectors, is distinguished in that, for the purpose of reducing the angular radiation deviation, the foci of the concave and convex mirrors coincide and the transverse dimension of the convex mirror is less than the transverse dimension of the active element. To increase the radiated power, the ratio of the convex mirror and active element transverse dimensions is chosen equal to the ratio of the focal lengths of the convex and concave mirrors. Resume

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USSR

UDC 621.375.82

ANAN'YEV, Yu. A., SHERSTOBITOV, V. Ye., SHOROKHOV, O. A.

"Calculation of the Effectiveness of a Laser With Large Losses to Radiation"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 1,
Moscow, 1971, pp 91-95 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D103K)

Translation: The energy characteristics of lasers with an unstable resonator of
the telescope type are calculated. It is shown that in selecting the resonator
parameters which are optimal from the aspect of efficiency, one can usually use
standard formulas of probability theory derived for the application of a plane
resonator. With considerable inactive losses and a large rise in the generation
threshold, these formulas become inapplicable. A simple method is proposed for
calculating the effectiveness of lasers in such situations. Authors abstract.

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USSR

ANAN'YEV, Yu. A., GRISHMANOVA, N. I., KOVAL'CHUK, L. V., SVENTSITSKAYA, N. A., SHERSTOBITOV, V. Ye.

"On the Possibility of Laser Radiation Control With Telescopic Resonators"

Translation: The possibility of controlling laser radiation with a telescopic resonator by introducing a signal from an external source into the central zone of the resonator was investigated experimentally. The necessary average power of the external signal when it consists of randomly distributed subpulses of radiation over time was determined. 9 ref. Authors abstract.

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USSR   UDC: 621.575.826

ANAN'YEV, Yu. A., GRISHMANOVA, N. I., KOVAL'CHUK, L. V., SVEN-
TSITSKAYA, N. A., SHESTOPITOV, V. Ye.

"On the Feasibility of Controlling the Emission from Lasers With
Telescopic Cavities"

Abstract: An experimental study is made of the possibility of
controlling emission from a laser with a telescopic cavity by
injecting a signal from an external source into the central
zone of the cavity. The necessary average power of the external
signal is determined for the case where it is composed of a series of
"spikes" of emission randomly distributed in time. Four il-
lustrations, bibliography of nine titles.

1/1

USSR

relatively high economy. Another feature is the fact that the operation of the
nuclear reactor and block as a whole is amenable to automatic control under condi-
tions of normal reliability. Radioactivity is the most important specific feature
of atomic power stations. It is now generally recognized that atomic power sta-
tions have sanitary advantages over ordinary thermal electric power stations.
Another advantage of atomic power stations is the high caloricity of the nuclear
fuel. Stations can be constructed in regions of electric power consumption with-
out the need arising for long-distance transmission. The threatened shortage of
energy resources in the European part of the USSR will thus be covered by the con-
struction of atomic power stations. Autonomous low-power stations will undoubtedly
be built in remote regions which do not have their own energy resources or cheap
transportation links with organic fuel supply bases. An example is the Bilibino
Atomic Power Station, under construction in the Far Northeast of the USSR. The
question of operating regimes for atomic power stations arises. The most favor-
able regime is one with constant power. At the same time variable-power blocks
can be used in the so-called peak portion of the load schedule.

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USSR

UDC 621.311.2:621.039

ANAN'YEV, YE. P., and KRUZHILIN, G. N.

"Features of Atomic Power Stations in Power Engineering"

Abstract: The degree of utilization of nuclear fuel in thermal reactors is rather limited, so that atomic power stations with thermal reactors will be of transitional significance and the main role in nuclear power engineering will most likely go to stations with fast reactors. The fuel elements are most important in selecting the type of thermal reactor, particularly fuel elements of uranium dioxide in a cylindrical jacket of zirconium 10 mm in diameter, designed for water-cooled channels. The program for the construction of atomic power stations with thermal reactors in the USSR is based on vessel and channel water-cooled reactors.

The promise of atomic power stations is determined by their

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USSR

ANAN'YEV, Ye. P., KRUTHILIN, G. N.

"Classification of Nuclear Power Plant Modules"

Abstract: The paper deals with the reliability of elements
in large nuclear power plants -- the principal factor which
affects both the economic performance of the plant and the
economy of power delivery. An atomic-electric power plant is
considered in which the reactors are incorporated into a system
with turbogenerators. An analysis is made of problems of
strength, standby provisions for the systems for automatic con-
trol of the reactor, as well as questions relating to the circu-
lation loops and the turbogenerators. The turbogenerators are
evaluated as a system which is more complex than the reactor in
the dynamic sense. The authors point out that selection of unit
power and turbine speed (3,000 or 1,500 rpm) is of interest in
itself as an independent problem. It is shown that two turbines
per reactor should be used in high-capacity nuclear-electric
power plants. One figure, bibliography of nine titles.
1/1

scattering of individual particles of the material at high tempera-
tures of the vaporizer, the HgTe powder was compacted, under a pres-
sure of 1000 kg/cm^2, into about 0.6g pellets. Conductivity, thermo-
electromotive force, and the Hall effect were measured at DC current
in all the specimens. The thickness of the layers was measured by means
of an MII-5 interferometer. Radiographic studies of the obtained speci-
mens showed that they consist of polycrystalline HgTe layers with
cubic structure of the zinc blende type. It was established that
specimens obtained at a vaporization temperature of 400°C and a
substrate temperature of 150°C had the maximum carrier mobility.
It was concluded that the ratio of components in a vapor phase varies
significantly during the HgTe sublimation, which greatly affects the pro-
perties of the forming layer. The composition of the deposited films
is close to the stoichiometric composition only at a specific stage
of material atomization. Layers with a Hall mobility value of up
to 11,000 cm^2/v sec, for better specimens, can be successfully obtain-
ed by means of the described method. (From RZh A i R)
2/2

USSR

UDC   537.311.33:546.24'49

SHNITNIKOV, A.S., and A.AA'YEV, T. R.

