USSR

ALEKSANDROV, I. A., BOLOTOV, V. I., DEVISHEVA, M. N., DEVI-
SHEV, M. I., ISAKOV, V. V., SAMOYLOV, A. V.

"Spark Spectrometer Investigation of a 70-GeV Particle Beam"

Abstract: The authors evaluate the accuracy of the theoreti-
cal calculations for one of the channels of the accelerator
at the Institute of High-Energy Physics by comparison with
experimental measurements using a spark spectrometer. The
initial statistics were gathered during graduation measurements
made in an experiment to detect particles with a fractional
charge (quarks). In these measurements, the channel was
adjusted to a momentum of 60 or 65 GeV/s with an average angle
of emergence $\bar{\theta} = 11$ and 0.14 mrad respectively. The magnetic
spark spectrometer consists of four neon-filled spark chambers

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ALEKSANDROV, I. A., et al., Atomnaya Energiya, Vol 31, No 6, Dec 71, pp 589-593

with a gap of 200 mm and a working area of 400 x 400 mm. Between the spark
chambers is an SP-12A1 magnet. A Minsk-2 computer was used in analyzing the
films. Differential cross sections are calculated for production of negative
particles in collisions between protons and aluminum nuclei. A comparison of
theoretical and experimental beam characteristics shows that the accuracy with
which the phase parameters of the beam were calculated is fairly high and
technical realization of this accuracy is feasible. The results of calculation
of the differential cross sections for negative particle production agree satis-
factorily with the data in the literature found by another method. The authors
thank Yu. D. Prokoshkin, responsible for initiation of this work; V. I. Kotov
for interest in the work; and also Yu. S. Khodyrev and S. P. Denisov for con-
structive criticism. Five figures, bibliography of eight titles.

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·USSR   UDC 621.384.634

ALEKSANDROV, I. A., FRACHEV, M. I., GUBRIYENKO, K. I., YERMENKO,
YE. V., KOTOV, V. I., NEKRASOV, A. N., PRILEPIN, A. A., PICHUGIN,
V. A., RSAYEV, R. A., SAMOYLOV, A. V., SELEZNEV, V. S.,
SEREBRSAKOV, B. A., KHANAMIRYAN, A. YE., and KHODYREV, YU. S.

"Negative Particle Channel With Momentum up to 60 Gigaelectron
Volts/Second"

Abstract: This article contains a description of a channel for
transporting negative particles generated in an internal accele-
rator target with momentum up to 60 fifaelectron volts/second
and an accelerated proton energy of 70 gigalectron volts. The
channel is designed so that for an accelerated proton energy
of 70 gigaelectron volts it can be adjusted to momentum in the
range of 40-60 gigaelectron volts/second. On reducing the energy
of the accelerated protons, the channel can be adjusted to lower
momentum. The lower limit corresponds to an accelerated proton
energy of 20 gigaelectron volts and is equal to 11.4 gigaelectron
volts/second.

        The optical system of the channel and its characteristics

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ALEKSANDROV, I. A., et al., Atomnaya Energoya, Vol 29, No 1,
Jul 70, pp 29-34

are presented. The limiting solid capture angle of the secondary
particles by the channel is 32 microsteradians. The best re-
solution with respect to momentum is 0.3 percent without de-
creasing the pacture angle. The channel was investigated pri-
marily using a secondary beam with a momentum of $p = 50$ giga-
electron volts/second. The procedure for adjusting the channel
and the calculated data are described. The differences between
the calculated operating conditions of the elements and the
conditions after adjustment together do not exceed the errors
of the fringing field of the accelerator, the magnetization
curve, and the curve for calibrating the bypasses of the magnet.
On the whole, the beam parameters agree well with the calculated
data.

A detailed diagram of the channel layout is presented, and
graphs are presented for the radial position of the targets
and the production angle as functions of the momentum of the
secondary particles, the optical system of the channel and path
of the beams in the horizontal and vertical planes, the momentum

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ALEKSANDROV, I. A., et al., Atomnaya Energiya, Vol 29, No 1,
Jul 70, pp 29-34

resolution of the channel, the beam profile with momentum of
50 gigaelectron volts/second in the parallel section and slit
width of the aperture collimators of +20 mm and the pulse
collimator +6mm, the beam profile with momentum of 50 giga-
electron volts/second in the final representation on including
the lens doublet, and the beam profile with momentum of 50
gigaelectron volts/second in the final representation on
including a lens triplet.

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ALEKSANDROV, I. A., PRACHEV, M. I., GUBRIYENKO, K. I., YERMENKO, YE. V., KOTOV, V. I., NEKRASOV, A. N., PRILEPIN, A. A., PICHUGIN, V. A., RSAYEV, R. A., SAMOYLOV, A. V., SELEZNEV, V. S., SEREBRSAKOV, B. A., KHANAMIRYAN, A. YE., and KHODYREV, YU. S.

"Negative Particle Channel With Momentum up to 60 Gigaelectron Volts/Second"

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USSR

ALEKSANDROV, I. A., et al., Atomnaya Energoya, Vol 29, No 1,
Jul 70, pp 29-34

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electron volts/second. The procedure for adjusting the channel
and the calculated data are described. The differences between
the calculated operating conditions of the elements and the
conditions after adjustment together do not exceed the errors
of the fringing field of the accelerator, the magnetization
curve, and the curve for calibrating the bypasses of the magnet.
On the whole, the beam parameters agree well with the calculated
data.

A detailed diagram of the channel layout is presented, and
graphs are presented for the radial position of the targets
and the production angle as functions of the momentum of the
secondary particles, the optical system of the channel and path
of the beams in the horizontal and vertical planes, the momentum
2/3

· USSR

ALEKSANDROV, I. A., et al., Atomnaya Energiya, Vol 29, No 1,
Jul 70, pp 29-34

resolution of the channel, the beam profile with momentum of
50 gigaelectron volts/second in the parallel section and slit
width of the aperture collimators of ᵣ20 mm and the pulse
collimator +6mm, the beam profile with momentum of 50 giga-
electron volts/second in the final representation on including
the lens doublet, and the beam profile with momentum of 50
gigaelectron volts/second in the final representation on
including a lens triplet.

3/3

USSR

SAMOYLOV, B. N., Professor

"The Superconductive Solenoid"

Moscow, Priroda, No 6, 1973, pp 42-49

Abstract: This is a "popular science" article on superconductive solenoids
with a brief explanation of some of the principles of low-temperature
physics, peculiarities of superconductive materials, the mechanism responsi-
ble for destruction of superconductivity by a magnetic field, and so forth.
Partial and complete stabilization of superconductive solenoids is discussed.
A diagram is given of a superconducting magnetic system with devices for
cooling, power supply, and coupling out energy. Some of the applications
of superconductive solenoids are considered.

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USSR

SAMOYLOV, D.

"From the Arsenal of the 'Science of Anesthetization'"

Moscow, Moskovskaya Pravda, 27 Jun 70, p 3

Abstract: Following a resume of the history of curare and tubocurarine and their
uses, the more recent practice of employing curariform substances as muscle re-
laxants during surgery and other medical procedures is discussed. The author
notes that the search for new active curariform preparations is being vigorously
pursued in many medical research organizations in the USSR. In Moscow, scien-
tists at the First and Second Medical Institutes and the Institute of Pharmacology,
Academy of Medical Sciences USSR, and the All Union Chemicopharmaceutical Research
Institute imeni S. Ordzhonikidze are working on the problem. In recent years a
number of new Soviet-produced curariform preparations received their "pass to the
clinic." Among these are anatruxonium, cyclobutonium, and many others.

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USSR

SAMOYLOV, D.

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Moscow, Moskovskaya Pravda, 27 Jun 70, p 3

Abstract: Following a resume of the history of curare and tubocurarine and their uses, the more recent practice of employing curariform substances as muscle relaxants during surgery and other medical procedures is discussed. The author notes that the search for new active curariform preparations is being vigorously pursued in many medical research organizations in the USSR. In Moscow, scientists at the First and Second Medical Institutes and the Institute of Pharmacology, Academy of Medical Sciences USSR, and the All Union Chemicopharmaceutical Research Institute imeni S. Ordzhonikidze are working on the problem. In recent years a number of new Soviet-produced curariform preparations received their "pass to the clinic." Among these are anatruxonium, cyclobutonium, and many others.

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SAMOYOLOV, D. N., Central Scientific-Research Laboratory imeni S. I. Chechu-
lin, First Moscow, Medical Institute imeni I. M. Sechenov

"Chemical Structure and Ganglion-Blocking Activity of the Truxillic Acid
Derivatives"

Abstract: To further the discovery of new curariform drugs without undesirable
side-effects, the ganglion-blocking action of 19 bis-quaternary ammonium
derivatives of the truxillic acids   was studied, with 96 adult cats as test
animals. It was found that the distance between the quaternary nitrogen atoms
was the decisive factor determining intensity of blocking effect. The bis-N-
methylpyrrodine and bis-N-piperidine esters of α-truxillic acid showed the
greatest degree of blocking effect, with bis-N-methylmorpholine salt being
considerably weaker in this regard. Alteration of the steric configuration
of the central part of the ester molecule also produced a weakening of the
blocking effect, as one shifted from the α- to the ε- and γ-isomers.
The amide was much less effective in ganglion blocking than the corresponding
ester.

