

USSR

UDC: 621.317.74

AL'TSHULER, Yu. G., SOSUNOV, V. A., and YAZIKOV, V. N.

"Device for Measuring Complex Transfer Factors of Waveguide Four-Terminal Networks With Continuously Varying Parameters"

Elektron. tekhnika. Mashino-stroen. so. Kontrol'no-izmerit. apparatura (Electronic Engineering, Scientific-Research Collection, Control and Measurement Equipment) 1970, No. 3(71), pp 119-125 (from RZh-radiotekhnika, No. 3, March 71, Abstract No. 3A401)

Translation: A description is given of a variant of a device for measuring complex transfer factors of four-terminal waveguide networks in which in-phase, antiphase, and quadrature bridges are used as information signal transmitters. Results are given of the use of the measuring device for controlling moisture and dielectric permeability of liquids. Resume

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USSR

AL'TSHULER, YU. G., et al., Izvestiya vysshikh uchebnykh zavedeniy--Radioelek-
trenika, Vol XIV, No 9, 1971, pp 972-996

of practical applications of solid state plasma effects in the superhigh fre-
quency range.

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Electromagnetic Wave Propagation

USSR

UDC 538.56

AL'TSHULER, YU. G., DOVZHNIKOV, A. A., KADIS, L. I.

"Interaction of Superhigh-Frequency Electromagnetic Emission with a Solid State Plasma"

Kiev, Izvestiya vysshikh uchenykh zavedeniy--Radioelektronika, Vol XIV, No 9, 1971, pp 972-996

Abstract: A survey of publications on superhigh-frequency wave effects in a solid state plasma is presented, and the prospects for creation of passive and active devices are investigated. A study is made of the characteristic features of a solid state plasma and methods of calculating effects in such a plasma, types of waves propagated in a solid state plasma, the magnetoplasma fringe and the Faraday effect, wave propagation in wave guides with a solid state plasma, utilization of plasma effects in a solid state for the creation of microwave control devices, application of plasma effects to measure the parameters of semiconductors, instability of solid state plasmas and active microwave devices.

The survey reflects the modern state of the art in the problem of the interaction of electromagnetic radiation with a solid state plasma. Most of the papers are of a theoretical nature but experiments of a preliminary nature are noted which have practical value, and a basis is provided for expectation

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USSR

UDC 621.385.652

AL'TSHJLER, YU.G., MESHKOV, O.F.

"To A Linear Theory Of BWT With Finite Values Of The Amplification Parameter, Taking Account Of The Thermal Spread Of Electrons With Respect To Velocity"

V sb. Vopr. elektron. tekhn. (Problems Of Electronics Technology--Collection Of Works), No 2, Saratov, Saratov University, 1971, pp 3-14 (from RZh:elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A157)

Translation: In the limits of a one-dimensional model of a beam based on a method of characteristic equations, a computation is made of the effect of thermal spread of electrons with respect to velocity on the trigger conditions of backward-wave tubes with finite values of the amplification parameter, the space charge, and losses. The evaluation conducted showed that with the specified parameter of the spread of electrons with respect to velocity, the most intense thermal spread for the operation of a BWT appears with small values of the amplification parameter. It is shown that thermal spread of electrons with respect to velocity, for small values of the trigger amplification parameter, leads to a noticeable increase of the trigger electrical length. With sufficiently large values of the amplification parameter, a thermal spread at the trigger conditions of the BWT practically does not appear. 7 ref. V.K.
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USSR

UDC: 621.372.853.09

AL'TSHULER, Yu. G., et al, Radiotekhnika i elektronika, No 8, 1972, pp 1737-1739

the propagation process can be quantitatively represented, and that the mutuality effect can be estimated. It is also found that the phase of the transmitted wave can be varied in phase up to 750° for various changes in the magnetic field.

2/2

USSR

UDC: 621.372.853.09

AL'TSHULER, Yu. G., YERSHOV, V. V., and KATS, L. I.

"Experimental Investigation of Electromagnetic Wave Propagation in the Transverse Magnetic Field in a Rectangular Waveguide Partially Filled With n-InSb in the Transverse Magnetic Field"

Moscow, Radiotekhnika i elektronika, No 8, 1972, pp 1737-1739

Abstract: A description is given of experiments conducted on a waveguide of rectangular cross section, partially filled with n-type InSb, for the purpose of finding a practical application. The InSb specimen, in the form of a plate, was placed inside a waveguide section measuring $10 \times 23 \text{ mm}^2$ in cross section, the whole kept at the temperature of liquid nitrogen. The shape and position of the plate and the direction of the magnetic field, the latter varying from 0-8 kilogauss, are shown in the diagram of the apparatus, together with curves of the complex transfer coefficient of the waveguide as a function of the magnitude and direction of the magnetic field. The results of the experiment, put in the form of curves for the phase and attenuation of the transmitted wave, showed that the effect of the n-InSb plate on $1/2$

USSR

AL'TSHULER, YU. G., et al., Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 938-944

decibels. The phase of the transmitted signal varies in this case from 0 to -133 degrees on variation of H from 0 to 15 kiloersteds. In the case of propagation through a waveguide with an n-InSb plate arranged along the axis of the wave guide in a transverse magnetic field, nonreciprocal transmission of the millimeter-band radiation is observed with maximum decoupling of 14 decibels. Thus, it is possible to build different types of control devices (attenuators, phase converters, gyrators) in the millimeter band with parameters which are acceptable in practice on the basis of magnetically active plasma effects in semiconductors.

USSR

UDC 621.372.81.09

AL'TSHULER, YU. G., KATS, L. I., REVZIN, R. M.

"Experimental Study of Millimeter-Band Electromagnetic Wave Propagation in a Wave Guide Filled with n-InSb in a Magnetic Field"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 938-944

Abstract: An experimental study was made of the millimeter-band electromagnetic wave propagation through a waveguide with an n-InSb plate in a constant magnetic field. There are defined laws on the application of the investigated effects for purposes of measuring the parameters of semiconductor materials. As a result of the small values of $\omega_c \tau$, the method of cyclotron resonance obviously has limited application in the given band. The methods based on the Faraday effect and especially the investigation of helicon waves are much more efficient. The results of measurements in different orientations of the magnetic fields indicate the effectiveness of the latter with respect to the amplitude and phase of the transmitted microwave signal. The maximum attenuation drop in the case of a longitudinal magnetic field at the temperature of liquid nitrogen with a plate thickness of 600 microns is 30 decibels on variation of the magnetic field from 0 to 5 kiloersteds. In a transverse magnetic field the maximum attenuation drops for a plate thickness of 250 microns is 17.5

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USSR

AL'TSHULER, Yu. G., et al., Izvestiya Vuzov SSR, Radiofizika, Vol XV, No 8, 1972, pp 232-237

an attenuator can be obtained with attenuation on the order of 10-15 decibels for $H_0 = 1,000$ oersteds and variation of v_0 from 0 to $2 \cdot 10^9$ m/sec of the phase shifter and that the polarization plane can be rotated within the limits of $\pi/3$ for $H = 500$ oersteds and v_0 from 0 to $2 \cdot 10^9$ sec.

a/c

USSR

UDC 621.372.81.09

AL'TSHULER, YU. G., KATS, L. I., REVZIN, R. M.

"Submillimeter Band Electromagnetic Wave Propagation in a Solid State Drift Plasma"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 932-937

Abstract: A study was made of the possibility of applying electro-optical effects of a solid state magnetized plasma to create submillimeter-band control devices. The magnetic field defines the significance of the electro-optical effect and the types of waves propagated in the solid state plasma, and the propagation parameters are controlled by varying the external electric field. The electro-optical phenomena caused by the effect of a constant electric field on the propagation of a circularly polarized wave in a magnetically active solid state plasma are highly effective in the submillimeter wave band. There are regions of sharpest variation of the propagation parameters as a function of the magnitude of the applied electric field. The magnitude of the applied constant magnetic field determines the effectiveness of the investigated phenomena, and the dependence of the propagation parameters on the collision frequency makes it possible to consider that the investigated phenomena are experimentally realizable only at low temperatures. Calculation of the parameters of devices controlled by an electric field indicates that
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USSR

UDC: 621.372.41

AL'TSHULLER, G. B., PARFENOV, B. G., MURZIN, V. I.

"On the Effectiveness of Linear Thermal Compensation of AT Section Quartz Resonators"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 35-41 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V444)

Translation: The paper deals with the feasibility of using linear thermal compensation of AT section quartz resonators. Formulas are presented for calculating the parameters of the compensating elements, and experimental data are given. Resumé.

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USSR

AL'THULER, S. A., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 639-651

phonon band is significantly narrower than the NMR line width. Phonons in the frequency band below 30 Hz take part in the avalanche. The frequency scale of the entire pattern is reduced almost in half by dilution of the crystal.

Kinetic equations are derived to describe NMR saturation in the general case when all three coupled subsystems -- Zeeman, spin-spin interaction, and phonon -- are in a nonequilibrium state. It is shown that in particular cases the equations coincide with those of B. I. PRYDNEV and the phonon bottleneck theory. Steady-state NMR line saturation is considered first, then transient processes arising in the phonon subsystem after inclusion of a rotating variable field. It is shown that the character of the time variation of the state of the system depends essentially on the saturation power level. The experimental results obtained are considered in terms of the developed theory.