"Obtaining   Thin Mercury Telluride Layers by the Compound Sublima-
tion Method, and Investigation of Their Electrophysical Properties"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled.
rabot za 1968--1969 gg. (Apr. 1970 g.). Sekts. Elektron.tekhniki.
Podsekts. Poluprovodnikovykh priborov (Reports of the Scientific-
Engineering Conference on the Results of Scientific Research Work
during 1968--1969 (Apr. 1970). Section of Electronic Engineering,
Subsection of Semiconductor Instruments), Moscow, 1969, pp 128-133
(from Rzh-Metallurgiya, No 4, Apr 70, Abstract No 4G401)

Translation: The purpose of this work was   to obtain   thin $HgTe$
films by the compound sublimation method, and to study their pro-
perties as a function of the technological conditions and composition
of the sublimated substance. Mercury telluride was obtained by
grinding Te and Hg in a stoichiometric proportion in a porcelain
mortar at room temperature until a black powder was formed. To drive
off the absorbed air, the powder was baked for about 2 hr in a
vacuum with the temperature gradually increasing to $200^{c}C$. To avoid
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USSR

SHNITNIKOV, A. S., et al., Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-
issled. rabot za 1968-1969 gg. (Apr. 1970g). Sekts. Elektron. tekhniki. Podsekts.
Poluprovodnikovykh priborov (Report of the Scientific-Technical Conference on
the Results of Scientific-Research Work During 1968-1969 (Apr. 1970). Electronic
Technology Section. Semiconductor Devices Subsection), Moscow, 1969, pp 128-133
(from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B74)

film deposited close to stoichiometric. With the aid of the method described,
it is possible to prepare layers having a value of Hall mobility up to 11,000
cm^2/v. sec for the better specimens. O. S.

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USSR

SHNITNIKOV, A. S., et al., Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-
issled. rabot za 1968-1969 gg. (Apr. 1970g). Sekts. Elektron. tekhniki. Podsekts.
Poluprovodnikovykh priborov (Report of the Scientific-Technical Conference on the
Results of Scientific-Research Work During 1968-1969 (Apr. 1970). Electronic
Technology Section. Semiconductor Devices Subsection), Moscow, 1969, pp 128-133
(from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B74)

of the sorbed air. For removal of the dispersion of the individual particles
of the material at high temperatures of the evaporator, tables weighing $\sim$0.6 g
were pressed out of the HgTe powder at a pressure of 1000 kg/cm^2. The electric
conductance, the thermo-emf and the Hall effect of a direct current were measured
for all specimens. The thickness of the layers was measured with the aid of an
MII-5 interferometer. X-ray investigation of the specimens prepared showed that
they are polycrystalline layers of HgTe possessing a cubic structure of the type
of zinc blend. It is established that the specimens prepared at an evaporator
temperature of 400° C and a substrate temperature of 150° C have maximum
mobility of the carriers. The conclusion is made that at the sublimation of
the HgTe the ratio of the components in the vapor phase is substantially
changed, which strongly influences the property of the developing layers. Only
at a fixed stage of pulverization of the material is the composition of the
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USSR

UDC 537.311.33:546.24'49

SHNITNIKOV, A. S., ANAN'YEV, V. P.

"Preparation of Thin Layers of Mercury Telluride by the Method of Sublimation of a Compound, and Investigation of their Electrophysical Properties"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled, rabot za 1968-1969 gg. (Apr. 1970g). Sekts. Elektron. tekhniki. Podsekts. Poluprovodnikovykh priborov (Report of the Scientific-Technical Conference on the Results of Scientific-Research Work During 1968-1969 (Apr. 1970). Electronic Technology Section. Semiconductor Devices Subsection), Moscow, 1969, pp 128-133 (from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B74)

Translation: The purpose of the work was the preparation of thin layers of HgTe by the method of sublimation of a compound and the study of their properties as a function of the technological regimes and composition of a volatile substance. HgTe was prepared by abrasion of Te and Hg at a stoichiometric ratio in a porcelain mortar at room temperature up to the formation of a black-colored powder. A prolonged annealing ($\sim$ 2 hours) in a vacuum with a gradual increase of the temperature to 200° C was conducted for elimination

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CIRC ACCESSION NO--AP0118942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF REPLACING PART
  OF SLAGS ADDED TO PORTLAND CEMENT AND SLAG PORTLAND CEMENT WAS STUDIED
  AS WELL AS OF OBTAINING PUZZOLANI PORTLAND CEMENT ON THE BASIS OF OPOKA.
    COMBINED GRINDING OF CLINKER, GYPSUM, SLAG, AND OPOKA WAS CARRIED OUT
  TO A RESIDUE OF 8.5PERCENT ON SIEVE NO. 008. GYPSUM WAS ADDED IN THE
  AMT. OF 4PERCENT BASED ON CEMENT WT. REPLACEMENT OF SLAG BY UP TO
  15PERCENT OPOKA IMPROVES THE STRENGTH OF PORTLAND CEMENT AND RAISES ITS
  QUALITY TO TYPE 600. IF THE GRINDING IS IMPROVED TO A RESIDUE OF ONLY
  5PERCENT ON SIEVE NO. 008 THE ACTIVITY OF THE CEMENT IS IMPROVED TO 788
  KG-CM PRIME2. REPLACEMENT OF SLAG BY OPOKA IN SLAG PORTLAND CEMENT
  IMPROVES ITS STRENGTH. GRINDING TO A RESIDUE OF 5PERCENT ON SIEVE NO.
  008 IMPROVES THE ACTIVITY TO 722KG-CM PRIME2 AFTER 28 DAYS. WITH THE
  ADDN. OF 20-30PERCENT OPOKA PUZZOLANI PORTLAND CEMENT OF HIGH QUALITY
  CAN BE OBTAINED IF THE RESIDUE ON SIEVE NO 008 IS 5 PERCENT. MIXTS.
  WITH OPOKA ARE MORE EASILY GROUND THAN THOSE WITH BLAST FURNACE SLAGS.
      FACILITY: OL'SHAN. TSEMENT. ZAVOD, OLSHANKA, USSR.