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USSR   UDC 615.217.32:547.333.4

SAMOYLOV, D. N., Chair of Pharmacology and Central Scientific Research
Laboratory imeni S. I. Chechulin of the I Moscow Medical Institute imeni
I. M. Sechenov

"Anticholinesterase Activity of Bis-Quaternary Ammonium Derivatives of
Truxillic Acids"

Abstract: The effect of new curarelike compounds -- derivatives of truxillic
acid -- on the activity of rabbit brain acetylcholinesterase and pseudocholi-
nesterase of normal horse serum was investigated. In physiological concen-
tration these compounds did not affect the activity of cholinesterase, in-
hibiting mainly the pseudocholinesterase. Lengthening the distance between
the cation centers in the molecule increased their inhibiting potency. Sub-
stitution of ethyl radicals for methyl groups raised the antipseudocholines-
terase activity 37-1/2 times. An even stronger effect on blocking pseudo-
cholinesterase was shown by compounds containing pyrrolidine and piperidine
radicals at the onium centers. Among the derivatives of stereoisomeric
truxillic acids the anticholinesterase activity is greatest with the deriva-
tives of ϒ-truxillic acid, followed by the salts of ξ- and α-truxillic acids.
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USSR

UDC 615.216.5.015.11

SAMOYLOV, D. N., Department of Pharmacology, Faculties of Medicine and Public Health, 1st Moscow Medical Institute imeni I. M. Sechenov, Moscow

"The Relationship Between Curariform Activity and Side Effects of a Number of Derivatives of Diphenylcyclobutandicarboxylic Acids"

Abstract: A number of bis-quaternary ammonium derivatives of diphenylcyclobu-tandicarboxylic (truxillic) acids have been shown to possess curariform properties. In view of the need for myorelaxants without adverse side effects, studies were undertaken on the ganglion blocking, cholinolytic, and anticholine-sterase properties of bis-quaternary ammonium derivatives of alpha-, xi-, and gamma- truxillix acids. The studies were conducted on cats in terms of the effects of the vagus nerve on the heart, the abolition of the negative chrono-tropic effect of acetylcholine on the heat, and ganglionic blocking activity. The drugs were administered intravenously. In vitro studies showed that truxillic acid derivatives had minimal, if any, inhibitory activity on acetyl-choline esterase activity in rabbit brain homogenates, but did show considerable inhibition of pseudocholine esterase activity of normal equine serum. The alpha- and xi-truxillic acid derivatives possessed the most potent cholinolytic
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cardiotropic activities, as well as ganglionic blocking activities. Xi- and gamma-truxillic acid derivatives were more potent inhibitors of equine pseudo-choline esterase than alpha-truxillix acid derivatives. When an imino group was substituted for oxygen atoms in the carboxylic groups of diiodomethylate diethylaminopropane ester of alpha-truxillic acid, the cholinolytic, ganglion blocking, and anticholine esterase properties were practically eliminated.

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GUSSAK, L. A., SAMOYLOV, I. B., SEMENOV, YE. S., MURASHEV, A. F., OZEROV,
Ye. A., and STOTLAND, A. I.

"The Concluding Stage of the Turbulent Combustion of a Heterogeneous Mixture"

Translation: This paper investigates a subsonic stream of gases in the
nozzle zone of a model gas-turbine engine combustion chamber at temperatures
from 700 to 1000°C. It is shown that the gas stream is not an equilibrium one,
and consequently the thermodynamic approach may prove insufficient for deter-
mining the properties of such a stream. The work was conducted on an experi-
mental combustion chamber in which diesel fuel was burned. The nonequilibrium
state of the combustion products was established on the basis of ionization
data of the gases and on the basis of their luminescence spectra. The mean
temperature was simultaneously measured by thermocouples, and the composition
of the gas-stream combustion products was determined. The obtained data per-
mit the conclusion to be drawn that at regimes of 700 and 800°C, slow volume
reactions of hydrocarbon burnout take place. The considerably large inequilib-
rium observed at regimes of 900 and 1000°C is caused mainly by removal of the
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GUSSAK, L. A., Goreniye i Vzryv--Sbornik, Nauka, 1972, pp 365-369

flame foci from the primary zone of the combustion chamber and, partially, by afterburning reactions within the volume. An attempt is made at an experimental justification of a possible mechanism which leads to the appearance of foci with a slow volume reaction. 2 figures. 7 references.

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Heat Treatment

USSR

UDC 621.791.053.011:621.78:669.14.018.8

RAZIKOV, M. I., Doctor of Technical Sciences, POSPELOV, N. G., Engineer, SAMOYLOV, M. I., and BERESNEV, G. A., Candidates of Technical Sciences, and IVANOVA, M. A., Engineer

"Search for Optimum Heat Treatment Modes for N18K9M5T Steel Weld Joints"

Abstract: Results are presented from a study of grain growth in the heat-affected zone and the presence of the amount of weak stable austenite, enriched with titanium and molybdenum, in the weld joint of thin-sheet N18K9M5T maraging steel with a chemical composition (in %): 18.35 Ni, 8.75 Co, 5.1 Mo, 0.72 Ti, 0.015 C, 0.03 Si, 0.03 Mn, 0.003, S, 0.003 P, 0.02 Al. Weld samples were subjected to conventional heat treatment of heating to 810-830°C for 20 minutes, air cooling, aging at 475-485°C for four hours and air cooled, and a repeated heating treatment of 980-1000°C for 5-10 seconds, done 3-5 times with a heating rate of 100-300°C/sec. Analysis of mechanical tests (impact strength, tensile strength, rupture strength, etc.) showed that the repeated heating method yields properties 15-20% higher than for samples conventionally heat treated. Nine figures, two tables, 12 bibliographic references.

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USSR

SAMOYLOV, N. A., FOMINYKH, L. F.

"Movement and Nature of the Front of Adsorption of Benzene by Zeolites from a Mixture of Benzene-n-heptane"

Dokl. Neftekhim. Sektsii. Bashkir. Resp. Pravl. Vses. Khim. o-va im. D. I. Mendeleyeva [Reports of Petrochemical Section, Bashkir Republic Administration of All-Union Chemical Society imeni D. I. Mendeleyev], No 6, 1971, pp 174-178 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 B1500 from the Resume).

Translation: It is demonstrated that the front of adsorption of benzene during separation of a benzene-n-heptane mixture by NaX zeolites has a S shape with an extended tail and moves at a constant rate in the direction of the flow. The experimental method selected allows the length of the mass-transfer zone to be determined directly from the experimental data.

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TITLE--PARAPROSTATIC NOVOCAINE ANTIBIOTIC BLOCKADE IN COMBINATION WITH
   HYDROCORTISONE IN THE COMPLEX THERAPY OF PROSTATITES -U-

AUTHOR-(04)-TOVSTOLES, K.F., SOROKA, V.G., LOMYSKIN, A.I., SAMOYLOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--VR 5, PP 72-75

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--REPRODUCTIVE SYSTEM, GENITOURINARY SYSTEM DISEASE, ANALGESIS
   DRUG, ANTIBIOTIC, HYDROCORTISONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2047   STEP NO--UR/0206/70/000/005/0072/0075

CIRC ACCESSION NO--AP0122276

                    UNCLASSIFIED

CIRC ACCESSION NO--AP0122276
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DEVELPED PROPER
TECHNIQUE FOR PERFORMANCE OF BLACKADES IN 10 MALE CAVADERS. AFTER THAT
A COMPLEX TREATMENT OF 99 PATIENTS WITH PROSTATITIS USING PARAPROSTATIC
NOVOCAINE BLOCKADES IN COMBINATION WITH ANTIBIOTICS AND HYDROCORTISONE
WAS CARRIED OUT. AMOUNG THE PATIENTS 20 HAD ACUTE AND 79 CHRONIC
PROSTATIS. FROM 2 TO 5 BLOCKADES WERE USED PER COURSE. A TOTAL OF 393
BLOCKADES WERE PERFORMED. THE TREATMENT WAS GIVEN IN 71. IMPROVEMENT,
IR, 15, NO EFFECT, IN 13 CASES. TREATMENT OF PROSTATITES WITH
PARAPROSTATIC NOVOCAINE ANTIBIOTIC BLOCKADES IN COMBINATION WITH
HYDROCORTISONE IS AN EFFECTIVE METHOD WHICH MAY BE USED BY EVERY
PHYSICIAN.   FACILITY: KAFEDRA UROLOGII VOYENNO-MEDITSINSKOY
AKADEMII IM. S.M. KIROVA, LENINGRAD. GORODSKAYA DERMATO
VENEROLOGICHESKAYA BOL'NITSA.   FACILITY: LENINGRAD.
KOZHNO-VENEROLOGICHESKIY DISPANSER NO 14.

UNCLASSIFIED

USSR   UDC 615.31:546.347.033

SARATIKOV, A. S., SAMOYLOV, N. N., SUBBOTIN, V. F., KUKLENKO, V. G., and
PILIPENKO, YU. A., Tomsk Medical Institute

"The Distribution of Lithium in the Body and Its Elimination"

Abstract: Lithium was administered to mice, and upon sacrifice of the
animals its content was determined by the flame photometry method. Statis-
tically processed results demonstrated that the accumulation of lithium after
a single administration of its salts in doses of 1/3 to 1 LD_{50} was manifested
to the highest degree in the kidneys, then in order of diminishing values,
in the heart, lungs, spleen, muscles, liver, and brain. The method of
administration, dosage and anion type of lithium salt have no significant
effect on the nature of distribution, accumulation, or elimination of the
metal from the body, whereas the rapidity of its assumulation in the tissues
depends on the type of tissue, method of administration and dosage. A
Study of the dynamics of elimination of lithium from the tissues revealed its
selective retention by the brain.

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USSR   UDC: 621.317.733.011.4:681.3

SAMOYLOV, N. Ya., EPSHTEYN, S. L.

"Some Problems of Circuit Classification of Digital Capacitance Meters"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirak, 1970, pp 56-59 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A350)

Translation: Digital capacitance and loss tangent meters which have been developed and are now being used are briefly classified. The first group (the oldest) is comprised of instruments based on classical four-leg bridges. This group has given way to a more improved category based on transformer bridges; instruments in this class have been more extensively used. Measurement modules have been further developed in the instruments of the third group, which utilize parallel current and voltage dividers and operational amplifiers. The advantages of such instruments are pointed out. Typical structures of the modern measurement modules in the instruments are presented. The latest trends in development of these instruments are indicated. Two illustrations, bibliography of four titles. E. L.

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1/2   016   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--EFFECT OF PREPARATIONS OF MYCOBACTERIA AND DIAMINOPIMELIC ACID ON
  THE GROWTH OF CANDIDA TROPICALIS -U-
AUTHOR-(03)-SURGUCHEVA, N.A., KROSHIN, V.K., SAMOYLOV, P.M.