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USSR

AL'TSHULER, S. A., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 639-651

± 100 Mhz corresponds to the maximum steady-state "heating" of the phonon system. Moreover, during pulsed saturation with detuning, an avalanche-type growth in the number of phonons was observed behind the leading edge of the pulse, followed by a comparatively slow drop and the transition of the process to a steady-state mode. The equilibrium state was reestablished after the end of the saturating pulse. The phonon peak intensity depended on the detuning value and at $\Delta\omega/2\pi = \pm 100$ Mhz reached a maximum value of 8000° K. The dependence of characteristic parameters of the observed phenomenon on the detuning value ($\Delta\omega > 0$) was measured in another series of experiments. The avalanche reaches maximum intensity at intermediate detuning values, declines on both sides of the optimal value of ± 100 Mhz, and completely disappears at the point $\Delta\omega = 0$. The effective temperature of phonons in the steady-state region changes similarly. The spectral distributions of effective temperatures for "hot" phonons in the avalanche region and in the steady-state region were found for $\Delta\omega/2\pi = 100$ Mhz. An important peculiarity is the fact that the maximum of the phonon spectral distribution $F(\omega)$ coincides with the frequency ω_0 of the frequency ω_0 and the dispersion $\partial F/\partial\omega$ at the resonance point even further along the end of the ABR line. In addition, the "hot"

USSR

AL'TSHULER, S. A., VALISHEV, R. M., KOCHELAYEV, B. I., and KHASANOV, A. KH.,
Kazan State University named V. I. Lenin

"Study of a Phonon System by the Mandelstam-Brillouin Light Scattering Method
Under Paramagnetic Resonance Saturation"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb
72, pp 639-651

Abstract: The article gives a detailed account of the results of an experi-
mental and theoretical study of a phonon bottleneck in cerium magnesium
nitrate by the Mandelstam-Brillouin light scattering method. Continuous
paramagnetic resonance saturation of the Ce^{3+} ions was used to study steady-
state "heating" of the phonon system; then measurements were made during
spin system excitation by periodic rectangular pulses, and the steady-state
process was studied together with the transient process occurring at the
moment of inclusion of a saturating field. New peculiarities of the phonon
bottleneck effect were found during saturation at the end of the Brillouin viz.,
saturation on frequencies differing from resonance frequency by approximately
1/3

2/2 015

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139586

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NO. OF 3,PHENYLACRYL ACETATE
SYDNCRE IMINE, WHEN GIVEN TO MICE, STIMULATED THE CENTRAL NERVOUS SYSTEM
AND ACTED AS PERIPHERAL ADRENOMIMETICS. THEY ALSO INHIBITED MONOAMINE
OXIDASE IN VITRO. FACILITY: VSES. NAUCH.-ISSLED. KHIM.-PR-M.
INST. IM. ORDZHCNIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

172 015 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--SYNTHESIS, PHARMACOLOGICAL PROPERTIES, AND EFFECT OF SOME SYMPTOMATIC
IMINES ON MONAMINE OXIDASE ACTIVITY -U-
AUTHOR--(05)-YASHUNSKIY, V.G., MASHKOVSKIY, M.D., GURKIN, V.Z., KOLEBOVA
L.L., ALTSHULER, R.A.
COUNTRY OF INFO--USSR
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(3), 297-302
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CENTRAL NERVOUS SYSTEM STIMULANT, CHEMICAL SYNTHESIS, DRUG
EFFECT, OXIDASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/005001/F10 STEP NO--08/0590/70/059/006/009770
CIRC ACCESSION NO--AP0139586
UNCLASSIFIED

USSR

KHOLODOV, L. Ye., Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

mental dependence were observed even in patients that received the drug more than 2 years. Sydnocarb has been authorized by the USSR Ministry of Health for use as a psychotropic agent.

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Pharmacology and Toxicology

USSR

UDC 615.214.3

KHOLODOV, L. Ye., TASHUNSKIY, AL'TSHULER, R. A., MASHKOVSKIY, M. D.,
ROSHCHINA, L. F., SHERSHNEVA, S. I., LEYTEL'MAN, F. Ye., VOIZHINA, O. N.,
GORODETSKIY, L. Sh., and PETROVA, N. A., All-Union Chemical and Pharmaceutical
Institute imeni S. Ordzhonikidze, Moscow

"Sydnocarb, a New Central Nervous System Stimulant"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

Abstract: The recently developed heterocyclic compound sydnocarb -- N-phenyl-
carbamoyl-3-(β -phenylisopropyl) sydnorine, $C_{19}H_{21}N_3O_2$ -- produced marked
motor excitation in mice, rats, dogs, and cats, increased the frequency and
decreased the amplitude of electrical potentials, shortened the latent period
of conditioned avoidance reflexes, and reduced the duration of the somnifacient
action of hexobarbital. It did not depress monoamine oxidase activity, affect
arterial pressure, or cause morphological changes in the viscera or peripheral
blood. Administered to persons with various neurological and mental diseases
(average dose 10 to 25 mg) characterized by asthenic, adynamic, and apathic
disorders, sydnocarb had a pronounced stimulatory effect (exceeding that of
amphetamine) without inducing euphoria or motor excitement, tachycardia,
elevated blood pressure, or other peripheral changes. No signs of physical or
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USSR

AL'TSHULER, N. S., IVOYLOVA, E. Kh., LIVANOVA, L. D., STEPANOV, V. G.,
STOLOV, A. L., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Multiple-Center Structure of the Spectrum in KMgF_3 and KZnF_3 Crystals
Activated by Eu^{2+} and Gd^{3+} Ions"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 10, Oct 73, pp 2958-2962

Abstract: The authors analyze the EPR spectra and study the Stark structure of noncubic centers which arise when KMgF_3 and KZnF_3 crystals are activated by isoelectronic ions of Eu^{2+} and Gd^{3+} . The EPR spectra were measured at 9 GHz and 77°K. The constants of the spin Hamiltonian of the ground state of cubic centers of Eu^{2+} in the crystals as determined from analysis of the EPR spectra are compared with the parameters of the crystal field of the same centers. A diagram is plotted for Stark splitting of levels ${}^6P_{7/2}$ and ${}^6P_{5/2}$ for Eu^{2+} ions in centers of cubic, tetragonal, and trigonal symmetry, and also for seven active centers of Gd^{3+} . The results show indeterminacy of the Gd^{3+} ion position.

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2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0132130

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF SURFACE ACTIVE AGENT ADDNS. ON THE WATER REQUIREMENTS, COMPETITION FOR WATER BY THE CEMENT PASTE AND POROUS FILLER MATERIAL, FILLING OF VOIDS WITH WATER, AND THE STRENGTH OF THE AERATED CONCRETES ARE DISCUSSED. SPECIMENS WERE MADE OF A SLAG CEMENT AND SAND (OMIEPER) WITH SP. SURFACES OF 3700 AND 100-3500 CM PRIME2-G, RESP., AND 80 KG-M PRIME3 EXPANDED PERLITE SAND (0.5-6.0 MM); WATER-CEMENT (W-C) RATIOS IS SMALLER THAN 1.0 AND OP-7, SULFANOL, OR DIALKYLTHIOPHOSPHORIC ACID (NA SALT) ADDNS. EQUATIONS USEFUL IN DETG. WATER DISTRIBUTION IN AIR ENTRAINED CONCRETE WERE DEVELOPED AND CALCNS. AGREED WITH EXPTL. DETD. VALUES. STRENGTHS OF PERLITE CONCRETE AERATED WITH OP-7 ARE SHOWN AS A FUNCTION OF W-C AND ATTAINED A MAX. (CONST.) STRENGTH OF SIMILAR TO 75 KG-CM PRIME2 AT W-C SIMILAR TO 1.0. FACILITY: VSES. NAUCH.-ISSLED. PROEKT.-KONSTR. INST. NEFTEPERERAB. NEFTEKHIM. PROM., KIEV, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--2/NOV/70
TITLE--EFFECT OF SURFACE ACTIVE AGENTS ON MASS TRANSFER IN AERATED
CONCRETE -U-
AUTHOR--(02)-ALTSHULER, M.A., LOZHKINA, T.V.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1335-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SURFACE ACTIVE AGENT, MASS TRANSFER, CONCRETE, ORGANIC SULFUR
COMPOUND/(U)DP7 SURFACE ACTIVE AGENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1868 STEP NO--UR/0020/70/191/006/1335/1338
CIRC ACCESSION NO--AT0132130
UNCLASSIFIED

USSR

UDC:662.215.2

AL'TSHULER, L. V., BALABANOV, A. V., BATALOV, V. A., RODIONOV, V. A.,
TARASOV, D. M., Moscow

"X-Ray Structural Study of the Initial Stage of Development of an Under-
ground Explosive Cavity in Sandy Soil"

Novosibirsk, Fizika Goreniya i Varyva, Vol. 6, No. 3, Sep 70, pp. 363-373

Abstract: The authors studied the kinetics of development of underground explosive cavities in various media, including study of the earliest phases of these processes, in order to determine the effective mechanical characteristics of soils, to test and clarify the equations of state of the explosion products and current calculation methods. The experimental observation was performed by transmission of x-rays through massive sections containing explosive charges in short bursts of x-rays. This report describes the experimental methodology and data produced in non-saturated sand, and also presents idealized mathematical calculations of underground explosions in compressible media, which are used for interpretation of the results produced.

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USSR

UDC 539.5

AL'TSHULER, L. V., RYAZANOV, V. T., SPERANSKAYA, M. P., Moscow

"Influence of Heavy Impurities on Detonation Mode of Condensed Explosive."

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 122-125.


Abstract: The influence of heavy metal additives on the detonation modes of condensed explosives was studied. A significant reduction in detonation pressure was noted. This effect is explained by the development of modes with increased detonation velocities, not satisfying the Chapman-Jouguet condition. An additional reduction in pressures was noted for compositions with a high content of metal, caused by the cooling influence of the impurities. The experimental results are compared with calculations performed in the additive approximation. The author's concentrate on the influence of the addition of heavy metal additives to the parameters of detonation waves, ignoring the gas dynamics of the detonation products.

AA0040714

AUTHORS: Gorlovskiy, D. M.; Kucheryavyy, V. I.; Lebedev, V. V.;
Aj'tshuler, L. N.; Levenkova, N. I.; Mel'nikov, B. P.;
and Gumenyuk, ~~U. P.~~

19750355

2/12

AA0040714 ALTSHULER L.N. UR 0482 1-10 

Soviet Inventions Illustrated, Section I Chemical, Derwent,

240702 UREA PRODUCTION from NH_3 & CO_2 , using converted natural gas as CO_2 source, and as H_2 source for NH_3 synthesis, is intensified and energy losses reduced, by total or partial injection of the converted natural gas feed at 30 kg/cm^2 with ammonium carbonate solution and liquid ammonia at $600\text{-}1000 \text{ kg/cm}^2$ to absorb CO_2 from the feed. Part of the converted natural gas is compressed and introduced at the base of the urea synthesis tower, at a temp. higher than the temp. of synthesis, and assists concentration of the urea melt. 6.7.67. as 1171649/23-26, GORLOVSKII, D.M. et al. (12.8.69) Bul. 13/1.4.69. Class 12o, Int. Cl. C 07c.