TITLE--REPLACEMENT OF BLAST FURNACE SLAG WITH OPOKA -U-

AUTHOR-(03)-STOVBA, R.V., ANANYEV, V.N., TRVASTSINA, A.I.

COUNTRY OF INFO--USSR

SOURCE--TSEMENT 1970, (2), 19-20

DATE PUBLISHED-------70

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

TOPIC TAGS--BLAST FURNACE, SLAG, CEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1983   STEP NO--UR/0101/70/000/002/0019/0020

CIRC ACCESSION NO--AP0118942
                        UNCLASSIFIED

USSR

ANAN'YEV, V. M., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1972, pp 51-53

frequency and area indexes of the EEG is a sensitive indicator of the varia-tions of the functional state of the cortex, and to a different extent it reflects the nature of the system of mutual relationships of the electrical activity of the cortex in its basic zones. It is expedient to use the gen-eralized correlation index to characterize the reaction of the cortex to irradiation (to estimate the severity of damage to the cortex and the degree of restoration of the initial state).

2/2

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Radiobiology

ANAN'YEV, V. M., VLASOVA, N. I., NAZAROV, V. A., SOBOLEVA, K. V., STEFASHKIN,
Yu. P.

"Mutual Correlation Coefficients of the Electroencephalograms of Irradiated
Rabbits"

Abstract: A study was made of means of dynamic characterization of the system
of mutual relationships in the cortical electrical activity of rabbits by
mutual correlation coefficients of the EEG. The experiments were performed
on seven rabbits using the procedure described previously [V. M. Anan'yev, et
al., Byull. eksper. biol., No 1, 91, 1966]. The nature of the variation of
the mutual correlation coefficients of the EEG for background recordings last-
ing 28 seconds was studied. The dynamics of the variation of the mutual cor-
relation coefficients averaged with respect to the entire cerebral cortex of
rabbits irradiated by gamma-radiation in a superlethal dose of 1,500 roentgens
are illustrated in graph form. The presented data indicate the effect of
gamma-radiation on the cerebral cortex of the animals as a whole without space
detailing. The mutual correlation coefficient of the EEG combined with the

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2/2   023   UNCLASSIFIED   PROCESSING DATE--15OCT70
CIRC ACCESSION NO--AT0054600
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. A NUMBER OF DESIGN IMPROVEMENTS
  MADE ON THE IBR ON THE BASIS OF OPERATIONAL EXPERIENCE ARE DESCRIBED.
  SOME PECULIARITIES OF THE REACTOR UNDER OPERATING CONDITIONS OF
  INFREQUENT PULSES ARE GIVEN ALONG WITH A SHORT DESCRIPTION AND THE MAIN
  PARAMETERS OF THE HIGH POWER PERIODICALLY PULSED REACTOR IBR-2 WITH AN
  LIU-30 AS AN INJECTOR.   SOME MAJOR EXPERIMENTAL WORKS ON NUCLEAR
  PHYSICS AND SOLID STATE PHYSICS PERFORMED USING THE IBR ARE DISCUSSED.
  34 REFERENCES.   FACILITY: JOINT INST. FOR NUCLEAR RESEARCH,
  DUBNA USSR.

UNCLASSIFIED

TITLE--OPERATION EXPERIENCE AND DEVELOPMENT OF PERIODICALLY PULSED
   REACTORS AT DUBNA -U-

AUTHOR-(03)-ANANYEV, V.D., BLOKHINTSEV, D.I., BUNIN, B.N.

COUNTRY OF INFO--USSR

SOURCE--CONF-690102, PP 173-95

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--FAST REACTOR, NUCLEAR REACTOR OPERATION, RESEARCH REACTOR,
   NUCLEAR PHYSICS INSTITUTE/(U)IBR FAST NEUTRON PULSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1762   STEP NO--UR/0000/70/000/000/0173/0175

CIRC ACCESSION NO--AT0054600
                                UNCLASSIFIED

USSR

UDC 621.384.6

ANAN'YEV, L.M., BEL'TYAYEV, YU.N., CHAKHLOV, V.L. [NII pri Tomsk politekhn.in-te --Scientific-Research Institute Attached To Tomsk Polytechnical Institute]

"Electron Injector"

USSR Author's Certificate No 274053, filed 4 Feb 67, published 17 Sept 70 (from RZh--Elektronika i yeye primeneniye , No 4, April 1971, Abstract No 4A360P)

Translation: With the object of increasing the lifetime of the cathode, an air-cored pulse transformer is connected by the secondary winding between the cathode and the pulsed injector, and by the primary winding with the reservoir capacitance in parallel with the pulse generator.

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USSR

UDC 621.314.58 (Cont...)