COUNTRY OF INFO--USSR

SOURCE--PRIKL. BIOKHIM. MIKROBIOL. 1970, 6(1), 79-82

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MYCOBACTERIUM, YEAST, CONTINUOUS CULTURE, CULTURE MEDIUM,
  VITAMIN, ORGANIC ACID, AMINO ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0610   STEP NO--UR/0411/70/006/001/0079/0082

CIRC ACCESSION NO--AP0117838
                          UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0117838

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE CULTURE LIQ., EXT., AND HYDROLYZATE OF CULTURES MYCOBACTERIUM SMEGMATIS 77 AND M. RUBRUM 100 ON THE GROWTH OF THE BIOTIN DEFICIENT YEAST C. TROPICALIS IVFM-303, GROWING ON SYNTHETIC MEDIA WITH GLUCOSE OR PARAFFINS WAS INVESTIGATED. THE MYCOBACTERIAL PREPNS. COULD SUBSTITUTED FOR BIOTIN, WHEN ADDED AT 5 VOL. PERCENT IF THE YEASTS ARE CULTURED IN HEXADECANE OR GLUCOSE MEDIA. WITH CULTIVATION ON PARAFFINS C. TROPICALIS GREW WITHOUT BIOTIN. THE STIMULATING EFFECT OF THE MYCOBACTERIAL HYDROLYZATE WAS MUCH GREATER WITH THE ADDN. OF BIOTIN (10PERCENT OF THE OPTIMAL DOSE). 1,5,DIAMINOPIMELIC ACID (DAPA) WAS CAPABLE OF COMPLETE SUBSTITUTION FOR BIOTIN WHEN YEASTS WERE CULTIVATED IN HEXADECANE CONTG. MEDIUM. IN PARAFFIN CONTG. MEDIA GOOD GROWTH WAS FOUND EVEN IN ABSENCE OF DAPA, BUT IN GLUCOSE CONTG. MEDIA C. TROPICALIS DID NOT GROW WITH DAPA. DAPA CAN REPLACE 90PERCENT OF THE BIOTIN REQUIRED FOR C. TROPICALI 303 GROWING ON A GLUCOSE MEDIUM. FACILITY: INST. BIOCHEM. PHYSIOL. MICROORG., MOSCOW, USSR.

UNCLASSIFIED

USSR   UDC 539.12.08:621.039.564

MUKHACHEV, B. V., NEVEROV, V. A., and SAMOYLOV, P. S.

"Measuring Gamma-Radiation Fields in Reactor Channels and the Assembly of Worked-Out Fuel Elements With the Help of an Instrument for Measuring the Exposure Dose Rate on the Base of the Ionization Chamber"

Tr. Soyuz. NII Priborostr. [Works of the All-Union Scientific Research Institute of Instrument Making], 1972, No 17, Pp 56-62 (from Referativnyy Zhurnal, No 8, Aug 72. 50. Yadernyye Reaktory. Single Issue. Abstract No 8.50.151)

Translation: The sensitivity of ionization chambers (IC) to neutrons of different energies was evaluated. The sensitivity of IC to neutrons with 2.4 and 15 Mev energy was determined on a neutron generator of HG-200 type. Averaged over five specimens, IC sensitivities of M-type equal $(2.3\pm0.8)\cdot10^{-19}$ and $(7.8\pm0.5)\cdot10^{-19}$ $\dfrac{a}{\text{neutr}/(cm^2\cdot sec)}$; of B-type they equal $(2.7\pm0.5)\cdot10^{-19}$ and $(10.1\pm3.8)\cdot10^{-19}$ $\dfrac{a}{\text{neutr}/(cm^2\cdot sec)}$. The upper sensitivity limit of B-type IC to thermal neutrons, measured on the SM-2 nuclear reactor, equals

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MUKHACHEV, B. V., et al., Tr. Soyuz. NII Priborostr., 1972, No 17, pp 56-62

$3 \cdot 10^{-19} \dfrac{a}{neutr/(cm^2 \cdot sec)}$. The sensitivities to γ-radiation with 1.25 Mev energy are, for IC of M- and B-types, $(1.36 \pm 0.11) \cdot 10^{-9}$ and $(1.56 \pm 0.08) \cdot 10^{-9}$ $\dfrac{a}{r/sec}$. The derived evaluations made it possible to measure the exposure dose rate P_γ of γ-radiation in channels of the SM-2 nuclear reactor. Upper-level distributions of P_γ for channels No 16 and 111K and for the assembly of worked-out fuel elements are presented. The P_γ drop in time was measured in the No 16 channel center at instantaneous shut-down of the nuclear reactor.

2/2

USSR   UDC 621.039.524.2.034.3

LOMAKIN, S. S., MORDOVSKAYA, T. S., PANFILOV, G. G., PETROV,
V. I., SAMOYLOV, P. S., and KHRYZOV, V. V.

"Measuring the Effective Neutron Temperature in Uranium-Graphite
Reactors"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 36-37

Translation: A brief description is given for the technique
used in measuring the effective neutron temperature in uranium-
graphite reactors. The effective neutron temperature was measured
by the integral method in the F-1 graphite research reactor
using natural uranium and in the Pervaya (first) Atomic Electric
Power Plant reactor in Obninsk. Ceramic activation detectors
made of lutecium and manganese in the form of tablets 8 mm in
diameter were used. The Westcott formalism modified for the
case of detectors of finite thickness was used to process the
results. The detectors were calibrated in a graphite prism with
a thermal neutron spectrum. The activity of the detectors was
measured on a scintillation γ-counter with a NaI (Tl) crystal
and a PP-9 scaler which has an integral discriminator by means
of which the corresponding thersholds were established. The
measured saturation activities of the detectors, the cadmium
1/2

USSR

LOMAKIN, S. S., et al., Atomnaya Energoya, Vol 29, No 1, Jul 70, pp 36-37

ratio, and the calibration factor were used to determine the neutron temperature. The measurements in the F-1 reactor were taken in the center of the core. The neutron temperature $T_{neutron}$ averaged with respect to four measurements with different pairs of lutecium-manganeses detectors was 348 $\pm$ 10°K.

The measurements at the Pervaya Atomic Electric Power Plant were taken in an empty process tube; $T_{neutron}$ was 393 $\pm$ 12°K. On the basis of the experimental data obtained and the published experimental data on $T_{neutron}$ for uranium-graphite systems, the empirical relation between the neutron temperature $T_{neutron}$ and the temperature of the medium T_0 was refined:

$$T_{neutron} = T_0 \left(1 + \Lambda \frac{\Sigma a(kT_0)}{\Sigma_s}\right),$$

where $\Lambda = 16.5$. The calculated value of Λ according to R. Coveqou for

uranium-graphite systems is 11.

2/2

USSR

UDC 389.6.539.125.5.07:621.039.564.2

ARABEY, B. G., BOCHIN, V. P., GARAPOV, E. F., LOMAKIN, S. S., PETROV, V. I., SAMOYLOV, P. S., KHMYZOV, V. V.

"Standardization of Measurements of Neutron Flux Density in Nuclear Reactors"

Translation: Problems of standardization of means and methods of measurement of neutron field parameters in nuclear reactors in order to provide unity and correctness of measurement of these parameters are discussed. One means of standardization is the use of activation detectors. Recommendations are presented for the composition of standard sets of activation detectors. It is suggested that a "standard" source of thermal neutrons based on the F-1 graphite reactor be used to calibrate detectors used for continuous measurements in reactors. The parameters of the neutron field in the reactor (arbitrary flux density, epithermal parameter, neutron gas temperature) are measured using activation detectors with errors of 2.5-3%. The use of the source described can allow calibration of neutron detectors with an accuracy of 4-7%.
1/1

USSR   UDC 539.1.074.55

VARTANOV, N. A., SAMOYLOV, P. S., STUGAREV, Yu. N.

"Operation of Universal Scintillation Coincidence Spectrometer with Ge(Li)
Detectors"

Translation: The possibility is studied of the operation of the "Lena"
series-produced universal spectrometer with Ge(Li) detectors. The opera-
tion of this spectrometer with semiconductor detectors is checked in the
double and trible fast-slow coincidence modes. The use of a coincidence
circuit with long resolving time (2τ ~ 200 ns) allows the time spread in
the rise fronts of pulses to overlap with the Ge(Li) detector, achieving
100% effectiveness of coincidence recording.

1/1

USSR   UDC 539.122.074

MUKHACHEV, B. V., PUSHKAREV, A. V., SAMOYLOV, P. S.

"Vacuum Radiation Elements for Measurement of High Intensity γ Radiation Exposure Dose"

Translation: The design, calibration and results of testing of vacuum radiation γ elements for measurements of high-intensity γ radiation exposure doses, requiring no external power supplies, are described. The diameter of the sensing portion of the γ element is 6 mm, length 150 mm. It is shown that the sensitivity of γ elements is higher, the greater the difference in atomic numbers of the emitter and (stainless steel) collector materials. The sensitivity of the γ elements with emitters of zirconium and tantalum are $1.5 \cdot 10^{-13}$ and $6 \cdot 10^{-13}$ A/R/s respectively. Results are presented from tests of γ elements in the SM-2 reactor. It is shown that γ elements can be used between 10^3 and 10^6 R/s at temperatures

1/2

USSR

MUKHACHEV, B. V., et al., Tr. Soyuz. NII Priborostr., 1972, No 17, pp 63-71

of up to 500°C. The output signals of the γ elements are proportional to the reactor power and are independent of temperature, while the resistance of the insulation of the γ element under actual operation conditions is at least 10^7 ohm.

2/2

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USSR

UDC 621.762:620.17

FEDOROV, R. I., TSYRKIN, A. T., and SAMOYLOV, V. A.,
Voroshilovgradsk Diesel Locomotive Plant imeni October Revolu-
tion, Kommunarsk Mining and Metallurgical Institute

"Method of Determining Plasticity and Strength of Powder-Metal-
lurgy Materials"

Abstract : A method has been developed for determining the pla-
sticity and strength of powder-metallurgy materials directly on
the fabricated articles, on bushings. The method is based on
impressing a spherical punch into the bushing or a sample which
has been cut out from the bushing. As plasticity criterion is
considered the diameter of the impression produced on the spe-
cimen by loading it up to development of the first crack. The
developed special testing device is illustrated. Parallel with
the impression, experiments of determining the plasticity by
tension were carried out. Both methods provide quite satisfac-
tory results, but the impression method is more technological.
Three illustr., one table, three biblio. refs.
1/1

USSR

UDC 591.1

NEFEDOV, V. P., SAMOYLOV, V. A., KUDYAKOVA, N. N., DUBYNIN, V. N., PETUSHKOV, V. N., YASNIKOV, I. L., MIKHAYLOV, V. I., and KHRUSTALOV, V. F., Institute of Physics imeni L. V. Kirenskiy, Siberian Department USSR Academy of Sciences

"Culturing Bone Marrow in Vitro by the Method of Isolated Organ Perfusion"

Abstract: The role played by the bone marrow in maintaining normal erythron series was studied. Blood was perfused through the isolated sternum by means of a pumping and oxygenating system which automatically regulated the perfusion pressure, pO_2, HbO_2, pH, and temperature of the perfused blood, partly in response to the feedback information on pO_2, temperature, and impedance received from the bone marrow. Best results were obtained when the circulating blood was completely exchanged after 12 hours of perfusion. The maximum duration of perfusion was 20 hours. Histological examination of the sternum performed after 6, 11, and 17 hours of perfusion revealed a shift in the leukoerythroblast ratio toward the red series and a normal maturation of erythrocytes and granulocytes.

