1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LOW TEMPERATURE PHOTOLUMINESCENCE OF SINGLE CRYSTALS OF THE 6,H MODIFICATION OF ALPHA SILICON CARBIDE -U-

AUTHOR-(02)-LISITSA, M.P., ROMANENKO, V.F.

COUNTRY OF INFO--USSR

SOURCE--VISN. AKAD. NAUK UKR. RSR 1970, (2), 65-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOLUMINESCENCE, SILICON CARBIDE, SINGLE CRYSTAL PROPERTY, LOW TEMPERATURE PROPERTY, CRYSTAL IMPURITY, NITROGEN, ALUMINUM, LUMINESCENCE SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1159 STEP NO--UR/0655/70/000/002/0065/0069

CIRC ACCESSION NO--AP0124814

UNCLASSIFIED

2/2 033 UNCLASSIFIED

CIRC ACCESSION NO--AP0124814 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRYSTALS OF HEXAGONAL ALPHA SIC OF THE N TYPE DOPED WITH N (N SUBD EQUALS 5 TIMES 10 PRIME16 MINUS 5 TIMES 10 PRIME18 CM PRIME NEGATIVE3) AND OF THE P,TYPE DOPED WITH AL (N SUBA EQUALS 5 TIMES 10 PRIME17 MINUS 4 TIMES 10 PRIME18) WERE STUDIED AT LOW TEMPS. IN THE PHOTOLUMINESCENCE AND AFTERGLOW (OBSD. AFTER 10 PRIME NEGATIVE3 SEC) SPECTRA OF THE P,CRYSTALS, AND THE MAX. USUALLY OBSD. AT 2.78, 2.73, 2.67, 2.63, 2.56, 2.52, AND 2.40 EV SHIFTED TOWARD LOWER VALUES AND DECREASED IN INTENSITY AND THOSE AT 2.78, 2.67, AND 2.56 EV DISAPPEARED WITH LOWERED INTENSITY OF THE EXCITING LIGHT, OR ENHANCED TEMP. GREATER THAN 400EGREESK. MECHANISMS FOR THE SPECTRAL BEHAVIOR ARE DISCUSSED.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LOW TEMPERATURE PHOTOLUMINESCENCE OF ALPHA SIC,6H,SINGLE CRYSTALS -U-

AUTHOR-(05)-LISITSA, M.P., KRASNOV, YU.S., ROMANENKO, V.F., REIFMAN, M.B., SERGEYEV, O.T.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(3), 492-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOLUMINESCENCE, LUMINESCENCE, SILICON, SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0921 STEP NO--UR/0051/70/028/003/0491/0497

CIRC ACCESSION NO--AP0121523

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710002-5"

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121523

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOW TEMP. (200EGREESK) PHOTOLUMINESCENCE OF THE ALPHA SIC (6H) SINGLE CRYSTALS ALLOYED WITH N AND AL IS CHARACTERIZED BY THE PRESENCE OF TWO SERIES OF EMISSION BANDS CORRESPONDING TO THE RECOMBINATION IN THE DONOR ACCEPTOR PAIR. THE NEUTRAL N ATOM DOES NOT ACT AS THE CENTER OF THE RADIATIVE RECOMBINATION IN SUCH CRYSTALS.

UNCLASSIFIED

USSR UDC: 621.374.5(088.8)

MADYAR, P. M., ROMANENKO, V. I., IVANOV, V. P.

"A Rectangular Pulse Shaper"

USSR Author's Certificate No 272361, filed 23 Feb 68, published 9 Sep 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G325 P)

Translation: This Author's Certificate introduces a square pulse shaper based on thyristors. One of these is the main thyristor which is connected in series with the load. The other is a quenching thyristor with a shaping line connected to its anode. To extend the range of the output prf and increase efficiency, the cathode of the main thyristor is connected through a semiconductor diode to a matching resistor and to the cathode of the quenching thyristor whose anode is connected to an auxiliary power supply through a choke and a third thyristor.

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ROMANENKO, V.N.