FOKIN, V.A., AFAN'YEV, K.YA., FOKIN, S.A. [Zaporozhsk. mashinostroit. inst im.
V. Ya. Chubarya--Zaporozhskiy Machine Construction Institute imeni V. Ya. Chubarya]

USSR Author's Certificate No 251671, Filed 16 Apr 68, Published 29 Feb ... (from
RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10...)

Translation: The invention pertains to a static frequency multiplier ... semi-
conductor diodes and capacitors which comprises two bridges. With the object of in-
creasing the energy indices, it is proposed to use an inverter based on thyristors,
the input of which is connected to the anodes of the semiconductor diodes (with a
common anode) of one bridge and to the cathodes of the semiconductor diodes (with
a common cathode) of the other bridge, during which one part of the load is connect-
ed via capacitors to the outputs of the bridges and the other to the output of the
inverter. 1 ill. I.R.

/1

USSR

UDC 621.317.41

ANAN'YEV, I. P., CHUDNOVSKIY, A. F.

"Procedure for Determining the Magnetic Susceptibility of Materials"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 17, 12 May 70, p 53, Patent No 270875, Filed 1 Jul 68

Translation: This Author's Certificate introduces a procedure for determining
the magnetic susceptibility of materials by measuring the radial component of
the characteristic magnetic field of the spherical tested sample using hall
sensors fed by a high-frequency current. In order to improve sensitivity and
provide for the possibility of testing diamagnetic and paramagnetic materials,
the tested sample is placed in a low-frequency variable magnetic field, and
the magnetic susceptibility is measured by the output signals of the sensors
on a combination frequency.

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USSR

CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, p 137

bacteriological method yielded cultures of plague pathogen in only 2% samples. In summer 1971, positive results were obtained by the serological method in 24% of samples of fleas collected from gophers in the Caucasian Mountains. Subsequently, the bacteriological method used in October 1971 yielded positive results for the first time in that region. The faster and more sensitive serological method is recommended for territorial surveys of plague pathogen.

2/2

CHERNENKO, I. I., OGANYAN, Ye. P., MULDER, Ye. V., ANANYAN, Yo. L.,
E. K., GOLUBEV, P. D., and GONCHAROV, A. I., Scientific Research Antiplague
Institute of the Caucasus and Transcaucasus and Armenian Antiplague Station,
Ministry of Health USSR

"Experience in Serological Examinations of Fleas of Rodents for Plague"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1976, p 157

Abstract: The ... of infected fleas ...
ical result is not more than 5 in a mixture with 95 ... the
results of serological tests are available within 24 hrs a... it works ...
the test fleas if they are kept at 4°C in a 2% NaCl solution ...
0.002% gentian violet and 1% formalin which effectively extracts ...
gen PI antigen from the tissue of the insects and preserves in it at least ...
days. The solution with or without the fleas can be used for the serological
test which involves neutralization of antibodies with sensitized ...
erythrocytes ... . The method was verified in field ... . In the
summer of 1973, 83 samples containing a total of 2,337 ...
field mice and their holes in Transcaucasus were analyzed ...
parallel. The serological method detected antigen in 53 ...
1/2

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USSR

CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

indicating the usefulness of this method for retrospective analysis. In the second phase an area in which epizootics had not been recorded previously was studied in 1970-1971. While the ANR revealed the presence of Fl antigen in rodent nest substrate, bacteriological analysis did not produce such evidence until 4 months later. This result indicated that the method is also preferential for early detection of plague epizootics. In the final phase pellets regurgitated by predatory birds feeding on plague-carrying rodents were subjected to the ANR. Once again Fl antigen was detected in areas without previous epizootic history up to 2 months prior to detection by bacterial analysis. As a control pellets from an area known to be free of plague for 40 years was subjected to the ANR, and the results were negative. Thus the ANR is shown to be a suitable and preferential method for retrospective and early field detection of natural plague foci.

2/2

USSR

UDC 616.981.452-022.39-036.23-078.7(479)

CHERCHENKO, I. I., OGANYAN, Ye. F., YUNDIN, Ye. V., NAYDEN, P. Ye., YEMEL'YANOV, P. F., GOLUBEV, P. D., FILIMONOVA, Yu. A., GONCHAROV, A. I., LABUNETS, N. F., BABAYEV, M. R., ANANYAN, Ye. L., and KHANGULYAN, E. K., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, and Antiplague Stations, Azerbaydzhan SSR and Armenian SSR

"Experience in Serological Detection of Plague in Rodent Nest Substrate and in Predatory Bird Pellets Under Field Conditions in Natural Foci of the Caucasus"

Abstract: Use of the antibody neutralization reaction (ANR) employing plague antigenic erythrocyte diagnosticum was studied as a serological alternative to detection of plague by bacteriological analysis, for which it is not always possible to gather test material in the field. The study was based on the experimental finding that plague Fl antigen persists in the environment long after an epizootic has subsided. In the first phase, three areas in the Caucasus in which epizootics had been registered previously were studied in 1969-1971. Samples of rodent nest substrate were found to contain Fl antigen by the ANR, whereas bacteriological methods were generally unsuccessful,

1/2

Public Health, Hygiene and Sanitation

TUNIK, A. I., ANANOVSKIY, L. N., PRAVE, V. Ye., TIKHOTSKAYA, A. N.,
DERNITSYNA, Ye. A., and MINKINA, T. A., Moscow Municipal Disinfection
Station

"Hygienic Evaluation of the Air in Places Treated With Chlorophos"

Abstract: Analysis of 250 air samples in a special experimental chamber
and of air samples from well-ventilated places in cafes, hostels, hospitals,
and restaurants showed that 3 hours after treatment with a 5% water solu-
tion of the organophosphorus insecticide chlorophos, the air contained no
more than 0.5 mg/m^3 of the compound (maximum permissible concentration).
With very poor ventilation it took as long as 24 hours before the concen-
tration of the insecticide dropped to the permissible level. The external
temperature was an important factor. When the outdoor and indoor tempera-
tures differed considerably and the windows were open, all traces of
chlorophos disappeared within one hour of treatment.