1/1

UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--MAGNETOOPTICAL METHOD FOR STUDYING PHOSPHORIC ACIDS -U-

AUTHOR-(05)-BORISOV, V.M., MASLENNIKOV, B.M., SAMOYLOV, V.A., GUBAREVA,
   V.N., KONANYKHINA, L.N.
COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. MOSCOW 1970, 46(3), 190-1

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHORIC ACID, MAGNETOOPTIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0886   STEP NO--UR/0064/70/046/003/0190/0191

CIRC ACCESSION NO--AP0118055
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0118055 UNCLASSIFIED   PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGE IN VERDET'S CONST.
DELTA DELTA OF AQ. POLYPHOSPHORIC ACID SOLNS. WAS TRACED (AS A FUNCTION
OF P SUB2 O SUB5 CONCN.) AT 35DEGREES AND A WAVELENGTH OF 500 NM; DELTA
DELTA INCREASED FROM 10 TIMES 10 PRIME NEGATIVE5 AND THEN DECREASED TO
25 TIMES 10 PRIME NEGATIVE5 MIN-CM SEC WHEN THE P SUB2 O SUB5 CONCN. WAS
INCREASED FROM 10 TO 40 TO 70 WT. PERCENT, RESP., AND INCREASED
CONTINUOUSLY AT HIGHER P SUB2 O SUB5 CONCNS.

UNCLASSIFIED

USSR

KREMENCHUGSKIY, L. S., ROYTSINA, O. V., SAMOYLOV, V. B.

"A Thermal Receiver for the Measurement of Radiation by the Comparison Method"

Abstract: An analysis is given of the operation of a thermal receiver for the measurement of electromagnetic radiation by the comparison method. The receiver operates on the basis of a modulated radiation flux, and employs the electrical replacement of this flux by the power of the alternating-current joule loss. It is shown that receiver sensitivity depends on the thickness of the dielectric layer, the thermophysical properties of the dielectric layer and the characteristics of the sensitive element. The measurement installation used with the receiver is described. Some data are given on a pyroelectric receiver that operates on the basis of a sinusoidally modulated radiation flux. 3 figures, 1 table, 8 bibliographic entries.
1/1

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USSR

SAMOYLOV, V. B.

"Method of Analyzing Impurity Distributions in Integrated Circuits"

Translation: By the term impurity distribution analysis is meant the determination of a combination of parameters describing a model of the distribution, averaged over the elements in the miniature circuit for all laminae. In this connection, the values of the parameters for the selected model are specified on the basis of experimental research or approximate estimates. From these values, using the known algorithms, one can compute the external parameter values, which are compared with the measured values in accordance with a definite criterion in the form of a quadratic functional; then, by successive variation of the parameters, those conditions under which the functional is a minimum are obtained. The method of making the calculations is given. Results of a practical check on the method are shown. One illustration, two tables, bibliography of 11. N. S.

1/1

USSR

UDC:681.3

ARISTOV, V. V., SAMOYLOV, V. D.

"Modeling of a Hybrid Computer System"

Abstract: This program is designed for modeling the operation of a
hybrid computer system in the mode used for solution of systems of
ordinary differential equations with the following division of functions:
the problem is input on the analog device with coefficients generally
not corresponding to those required, while the digital device uses the data
from the solution to calculate the vector of compensating action, which
is then input to the corresponding units of the analog device through
the communications device.

The Adams method is used to model analog integrators. The program also

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USSR

UDC:681.3

ARISTOV, V. V., SAMOYLOV, V. D., Mashiny Dlya Inzh. Raschetov [Machines for Engineering Calculation -- Collection of Works], No. 2, Kiev, 1970, pp. 150-161 (Translated from Referativnyy Zhurnal Matematika, No. 11, 1970, Abstract NO. 11V489)

includes a subroutine for ordinary numerical solution of test problems by the Runge-Kutta method with a constant integration step. The results of comparison in the form of the maximum solution error $R[L]$ in percent are printed out in response to the statement "OUTPUT" "TABLES."

2/2

UNCLASSIFIED

TITLE--APPLICATION OF LOGIC ELEMENTS MADE OF INJECTION LASERS IN COMMUNICATIONS SYSTEMS WITH TIME DIVISION MULTIPLEX -U-

PROCESSING DATE--16OCT70

AUTHOR-(04)-KOZLYAEV, I.P., NIKITIN, V.V., SAMOYLOV, V.O., FEDOROV, YU.F.

COUNTRY OF INFO--USSR

SOURCE--RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, APR. 1970, P. 772-777

DATE PUBLISHED-------70

SUBJECT AREAS--NAVIGATION, PHYSICS

TOPIC TAGS--LOGIC ELEMENT, LASER, MULTIPLEX, OPTIC COMMUNICATION, COMMUNICATION SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1087

STEP NO--UR/0109/70/015/000/0772/0777

CIRC ACCESSION NO--AP0118237

UNCLASSIFIED

CIRC ACCESSION NO--AP0118237   PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DATA FOR THE USE OF
  INJECTION LASERS AS LOGIC ELEMENTS IN OPTICAL COMMUNICATION SYSTEMS
  EMPLOYING TIME DIVISION MULTIPLEXING OF LIGHT PULSES. RECOMMENDATIONS
  ARE GIVEN FOR THE OPTIMAL SWITCHING OF THE LASER DIODES INTO A COHERENT
  EMISSION REGIME, AND METHODS OF REDUCING THE PULSE DURATIONS ARE
  EXAMINED. IT IS SHOWN THAT THE USE OF THE PROPOSED LASER ELEMENTS MAKES
  IT POSSIBLE TO OBTAIN INFORMATION TRANSFER RATES OF ABOUT 10 TO THE 10TH
  POWER BITS-SEC.

UNCLASSIFIED

SAMOYLOV, V. D.

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TECHNICAL TRANSLATION

AIID | FSTC-IIT-23-2015-72

39 del 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE,
SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: I. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
IMENI T.G. SCHEVCHENKO

Translated for FSTC by ACSI

NOTICE

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attempt has been made to verify the accuracy of any statement contained herein. This
translation is published with a minimum of copy editing and graphics preparation in order
to expedite the dissemination of information.

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- Title Page -

USSR

UDC 621.374

SAMOYLOV, VLADIMIR FEDOROVICH; MAKOVEYEV, VLADIMIR GRIGOR'YEVICH

"Pulse Engineering"

Impul'snaya tekhnika (cf English above), Moscow, Izd. "Svyaz'," 1971, 3rd edition, revised and supplemented. 224 pp, ill. 71 k.

Abstract: In the book the parameters and spectra are considered of a pulse signal, the formation of pulses with linear and nonlinear circuits, the basic theory of pulse amplifiers, pulse modulation and selection of pulses, pulse generators, frequency dividers, and frequency multipliers. In contrast to previous editions, the mathematical apparatus is simplified, to a large degree the material of the book is "transistorized," and a number of new problems are considered: operation of ultrasonic delay lines in color television receivers, inertial interference-free synchronization of television horizontal-scanning generators by the method of automatic frequency and phase control, the circuits in new types of electronic devices, and others. The book is intended as a textbook for communication technicums.

1/4

USSR

SAMOYLOV, VLADIMIR FEDOROVICH: MAKOVEYEV, VLADIMIR GRIGOR'YEVICH, Impul'snaya tekhnika, Izd. "Svyaz'," 1971, 3rd edition, revised and supplemented. 224 pp, ill. 71 k.

CONTENTS

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USSR

SAMOYLOV, VLADIMIR FEDOROVICH: MAKOVEYEV, VLADIMIR GRIGOR'YEVICH, Impul'snaya tekhnika, Moscow, Izd. "Svyaz'," 1971, 3rd edition, revised and supplemented. 224 pp, ill. 71 k.

3/4

USSR

SAMOYLOV, VLADIMIR FEDOROVICH: MAKOVEYEV, VLADIMIR GRIGOR'YEVICH, Impul'snaya tekhnika, Izd. "Svyaz'," 1971, 3rd edition, revised and supplemented. 224 pp, ill. 71 k.

4/4

USSR

DAL'KAROV, O. D., SAMOYLOV, V. M., SHAPIRO, I. S., Institute of Theoretical and Experimental Physics, State Committee on the Use of Atomic Energy

"The Spectrum of γ-Quanta Emitted During Annihilation of Stopped Antiprotons in Hydrogen"

Abstract: The authors calculate the probabilities of radiation transitions from the 1S-state of a pp-atom to a bound quasinuclear state of a nucleon and an antinucleon. It is shown that the spectrum of gamma quanta with capture of antiprotons in hydrogen in the 0-600-mev energy range should consist of several lines 10-50 Mev wide with an intensity of one thousandth to one hundredth of the total probability of annihilation. The authors thank L. N. Bogdanova for constructive criticism.

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USSR

IVANOV, L.P., LOGGINOV, A.S., SAMOYLOV, V.P., SENATOROV, K.YA.

"Self-Modulation Of Radiation Of Injection Lasers With A Single Heterojunction"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 5(11), 1972, pp 92-94

Abstract: The results are presented of an experimental study of the dynamics of radiation of injection lasers, undertaken with the object of detecting pulsations connected with the spreading out of radiation across the plane of a p-n junction. A comparative study was made of GaAs lasers produced by various methods: diffusion and epitaxial-diffusion with single and double heterojunctions. The specimens studied had a resonator length of 500-800 microns and operated in a pulsed regime at temperatures from 100 to 350° K. The magnitude of the pumping current could be varied in the limits zero to 350 amp and the pulse duration in the 30-300 nanosec range. The radiation dynamics were studied by the electron-optical chronography method. It is shown that in diffusion and epitaxial-diffusion lasers, as well as in double heterolasers, the configuration of the radiation region is not changed in the process of generation of continuous pulses of radiation. In single $Al_xGa_{1-x}As$--GaAs lasers operating at a temperature close to critical a regime of continuous pulses of radiation develops at once at the

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USSR

threshold of generation. One of the special features of operation is the pene-
tration of radiation into the passive n-region of the laser and deflection of
the directivity pattern of radiation from the resonator mirror normal. The
authors thank P.G. Yeliseyev for discussion of the results of the work and M.A.
Ambartsumyan and V.G. Karnaukhov for giving specimens of lasers. 3 fig. 11 ref.
Received by editors, 9 March 1972; after revision, 5 Sept 1972.