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19750354

ZHITOMIRSKIY, I. S., AL'TSHULER, I. L., Tr. Fiz.-tekhn. in-t nizk. temperatur.
AN USSR, 1970, No. 1, pp 89-101

the drops and also the equations of state and expressions for forces, heat fluxes, condensation and evaporation rates, etc. The derivation of the conservation equations for the drops is described.

USSR

UDC 532.529

ZHITOMIRSKIY, I. S., AL'TSHULER, L. L.

"System of Equations and Boundary Conditions Describing Dynamic Processes in Polydisperse Vapor-Liquid Flow"

Tr. Fiz.-tekh. in-t nizek. temperatur. AN USSR (Works of the Physicotechnical Institute of Low Temperatures of the Academy of Sciences USSR), 1970, No. 1, pp 89-101 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1493)

Translation: An arbitrary (nonstationary, three-dimensional) gas flow with liquid droplets of the same materials suspended in it is discussed. The droplets may have an arbitrary distribution as to dimensions or mass m . The difference in velocities and gas temperatures and drops of various sizes, thermal and dynamic interaction between the gas and the drops, and also the effects of evaporation and condensation are taken into account. Collisions between drops are considered to be unimportant and it is assumed that in the neighborhood of an arbitrary point of the space x at a given time t all drops of one size have the same velocity, temperature, etc. A complete system of equations is derived which describes the flow studied under these assumptions. This system includes equations of continuity, momentum and energy for the gas and liquid fraction of

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USSR

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10/10/68

~~SECRET~~
Reference: [illegible]

Title of Report: [illegible]
Report No.: [illegible]
Date of Issue: [illegible]

Author: [illegible]

Abstract: [illegible text describing the report's content]

Acc. Nr:

APC100587

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0492

A

102345v Kinetics of the thermal decomposition of natural gas at high temperatures. Al'tshuler, B. N. (USSR). *Gazov. Prom.* 1970, 15(2), 37-40 (Russ). The title study was carried out in order to obtain effective rate consts. for the use in the practical design of CH₄ pyrolysis. The max. conversion of CH₄ into C₂H₂ at an initial concn. of 4.7% in argon reaches 75% at 2073°K and a contact time of 1.8 millisecc. The treatment of the data by the method of least squares gave the following rate equation of the pyrolysis of CH₄ into C₂H₂: $k_{C_2H_2} = 10^{13.7} \exp [(-97000 \pm 4800)/RT] \text{ sec}^{-1}$. M. Shelef

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REEL/FRAME
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USSR

UDC: 8.74

AL'TSHUL', L. M.

"The 'Gamma' Program"

Sb. tr. In-t gidrodinam. Sib. otd. AN SSSR (Collected Works. Institute of Hydrodynamics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 4, pp 15-19 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V664)

Translation: The program is used in a subsystem of the ACCORD material supply system. It is designed for elaborating delivery order plans. The program utilizes calendar schedules of job execution (the output of the "Delta" and "Omega" programs) as input data, and also requisition records and a catalog. A description is given of data files (division I), output documents (division II), and program structures (division III).

USSR

AL'TSHUL', L. M., K teorii nelineynoy stabilizatsii tearing-neustoychivosti tokovogo sloya besstolknovitel'noy plazmy, 1972, 18 pp

of this approximation the perturbations do not increase spontaneously if the amplitude is greater than

$$H_R = \frac{h\lambda}{L} \left(\frac{mcV_T}{eh} \right) A$$

where h is the strength of the stationary magnetic field in the layer. It is shown that tearing-instability is stabilized when $H_1 \sim H_R$. Mechanisms are discussed which increase or suppress the stabilization threshold. The influence of a weak, transverse magnetic field and particle collisions is evaluated.

2/2

USSR

UDC: 533.9...16

AL'TSHUL', L. M., Siberian Institute of Terrestrial Magnetism, Ionosphere and Propagation of Radio Waves, Siberian Department, Academy of Sciences of the USSR

"Concerning the Theory of Nonlinear Stabilization of Tearing-Instability of a Current Layer of Collisionless Plasma"

Irkutsk, K teorii nelineynoy stabilizatsii tearing-neustoychivosti tokovogo sloya besstolknovitel'noy plazmy (cf. English above), 1972, 18 pp, bibl. 7 titles (manuscript deposited in VINITI 27 Dec 72, No 5295-72 Dep.) (from FZh-Fizika, No 6, Jun 73, abstract No 66232 DEP)

Translation: An investigation is made of nonlinear stabilization of the tearing-instability of a current layer of collisionless plasma when a perturbation in the form of a monochromatic wave is excited in the x direction. An approximation is considered which describes wave evolution when the amplitude of the transverse component of the magnetic field H_y satisfies the condition $H_y \ll (\lambda m v_{th} / e)$; where λ is wavelength, m is the mass of the particles responsible for the instability, e is their charge, and v_{th} is the thermal velocity. It is shown that within the limits of applicability

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USSR

UDC 627.832:532.533

AL'TSHUL', A. D., MARGOLIN, M. SH.

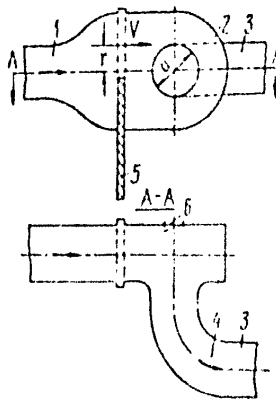
"Distribution of Peripheral Velocities in the Vortex Funnel Above a Horizontal Opening"

Izv. vyssh. uchebn. zavedeniy. Str-vo i arkhitekt. (News of the Higher Institutions of Learning. Construction and Architecture), No 9, 1970, pp 101-105 (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D64)

Translation: The universal form of the generalized law of rotation is obtained with the help of the earlier obtained dimensionless function characterizing funnel formation and the Rayleigh method. The region of applicability of this law and the dependence of the exponent and constant in this law on the flow rate coefficient of the opening are investigated. The distribution of the peripheral velocities vertically is considered experimentally. A numerical example of calculating the peripheral velocities in a vortex gradient flow meter is presented. There are 4 illustrations, 3 tables and a 10-entry bibliography.

1/1

AL'TSHUL', A. D., et al., USSR Author's Certificate No 271044, filed 8 Jan 68, published 12 Aug 70



intense vortex funnel is created in the chamber 1, which increases the drag at the inlet 2 to the elbow as a result of which the emergency gate is unloaded appreciably, and the conditions of emergency covering of the line are facilitated. The vortex funnel which lowers the pressure in the chamber 1 above the inlet to the elbow 3 opens the valve 6 to let in air and relieve the vacuum. When covering tunnels >10 m in diameter, the input cross section of the chamber can be separated by bulkheads into two or several spans, and one of the flat emergency gates can be replaced by a disk. The proposed regulator can also be used for operational closing of water gates and for partial covering of their cross sections. There is 1 illustration.

Hydraulic

USSR

UDC 627.841.002.5(088.8)

AL'TSHUL', A. D., MARGOLIN, M. SH.

"Fluid Flow Rate Regulator for High-Head Hydraulic Mains"

USSR Author's Certificate No 271044, filed 8 Jan 68, published 12 Aug 70
(from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D161 P)

Translation: A regulator is proposed in which, in order to decrease the operating losses and facilitate the handling of the emergency gates, the hydraulic main is equipped with a blind vortex chamber 1 (see the figure) executed in the form of a local blind expansion of the line to the chamber 2 and connected by means of an elbow joint 3 to the continuation of the line 4. A flat emergency gate 5 is shifted along horizontal grooves at the input to the chamber. The valve 6 for water intake, which opens when the pressure drops inside the chamber, is placed above the input to the elbow in the cavity of the chamber ceiling. The end wall of the chamber is a semicircle coaxial with the hole entering the elbow 3. The axes of the chamber 1 and the line 2 are joint. In case of emergency rupture of the line 4 and a sharp increase in flow velocity, the drive of the emergency gate 5 is put into operation. The gate begins to cover the inlet to the chamber 1. Here, as a result of asymmetry of approach of the water above the opening of the elbow 3, an