1/1

CIRC ACCESSION NO--AP0131530

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CURVE OBTAINED FROM THE DTA
ANAL. OF NAHSEO SUB3 HAS 4 ENDOTHERMAL POINTS WITH MAX. AT 114, 343,
615, AND 710DEGREES. THERMOGRAVIMETRIC, CHEM., AND X RAY ANALS. ALLOWED
THE MAX. TO BE ASCRIBED TO THE FOLLOWING PROCESSES; (1) 2NAHSEO SUB3
YIELDS NA SUB2 SE SUB2 O SUB5 PLUS H SUB2 O, (2) MELTING OF NA SUB2 SE
SUB2 O SUB5, (3) NA SUB2 SE SUB2 O SUB5 YIELDS NA SUB2 SEO SUB3 PLUS SEO
SUB2 AND, (4) MELTING OF NA SUB2 SEO SUB3 WITH PARTIAL DECOMPN. THE DTA
CURVES OF NAH SUB3 (SEO SUB3) SUB2 HAVE MAX. AT 114, 350, 608, AND
710DEGREES. THE 1ST MAX. CORRESPONDS TO 2(NAHSEO SUB3 P SUB2 SEO SUB3)
YIELDS NA SUB2 SE SUB2 O SUB5 PLYS 2SEO SUB2 PLYS 3H SUB2 O AND MAX. 2-4
ARE ATTRIBUTED TO THE SAME PROCESSES AS IN THE CASE OF NAHSEO SUB3.
DECOMPN. PRODUCTS OF BOTH SALTS HEATED TO 1100DEGREES ARE COMPOSED
MAINLY OF NA SUB2 O.

TITLE--THERMAL STABILITY OF ACIDIC SODIUM SELENITES -U-

AUTHOR-(04)-SELIVANOVA, N.M., KOSHCHEEVA, Z.V., ANANINA, M.S.,
   KHUTORYANSKIY, F.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 975-81

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, SODIUM COMPOUND, SELENIDE, X RAY ANALYSIS,
   THERMAL ANALYSIS, SODIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0951   STEP NO--UR/0080/70/043/005/0975/0981

CIRC ACCESSION NO--AP0131536
                         UNCLASSIFIED

USSR

UDC 621.793.5:669.718.65

AKSENOVA, E. V., SEREBRYAKOVA, I. B., ANAN'INA, L. A., and GANSH, T. N.

"Hot Aluminizing of Sheet Steel"

Moscow, Stal', No 9, Sep 70, pp 830-833

Abstract: A good aluminum plating with a thin brittle layer of inter-metallic compounds (Fe_2Al_5) may be produced by plunging low-carbon sheet steel into an aluminum melt containing 6-8% Si at temperatures of 700-710°C. Various methods of preparing the steel surface for aluminizing are discussed. A first processing in the regenerating atmosphere and elimination of the oxides by annealing in a hydronitric medium, provides a high-quality plating. Aluminizing improves the heat resistance of steel and greatly increases its corrosion resistance. Data of the corrosion resistance of low-carbon steel in various media are shown in comparison with the corrosion resistance of galvanized steel. The aluminum plating maintains a constant appearance with heating up to 500°C.

1/1

USSR

UDC 66.048.5

GIL', V. V. and ANAN'IN, V. N.

"Experimental Investigation of the Processes of Evaporation and Sublimation in a Vacuum"

Minsk, Teplo- i Massoobmen pri Nizkikh Temperaturakh, 1970, pp 31-37

Abstract: Because of its great practical interest and because scientists are having trouble agreeing on the fundamental problems involved in the transport of heat and mass, this article describes an experimental set-up for a quantitative determination of the heat-mass exchange characteristics of complex technical mixtures on a concentrated nitric acid base during evaporation (sublimation) from an open surface in the pressure range of $1\text{-}10^{-4}$ torr and the temperature range of $-200\text{-}+20°$ C. The set-up has built-in the possibility of registering fields of partial pressures using an electron beam. A method is proposed for measuring the temperature fields using a microconductor gauge. A curve indicating the dependence of temperature on distance over the evaporating surface is plotted. Equations are given to describe the various factors involved such as evaporation rate, heat flux density, radiant heat flux in a closed space, mass exchange coefficient, and coefficient of heat exchange by radiation and by convection. The article contains three figures and eleven bibliographic citations.
1/1

USSR   UDC 539.219.3

ANAN'IN, V. M., GLADKOV, V. P., ZOTOV, V. S., and SKOROV, D. M.

"Diffusion of Nickel in Beryllium"

Moscow, Atomnaya Energiya, Vol 29, No 3, Sep 70, pp 220-221

Abstract: The authors studied the diffusion of nickel in beryl-
lium and two Be-Ni alloys containing 10 and 36 wt. percent nick-
el. The study material was distilled beryllium remelted in an
arc furnace on a water-cooled copper hearth. The specimens first
underwent high-temperature homogenizing annealing, then diffusion
annealing following the application of an Ni-63 isotope to one of
their surfaces. Radiometric and autoradiographic analyses indi-
cate that the mobility of nickel along the grain boundaries of
beryllium is very low and cannot be detected against a background
of volume diffusion.

1/1

USSR

UDC: 669.715'5'721'3:539.3/5

ANAN'IN, S. N., YEFREMOV, P. T., CHERNIKOVA, E. A.