2/2

USSR

UDC (669.018.25+669.14):621.791:620.17

SAMOYLOV, V. S., Special Production-Technology Bureau "Orgprintverdosplav,"
Moscow

"Method of Determining the Strength of Vacuum-Diffusion Welded Hard Alloy-Steel
Joints"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 6, Jun 73, p 742

Abstract: VK-20 hard alloy and 18Kh2N4VA steel were vacuum-diffusion welded
using inserts of different thicknesses (0.02-0.2 mm) of nickel and permalloy.
After welding, the samples were tensile tested at 1050°C for 10 minutes under
a pressure of 1 kgf/cm^2. It was found that insert thickness exerts a definite
effect on joint strength where the highest strength existed for an insert thick-
ness of 0.1 mm. 2 figures.

1/1

USSR

SAMOYLOV, V. S.

UDC 621.373.421.13:621.372.412

"Low Frequency Modes of Circuit Oscillations of Piezoelectric Plates. Part II"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Engineering. Scientific and Technical Collection), 1970, ser 9, vyp. 2, pp 3-8 (from RZh-Radio-tekhnika, No 9, Sep 70, Abstract No 9D279)

Translation: The theoretical derivation of the equivalent parameters of piezoelectric resonators operating in low frequency modes of circuit oscillations is presented. The theoretical concept of optimal relations is introduced. The bibliography has five entries. For Part I, see Elektron-naya Tekhnika (Electronic Engineering), 1969, ser. 9, ed. 3, pp 3-12.

1/1

USSR

UDC: 62-567.1

ABGARYAN, K. A., RAPOPORT, I. M., MAL'TSEV, O. P., SAMOYLOV, Ye. A.,
RYBAK, S. A., Moscow "Order of Lenin" Aviation Institute imeni Sergo Or-
dzhonikidze

"A Dynamic Vibration Damper"

Translation: This Author's Certificate introduces a dynamic vibration
damper which contains an additional mass coupled to an elastic element.
As a distinguishing feature of the patent, provision is made for using the
damper in liquid-filled elastic tanks. The elastic element is made in the
form of a gas-filled elastic shell located inside the liquid, and the sur-
rounding liquid comprises the additional mass.

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USSR

ABGARYAN, K. A. et al., USSR Author's Certificate No 364781

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USSR   UDC 621.039.534.44:620.193.23

MARTYNOVA, O. I., NAZAROV, A. I., CHECHETKIN, Yu. V., KOBZAR', I. G.,
SAMOYLOV, Yu. F., and PETROVA, T. I.

"Transition of Zinc Corrosion Products From Boiling Water Into Steam and
Distribution of the Active Component on the Circuit of the VK-50 Boiling
Water Reactor"

Abstract: Values are presented for the distribution coefficient (K_d) of Zn
corrosion products at 180 atm (355°C) and 100 atm (310°C) and are compared
with experimental data of the visible Zn distribution coefficient in the
VK-50 boiling water reactor according to measurements with the Zn^{65} isotope.
Insofar as K_d ($K_d = 11.6$ at 70 atm) and the half-life of Zn^{65} ($T_{1/2}=245$ days)
are very high, the Zn^{65} activity is assumed to represent the principal part
of the activity of corrosion products in the steam-condensate cycle of the
VK-50 reactor. This is shown from data on the activity of several blocks
of the steam-condensate cycle. Steam washing and replacing brass parts in
the turbine condenser and preheaters with parts made from other alloys are
considered effective means for reducing Zn activity.

1/1

SAMOYLOVA, A. I.

Public health

GLORIA

So: JPRS 54194

6 OCT 71

MORBIDITY RATE INVOLVING TEMPORARY DISABILITY REFERABLE TO WOMEN ENGAGED IN MONOTONOUS WORK

[Article by A.I. Samoylova (Kazan'), Candidate of Medical Sciences, Financial and Economic Institute imeni V.V. Kuybyshev and Medical Institute imeni S.V. Kurashov; Moscow, Sovetskaya Zdravookhraneniye, Russian, No 8, 1971, pp 41-46]

We made an indepth analysis of morbidity among women workers, involving temporary disability, in industrial enterprises of Tatar ASSR, in 1964-1965, with determination of number of women who were sick often and for long periods of time as related to age, tenure, and occupation. The main stages of the investigation were: analysis of existing sanitary and hygienic working conditions and organization of the work process; characteristics of efficiency according to dynamics of productivity of labor and state of physiological functions of the organism during work; analysis of the women's physical condition with due consideration of age, tenure, occupation, social, domestic, and psychophysiological factors; development of measures and performance of experiments to select the most rational and safest work methods; verification of the effectiveness of adopting such methods on the basis of physiological and production indices.

Investigation of morbidity was based on data obtained from disability certificates pertaining to five industrial enterprises: Sarstroypribor Plant, a perfume factory, the Tatmebel' Company [furniture], the Spartak Shoe Combine, and the SK [synthetic rubber] plant. For the sake of comparison, we used the data on morbidity among the workers at the chemical plant imeni V.V. Kuybyshev. More than 20,000 disability certificates were processed. For this purpose we used temporary disability cards on which the following data were entered: employee number, age, tenure, sex, occupation, deleterious environmental factors, difficulty and intensity of work, living conditions, medical care, number of calendar and work days absent from work because of illness, diagnosis, type of treatment (ambulatory, hospital, sanatorium or resort, etc.).

An individual record card was made up for each illness which was coded and then transferred on a punch card for input in an electronic computer. The tabulograms were then analyzed. The statistical calculations were made per 100 women workers, taking into consideration their age, tenure, occupation, turnover. The sick rate among shop workers was compared with the level and structure of morbidity of women workers in the enterprise as a whole.

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USSR

UDC 547.26'118.07

VERSHININ, P. V., ALPATOVA, R. I., SAMOYLOVA, A. N.
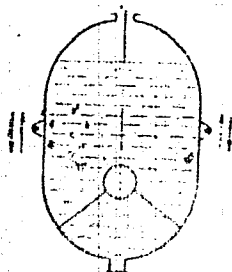
"A Method of Purifying Commerical Butyphos"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 15, Apr 73, Author's Certificate No 374323, Div C, filed 12 Jan 71, published 20 Mar 73, p 52

Translation: This Author's Certificate introduces: 1. A method of purifying commerical Butyphos with the distinguishing feature that the quality of the finished product is improved by treating commerical Butyphos with super-heated steam. 2. A modification of this method distinguished by the fact that the process is carried out at atmospheric pressure and at 100-110° C. 3. A modification of the method covered in point 1, distinguished by the fact that the process is carried out at a pressure of 50-100 mm Hg at 60-100°C.

1/1

1/2   020

UNCLASSIFIED

TITLE--MECHANISM OF THE INHIBITING ACTION OF CHLORPROMAZINE ON THE LOCKING
  FUNCTION OF THE CORTEX -U-

PROCESSING DATE--30OCT70

AUTHOR-(02)-MNUKHINA, R.S., SAMOYLOVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 253-6

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHLORPROMAZINE, CEREBRAL CORTEX, NEURON, BIOPOTENTIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0707

STEP NO--UR/0020/70/191/001/0253/0256

CIRC ACCESSION NO--AT0121366

UNCLASSIFIED

CIRC ACCESSION NO--AT0121366   UNCLASSIFIED   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHLORPROMAZINE (5-6 MG-KG, I.M.)
GIVEN TO RABBITS INCREASED THE DISCHARGES OF THE CORTICAL MOTOR NEURONS
FROM 7 TO 12 IMPULSES PER SEC AND GRADUALLY DECREASED THE NEG. PHASE.
AFTER 15-20 MIN, ONLY THE POS. PHASE REMAINED, AND THE DISCHARGE RHYTHM
DROPPED TO A VERY LOW LEVEL. AT THIS TIME, A CONDITIONED BLINKING
REFLEX DISAPPEARED. THIS INDICATES THAT CHLORPROMAZINE BLOCKS THE
DENDRITES, WHICH ARE INVOLVED IN THE LOCKING FUNCTION OF THE CORTEX.
FACILITY: FIZIOL. INST. IM. UKHTOMSKOGO, LENINGRAD GOS. UNIV. IM.
ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 669.71.053.4.094

PREOBRAZHENSKIY, N. A., KHAVSKIY, N. N., YAKUBOVICH, I. A., SAMOYLOVA, L. I.,
KIRILLOV, O. D., ULANOV, V. I.

"Studies of the Influence of Ultrasound on the Process of Sulfuric Acid
Leaching of Phosphorite"

Primeneniye Ul'trazvuka v Metallurg. Protsessakh [Use of Ultrasound in
Metallurgical Processes -- Collection of Works], Moscow, 1972, pp 72-74,
(Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract
No 5 G214 by the authors)

Translation: It is demonstrated that US oscillations, breaking down the film
of phosphogypsum, intensify the process of sulfuric acid leaching of phospho-
rites. 1 Table.

1/1

1/2   023
UNCLASSIFIED
PROCESSING DATE—30OCT70
TITLE—OPTIMIZATION OF DIPPING AND DRYING TO IMPROVE THE DISTRIBUTION OF A
BINDER IN NONWOVEN MATERIALS -U-
AUTHOR-(03)-TIKHOMIROV, V.B., KAN, G.E., SAMOYLOVA, L.V.

COUNTRY OF INFO—USSR

SOURCE—IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. TEKST. PROM. 1970, (1), 84-7

DATE PUBLISHED————70

SUBJECT AREAS—MATERIALS

TOPIC TAGS—RAYON, NATURAL FIBER, RUBBER ADHESIVE, FABRIC, BONDING
MATERIAL

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/0945
STEP NO—UR/0324/70/000/001/0084/0087
CIRC ACCESSION NO—AP0124605
UNCLASSIFIED

CIRC ACCESSION NO--AP0124605   UNCLASSIFIED   PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES OF THE NONWOVEN
FABRICS, BASED ON COTTON OR RAYON FIBERS BONDED WITH RUBBER LATEXES,
DEPEND CONSIDERABLY ON THE AMT. OF THE BINDER (C) AND THE MOISTURE
CONTENT (W) AFTER DRYING; A STATISTICAL EXPT. WAS CARRIED OUT TO
OPTIMIZE C AND W. THE FOLLOWING 8 VARIABLES WERE STUDIED: THE DISTANCE
TRAVELED IN THE IMPREGNATING BINDER BATH, THE PRESSURE EXERTED BY THE
TAKE UP ROLLERS, THE RATE OF FABRIC TRAVEL, LATEX CONCN., BATH SIZE,
FIBER TYPE, CONCN. OF METAZIN IN THE BATH, CONCN. OF NEKAL IN THE LATEX.
FACILITY: MOSK. TEKST. INST., MOSCOW, USSR.