JPRS 59208
6 Jun 73

III-4. THERMAL AND DIFFUSION SUPERCOOLING OF A MELT AND ITS RELATION TO THE GROWTH PROCESSES

[Article by G. V. Nikitina, K. V. Ostenina, V. N. Romanenko, V. Ya. Khayfets, Leningrad] Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Polupro[vodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 28]

Directional crystallization is accompanied by the occurrence of a temperature gradient and a concentration gradient in front of the growth front. The magnitude of both gradients is connected with the growth rate of the crystal and the magnitude of the external temperature gradient in the device. At high concentrations of the admixture, the exceeding of a critical value of the growth rate leads to the occurrence of diffusion or concentration supercooling of the melt in the crystal. In the solid phase concentration inhomogeneities are observed in this case. It was demonstrated previously [1] that the value of f_k essentially depends on the concentration. Experimental data are presented on the growth of the crystals of the bismuth-antimony system confirming these calculations. However, for low concentrations of the admixture, the usual theory of diffusion supercooling gives an increase in the value of the critical growth rate. In this paper it was demonstrated that in this case it is necessary to consider two new factors: diffusion supercooling which occurs on crystallization of complex compounds as a result of deviation of the composition from stoichiometry (in this case the excess component plays the role of the admixture) and the occurrence of thermal supercooling of the melt. It occurs as a result of the fact that at increased growth rates, the amount of heat which must be removed does not have time to be removed from the melt increases sharply. On occurrence of this effect, structural defects appear in the growing solid phase. The theoretical principles of this effect are developed. They permit calculation of the magnitude of the critical growth rate for the effect of thermal supercooling. A comparison was made with the experiment. It confirmed the correctness of the calculations.

BIBLIOGRAPHY

1. G. V. Nikitina, V. N. Romanenko, TOTHT [Expansion Unknown], Vol 4, No 6, 1970, 1970.

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DATA TO THE STUDY OF DUHRING'HERPETIFORM DERMATITIS -U-

AUTHOR--ROMANENKO, V.N.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 111-114

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DERMATITIS, CHEMOTHERAPY, CORTICOSTEROID, SYNDROME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0516 STEP NO--UR/0497/70/048/003/0111/0114

CIRC ACCESSION NO--AP0131139

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0131139
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER STUDY WERE 174 PATIENTS SUFFERING FROM DUHRING'S HERPETIFORM DERMATITIS. MORE COMMONLY AFFECTED WERE MALES (59.7PERCENT) PREVALENTLY UNDER THE AGES OF 40 YEARS (70.1PERCENT). IN 24.1PERCENT OF PATIENTS THERE WERE PATHOLOGICAL CHANGES IN THE GASTROINTESTINAL TRACT, HELMINTHIC INVASION, RHEUMATISM, ET. ERUPTION WAS USUALLY POLYMORPHOUS (60.3PERCENT), RARELY AGAINST THE ERYTHEMATOUS BACKGROUND THERE WERE SEEN GROUPED VESICULAE (20.1PERCENT) OR BULLAE (19.6PERCENT). THE MUCOUS MEMBRANES ARE RARELY AFFECTED (9.7PERCENT) AND IN NOT A SEVERE FORM. EOSINOPHILIA HAS A DECISIVE IMPORTANCE; JADASSOHN'S TEST YIELD NEGATIVE RESULTS BUT DOES NOT EXCLUDE THE DIAGNOSIS OF HERPETIFORM DERMATITIS. ACANTHOLYTIC CELLS ARE ABSENT. A TEMPORARY EFFECT FROM DIAMINODIPHENYLSULFONE IS SIGNIFICANTLY HIGHER THAN THAT FROM CORTICOSTEROIDS. THE PREPARATION IS WELL TOLERATED BY PATIENTS AND MAY BE PRESCRIBED FOR A LONG TIME. FACILITY: DONETSKOGO MEDITSINSKOGO INSTITUTA IM A. M. 'GOR'KOGO.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COMPARATIVE EVALUATION OF THE CONTENT OF CERTAIN TRACE ELEMENTS IN THE BLOOD OF PATIENTS WITH PEMPHIGUS -U-