"Influence of Silicon on Properties of Alloys in the System Al-Zn-Mg-Cu"

Translation: The influence of Si on the mechanical and corrosion properties
of alloys in the system Al-Zn-Mg-Cu is studied. As Si is introduced, the
mechanical properties of the alloys after hardening, natural and artificial
aging decrease. The level of mechanical properties of alloys in the system
Al-Zn-Mg-Cu + Si can be increased by increasing the heating temperature
before hardening from 470 to 500°. The corrosion properties of the alloys
are not reduced in this case. Si helps to increase the corrosion properties
of alloys in the system Al-Zn-Mg-Cu in the hardened and naturally aged states.
The structure of alloys in the system Al-Zn-Mg-Cu + Si was studied after
various aging modes. 4 figures, 4 tables, 3 biblio. refs.

1/1

USSR   UDC 51:155.001.57:681.3.06

ANANIASHVILI, G. G.

"Use of Methods of Algebraic Theory of Codes in Pattern Recognition Problems"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works],
No 4, Riga, Zinatne Press, 1970, pp 105-108 (Translated from Referativnyy
Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V576 by the author).

Translation: An assumption is stated concerning the possibility of solving pro-
blems of pattern recognition using the mathematical apparatus of the theory of
correcting codes.

1/1

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CIRC ACCESSION NO--AR0117122

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF A PRESET
  SYSTEM CONSISTING OF AN ELECTRICAL CONTACT PICKUP PERFORMING THE ROLE OF
  AN ELECTRICALLY SENSITIVE STOP AND A TRANSDUCER COMPENSATING FOR BIAS
  ADJUSTMENT OF THE SPID (EXPANSION UNKNOWN) SYSTEM. IN ACHIEVING A PART
  OF THE ASSIGNED SIZE, THE CONTACTS OF THE ELECTRICAL CONTACT PICKUP ARE
  CLOSED AND THE ACTUATING ELEMENT OF THE MACHINE TOOL IS SHUNTED THROUGH
  AN AMPLIFIER AND AN ELECTROMAGNET. AT THE MEASURING POITION OF THE
  SECOND PICKUP, SAMPLES OF THE PARTS ARE CONTINUOUSLY BEING SUPPLIED: ON
  THE BASIS OF THE RESULTS OF MEASURING THE PARTS, A STATISTICAL ANALYZER
  ISSUES AN APPROPIRATE COMMAND TO THE PRESET MECHANISM OF THE ELECTRICAL
  CONTACT PICKUP. CALCULATION OF THE PRECISION OF THE PRESET SYSTEM MUST
  BE PRECEDED BY AN ANALYSIS OF THE PRECISION OF THE TECHNOLOGICAL PROCESS
  FOR WHOSE CONTROL THIS SYSTEM IS INTENDED.

UNCLASSIFIED

1/2   016   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--AUTOMATIC COMPENSATION OF BIAS ADJUSTMENT OF METAL CUTTING MACHINE
    TOOLS -U-
AUTHOR--ANANCHENKO, V.N.

COUNTRY OF INFO--USSR

SOURCE--IN THE COLLECTION AVTOMATIZATSIYA PROIZVODSTVENNYKH PROTSESSOV
REFERENCE--RZH TEKHNOLOGIYA MASHINOSTROYENIYA, NO 1, 1970, ABSTRACT NO
DATE PUBLISHED-------70

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

TOPIC TAGS--METAL CUTTING, MACHINE TOOL, BIBLIOGRAPHY, TRANSDUCER,
    AUTOMATIC CONTROL SYSTEM/(U)SPID AUTOMATIC CONTROL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1745   STEP NO--UR/0000/69/000/000/0131/0134

CIRC ACCESSION NO--AR0117122
                        UNCLASSIFIED

USSR

UDC 621.357:621.79.027

SARAFANOV, I. S., ANAGORSKIY, L. A., RABKIN, M. A.

"Potential Distribution in the Electrolyzer Circuit"

V sb. Novoye v elektrofiz. i elektrokhim. obrabotke materialov (What's New in Electrophysical and Electrochemical Treatment of Materials -- collection of works), Leningrad, Mashinostroyeniye Press, 1972, pp 102-106 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L310)

Translation: Mathematical expressions were obtained for calculating the basic electrical parameters of the electrolyzer circuit for heating metals in an electrolyte. They permit determination of the voltage drop in various parts of the circuit and selection of the most advantageous conditions for machining parts with different shape and also determination of the specific resistance of the gas layer occurring at the cathode.

1/1

2/2   008   UNCLASSIFIED   PROCESSING DATE--04/10/70

CIRC ACCESSION NO--AA0132111

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALPHA HALOETHYL ESTERS OF
  FURAN,2,CARBOXYLIC ACID WERE OBTAINED BY TREATING THE VINYL ESTER OF
  FURAN,2,CARBOXYLIC ACID WITH H HALIDE AT ROOM TEMP.   FACILITY:
  NOVOSIBIRSK INSTITUTE OF ORGANIC CHEMISTRY.

UNCLASSIFIED

1/2   008   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--ALPHA HALOETHYL ESTERS OF FURAN,2,CARBOXYLIC ACID -U-

AUTHOR-(04)-SHOSTAKOVSKIY, M.F., SKVORTSOVA, G.G., AN, V.V., MANSUROV,
   YU.A.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,910
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, FURAN, CARBOXYLIC ACID ESTER,
   CHEMICAL PATENT, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1846   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132111
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0112438

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HERMETIC VISCOMETER IS DESCRIBED
   WITH A "HANGING" LEVEL IN WHICH THE FLOW TIME OF THE STUDIED LIQ. IS
   INDEPENDENT OF ITS VOL.   TO TEST THE VISCOMETER, THE VISCOSITY OF OIL.
   SOLNS. OF NAI IN MECN AT 50DEGREES WAS MEASURED. NO DETECTABLE CHANGE
   OF CONCNS. OF NAI WAS OBSD. AFTER 40 CONSECUTIVE MEASUREMENTS WITH THE
   SAME SAMPLE, I.E., AFTER 6 HR.   FACILITY: SEV.-ZAPAD. ZAOCH.
   POLITEKH, INST., LENINGRAD, USSR.