UNCLASSIFIED

ACUTE GASTRODUODENAL ULCERS AND THEIR COMPLICATIONS

By V. P. Melnikova. V. I. Filin, M. G. Kamenchik and M. A. Samoylova

The work is based on the study of case reports of two recovered and 66 died pa-
tients in whom acute erosion and ulcer of the stomach and duodenum were revealed.
In 33 patients there were multiple erosions and ulcers, in the remainder — single. Of 44
patients with complicated acute ulcers in 28 patients these were the principal cause of
death, while in 14 patients they accelerated the inevitable lethal issue. Two patients
have recovered one after gastrectomy and the other — after suturing mucosa around the
bleeding ulcer and ligation of the left gastric artery.

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REEL/FRAME

19790877

USSR

VOLKOVA, L. V., LUCHINSKAYA, M. G., SAMOYLOVA, N. A., and PREOBRAZHENSKIY, N. A. (deceased), Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov

UDC 547.953 + 547.455

"Synthetic Studies of Glycohphospholipids. II. Synthesis of 1,2-Distearoyl-glyceryl-3-phosphoryl-6'-(1',2';3',4'-dicyclohexylidene)-D-Galactose"

Abstract: Synthesis of title compound is described. d -D-Galactose was converted to 1,2;3,4-dicyclohexylidene-D-galactose (I) by a reaction with cyclohexanone in anhydrous benzene in presence of sulfuric acid. Treatment of (I) with p-toluenesulfonyl chloride yields 6-tosyl-1,2;-3,4-dicyclohexylidene-D--galactose (II), which reacts with sodium iodide in dimethylformamide to give 6-iodo-6-desoxy-1,2;3,4-dicyclohexylidene-D-galactose (III). The lipid moiety used in further condensation was the dibenzyl ester of 1,2-distearoylglyceryl--3-phosphoric acid (V), which was obtained by condensation of glycerine-1,2-distearoyl-3-iodohydrine with the silver salt of dibenzyl phosphate. Anionic debenzylation with sodium iodide yields the sodium salt of 1,2-distearoyl-glyceryl-3 monobenzyl phosphate which then is converted to the silver salt of the monobenzyl ester of 1,2-distearoylglyceryl-3-phosphoric acid (VI).
1/2

USSR

VOLKOVA, L. V., et al, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, pp 446-449

Finally, condensation of (III) with (VI) in anhydrous benzene gave 1,2-distearoylglyceryl-3-monobenzylphosphoryl-6'-(1',2';3',4'-dicyclohexylidene)-D-galactose, which could be reduced to the title compound -- 1,2-distearoyl-glyceryl-3-phosphoryl-6'-(1',2';3',4'-dicydlohexylidene)-D-galactose.

2/2

- 74 -

1/2   011
UNCLASSIFIED
TITLE--SELECTIVE ACCUMULATION AND EXCLUSION OF INDIVIDUAL MINERAL
SUBSTANCES IN SOYBEAN NODULES -U-
AUTHOR-(03)-RATNER, YE.I., AKIMOCHKINA, T.A., SAMOYLOVA, S.A.

PROCESSING DATE--27NOV70

COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA 1970, (), 15-22

DATE PUBLISHED-------70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEGUME CROP, SOIL STRUCTURE, PLANT PHYSIOLOGY, TRACE ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1893

STEP NO--UR/0485/70/000/002/0015/0022

CIRC ACCESSION NO--AP0127294
UNCLASSIFIED

CIRC ACCESSION NO--AP0127294   UNCLASSIFIED   PROCESSING DATE--27NOV70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   AT THE PERIOD OF FRUITION ON AN
ACID SOD PODZOL SOIL THE TITLE NODULES WITH A P CONTENT OF 0.277PERCENT
DEVIATE IN THEIR CONTENTS OF AL, MN, CA, K, AND S, THE NODULE-ROOT RATIO
BEING 0.04, 0.33, 0.36, 0.27, AND 0.54, RESP., THAT OF CA-MG IS 0.47.
THE REQUIREMENTS FOR ATM. N FIXATION SEEMS TO BE LOW FOR CA AND K; P, S,
AND MG ARE MORE INPORTANT.   FACILITY: INST. FIZIOL. RAST.,
MOSCOW, USSR.

UNCLASSIFIED

Epidemiology

USSR

SAMOYLOVA, T. I., VOTYAKOV, V. I., MISHAYEVA, N. P., KHOD'KO, L. P., FEDORCHUK, L. V., VOINOV, I. N., and DANILOVA, G. M., Belorussian Institute of Epidemiology and Microbiology, Minsk

"Detection of Uukuniyemi Virus in the Belorussian SSR"

Abstract: A strain of Uukuniyemi virus, named Belovezhskiy-Uukuniymi-302, was isolated for the first time in 1970-1971 in Bretskaya Oblast, Belorussian SSR from female Ixodes ricinus. The virus belonged to the ectromelia group, passed through 35-mm Seitz filters without significant titer changes, and apparently the virions had a supercapsular lipoprotein membrane. The virus was highly pathogenic to newborn white mice, much less so to 4-5 gm mice, and nonpathogenic to adult guinea pigs and white rats. Complement-fixation reactions with several specific sera confirmed that this virus belongs to the Uukuniyemi group. Apparently the Belovezhskiy microfocus from which the virus was obtained is part of an extensive focus spreading from the Baltic Sea south to Czechoslovakia and western Ukrainian SSR.

1/1

USSR

ZIMKIN, I. N., SAMOYLOVA, T. V., SMIRNOV, B. I., Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences of the USSR, Leningrad

"Effect of a Dislocation Array on the Parameters of the Dislocation Structure of Slip Bands in Lithium Fluoride Crystals"

Abstract: An investigation was made of the effect which an array of dis-locations has on the development of slip bands in lithium fluoride crystals; specifically, on the rate of broadning of the bands, the magnitude of the displacement, and the density of the edge and Burgers components of the dislocations, as well as their mean free path. The dislocation structure was studied by selective etching. It was found that a simple relation exists between the slip band parameters and the dislocation density. The edge dislocations in the slip bands increase with yield stress, but there is a reduction in the edge-to-Burgers component ratio.

1/1

- 45 -

USSR

ZEL'DOVICH, V. I., SAMOYLOVA, Ye. S., and DOROSHENKO, A. V. (Deceased),
Institute of Metal Physics, Ukrainian National Center of the Academy of
Sciences USSR

"Phase Transformations in the Vicalloy 1 Alloy"

Abstract: Phase transformations in Vicalloy 1 alloy on heating at tempera-
tures over 500°C and on cooling were investigated by methods of dilatometric,
magnetostructural, neutronographic, and X-ray-structural analyses. A complex
sequence of transformations on heating of the alloy was found which includes
ordering and disordering of α- and γ-phases and disproportionation of com-
ponents between phases. The temperature intervals of the "fundamental" pro-
cesses of $\alpha \rightarrow \gamma$ transformations and of ordering and disordering of α- and
γ-phases were determined. The development of γ-phase on continuous heating
of the alloy can be divided into three stages. In the temperature interval of
the second stage of $\alpha \rightarrow \gamma$ transformation, an α-phase disorder takes place
accompanied by an increase in volume. The sign difference of the volume
effect of α-phase ordering at 400 and 700°C is explained by the decrease of
the coefficient of thermal expansion when ordering. The presented schema of
1/2

USSR

ZEL'DOVICH, V. I., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 1, 1 1973, pp 125-133

phase transformations in Vicalloy 1 on continuous heating can be applied for the analysis of $\alpha \rightarrow$ transformation in other alloys on Fe-base, in which this transformation takes place with the assistance of diffusion processes. Five figures, fifteen bibliographic references.

2/2

1/2   018
UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--ANIONOTROPIC REARRANGEMENT OF N, (ALPHA ALPHA
   DIFLUOROALKYL)ETHYLENIMINES -U-
AUTHOR--KOSTYANOVSKIY, R.G., SAMOYLOVA, Z.YE., PLEKHANOV, V.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 201

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, ETHYLENE, IMINE, NMR SPECTRUM,
   MASS SPECTRUM, INTRAMOLECULAR MECHANICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1614   STEP NO--UR/0062/70/000/001/0201/0201

CIRC ACCESSION NO--AP0100224
                    UNCLASSIFIED

2/2   018   UNCLASSIFIED   PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0100224
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROLONGED STORAGE IN GLASS OF I,
  OR THE ACTION OF MEO PRIMENEGATIVE IONS ON THEM CAUSES RING OPENING AND
  MIGRATION OF F ANIONS. THUS, I (R EQUALS CF SUB3 OR F) WERE CONVERTED
  RESP. INTO (CF SUB3) SUB2 CHCF:NCH SUB2 CME SUB2 F, B SUB25 44-5DEGREES,
  N PRIME25 SUBD 1.3339 (WHICH ON HYDROLYSIS GAVE (CF SUB3) SUB2 CHCONHCH
  SUB2 CME SUB2 F, M. 148.5DEGREES), AND MIXED (1:1) CF SUB3 CHFC(OME):
  NCH SUB2 CME SUB2 OME AND CF SUB3 CHFC(OME):NCH SUB2 CME SUB2 F, B SUB14
  66-9DEGREES. THE PRODUCTS WERE CHARACTERIZED BY NMR AND MASS SPECTRA.

                          UNCLASSIFIED

USSR   UDC 621.315.592

DEMIDENKO, L. S., KOROLYUK, S. L., SAMOYLOVICH, A. G., CHELOVA, T. N.

"Transverse Reluctance of n-Ge in Quantizing Magnetic Fields"

Abstract: A study was made of a method of calculating the transverse reluctance of n-Ge in quantizing magnetic fields for sufficiently pure samples and it is possible to consider that the scattering takes place only on acoustic phonons. The calculation method is based on the oscillator center drift method generalizing the calculations of V. L. Gurevich, et al. [ZhETF, No 40, 199, 1961] to the case of anisotropic mass. Good agreement between the calculated data and experimental results is demonstrated. For different directions of the magnetic field, a different field dependence is observed which is connected with the intertrough redistribution of the electrons. An interesting feature of the anisotropic scattering of the electrons in n-Ge is the primary contribution of the transverse phonons to the mobility and the increase in this contribution with an increase in the magnetic field. The divergence of the experimental data of J. W. Gallagher, et al. [Phys. Rev., No 161, 793, 1967] with the theoretical calculations presented here decreases with an increase in the magnetic field and when H = 170 kiloersteds, it is about 40%. The divergence is assumed to be caused primarily by the large number of impurities in the samples.
1/1

Conferences

USSR

BASS, F. G., BARANSKIY, P. I., GUREVICH, YU. G., KOROLYUK, S. I., POTYKEVICH, I. V., SAMOYLOVICH, A. G.