USSR

2/2 015
CIRC ACCESSION NO--AP0103741

UNCLASSIFIED

PROCESSING DATE--11SEP70,

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CAPACITY OF SV40 VIRUS TO INDUCE SYNTHESIS OF "TUMOR" (T) ANTIGEN IN DIFFERENT CELL CULTURES WAS ESTABLISHED BY DIRECT IMMUNOFLUORESCENT METHOD. THE LACK OF CLEAR CUT MANIFESTATIONS OF THE CYTOPATHIC EFFECT IN CULTURES UNDER STUDY WAS ASSOCIATED WITH THE INABILITY OF THE VIRUS TO MULTIPLY IN THE MAJORITY OF CELLS IN THE POPULATION. THE LINEAL RELATIONSHIP WAS FOUND TO EXIST BETWEEN THE DOSE OF SV40 VIRUS AND PER CENT OF T ANTIGEN CONTAINING CELLS 48 HOURS AFTER INOCULATION OF GREEN MONKEY KIDNEY CELL CULTURE. THIS PERMITTED TO USE COUNTING OF T ANTIGEN CONTAINING CELLS FOR THE QUANTITATIVE STUDY OF THE VIRUS. THE DIRECT IMMUNOFLUORESCENT METHOD OF DETECTION OF T ANTIGEN PERMITTED RAPID IDENTIFICATION OF SV40 VIRUS IN CELL CULTURES. ACCELERATION OF SYNTHESIS OF SV40 VIRUS T ANTIGEN IN GREEN MONKEY KIDNEY CELL CULTURE WAS DEMONSTRATED AT HIGHER TEMPERATURE (40DEGREESC) OF INCUBATION.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70.
TITLE--INDUCTION OF TUMOR (T) ANTIGEN OF SV40 VIRUS IN DIFFERENT TISSUE
CULTURES -U-
AUTHOR--ALTSHTEYN, A.D., SARYCHEVA, D.F.
COUNTRY OF INFO--USSR A
SOURCE--VOPROSY VIPUSOLOGII, 1970, NR 1, PP 78-84
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUMOR, TISSUE CULTURE, ANTIGEN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0061 STEP NO--UR/0402/70/000/001/007P/0024
CIRC ACCESSION NO--AP0103741
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DEMONSTRATED THE POSSIBILITY OF OBTAINING ASCITIC FLUID FROM ALBINO RATS BY THE METHOD OF INTRAPERITONEAL INJECTION OF TUMOR CELLS OF OR STRAIN. FOR THE FIRST TIME THERE WERE OBTAINED IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES TO VARIOUS SALMONELLA ANTIGENS. IT WAS SHOWN THAT REGULARITIES OF FORMATION OF ANTIBODIES IN RATS WERE IDENTICAL TO THESE REGULARITIES IN OTHER EXPERIMENTAL ANIMALS (RABBITS, SHEEP). IT IS RECOMMENDED TO USE ALBINO RAT AS A MODEL FOR IMMUNOLOGICAL EXPERIMENTS IN STUDYING SPECIFIC ANTIBODIES TO SALMONELLAE. FACILITY: KONTROL'NYY INSTITUT MEDITSINSKIKH BIOLOGICHESKIKH PREPARATOV IM. TARASEVICHKA.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PREPARATION OF IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES AGAINST
SALMONELLA ON RATS -U-
AUTHOR-(04)-BOGUYAVLENSKAYA, L.B., ALTSHTEYN, A.D., BOCHAROVA, N.G.,
TSETLIN, YE.M.
COUNTRY OF INFO--USSR *A*

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 80-83
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, ANTIBODY, WHITE RAT, IMMUNOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0100 STEP NO--UR/0016/70/000/005/0080/0083

CIRC ACCESSION NO--AP0114496
UNCLASSIFIED

USSR

AL'TSHTEYN, A. D., et al., Leningrad, Voprosy Onkologii, No 1, 1970,
pp 63-69

of the hamster to the oncogenic action of SV40 virus and the ability
of the transformed cells of this species to induce tumors in iso-
or homologous animals.

2/2

Oncology

USSR

UDC 616.988.6.092.4

~~AL'TSHEVNI~~ A. D., TSETLIN, YE. M., DODONOVA, N. N., SARYCHEVA, O. F., LEVENBUK, I. S., and CHIGIRINSKIY, A. YE., State Control Institute of Biomedical Preparations imeni L. A. Tarasevich

"Tumor Formation in Cells Transformed in vitro by SV40 Virus"

Leningrad, Voprosy Onkologii, No 1, 1970, pp 63-69

Abstract: Mouse and rat embryonic cells transformed by SV40 virus did not form tumors in isologous animals, a phenomenon unrelated to the inability of these cells to produce tumors in vivo. Hamster embryonic and kidney cells readily induced continuous malignant growth in vivo. The fibroblast-like embryonic cells gave rise to sarcomas, while the kidney epithelioid cells induced carcinosarcomas and adenocarcinomas. The hamster tumor cells that developed after the inoculation of transformed hamster cells were readily passaged in vivo and vitro, where they retained the structure of the original cells. The immunofluorescence method revealed changes in the distribution of T-antigen after the transformed kidney cells were passaged in hamsters. There is a clear relationship between the sensitivity

1/2

PROCESSING DATE--30OCT70

UNCLASSIFIED

242 020

IRC ACCESSION NO--AP0125455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SERA OF HEALTHY GREEN MONKEYS FROM ANIMAL HOUSES OF THE MOSCOW INSTITUTES WERE TESTED FOR ANTIBODY TO SOME ONCOGENIC AND NON ONCOGENIC ADENOVIRUSES OF MONKEYS IN NEUTRALIZATION TEST, HI TEST AND CFT. NEUTRALIZING ANTIBODY TO HIGHLY ONCOGENIC ADENOVIRUSES SV20 AND SA7(C8) WAS FOUND IN 16PERCENT OF THE MONKEYS, AND FOR ADENOVIRUSES SA7(C626) AND SA7(B105) IN 2-4PERCENT OF THE MONKEYS. ANTIHEMAGGLUTININS FOR SV23(M2) AND SV32(M3) ADENOVIRUSES WERE FOUND IN 26-28PERCENT, AND FOR SV15(M4), SV37 AND SA7(B105) ADENOVIRUSES IN 10, 15 AND 6PERCENT OF MONKEYS, RESPECTIVELY. ONE MONKEY CAN POSSESS ANTIBODIES IN TWO, THREE, LESS FREQUENTLY FOUR ADENOVIRUSES. COMPLEMENT FIXING ANTIBODY FOR ADENO GROUP SPECIFIC ANTIGEN WAS FOUND IN 16PERCENT OF THE MONKEYS. THESE DATA INDICATE WIDESPREAD DISTRIBUTION OF ONCOGENIC AND NONONCOGENIC VIRUSES IN GREEN MONKEYS. FACILITY: GOSUDARSTVENNIY KONTROL'NIY INSTITUT MEDITSINSKIKH BIOLOGICHESKIKH PREPARATOV IMENI L. A. TARASEVICH, MOSKVA.

UNCLASSIFIED

172 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETECTION OF ANTIBODY TO ONCOGENIC VIRUSES AND CERTAIN ADENOVIRUSES
IN GREEN MONKEY SERA -U-

AUTHOR--(05)--OCDONOVA, N.N., OMECHENKO, T.N., VASILYEVA, N.N., TSETLIN,
YE.M., ALTSHEYN, A.D.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP. 308-312

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADINOVIRUS, MONKEY, ANTIBODY, ANTIGEN, HEMAGGLUTININ

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/1844

STEP NO--UR/0402/70/000/003/0308/0312

ARC ACCESSION NO--AP0125455

UNCLASSIFIED

USSR

UDC: 616-006.092.9-097.3

A

EBAKOVA, S.V., DODONOVA, N.N., TSETLEN, YE.M., GORODILOVA, V.V., LAMERAS, A.I., and ALTSHEYN, A.D., Laboratory of Virology, Moscow Scientific Research Institute of Oncology imeni P. A. Herzen and Laboratory of Enterovirus and Adenovirus Preparations, State Control Institute of Medical Biological Preparations imeni L. A. Tarasevich.

"Induction of Specific Antitumor Immunity in Hamsters with Green Monkey Adenovirus SA7(C8)."

Leningrad, Voprosy Onkologii, Vol 16, No 3, 1970, pp 40-46

Abstract: Strain SA7(C8) of green monkey adenovirus, highly oncogenic for hamsters, and its large-plaque and small-plaque variants, can induce specific antitumor immunity in adult hamsters. Large-plaque and small-plaque variants of virus SA7(C8) do not differ in their capacity to induce antitumor immunity. A high dose of virus SA7(C8), more than 10^5 TCID₅₀, is required to induce antitumor immunity. Immunity developed during the first week after inoculation of the virus. Cells of transplanted tumor lines regularly contain specific transplantation antigen. In cells of primary tumors induced by adenovirus SA7(C8), transplantation antigen could be found in only some cases.

1/1

2/2 022 UNCLASSIFIED PROCESSING DATE--3000000
CIRC ACCESSION NO--AP0125097
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HEMAGGLUTININATING ADENOVIRUS ASSOCIATED VIRUS (AAV) WAS RECOVERED FROM A STRAIN OF SIMIAN ADENOVIRUS SV15. ITS MORPHOLOGY AND CAPACITY TO BE ACTIVATED BY DIFFERENT SIMIAN ADENOVIRUSES WAS STUDIED. HIGHLY ONCOGENIC SIMIAN ADENOVIRUS SA7(C8) DID NOT ACTIVATE THE STRAINS OF AAV UNDER STUDY, UNLIKE OTHER SEROTYPES OF SIMIAN ADENOVIRUSES. A METHOD FOR TITRATION OF THE INFECTIOUS ACTIVITY OF AAV WAS DEVELOPED. FORMATION OF AAV HEMAGGLUTININS WAS SHOWN TO BE ONLY PARTIALLY INHIBITED BY 5,1000,DEOXYURIDIN AND ALMOST COMPLETELY INHIBITED BY 5,FLUORO,2,DEOXYURIDINE. PROPERTIES OF HEMAGGLUTININS AND CONDITIONS FOR PERFORMING HA TEST AND HI TEST WITH AAV WERE STUDIED. SOLUBILITY PROPERTIES OF HEMAGGLUTINATION INHIBITORS IN MONKEY SERA. SOME PER CENT OF GREEN MONKEYS IMPORTED TO MOSCOW ANIMAL HOUSES WERE FOUND TO HAVE ANTIBODY FOR THE HEMAGGLUTINATING AAV STRAIN. NO ANTIBODY WAS FOUND IN HUMAN SERA. FACILITY: GOSUDARSTVENNYY NAUCHNOYIY INSTITUT MEDITSINSKIKH. FACILITY: BIOLOGICHESKIY PREPARAT IMENI L. A. TARASEVICH, INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII D. F. GAKALEI, MOSKVA.

UNCLASSIFIED

12 022 UNCLASSIFIED PROCESSING DATE--8000110
TITLE--A HEMAGGLUTINATING ADENO ASSOCIATED SIMIAN VIRUS -U-

AUTHOR--(05)--KRAVCHENKO, A.T., OMELCHENKO, T.N., DODONOVA, N.N.,
KHEIAGIROVA, A.K., ALISHTEYN, A.D.
COUNTRY OF INFO--USSR

SOURCE--VOПРОSY VIRUSOLOGII, 1970, NR 3, PP 301-308

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADENOVIRUS, HEMAGGLUTINATION, ANTIBODY, MONKEY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1469

STEP NO--UR/0402/70/000/000/0501/01

CIRC ACCESSION NO--AP0125097

UNCLASSIFIED

USSR

ZHDANOV, V. M., et al., Voprosy Virusologii, No 4, 1973, pp 411-414

14 animal lines studies also showed the presence of oncornaviruses. The source of these viruses in the human lines remains unclear, but the source may have been bovine serum or porcine trypsin used in the preparation of cell suspension. It is noteworthy that type B viruses were isolated in human cultures of epithelial origin, while type C viruses in human cultures of leukotic or sarcomatous origin.