UNCLASSIFIED

1/2   028   UNCLASSIFIED   PROCESSING DATE--20NOV70

TITLE--VISCOMETER FOR HIGHLY VOLATILE AND HYGROSCOPIC LIQUIDS -U-

AUTHOR-(04)-KRUMGALZ, B.S., DEREVSKAYA, V.I., TRABER, D.G., AMYANOVA, R.K.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 246-7.

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--VISCOMETER, SODIUM COMPOUND, FLOW MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1444   STEP NO--UR/0032/70/036/002/0246/0247

CIRC ACCESSION NO--AP0112438
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0054695
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PARAMAGNETIC GROUND STATE IS
  STABLE AT HIGH D., AND IT IS POSSIBLE THAT, DUE TO THE CRYSTAL LATTICE,
  A SPIN D. WAVE OR CHARGE D. WAVE STATE AND NOT A PARAMAGNETIC STATE
  EXISTS IN PLAIN METALS. OTHER OBJECTS WHERE THE FEATURES OCCURRING WITH
  2P SUBO (P SUBO EQUALS FERMI PULSE) CAN BE EFFECTIVE ARE LONG MOLS., PI
  ELECTRONS OF THE MOLS. BEING IN THE SPIN D. WAVE STATE. AS APPLIED TO
  BOUNDED SYSTEMS, SUCH AS THE ELECTRON SHELLS OF ATOMS AND MOLS., THE
  PRESENCE OF COULOMB FORCES CAN RESULT IS SUSCEPTIBILITY (BOTH STATIC AND
  DYNAMIC) BEING LARGE WITH RESPECT TO THE EXTERNAL FIELD WITH LONG WAVE
  ORDER OF INTERELECTRON SCATTER. DUE TO THE DISCRETENESS OF THE
  EXCITATION LEVEL NEAR THE GROUND STATE WITH LOW MOMENT, THE LEVEL WITH
  HIGH MOMENT MAY BE VERY LONG LIVED, AS WITH THE AT. NUCLEUS, AND VICE
  VERSA.

1/2   017   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--STABILITY OF THE PARAMAGNETIC GROUND STATE OF AN ELECTRON GAS -U-

AUTHOR--AMUSYA, M.YA.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1) 3-30

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON GAS,   GROUND STATE,   CRYSTAL LATTICE,   ELECTRON
  SPIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1892   STEP NO--UR/0126/70/029/001/0003/0030

CIRC ACCESSION NO--AP0054695
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0141848

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE M SHELL PHOTOIONIZATION CROSS
  SECTION OF AR INCLUDING MANY BODY CORRELATIONS IN THE RANDOM PHASE
  APPROXIMATION WITH EXCHANGE IS FOUND. THE RESULT IS IN GOOD AGREEMENT
  WITH EXPERIMENT.   FACILITY: ACAD. SCIENCES USSR, LENINGRAD.

UNCLASSIFIED

1/2   020   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--MANY ELECTRON CORRELATIONS IN PHOTOABSORPTION IN THE M SHELL OF AR
   -U-
AUTHOR-(03)-AMUSIA, M.YA., CHEREPKOV, N.A., CHERNYSHEVA, L.V.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS A (NETHERLANDS), VOL. 31A, NO. 10, P. 553-4 (18 MAY
   1970)
DATE PUBLISHED--18MAY70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--IONIZATION CROSS SECTION, PHOTOIONIZATION, ELECTRON
   INTERACTION, ELECTRON SHELL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605030/E01 STEP NO--NE/0000/70/031/010/0553/0554

CIRC ACCESSION NO--AP0141848
                          UNCLASSIFIED

Amusya M.Ya.

Acc. Nr: AP0043795

INELASTIC SCATTERING OF ELECTRONS BY NOBLE GAS ATOMS

Amus'ya, M. Ya.; Cherepkov, N. A.: Sheftel', S. I.

The differential cross section for inelastic scattering of keV electron by neon, argon, krypton and xenon atoms is studied for small energy losses. The calculation is carried out in the Born approximation and the wave functions of the Herman-Skillman potential are employed for the ejected electron. The dipole transition of the atomic electron yields the main contribution to the cross section; however, the shape of the curve significantly depends on the contribution of transitions of other multipole order. The results are compared with the experiments. Some peaks in the differential cross section for scattering by outer shells of argon, krypton and xenon atoms are explained. The discrepancy between the calculated and experimental values of the cross sections are analyzed.

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2/ DI

USSR

GOLUBEVA, T. B., et al, Zhurnal Evolyutsionnoy Biokhimii i Fiziologii, Vol 6,
No 2, Mar/Apr 70, pp 215-224

and to their mode of life. Use of signals in the optimum, rather than non-
optimum, sensitivity range of frequencies affected significantly the effects
of the intensity and sharpness of increase in sound signals on the response.
The cycles of restoration of the first component of the nerve response in
paired signals were shorter in owls than in chickens, but longer than in cats.
Owls occupied an intermediate place between mammals and other birds in this
respect.