AUTHOR-(04)-TORSUYEV, N.A., ROMANENKO, V.N., ZAKHAROV, I.YA., SOROKA, V.R.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 3, PP 25-28

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TRACE ELEMENT, BLOOD CHEMISTRY, DERMATITIS, SILICON, ALUMINUM, TITANIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1489 STEP NO--UR/0206/70/000/003/0025/0028

CIRC ACCESSION NO--AP0101573

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101573

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTENT OF SILICON, ALUMINIUM AND TITANIUM WAS DETERMINED BY MEANS OF SPECTROCHEMICAL ANALYSIS IN THE WHOLE BLOOD OF 42 PATIENTS WITH PEMPHIGUS ACANTHOLYTICUS AND OF 31 PATIENTS WITH DERMATITIS HERPETIFORMIS DUHRING. THESE TRACE ELEMENTS PARTICIPATE ACTIVELY IN CONSTRUCTION OF EPITHELIAL AND CONNECTIVE TISSUE STRUCTURES OF THE SKIN, AND THEIR CONCENTRATION IN THE BLOOD IS CLOSELY CONNECTED WITH MORPHOLOGICAL CHANGES IN THE SKIN. IN THE BLOOD OF PATIENTS WITH DERMATITIS HERPETIFORMIS DUHRING THE CONTENT OF ALUMINIUM, TITANIUM AND ESPECIALLY SILICON IS REDUCED, SINCE THESE TRACE ELEMENTS ARE UTILIZED IN LARGE AMOUNTS FOR REHABILITATION OF TRANSITORY DISORGANIZATION OF CONNECTIVE TISSUE STRUCTURES . IN PATIENTS WITH PEMPHIGUS ACANTHOLYTICUS THE CONTENT OF THESE TRACE ELEMENTS, ESPECIALLY OF SILICON, IS MARKEDLY INCREASED WHICH IS EXPLAINED BY THEIR INCREASED RELEASE DURING DEGENERATION OF THE EPIDERMIS. IN PEMPHIGUS ACANTHOLYTICUS THE INTERCELLULAR CEMENTING MATERIAL IS DISSOLVED, AND SILICON MAY POSSIBLY BE ONE OF THE IMPORTANT COMPONENTS OF THE LATTER.

UNCLASSIFIED

USSR UDC 553.98:551.247:550.837.622.241(574.12/13)

ANISHCHENKO, G. N., DEMENT'YE'A, I. G., VILENCHIK, A. M., MITROFANOV, K. P., POGREBINSKIY, S. A., ROMANENKO, V. P., and FOMENKO, K. Ye., Trust for Special Geophysical Operations, Ministry of Geology, USSR

"Electrometric Research on the Border Zone of the Pre-Caspian Depression by the Method of Telluric Currents"

Moscow, Neftegazovaya Geologiya i Geofizika, No 5, 1972, pp 36-42

Abstract: The article summarizes the results of research in the pre-Caspian depression by the method of telluric currents. This method was used for mapping the elements of the salt tectonics in this territory on the basis of the acute difference between the specific resistence of the salt and that of the sediments of the persalt complex. The results, classified according to the regions of the investigated territory and the character of the relation with the cross-section, are briefly set forth. An analysis of the nature of the telluric anomalies is given. 4 figures.

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USSR

ROMANENKO, YU. A., VASIL'YEV, V. P., SIDORCHUK, V. G., and SIDOROV, V. N., Siberian Scientific Research Institute of Geology, Geophysics and Mineral Raw Materials

"Information Reader"

USSR Authors' Certificate No 356663, Cl. G 06k 9/02, filed 7 Apr 70, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, p 145)

Abstract: The device contains, situated on the principal optical axis, an objective, a cathode-ray tube, reflecting plates, a semitransparent mirror and a mask optically coupled therewith, a converging lens and a receiver, connected through the control unit to the cathode-ray tube output. To increase the operating speed of the device, the reflecting surfaces of a prism are arranged at a 45° angle to the direction of the main beam and perpendicular to the principal optical axis, parallel to which and at a 45° angle to the direction of the line beam trace, at a distance which is a multiple of the length of the picture line, are mounted reflecting plates for the light of

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USSR

ROMANENKO, YU. A., et al., USSR Authors' Certificate No 356663

the beams of each line, perpendicular to the principal optical axis are mounted reflecting surfaces for the displacement of the line beams, and at a distance and at an angle determined by the constancy of the beam trace length for each line are situated reflecting surfaces for flyback.