"All-Union Conference on the Physics of Semiconductors in Strong Magnetic and Electric Fields"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 3, March 1971, pp 587-591

Abstract: This article contains brief reviews of the reports given at the All-Union Conference on the Physics of Semiconductors in Strong Magnetic and Electric Fields and held by the Scientific Council on Physics and Chemistry of Semiconductors of the USSR Academy of Sciences, the Institute of Physics of Metals of the USSR Academy of Sciences and the Problem Scientific Research Laboratory of Anisotropic Semiconductors of the Chernovtsy State University from 14 to 17 October 1970, in Chernovtsy.

    The reports were concentrated around the following problems: 1) kinetic phenomena in semiconductors in strong magnetic fields; 2) kinetic and optical phenomena in strong electric and magnetic fields; 3) electron-hole plasma in strong electric and magnetic fields; 4) electric instabilities

1/2

USSR   UDC 621.372.85

ZHIDKOV, V. S., KUKUSH, V. D., PRONENKO, V. I., SAMOYLOVICH, A. I.

"Precision Liquid Short-Circuiting Plungers"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 110-113 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B175)

Translation: Results are presented from a study of mercury short-circuiting plungers in the centimeter and decimeter wave bands. There are 3 illustrations and a 2-entry bibliography.

1/1

USSR

SAMOYLOVICH, D. M., ARDASHEV, I. V., RYABOVA, R. V.

"Concerning the Formation of a Latent Photographic Image in Very Fine-Grained Photoemulsions"

Translation: The chemical stabilization of very fine-grained emulsions by Ag^+ ions is investigated. The calculation shows that in one microcrystal of such an emulsion with a thickness of $\sim$25 mu there is $\sim 10^{-2}$ mobile Ag^+ ions but, considering their concentration on the surface, not more than one ion. The formation of more than one Ag atom in the photolysis of this microcrystal is, therefore impossible and only an increase in the surface concentration of Ag^+ can lead to the appearance of photographic sensitivity in the microcrystal. One of the methods for increasing the concentration of mobile Ag^+ ions is synthesis

1/2

SAMOYLOVICH, D. M., et al, Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat, no year given, pp 329-332

with a large excess of Ag^+ ions: experiments showed that a similar synthesis in an excess of Br^- ions or in a small excess of Ag^+ ions does not lead to the appearance of photographic sensitivity of such small microcrystals, but with an increase in the excess of Ag^+ above a certain threshold, the sensitivity sharply rises. It was shown that Ag absorbed on the microcrystal from without is in ionic form and is separated by washing. The dimensions of the Ag-groups producing a considerable change in photographic properties of the microcrystal under these conditions (fogging, desensitization), including the presence of gold, were evaluated. A. L. Kartuzhanskiy.

USSR   UDC 621.165:62-752

SAMOYLOVICH, G. S., NITUSOV, V. V., and YURKOV, E. V.

"Investigation of the Influence of the Profile Shape of the Working Blades Upon the Excitability of Tangential and Axial Low-Multiple Forced Oscilla-tions"

Translation: In the work are presented the results of an experimental in-vestigation of the forced oscillations of active-profile blades R5S33A from an irregularly circular low-multiple source ($K_N = 2 - 8$), situated behind the blades. The possibility of evaluating the variable aerodynamic forces acting upon the blade with such excitation is shown. 4 figures. 5 refer-ences.

1/1

71

USSR

UDC: 621.165.1:532.5.031

SAMOYLOVICH, G. S., NITUSOV, V. V., SIDOROV, A. A., Moscow

"Estimation of Aerodynamic Damping of Oscillations of Turbine Blades"

Kiev, Problemy Prochnosti, No 9, 1970, pp 98-100

Abstract: Due to difficulties involved in testing, there is considerable
interest in determination of the aerodynamic damping coefficient of turbine
blades by calculation. A formula for the unknown perturbed velocity at points
along the blade profile presented in an earlier work is analyzed. It is
determined that profile displacement can be very significant in many cases.

1/1

1/2   025   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--AN INVESTIGATION OF PERTURBING FORCES AND DISTRIBUTION OF
NONSTATIONARY PRESSURES OVER THE PROFILE IN TURBINE STAGES -U-
AUTHOR--SAMOYLOVICH, G.S., PISMIN, I.N., YABLOKOV, L.D.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, TEPLOENERGETIKA, NR 3, 1970, PP 79-82

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ENERGY CONVERSION
(NON-PROPULSIVE)
TOPIC TAGS--TURBINE BLADE, VIBRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1417   STEP NO--UR/0096/70/000/003/0079/0082

CIRC ACCESSION NO--AP0104731
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0104731
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DATA ARE QUOTED
 CONCERNING DISTRIBUTION OF NONSTATIONARY PRESSURES ON WORKING VANES OF A
 TURBINE STAGE AT SUBSONIC VELOCITIES. THE PERTURBING FORCES CAUSING
 VIBRATIONS OF VANES WERE DETERMINED.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--23OCT70

TITLE--TUNGSTEN AND GALLIUM STRUCTURAL IMPURITIES IN SYNTHETIC QUARTZ
CRYSTALS -U-

AUTHOR-(03)-BALITSKIY, V.S., SAMOYLOVICH, M.I., TSINOBER, L.I.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, MAR. 21, 1970, P. 580-583

DATE PUBLISHED--21MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TUNGSTEN, GALLIUM, QUARTZ CRYSTAL, AUTOCLAVE, METAL OXIDE,
ABSORPTION BAND SPECTRUM, CRYSTAL GROWING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1084   STEP NO--UR/0020/70/191/000/0580/0583

CIRC ACCESSION NO--AT0119943
UNCLASSIFIED

2/2   030   UNCLASSIFIED   PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AT0119943
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF AUTOCLAVE
 EXPERIMENTS IN THE GROWING OF QUARTZ CRYSTALS CONTAMINATED WITH W AND GA
 FROM AQUEOUS WEAKLY ACIDIC FLOUR CONTAINING SOLUTIONS OF TUNGSTEN AND
 GALLIUM OXIDES. THE SPECTRAL PROPERTIES OF THESE CRYSTALS ARE
 DISCUSSED. THE PRESENCE OF WEAK ABSORPTION BANDS AT 2800, 3500, 4500,
 5200 AND 6300 A IN IRRADIATED CRYSTALS IS NOTED.   FACILITY:
 VSESOIUZNYI NAUCHNO ISSLEDOVATEL'SKII INSTITUT SINTEZA MINERAL'NOGO
 SYR'IA, ALEKSANDROV, USSR.

UNCLASSIFIED

USSR $\mathcal{S}$

SAMOYLOVICH, M.I., and NOVOZHILOV, A.I.

"Electron Paramagnetic Resonance Spectrum of the Radicals (H_3C), $(H_2O)^-$, (HO), and Atomic Hydrogen in Beryl"

Abstract: A study was made of electron paramagnetic resonance (EPR) spectra of paramagnetic centers formed in alkaline beryls, that is, in crystals of beryl with a high content of alkali metal impurities as a result of the action of ionizing radiation. The beryl minerals investigated are in the class of so-called rosterites, with chemical composition typical of such crystals. Irradiated specimens (gamma-radiation of Co^{60}, integral doses from 10^5 to 10^6 roentgens) were studied on a radiospectrometer with a klystron frequency of about 9.3 gigahertz at 295 and $77^{\circ}K$. Judging from the EPR spectra, there are only two electron-capturing centers: CH_3 and atomic hydrogen. No EPR spectra were observed in specimens heated at $300^{\circ}C$ and higher, that is, the radicals disintegrated upon heating. The authors thank L.I. TSINOBER for his interest in the work.

1/1

Acc. Nr.

AP0034251   Abstracting Service:
CHEMICAL ABST. *3-70*   Ref. Code

61203b   EPR spectrum of CH$_3$, H$_2$O$^+$, and OH radicals and atomic hydrogen in beryl.   Samoilovich, M. I.; Novozhilov, A. I. (USSR).   *Zh. Neorg. Khim.* 1970, 15(1), 84-5 (Russ).   The free radicals Me, H$_2$O$^-$, HO, and at. H were detected by ESR in beryl after γ irradn.   The exptl. data confirm that, with the exception of at. H which replaces Be ions in tetrahedral sites, the free radicals are located in the structural channels of beryl.

HMJR

REEL/FRAME
19710304   7

USSR

SUKHOTIN, A. M., LANTRATOVA, N. YA., ANTROPOV, N. P., SAMOYLYUK, P. P.

UDC 621.039.53

"Corrosion Kinetics of Stainless Steels and Aluminum in N_2O_4"

Dissotsiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V sb.
(Dissociating Gases as Heat Transfer Agents and the Working Medium of Power
Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 115-121
(from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U179)

Translation: The studies of the corrosion strength of stainless steel and
aluminum alloys in N_2O_4 which have been performed demonstrated that during
the process of preliminary treatment a passive film is formed on the surface
of the stainless steel. This film has good protective characteristics and
permits a significant reduction in corrosion losses during the prestationary
period at 50° C. A favorable consequence of passivation is reduction of the
stationary corrosion rate by several times. There are 5 illustrations, 1
table and a 3-entry bibliography.

1/1

USSR

UDC 535.376:621.382

GRIBKOVSKIY, V.P., KONONENKO, V.K., MARKITSKIY, YU.V., SAMOYLYUKOVICH, V.A.

"Ways Of Increasing The Efficiency Of Semiconductor Light Sources"

V sb. Elektrolyuminestsentsiya tvord. tel. (Electroluminescence Of Solid Bodies-- Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 107-113 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B371)

Translation: The dependence is studied of the indicatrix of radiation of electo- luminescent diodes on their dimensions, form, and intensity of excitation. The waveguide regions in which radiative recombinations take place are discussed. Formulas are obtained which take account of all the parameters of the diode for radiation flow, limiting efficiency, optimum effective losses, and the optimum current in sources of coherent light. At 77° K in a regime of stimulated emission, 48-watt power was obtained experimentally with diffused gallium arsenide diodes, and an effectiveness of the p-n junction of 53 percent attained. 1 ill. 13 ref. Summary.