2/2

USSR

UDC 615.5

MIRZOYAN, S. A., GABRIYELYAN, E. S., and AMROYAN, E. A., Yerevan Medical Institute

"Study of the Effect of Gangleron and Quateleron on Various Physicochemical Properties of Arterial Blood"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, No 3, 1970, pp 182-186

Abstract: The effect of the title compounds on the acid-base equilibrium in the arterial blood of cats was studied. It was previously shown that these compounds can change the circulation level in the cerebrum. Twenty-five cats were studied under anesthesia. A fine polyethylene catheter was inserted into the carotid artery for removal of blood samples. The compounds under investigation were introduced through the femoral vein. The pH and CO_2 pressure of the arterial blood were monitored by electrodes. It was found that gangleron in an amount of 1 mg/kg increases the CO_2 pressure in arterial blood within 10 min of introduction. The pH of the blood is changed, also, but other properties are not significantly changed. Intravenous administration of quateleron in a dose of 0.5 mg/kg also brings about a significant change in the CO_2 pressure of the arterial blood (from 33.70 ± 0.95 in controls to 38.56 ± 1.64 mm Hg). Also the pH of the blood is affected. In contrast to the case of gangleron, the pO_2 is somewhat changed.
1/2

USSR

KOVTONYUK, N. F., et al, Izvestiya VUZ, Fizika, no 5, 71, pp 105-109

The measurement results were compared with measurements using the hall effect and were found to be within satisfactory measurement error (15-25%). Finally, the authors state that by using the method of an insulated crystal it is possible to obtain the necessary information about the properties of materials, especially when the samples have an area greater than 1 mm and a thickness greater than 10-100 µ. The article contains three figures and a bibliography of five titles.

2/2

USSR

UDC 621.315.592

KOVTONYUK, N. F., AMRINOV, N. M., and MAGOMEDOV, A. A., Moscow Institute of
Chemical Mechanical Engineering

"Measurement of the Basic Electrophysical Parameters in Thin Films of Semi-
conductors Using the Method of an Insulated Crystal"

Abstract: The authors propose a procedure and set-up for measuring the specific
resistance, concentration, and mobility of free charges in thin films of semi-
conductors. The basis of the method is the dependence of the magnitude of the
power transmitted to the ultrahigh frequency transmission lines on the con-
centration and mobility of free charges in a semiconductor insulated from
electrodes on both sides by dielectric films placed into the line. The experi-
mental results are given. This article seeks to solve the problems in measur-
ing the characteristic parameters of epitaxial films by substituting noncon-
tact methods for the contact ones which are difficult to use in measuring
samples with small linear dimensions. The authors discuss the method and sup-
port their statements with a block diagram of the set-up and with equations.
The test results are shown in two figures depicting signal versus specific re-
sistance of the crystals and signal versus concentration of free charges.

1/2

AUTOMATED SYSTEMS FOR NATIONAL ECONOMY

[Article by ... , head of the ... Systems Laboratory of the Institute of Mathematics and Mechanics of the Kazakh SSR Academy of Sciences; Alma-Ata, ..., Russian, No 1, January 1972, pp 33-39]

- 1 -

[I - USSR - N]

USSR

AMPELOGOVA, N. I.

"Investigation of the Complex Formation of Polonium by the Ion Exchange Method"

Abstract: The values of the concentration stability constants have been determined for the following polonium complexes: nitrate ($\beta_1 = 3.6 \pm 1$, $\beta_2 = 14 \pm 1.5$, $\beta_3 = 20 \pm 3$, sulfate ($\beta_1 = 29 \pm 7.5$, $\beta_2 = 2.4 \pm 0.9 \cdot 10^3$), acetate ($\beta_1 = 3.2 \pm 0.5 \cdot 10^2$, $\beta_2 = 7 \pm 1 \cdot 10^4$, $\beta_3 = 1.5 \cdot 10^7$), oxalate ($\beta_1 = 1.7 \pm 0.2 \cdot 10^5$, $\beta_2 = 5.5 \pm 0.5 \cdot 10^9$). It has been shown that the stability of polonium complexes decreases in the following order: $HO^- >$ $Acac^- > TTA^- > NEDTA^{3-} > C_2O_4^{2-} > DEP^- > HCitr^{2-} > Tart^{2-} > HNTA^{2-} >$ $Ac^- > Cl^- > SO_4^{2-} \; (\approx PO_4^{3-}) > NO_3^- \gg ClO_4^-$.

1/1

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USSR

AMPELOGOVA, N. I.

"Coprecipitation of Polonium With Iron Hydroxide"

Abstract: The effect of the carrier mass (iron hydroxide) and pH of the solution on the coprecipitation process of polonium was studied, noting that this process is not of the ion exchange type. It has been established that in presence of complex forming anions and cations of the hydrolyzable metals the degree of polonium coprecipitation with iron hydroxide is dropped. It was assumed that this coprecipitation takes place as a result of concurrent coagulation of the hydroxides or sorption of the hydrolyzed polonium ions forming stable surface compounds.

1/1

USSR

AMPELOGOVA, N. I.

"Polonium Sorption With Manganese Dioxide"

Abstract: It was established in the study of the sorption and coprecipitation of polonium with manganese dioxide as a function of the pH of solution, mass of the sorbent and desorption of polonium by various solutions, that to a large extent the sorption of polonium by manganese dioxide is irreversible, dependent on pH and the mass of sorbent, the maximum sorption being observed in the pH range 1-4. When iron and lanthanum cations or phosphate ions are present in solutions, polonium sorption by manganese dioxide drops significantly. On the basis of the results obtained, the conclusion was reached that sorption and coprecipitation of polonium occurs via the sorption of the hydrolyzed forms which yield stable compounds with the sorbent.

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