2/2

Microbiology

USSR

UDC 576.858.6.083.35.07

ZHDANOV, V. M., BYKOVSKIY, A. F., AL'TSHTEYN, A. D., LOZINSKIY, T. F., URYVAYEV, L. V., VOLKOVA, M. L., YERSHOV, F. I., IL'IN, K. V., BERTEMIROV, T. A., IRLIN, I. S., MILLER, G. G., ZAKHAROVA, L. G., PEREKREST, V. V., GERASINA, S. F., and SEVAST'YANOVA, M. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and the Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Moscow

"Detection of Oncornaviruses in Continuous Tissue Cultures"

Moscow, Voprosy Virusologii, No 4, 1973, pp 411-414

Abstract: Studies were conducted on a number of human and animal continuous tissue cultures maintained in medium 199 containing 10% bovine serum to determine oncornaviruses. Formation of oncornaviruses in the tissue cultures were followed by the appearance of viral particles in the culture fluid labeled with H³-uridine, susceptibility of their synthesis to low actinomycin D concentrations, appearance of these particles following inhibition of nuclear material synthesis by bromodeoxyuridine or mitomycin, presence of reverse transcriptase in these particles, presence of 60-70 S RNA in these particles, and electron microscopy. Of the 26 human lines investigated 14 contained type B oncornavirus, and 4 lines type C virus. Eight of the
1/2

USSR

UDC: 537.312.62:621.3.014.1.001.1

SYCHEV, V. V. and AL'TOV, V. A.

"Current Distribution in Combined Superconductors"

Moscow, Izvestiya Akademii nauk SSSR--Energetika i transport, No. 5, 1970, pp 84-91

Abstract: A combined superconductor is here defined as a conductor in which the superconducting element is in the substrate, which is made of a normal metal, usually copper. The model proposed by Stekly in 1965 for explaining the theory of combined superconductors, which are widely used in stable magnetic systems, is discussed in this article. The authors point out a fundamental inaccuracy in the Stekly model which is contained in the latter's initial equation for the leakage current along the superconductor, equal to the critical current of the superconductor for a given equilibrium temperature of the combined conductor. The authors maintain that this leakage current should, in fact, be greater than the critical current, and that Stekly's initial equality should be an inequality. The correction they supply is a function of the ratio of the substrate resistance to the resistance of the superconductive part of the combined conductor. In their analysis, the authors find that the correction is necessary in many practical instances of superconductor design and computations.

1/1

USSR

UDC: [621.315.55:537.312.62]:901.4

SYCHEV, V. V., ZENKEVICH, V. B., ~~AL'TOV, V. A.~~, KULYSOV, V. A., Moscow

"The Controllable Low-Resistance Shunt Method of Studying the Current-Voltage Curves of Combined Superconductors"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 88-96

Abstract: A method is described for determining the current-voltage characteristics of combined superconductors which can be used to study both short specimens (under isothermal conditions or when there is a temperature gradient lengthwise of the specimen), and specimens in the form of solenoids with open or tight windings. The proposed experimental procedure is simple and convenient, and can be used to study the state of thermal equilibrium of combined superconductors over the entire range of operating temperatures. The method has high sensitivity and gives the current-voltage curves of combined superconductors with negative resistance.

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USSR

UDC: [621.318.371:537.312.62]:001.4

SYCHEV, V. V., ZENKEVICH, V. B., ~~AL'TOV, V. A.~~, KULYSOV, N. A., Moscow

"The 'Double' Solenoid Method for Studying Dynamic Processes in a Superconducting Winding"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 81-87

Abstract: A method is worked out for experimental investigation of processes of propagation of the normal zone in a superconducting winding. The proposed method can be used for precision determination of the principal characteristic currents in combination superconductors used in a winding. The experimental installation described completely eliminates interference from the power supply and control equipment. The procedure is relatively simple and can be recommended as a convenient tool for predicting the behavior of a combined conductor in large superconducting windings.

2/2 C22 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0144346
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. SOLID AND HIGH VISCOSITY LIQ.
PETROLEUM RESINS WERE OBTAINED BY POLYMN. OF USING LIQ. PRODUCTS OF LOW
QUALITY FROM FLUIDIZED BED THERMOCATALYTIC PYROLYSIS AND CRACKING. THE
PYROLYSIS PRODUCTS YIELDED HIGHER POLYMERS, HAVING A HIGHER CONTENT OF
UNSATD. HYDROCARBONS, THAN DID THOSE OF CRACKING. FACILITY:
INST. NEFTEKHIM. PROTSESS., BAKU, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--PRODUCTION OF RESINS FROM LIQUID PRODUCTS FROM THE PYROLYSIS AND
THERMOCATALYTIC CRACKING OF MAZUTS -U-
AUTHOR-(03)-ALIYEV, V.S., ALTMAN, N.O., ICFIN, G.A.
COUNTRY OF INFO--USSR — A
SOURCE--NEITEPERERAB. NEITENHA. (MOSCOW) 1970, (6), 37-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--POLYMERIZATION, PETROLEUM PRODUCT, FLUIDIZED BED, PYROLYSIS,
CATALYTIC CRACKING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD7C/005060/003 STEP NO--UR/0313/70/000/006/0037/0038
CIRC ACCESSION NO--AP0144346
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--02JCT70
CIRC ACCESSION NO--AA0109751
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO INCREASE THE PHYSICOMECH.
PROPERTIES OF THE TITLE ALLOY DURING DIE CASTING, IT HAS THE FOLLOWING
COMPN.: SI 6-8, CU 2.5-5.5, CD 0.05-0.4, MG 0.05-0.4, B 0.002-0.1, ZR
0.005-0.25, TI 0.1-0.3, FE SMALLER THAN OR EQUAL TO 0.5PERCENT, AND AL
THE REMAINDER. TO INCREASE THE HIGH TEMP. STRENGTH OF THE ALLOY, IT
ALSO CONTAINED SMALLER THAN 0.5PERCENT NI.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HIGH STRENGTH ALUMINUM BASE CASTING ALLOY -U-

AUTHOR--(05)-STROGANOV, G.B., ALTMAN, M.B., POSTNIKOV, V.S., KHIL'DOV,
YU.I., OSIPOV, I.N.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,893
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--06JAN70

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

TOPIC TAGS--ALUMINUM ALLOY, METAL CASTING, METALLURGIC PATENT, HIGH
STRENGTH ALLOY, DIE CASTING, NICKEL CONTAINING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1790

STEP NO--UR/0482/70/070/000/0000/0000

CIRC ACCESSION NO--AA0109751

UNCLASSIFIED

USSR

UDC 669.715'3'782'73'721'781.018.28:669.018.2(088.8)

STROGANOV, G. B., AL'TMAN, M. B., POSTNIKOV, N. S., KHOLODOV, Yu. I., OSIPOV, I. N., LOKTIONOVA, L. I., and CHERKASOV, V. V.

"High-Strength Aluminum-Base Casting Alloy"

USSR Authors' Certificate No 260893, Cl. 40 b, 21/02, (C22c), filed 10 Apr 68, published 12 May 70 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 1766 P)

Translation: The alloy contains (in %) Si 6-8, Cu 2.5-5.5, Cd 0.05-0.4, Mg 0.05-0.4, B 0.002-0.1, Zr 0.005-0.25, Ti 0.1-0.3, Fe \leq 0.5. The addition of up to 0.5% Ni is recommended in order to raise heat resistance. In the heat-treated state under regime T5 the alloy at room temperature (loam casting) has a breaking point of 36-40 kg/mm², $\sigma_{0.2}$ 30-34 kg/mm², and σ 3-6% given $\sigma_{100}^{300} = 5.5$ kg/mm². The alloy possesses elevated fluidity and impermeability, is highly machinable, is weldable by argon arc welding, and contains no toxic elements. It is recommended for the manufacture of cast parts subject to great stresses.

1/1

USSR

UDC 669.71.018.9

AL'TMAN, M. B., BOSOV, A. M., and ZHUKOV, V. D.

"On the Relationship of Hydrogen With Oxides in Aluminum Alloys"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Technology of Light Alloys. Scientific and Technical Bulletin of All-Union Institute of Light Alloys), 1970, No 3, pp 12-15 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 G237 by G. SVOYTSEVA)

Translation: In order to ascertain the relationship between hydrogen and oxides, experiments were conducted relating to the saturation of AMg6 alloy with tritium from water vapor. After vacuum evaporation of a melt oxides are so distributed that the lower layers of the melt are enriched therewith to a greater degree and the upper layers to a lesser degree, while the center portion contains the least quantity thereof. Hydrogen can segregate not only in the upper but also in the lower layers. The amount of hydrogen in AMg6 alloy in the dissolved state is 20-30% of total hydrogen content. The remainder of the hydrogen occurs in the melt in the form of a gaseous "emulsion" consisting of conglomerates of oxides and a bubble with a radius $\approx 3.1 \cdot 10^{-3}$ cm. Bibliography of four titles.

1/1

USSR

UDC: 669.715

Al'tman, M. B., Metallurgiya litynykh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

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USSR

UBC: 669.715

Al'tman, M. B., Metallurgiya liteynikh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

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USSR

UDC: 669.715

Al'tman, M. B., Metallurgiya liteynikh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

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USSR

UDC: 669.715

Al'tman, M. B., Metallurgiya liteynikh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

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USSR

UDC: 669.715

Al'tman, M. B., Metallurgiya litynykh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

fine-grained structure in castings, is one means for improving the ductility of cast materials.