1/1

USSR

UDC 621.375.8

VORONIN, V. F., BRIBKOVSKIY, V. P., and SAMOYLYUKOVICH, V. A.

"Correlation Between Internal Differential Quantum Yield of Generation and Near Field Picture of Injection Lasers"

Abstract: The correlation of the near field picture with the differential internal quantum generation yield is experimentally established. In diodes made of the same material and having the same dimensions the more homogeneous the near field picture, the greater the quantum yield of generation. Tests were performed with a series of 22 GaAs diffusion diodes at liquid nitrogen temperature with generation excited by pulses of current 1 μsec in length with a pulse repeition frequency of 60 Hz.

1/1

1/2   011   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--HYDROCARBON COMPOSITION OF PETROLEUM FROM THE YUZHNO-IOLATANSKII
  DEPOSIT IN THE TURKMEN SSR -U-
AUTHOR-(04)-GUREVICH, M.G., KOLESNIKOVA, L.P., MOROZOVA, S.F.,
  SAMOZVANTSEVA, M.S.
COUNTRY OF INFO--USSR

SOURCE--GAZOV. DELO 1970, (1), 30-2

DATE PUBLISHED------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--PETROLEUM DEPOSIT, CHEMICAL COMPOSITION, AROMATIC HYDROCARBON,
  CRUDE OIL, GEOGRAPHIC LOCATION, CHROMATOGRAPHIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0435   STEP NO--UR/0508/70/000/001/0030/0032

CIRC ACCESSION NO--AP0129660
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0129660   UNCLASSIFIED   PROCESSING DATE--30OCT7C
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PETROLEUM FROM JURASSIC DOLOMITE
SEAMS AT 3500 M IN THIS DEPOSIT YEILDED ON SEPN. BY CAPILLARY CHROMATOG.
11 AND 27PERCENT OF FRACTIONS B. LESS THAN OR EQUALS TO 125DEGREES (A)
AND LESS THAN OR EQUAL TO 200DEGREES (B), RESP. IN A WERE DETD. THE
INDIVIDUAL C SUB4-8 PARAFFINIC AND C SUB5-9 NAPHTHENIC HYDROCARBONS
COMPRISING 75 AND 15PERCENT, RESP., OF IT AND 8.29 AND 1.71PERCENT,
RESP., OF THE PETROLEUM. IN B WERE DETD. THE INDIVIDUAL C SUB6-11
AROMATIC HYDROCARBONS COMPRISING 100PERCENT OF IT AND 3.73PERCENT OF THE
PETROLEUM. N,ALKANE CONTENT ROSE FROM 54PERCENT IN C SUB5 , TO
71PERCENT IN C SUB8,ALKANES. THE N-ISO RATIO WAS 1.86 FOR THE ALKANES
(2.2PERCENT C SUB4, 14.7PERCENT C SUB5, 18.6PERCENT C SUB6, 20.0PERCENT
C SUB7, 26.5PERCENT C SUB8), AND THE CYCLOHEXANES CYCLOPENTANES
HYDROCARBON RATIO WAS 1.41:1 FOR THE NAPHTHENES. C SUB6, C SUB7, AND C
SUB8 COMPDS. CUNPRISED 5.67, 22.16, AND 33.12PERCENT, RESP., OF THE
AROMATIC HYDROCARBONS.   FACILITY: MINKHGP IM. GUBKINA, MOSCOW,
USSR.

UNCLASSIFIED

Acc. Nr.: AP0028763   Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 1,
                 pp 69-79

CALCULATION OF CURRENTS FOR A REAL OCEAN

V. P. Samrov

Proceeding from a known statement of the problem and taking the North Atlantic as an example, a numerical scheme for calculating the level and horizontal components of surface currents for a real ocean is given with the accounting of time inertia. Water discharge through liquid parts of the basin boundary is taken into account. Irregular grid is used for the better resolution of values being calculated.

The obtained results show that numerical solution of the problem gives sufficiently exact quantitative characteristics of velocity fields corresponding to the real situation of circulation in the ocean.

REEL/FRAME

19680200

USSR

UDC: 621.438-251-755

SAMSAYEV, Yu. A.

"Measurement of the Phase of a Signal from Imbalance When Noise is Present"

Teoriya i Praktika Balansirovochn. Tekhniki [Theory and Practice of Balancing Equipment -- Collection of Works], Moscow, Mashinostroyeniye Press, 1973, pp 44-51 (Translated from Referativnyy Zhurnal Turbostroyeniye, No 11, 1973, Abstract No 11.49.115)

Translation; The problem of measurement of the phase of a signal produced by disbalance when noise is present in an actual machine is studied. A block diagram of a balancing machine and the results of experimental balancing of several turbine rotors at the operating rotation frequency are presented. After the balancing operations, the vertical component of vibration of the turbine was reduced by 26% in comparison to the vibration of the turbine after the rotor was preliminarily balanced on a low-speed balancing machine. The accuracy of measurement of phase, considering noise created in the operating turbine, is evaluated by the dispersion $\sigma^2_{\delta\rho}=0.025(2.5-3°)$. 6 Figures; 6 Biblio. Refs.

1/1

SAMSIN, YE.M.

127. USSR

MIZERNYUK, A. T., SAMSIN, Ye. M.

UDC: 62.50:007.616-006

SO: Foreign Press Digest

"System for Automation of Scientific Experiments in the Area of Oncology"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 5, Sept-Oct 70, pp 40-42

Abstract: The manual data processing methods primarily used in processing of oncological data increase the time required for production of results and reduce the productivity of labor. The problem is particularly acute in the processing of graphic measurement information and the statistical processing of patients' case histories. The Institute of Cybernetics of the Academy of Sciences UkrSSR has studied the possibilities for improving the situation at the clinics and laboratories of the Kiev Scientific Research Institute for Experimental and Clinical Oncology. The information produced in this study have defined the tasks and functions for an automation system and have been used as initial data to determine the structure of a system. Inovations include: elimination of the intermediate graphic representation of information, replaced by direct analog-to-digital conversion of the outputs of test instruments; use of a system for automation of scientific experiments based on the Dnepr-1 computer to control the operation of a microspectrophotometer, dual-beam infrared prism spectrometer and electron paramagnetic resonance installation through

1/2

USSR

Lasers & Masers

UDC: 621.375.82

SAMSON, A. M., KOTOMTSEVA, L. A., LOYKO, N. A., GORCHARUK, I. M.

"Emission Kinetics of a Laser With a Nonlinear Delayed-Action Element"

Minsk, Kinetika generatsii OKG s nelineynym elementom zapazdyvayushchego deystviya. In-t fiz. AN BSSR (cf. English above. Institute of Physics of the BSSR Academy of Sciences), 1973, 44 pp, ill., mimeo. (from RZh-Fizika, No 11, Nov 73, abstract No 11D1330)

Translation: On the basis of balance equations, an analysis is made of the kinetics of operation of a laser with a nonlinear delayed-action element. An example of such an element is a Kerr cell which increases or reduces laser losses with increasing emission power. An analysis of these equations showed that with certain values of delay time and parameter of nonlinearity the lasers emit regular undamped radiation peaks with a recurrence rate approximately quadruple the delay time. The authors determine the regions of variations in parameters of the laser and the nonlinear element where such pulsations arise. An investigation is made of the influence of noises on the kinetics of laser operation in the mode of undamped pulsations of emission power, and their stabilizing action is observed. Analytical evaluation are illustrated by computer solution of differential equations. Bibl. 32.
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SAMSON, A. M.; KARAMALIYEV, R. A.

"Determination of the Oscillation Mode of Dyes with a Constant Radiation Frequency"

Minsk, Zhurnal Prikladnoy Spektroskopii; November, 1970, pp 793-804

ABSTRACT: The kinetics of the single-frequency oscillation of dyes is studied.
The totality of particles with a metastable level and uniformly broadened spec-
tral bands is taken as the model of the active substance. Based on the rate
equations for the populations and the radiation density, a study is made of
the oscillation of dyes for various transition probabilities, concentration of
active molecules, different values of the loss factor, and different pumping
powers and frequencies. The radiation characteristics in a quasi-stationary
oscillation mode are determined, and conditions for its realization are ex-
plained. Conditions for the occurrence of peak oscillation are studied and
formulas for calculating the pulsation frequency and their decrement of damping
are derived. The possibility of oscillation with average levels of pumping of
a short radiation pulse, on the order of one nanosecond, readily distinguishable
against a background of quasi-stationary oscillation is predicted theoretically.
    The analytical calculations are illustrated by the solution of the original
equations on an electronic computer.
    The article includes 4 figures and 38 equations. There are 19 references.

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USSR   UDC: 621.375.82

SAMSON, A. M.

"Methods of Design of Lasers Using Organic Dyes. Part 2. Unstable Mode"

Metody Rascheta Opticheskikh Kvantovykh Generatorov Na Organicheskikh Krasitelyakh.
Ch. 2. Nestatsionarnyy Rezhim [English Version Above], Minsk, 1970, 80 pages,
(Translated from Referativnyy Zhurnal Fizika, No 8, 1970, Abstract No 8D1097K,
by V. A. Khodovoy).

Translation: A method is developed for designing lasers using solutions of
organic dyes with pulsed monochromatic excitation. The design is based on the
use of rate equations for a dye simulated by a 4-level system. The pregeneration
mode and threshold conditions for generation are analyzed in detail for pumping
with radiation pulses of various shapes and durations. The conditions of the
generating mode with unchanged radiation frequency are studied, as well as the
conditions of the pulsating mode and the generation of nanosecond pulses. Evalua-
tions of the generation parameters on the basis of the formulas produced in the
work are compared with computer solutions of the initial equations.

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SAMSON, A. M.; KARAMALJYEV, R. A.

"Variation of the Radiation Frequency in the Quasi-Stationary Oscillation of Dyes"

Minsk, Zhurnal Prikladnoy Spektroskopii; January, 1971; pp 45-52

ABSTRACT: The authors propose a method of calculating the variation of the radiation frequency in the quasi-stationary oscillation of dyes, with the use of nonselective mirrors, caused by the accumulation of particles on a metastable level. The spectral bands of the molecules of the dye are assumed to be uniformly broadened. The calculations are based on the rate equations. The general scheme of calculation is illustrated by the solution of this problem as applied to a dye with Gaussian curves for the absorption and emission. The dependence of the oscillation frequency shift on the loss factor, the absorption coefficient of the unexcited dye, and the pumping power is studied.

The article includes 44 equations and 4 figures. There are 9 references.

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