Since the dimensions of crystals in a casting are influenced by the difference between the values of free energy of the system in the solid and liquid states, among other factors, the process of modification is studied from the standpoint of regulation of the thermodynamic status of the system upon transition from the liquid to the solid state. The production of a fine-grain structure also depends on the nature of the interaction between component parts of the alloys and modifiers. The basic statements concerning melting call for a given order and sequence of introduction of portions of the charge to the furnace during melting, in order to assure the production of the required chemical composition of the alloy with the least loss of metal.

The author will be grateful for comments and corrections, which should be sent to the publishing house.

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Foreword

I. Furnaces for Melting Aluminum Alloys (Comparative Evaluation)

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USSR

UDC: 669.715

Al'tman, M. B., Metallurgiya liteynikh alyuminiyevykh splavov, Moscow, Metallurgiya Press, 1972, 152 pp.

treatment has a great influence on the quality of melts and, consequently, of castings.

This book discusses the metallurgy of aluminum casting alloys. It presents brief descriptions of melting furnaces, demonstrates the mechanism of interaction of aluminum alloys with the surrounding medium, presents a classification of methods of refining of alloys to remove nonmetallic inclusions, based on the concepts of formation of electrostatic complexes of hydrogen and particles of aluminum oxide, discusses methods of refining and the results of their comparative investigation. One section of the book is dedicated to fluxes. Here we find materials on the physical and chemical properties of salt systems, development of fluxes and their significance in the metallurgy of aluminum alloys.

Considerable attention is given to methods of modification and certain basic statements concerning melting of aluminum casting alloys.

The problem of modification is becoming increasingly significant as the transition is made to casting high-strength heterogeneous alloys, due to the low ductility of these alloys. We know that modification, producing a

Aluminum and Its Alloys

USSR

UDC: 669.715

AL'TMAN, M. B.

"The Metallurgy of Aluminum Casting Alloys"

Metallurgiya liteynikh alyuminiyevykh splavov [English version above], Moscow, Metallurgiya Press, 1972, 152 pp.

Translation of Foreword: Reduction of the labor consumption and cost of manufacture of metal parts and structural units is an important task. This problem can be solved to a significant extent by broad application of cast parts in place of parts of deformed intermediate products.

As we know, the strength of cast parts, including those made of aluminum alloys, depends essentially on the method of melting and treatment of the melt. Metals and alloys often come in contact with air, furnace atmosphere gasses, furnace linings and mold walls during the process of melting and casting. This results in the formation of nonmetallic inclusions which reduce the properties of the castings. The structure of the castings, their graininess, is also very significant.

Therefore, in order to give them the necessary properties, aluminum alloys are specially treated (refined, modified, etc.) before casting. This

1/7

USSR

ANSTETSKII, M. Ye., et al., *Izvestiya Akademii Nauk SSSR Metallurgiya*, 1971, No. 7, pp 70-01

The development of cavitation in the molten metal is the determinant in the crystallization mechanism of magnesium alloy ingots under the effect of ultrasonic sound.

USSR

ANSYUTINA, N. I., BOKOROVA, A. I., GUMISOV, V. G., CHUKUROV, Y. V., and AL'TMAN, N. S., Moscow

"The Effect of Ultrasonic Treatment on the Structure and Properties of a Magnesium Alloy"

Moscow, Izvestiya Akademii Nauk SSSR, Metallurgy, No. 4, 1974, pp. 11-14.

Abstract: Results are presented of an investigation of the effect of ultrasonic treatment on the crystallization process of a flat ingot (300 x 100 x 10 mm) of the MA2-1 alloy of the Mg-Al-Zn-Mn system. The method of introducing ultrasonic vibrations into the hole of the ingot is described and the microstructure of ingots cast with and without ultrasonic treatment is shown. Ultrasonic treatment of the MA2-1 alloy ingot during crystallization under continuous casting conditions makes it possible to combine the effect of increasing the Al-content by a factor of 2, and to improve the mechanical properties by 10-20%. To make the ultrasonic treatment of ingots effective, it is necessary to locate the emitter at 1/3 the depth of the hole and to vary the relation of the sound emission surface to the molten metal surface as 1/2

USSR

UDC 669.721.5'5'296:620.193.4

TIMONOVA, M. A., ~~AL'TMAN, M. B.~~, TIKHONOVA, V. V., GERASIMOVA, M. N., TOKMAKOVA, G. S.,
LASHKO, N. F., MOROZOVA G. I.

"Effect of the Composition and Structure of Alloys of the Mg-Zn-Zr System on
their Corrosion and Electrochemical Behavior"

V sb Struktura i svoystva legk. splavov (Structure and Properties of Light Alloys
-- collection of works), Moscow, Nauka Press, 1971, pp 136-140 (from Rzh-Metallur-
giya, No 4, Apr 72, Abstract 41700)

Translation: A study was made of the effect of Zn on the structure and corrosion
behavior of alloys of the Mg-Zn system and the Mg-Zn-Zr system with a Zn content
of up to 20%; the effect of heat treatment leading to a change in the phase
composition and in the quantity and shape of the segregations of intermetallide
compounds on the corrosion strength of the alloys of the Mg-Zn-Zr system was
also studied. The variation of corrosion resistance of the alloys is explained
by the formation of cathode phases with different electrochemical properties
and variation of their number and form of segregation. The increase in corro-
sion resistance with the introduction of Zr into the alloys of the Mg-Zn system
is primarily connected with a decrease in the Fe admixture in the alloys. Six
illustrations, one table, and a 6-entry bibliography.

1/1

USSR

UDC: 621.396.6-181.5

AL'TMAN, L. Y.

"On the Content of a Course in the Physical Principles of Microelectronics"

Tr. uchebn. in-tov svyazi. M-vo svyazi SFSR (Works of Educational Institutes of Communications, Ministry of Communications of the USSR), 1970, vpp. 50, pp 103-107 (from ELh-Radiotekhnika, No 2, Feb 71, Abstract No TV300)

Translation: The author analyzes the drawbacks in the standard program of the course "Physical Principles of Microelectronics" established for institutions of higher education in 1966. It is shown that it is inadequately matched to related courses. Necessary changes for a number of sections are discussed (in particular in the section devoted to the fundamentals of solid state physics) and consideration is given to the advisability of including certain new sections. K. S.

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0129207

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORETICAL METHOD IS SUGGESTED FOR COMPUTING SEA CURRENTS AND WATER EXCHANGE BETWEEN THE BLACK AND AZOV SEAS THROUGH THE KERCH STRAIT. THE METHOD ENABLES ONE TO TAKE INTO CONSIDERATION WIND STRESS AT THE WATER SURFACE. BASED ON THE ASSUMPTION OF THE VERTICAL HOMOGENEITY OF FLUID AND SMALL VALUES OF THE LINEAR TERMS IN THE EQUATION OF MOTION, AN EXPRESSION WAS OBTAINED FOR THE AVERAGE CURRENT VELOCITY AND LEVEL RISE ABOVE UNDISTURBED SURFACE AT ANY POINT OF THE STRAIT. OF THE MOTIVE FORCES, ACCOUNT WAS TAKEN OF THE LONGITUDINAL PRESSURE GRADIENT CAUSED BY THE SEA LEVEL DIFFERENCE, TANGENTIAL WIND STRESS AT THE WATER SURFACE AND HORIZONTAL MOMENTUM EXCHANGE. A SCHEME IS PRESENTED ILLUSTRATING THE COMPUTATION OF CURRENT, SLOPES, VELOCITY AND DISCHARGE. A NOMOGRAM IS SUGGESTED FOR COMPUTING CURRENTS AND WATER EXCHANGE FROM SEA LEVEL DIFFERENCES AT THE ENDS OF THE STRAIT, AVERAGE WIND ABOVE THE STRAIT AND THE GENERAL SEA LEVEL BACKGROUND IN THE BASIN. FACILITY: BASSEYNOVAYA GIDROMETEOROLOGICHESKAYA OBSERVATORIYA CHERNOGO I AZOVSKOGO MOREY SEVASTOPOL.

UNCLASSIFIED

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900009-6

1/2 012 UNCLASSIFIED PROCESSING DATE--2300170
TITLE--A METHOD FOR COMPUTING CURRENTS AND WATER EXCHANGE IN THE KERCH
STRAIT -U-
AUTHOR-(02)-ALTMAN, E.N., TOLMAZIN, D.M.
COUNTRY OF INFO--USSR, BLACK SEA
SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 3, PP 438-447
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--OCEAN CURRENT, WATER, WIND, WIND WAVE INTERACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1845 STEP NO--0070213/007010/003/0438/0447
CIRC ACCESSION NO--AP0129207
UNCLASSIFIED

• USSR

AL'TMAN, E. N., Sb. Rabot. Lab. Yuzhn. Morey Gos. Okeanogr. In-ta, 1972, No 11, pp 3-47.

by months and years for a multiannual period. It is established that regulation of the drainage of rivers of the basin has had little influence on water exchange through Kerchenskiy Strait. Means are noted for evaluating changes occurring in water exchange. It is demonstrated that with an irreversible annual extraction of 13 km^3 of water from the runoff of the rivers of the basin, the salinity of the Azov Sea will increase to 14.6‰ . Preliminary calculations of flows and water exchange are performed for a dammed strait. 48 biblio. refs.

USSR

AL'TMAN, E. N.

"Studies of Water Exchange Between the Black and Azov Seas"

Sb. Rabot. Lab. Yuzhn. Morey Gos. Okeanogr. In-ta [Collected Works of South Seas Laboratories of State Oceanographic Institute], 1972, No 11, pp 3-47 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5B503, by the author).

Translation: A critical analysis is presented of existing methods of calculation of water exchange and of the state of study of the dynamics of water in the Kerchenskiy Strait. A theoretical method is developed for calculation of flows and water exchange between the Black Sea and Azov Sea through Kerchenskiy Strait. Based on the assumption of homogeneity of liquid in the vertical direction and small linear terms in the equations of motion, an expression is produced for the mean flow velocity and excess of water level over the unperturbed surface at any point in the strait. The moving forces considered include the longitudinal pressure gradient, caused by the difference in level, the tangential wind stress on the surface and the horizontal exchange of momentum. The method developed is used to calculate water exchange components.

1/2

2/2 009

UNCLASSIFIED

PROCESSING DATE--13 NOV 70

CIRC ACCESSION NO--AP0124437

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HANLE EFFECT WAS UTILIZED TO DET. THE TITLE LIFETIMES. THE LIFETIMES OF THE CS 7 PRIME2 P SUBONE HALF AND PRIME87 R3 6 PRIME2 P SUBONE HALF, 5 PRIME2 P SUBONE HALF, AND 6 PRIME2 P SUB THREE HALVLS LEVELS ARE 155 PLUS OR MINUS 5, 131 PLUS OR MINUS 5, 28.5 PLUS OR MINUS 1.1, AND 109 PLUS OR MINUS 7 NSEC, RESP., AND CALCD. FROM THE HANLE SIGNAL HALF WIDTHS DELTAH EQUALS 8.8 PLUS OR MINUS 0.1, 5.2 PLUS 0.1, 24 PLUS 1, AND 1.6 PLUS OR MINUS 0.1 DE., RESP. THE 2 LATTER LIFETIMES WERE COMPARED DIRECTLY WITH LITERATURE DATA, THE 2 FORMER VALUES WERE COMPARED WITH THE SUMS OF THE TRANSITION PROBABILITIES 7 PRIME2 P SUBONE HALF YIELDS 6 PRIME2 S SUBONE HALF, 7 PRIME2 S SUBONE HALF, 5 PRIME2 D SUBTHREE HALVLS, AND 6 PRIME2 P SUBONE HALF YIELDS 5 PRIME2 SUBONE HALF, 4 PRIME2 D SUBTHREE HALVLS, 6 PRIME2 S SUBONE HALF, RESP.; GOOD AGREEMENT WAS OBTAINED.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DETERMINATION OF THE LIFETIMES OF PRIME2 P SUBORBITAL LEVELS OF
CESIUM AND RUBIDIUM ACCORDING TO CROSSINGS IN A ZERO MAGNETIC FIELD -U-
AUTHOR--(02)-ALTMAN, E.L., KAZANTSEV, S.A.

COUNTRY OF INFO--USSR

SOURCE--(USSR). OPT. SPEKTROSK. 1970, 28(4), 805-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--CESIUM ISOTOPE, RUBIDIUM ISOTOPE, NUCLEAR ENERGY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/0767

STEP NO--UR/0051/70/028/001/0005/0005

CIRC ACCESSION NO--AP0124437

UNCLASSIFIED

USSR

UDC: 621.396.69.002.2

AL'TMAN, D. I., GLADSHTEYN, G. M., ROTSEMAR, D. B.

"A Device for Sorting Radio Components"

USSR Author's Certificate No 279116, filed 14 Apr 69, published 23 Nov 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No GV456 P)

Translation: This Author's Certificate introduces a device for sorting radio components with respect to their temperature dependent parameters. The device contains a vibration hopper, an accumulation mechanism, a measurement circuit and thermostat with automatic temperature control made in the form of alternating stationary and movable plates with heaters and contacts. As a distinguishing feature of the patent, reliability is improved by making the measurement contacts of the thermostat on a spring-loaded sector located on a stationary plate coaxially with the other plates, which interact through a crown wheel with a pinion which is fitted with a shoe and engages with one of the stationary plates of the thermostat.

1/1

2/2 044

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0107136

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE ANTIFRICTIONAL PROPERTIES OF A SYSTEM AG-MOS₂ WITH A DIFFERENT CRYSTALLOGRAPHIC ORIENTATION OF THE MOS₂ WITH RESPECT TO THE FRICTION SURFACE. IT IS FOUND THAT THIS COMPOSITE MATERIAL EXHIBITS AN ANISOTROPY OF ITS MECHANICAL AND ANTIFRICTIONAL PROPERTIES. IT IS SUGGESTED THAT IN THE FABRICATION OF ANTIFRICTION PARTS MADE OF THIS COMPOSITE, AN ATTENTION MUST BE GIVEN TO THE SELECTION OF THE MOST SUITABLE ORIENTATION OF THE SOLID LUBRICANT.

UNCLASSIFIED

1/2 044 UNCLASSIFIED PROCESSING DATE--13SEP70
TITLE--ANISTROPY OF THE ANTIFRICTION CERMENT MATERIALS WITH A SOLID
LUBRICANT -U-
AUTHOR-(05)-ABRAMOVA, L.S., ALTMAN, A.B., VAYNSHTEYN, V.E., GLUSKIN,
YA.A., MEMFLOV, V.L. A
COUNTRY OF INFO--USSR
SOURCE--POROSHKOVAIA METALLURGIIA, VOL. 10, FEB. 1970, P 85-89
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SOLID LUBRICANT, ANISOTROPY, CERMET, COMPOSITE MATERIAL,
SILVER, MOLYBDENUM DISULFIDE, ANTIFRICTION MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0589 STEP NO--UR/0226/70/010/000/0085/0009
CIRC ACCESSION NO--AP0107186
UNCLASSIFIED

USSR

UDC 621.762:669.018.24(085.8)

AL'TMAN, A. B., GLUSHKIN, Ya. A., GRIB, V. V., ZALMANOV, Yu. S., MEMELOV,
V. L.

"Metal Ceramic Antifriction Material"

USSR Author's Certificate No 316738, filed 2/04/70, published 14/12/71,
(Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract
No 5 G497 P).

Translation: A material based on Co is suggested, containing a solid lubri-
cant. In order to increase the mechanical and antifriction properties in
the dry friction mode, Ag is introduced with the following ratio of components
(in %): Ag 5-20, solid lubricant 5-15, Co -- remainder.

Heat Treatment

USSR

UDC 669.15'24-194:669.018.58

AL'TGAUZEN, O. N., LYUBETSKAYA, O. V., BIRMAN, S. R., and ZAYTSEVA, G. A., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin /TsNII~~CHE~~RMET/

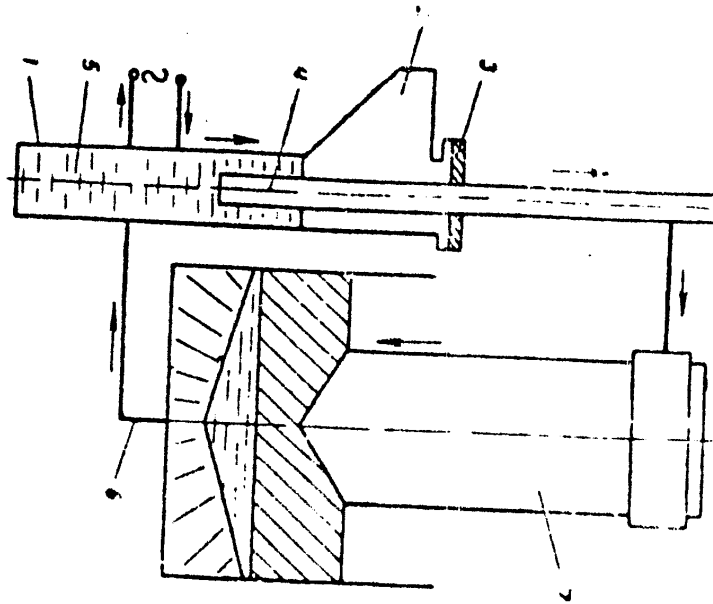
"Magnetic Properties of Iron-Nickel Alloys"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 4, 1972, pp 68-70

Abstract: A study has been made of the effect of final heat treating on both the structure and magnetic properties of 0.02-, 0.1-, and 0.2-mm thick strip of 79NM, 50N, and 50NP magnetically soft alloys operated in constant or variable fields at 50 to 9600 cps. The properties of these alloys in a constant magnetizing field are shown to be very sensitive to annealing temperatures within 900-1100°C and to cooling rates below 600°C from 0.4 to 17 deg/min. As the frequency is increased to 9600 cps, the sensitivity of the alloys to heat treating decreases. A decrease in annealing temperature may reduce the frequency dependence of the maximum permeability of the strip. In a variable magnetizing field, an increase in frequency makes the maximum permeability and specific losses of the strip less sensitive to changes in cooling rates from 2 to 17 deg/min.

1/1

AA0047003



4/2

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19790427

AA0047003-

A

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

2/70

242212 FEED CABLE FOR AN ELECTRIC FURNACE has a contact which makes it more reliable and eliminates production of inferior melts in the event of furnace breakdown. The contact consists of a fixed tube 1 with a hopper 2 and a cover 3; a piston 4, conducting melt 5, conductors 6 and an electrode 7. The current from the transformer flows through the melt and piston to the electrode. During melting the electrode moves down and conducting melt 5 collects in the hopper 2.

29.12.67 as 1208125/22-2 A. P. ALTGAUZEN (17.9.69)
Bul. 15/25.4.69. Class 18b, Int. Cl. C 21c.

1/2

13

19790426

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136289
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(ETHYLENE OXIDE) IS PREPD. BY
POLYMN. OF ETHYLENE OXIDE IN A CATALYST SYSTEM CONSISTING OF AN
ORGANOALUMINUM COMPOUND., A CHELATING AGENT, AND H SUB2O. TO INCREASE
THE MOL. WT. OF THE POLYMER FORMED, DIETHYLENE DIOXIDE OR ITS DERIVS.
ARE USED AS COCATALYSTS. FACILITY: NOVOSIBIRSKIY FILIAL
NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA POLIMERIZATSIONNYKH PLASTMASS.

UNCLASSIFIED

1/2 025
TITLE--POLY, ETHYLENE OXIDE -U-

UNCLASSIFIED

PROCESSING DATE--04DEC70

AUTHOR--(05)-CHERKANOV, S.P., TARNORUTSKIY, M.M., GREBENSHCHIKOVA, V.A.,
ALTERGOT, E.V., KOLOSOVA, N.B.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,691
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZY, TOVARNYE ZNAKI, 1970 47(9).
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMER, ETHYLENE OXIDE, CHEMICAL PATENT, CATALYTIC
POLYMERIZATION, ORGANALUMINUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0855

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136289

UNCLASSIFIED

AA0052570

Al'ter-Pesotskiy, F. L.; Fuks, Yu. G.

Tsentral'nyy Nauchno--Issledovatel'skiy Institut Lubyanykh Volokon

19821257

4/2

F.L. ALTER-PESOTSKII
AA0052570 UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

243566 COATING TEXTILES with a film which imparts waterproofness, flame resistance and other properties while retaining satisfactory air permeability. The fabric is initially metallised so that the protective coating can be applied in an electrostatic field without raising the nap; it also makes the fabric repellent to radioactive and heat rays. After coating, the fabric is dried on cylinders with suction units on the back of the fabric. This ensures good coating adhesion and removes the film from the interstices between the threads to allow good air permeability. 4.9.67. as 1181781/28-12. F.L.AL'TER-PESOTSKII. Iu.G.FUKS. Bast Fibres Res. Inst. (29.9.69.) Bul.17/14.5.69. Class 8a. Int.Cl. B05c.

1/2

19821256

2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0128547
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE RATIO OF FABRIC
LEVEL RATE (V SUBR) TO THE COATING ROLLER SURFACE TRAVEL (IN THE SAME
DIRECTION) RATE (V SUBR) ON THE AMT. (Q) OF PARAFFIN DEPOSITED TO TENT
FABRIC WAS DETD. THE OPTIMUM ANGLE (PHI) SUBTENDED BY THE CLOTH
CONTACTING AND LEAVING THE ROLLER WAS SIMILAR TO 15DEGREES, THE DEPTH
(H) OF THE ROLLER IMMERSION IN PARAFFIN, KEPT AT 80-95DEGREES, WAS 40-5
MM, THE CLOTH TEMP. 110-15DEGREES, AND THE ROLLER TEMP. 114-17DEGREES.
Q INCREASED WITH INCREASING V SUBF-V SUBR, AND COULD BE REGULATED BY
CHANGING BOTH H AND PHI.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IMPROVEMENT IN THE WAXING OF CANVAS TENT FABRICS -U-

AUTHOR-(05)-~~ALTERPESOTSKIY~~, F.L., ARTEMOVA, L.A., INVAHOVA, V.E., PUZYREV,
M.F., SIDROVA, Z.A.
COUNTRY OF INFO--USSR

SOURCE--TEKST. PROM. (MOSCOW) 1970, 30(2), 53-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MILITARY SCIENCES

TOPIC TAGS--CANVAS EQUIPMENT, TENT, WAX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1120

STEP NO--UR/0342/70/030/002/0053/0054

CIRC ACCESSION NO--AP0128547

UNCLASSIFIED

USSR

UDC: 621.373.531.1(088.8)

AL'TER, A. M., GOL'TS, M. Ye., GUDZENKO, A. B., OSTREROV, V. M., Ukrainian
Scientific Research Institute of Machine Tools and Cutting Tools

"A Transistorized Pulse Generator"

USSR Author's Certificate No 269987, filed 22 Jul 68, published 4 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G231 P)

Translation: This Author's Certificate introduces a transistorized pulse generator which contains a multivibrator and an additional transistor of opposite conductivity type connected in a common base circuit. To simplify the device, a time-mark capacitor is connected to the collector of the additional transistor and to the emitter of one of the multivibrator transistors. This time-mark capacitor is simultaneously connected through a resistor, two capacitors and a second resistor to the collector of the other multivibrator transistor.

1/1

USSR

UDC 621.383.51/52

ALTAYSKIY, YU.M., KALABUKHOV, N.P., KISELEV, V.S.

"Investigation Of The Local Characteristics Of The Photoelectric Effect In β -SiC"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron (Bulletin Of Kiev Polytechnical Institute. Radioelectronics Series), 1970, No 7, pp 123-26 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B254)

Translation: A description is presented of the equipment and the results of an investigation of the local (probe) characteristics of the photoelectric effect in monocrystals of β -SiC. It is shown that the light probe method can be used for detection of inhomogeneities of specimens and determination of the area and configuration of p-n junctions. The results of the investigation show that the platy crystals of β -SiC, which are obtained by decomposition of methychlorosilan in hydrogen, in the majority of cases have a high degree of structural uniformity. Determination of the area of a p-n junction by the method described is found in good agreement with microscopic measurements and computations. 3 ill. 8 ref. N.S.

1/1

USSR

UDC 621.382:522.617.3

ALTAYSKIY, YU.M., KALABUKOV, N.P.

"Some Systems For Optical Investigation Of Solid Bodies At Low Temperatures"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron. (Bulletin Of Kiev Polytechnical Institute. Radioelectronics Series), 1970, No 7, pp 127-128 (from RZh--Elektronika i yeye primeneniye No 2, February 1971, Abstract No 2A239)

Translation: The two cryostats described are intended for operation in the temperature range 77--800° K with the object of studying photoelectric phenomena, and optical measurements of the parameters of solid bodies. N.S.

1/1

Acc. Nr. **AP0049964** Abstracting Service:
 CHEMICAL ABST. 5/70

Ref. Code

UR 0051

105519r Intermolecular interactions and spectra of molecules in multicomponent solutions. II. Spectroscopic method for studying the composition of solvate shells of molecules. Bakhshiev, N. G.; Volkov, V. P.; Altalskaya, A. V. (USSR). *Opt. Spektrosk.* 1970, 28(1), 51-7 (Russ.). Quant. study of the compn. of solvate shells was carried out in the following systems: polar org. compd. (3-aminophthalimide, 4-amino-*N*-methylphthalimide)-nonpolar solvent (*n*-hexane; or *n*-heptane)-polar solvent (BuOH). The concn. of both solvents varied in the range 0-100%. Shifts in the absorption bands and fluorescence lines corresponding to electronic transitions are characteristic for the solvate effects and were, therefore, studied. Competition occurring between the polar and nonpolar solvent mols. to enter the 1st coordination sphere gives rise to local isolated areas of mol. structures different from the structure of the whole system. One solvent is expelled from the solvate by the other only if the newly formed structure is energetically more favorable. The theoretical considerations led to the derivation of a math. treatment that could use spectral data for the estn. of some phys. properties of the solvate shell (local dielec. const., compn.). H. Parizkova

1/1

REEL/FRAME
 19801902

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2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119747

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACETYLATION OF ((R)C SUB6 H SUB4) SUB2 Z (I) WITH ACCL,ALCL SUB3 RESULTED IN DEALKYLATION OF THE STARTING MATERIAL AND ENTRY OF THE AC GROUP IN THE POSITION ORTHO TO THE HD. ALKYLATION OF I WITH ALKYL HALIDES GAVE DIALKOXY COMPS. AS WELL AS HYDROXY,ALKOXY ANALGS. THE CONCLUSIONS WERE MADE FROM AN NMR STUDY OF THE PRODUCTS OF SUCH REACTIONS IN WHICH Z EQUALS CH SUB2 CH SUB2 OR CME SUB2, WHILE R WAS H, ME, ET, OR PR. NMR SPECTRAL CURVES FOR SUCH PRODUCTS AS ME SUB2 C(C SUB6 H SUB3 AC(OH),3,4)(C SUB6 H SUB3 AC(OME),3,4) AND ME SUB2 C(C SUB6 H SUB3 AC(OME),3,4) SUB2 WERE SHOWN. FACILITY: INST. KHIM. KINET. GORENIVA, NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STRUCTURE OF PRODUCTS OF P,P PRIME, DIALKOXYDIPHENYLALKANE
ACETYLATION -U-
AUTHOR-(04)-ZANINA, A.S., ALT, L.YA., SHERGINA, S.I., KOTLVAREVSKIY, I.L.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 459-61
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NMR SPECTRUM, MOLECULAR STRUCTURE, ALKOXIDE, BENZENE
DERIVATIVE, CCYCLOALKANE HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0843 STEP NO--UR/0062/70/000/002/0459/0461

CIRC ACCESSION NO--AP0119747
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

CIRC ACCESSION NO--AP0112540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DECOMPN. OF RC SUB6 H SUB4 N: NBF SUB4 (I) (R IS H, OME, NET SUB2) IN THE RESONATOR OF AN EPR SPECTROMETER GAVE SPECTRA OF LOWER INTENSITY THAN THE DECOMPN. OF I (R EQUALS NO SUB2). THE DECOMPN. OF I (R IS H, OME, OR NET SUB2) GAVE QUANT. THE CORRESPONDING ARYL FLUORIDES. THE DECOMPN. OF I (R EQUALS NO SUB2) GAVE ONLY SIMILAR TO 50PERCENT O SUB2 NC SUB6 H SUB4 F. THE ABOVE INDICATES THAT EPR SPECTRA ARE DUE TO SIDE REACTIONS AND THAT THE MAIN SIEFMANN REACTION IS NOT HOMOLYTIC.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--02 OCT 70
TITLE--MECHANISM OF THE SCHIEMANN REACTION -U-

AUTHOR--(02)--ELSING, I.K., ELDYREV, A.G.

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AL'SHITS, V. I., and INDENBOM, V. L.

"Dynamic Energy Losses by Moving Dislocations and Internal Friction"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials"), Moscow, Izd-vo "Nauka", 1970, pp 37-41

Abstract: Mechanisms of viscous retardation of uniformly moving high-speed dislocations are analyzed. The dislocation retardation resulting from elastic wave radiation with nonuniform motion along the Payerls potential relief is evaluated.

A calculation of the dislocation retardation coefficient, which is in good agreement with experimental data, is presented. 1 table, 1 figure, 18 references.

1/1

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ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS SHOW THE POSSIBLE STRUCTURAL USE OF THE ELASTIC PROPERTIES OF PLASTICS FOR IMPROVING THE WORKING CONDITIONS OF A BEARING ASSEMBLY UNDER THE EFFECT OF POWER AND TEMPERATURE FACTORS AND FOR IMPROVING THE CONDITIONS OF BEARING LUBRICATION. ORIGINAL ARTICLE HAS FIVE ILLUSTRATIONS AND SIX BIBLIOGRAPHIC ENTRIES.

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