USSR

UDC: 681.327

VASIL'YEV, V. P., ROMANENKO, Yu. A., KUNIN, D. I.

"A Step-by-Step Graph Plotter"

USSR Author's Certificate No 267216, filed 29 Sep 67, published 27 Nov 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B460 P)

Translation: The invention is in the class of devices for automatically outlining maps, graphs, and drawings with the aid of a digital computer. Step-by-step graph plotters are known which contain devices for self-contained playback of a magnetic recording (for instance, a standard digital computer magnetic tape store); a two-coordinate drafting device with step-by-step pulse drive and pen module; and also a control device including a reception register, command decoder, graph address setter, address flip-flop, and actuating flip-flop. However, these devices are not very productive, and as a rule do not permit repeated readout from the same zone of the magnetic tape. To reduce the machine time spent on recording and to enable drawing of long and complicated graphs by recording the commands for the graph plotter on mag-

USSR

VASIL'YEV, V. P. et al., Soviet Patent No 267216

netic tape without spaces and in a definite order with subsequent repeated readout of each zone, the device contains: a synchropulse counter whose input is connected to the output of a pulse-potential switch, while the controlling input is connected to the zero-output terminal of the actuating flip-flop, and the pulse input is connected to the synchropulse output of the self-contained device for playback of the magnetic recording; a commutating flip-flop whose counting output is connected to the zero-output terminal of the actuating flip-flop; a pass counter whose input is connected to the one-output terminal of the commutating flip-flop; a code coincidence circuit with the inputs connected pairwise to the outputs of the synchropulse counter and the pass counter, while the output is connected to the command decoder; and a last pass coincidence counter whose inputs are connected to the corresponding outputs of the pass counter, while the output is connected to the input of a total reset kipp oscillator. The device also has a magnetic tape reverse module which contains a kipp oscillator with the input connected to the one-output terminal of the actuating flip-flop, first and second switches with their pulse inputs connected to the outputs of the kipp oscillator and their controlling inputs connected to the outputs of the commutating flip-

USSR

VASIL'YEV, V. P. et al., Soviet Patent No 267216

-flop; first and second flip-flops whose opposite inputs are interconnected and tied to the outputs of the first and second switches, while the outputs of the flip-flops are connected to the inputs of first and second amplifiers whose outputs are connected to the corresponding inputs of the tape direction commutator in the self-contained playback device. To cut down drawing time by readout of information from the magnetic tape during both forward and reverse travel, the device contains a readout gating commutator whose input is connected to the output of the commutating flip-flop, while the commutator output is connected to a gating element in the self-contained playback device. To provide reliable actuation of readout within a zone and to synchronize readout with the motion of the magnetic tape, the graph plotter contains a third and a fourth switch with their pulse inputs connected to the outputs of the commands for the beginning and end of the zone in the command decoder, and their controlling inputs connected to the outputs of a recognition flip-flop. The outputs of the switches are interconnected and tied to the pulse inputs of a count switch and a synchronizing switch whose controlling inputs are connected to the outputs of the kipp oscillator; the

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VASIL'YEV, V. P. et al., Soviet Patent No 267216

output of the synchronizing switch is connected to the "reset" input of the synchropulse counter. The graph plotter also contains a scaling circuit whose input is connected to the output of the count switch, while the output is connected to the counting input of the actuating flip-flop; a fifth switch whose pulse input is connected to the zero-output terminal of the actuating flip-flop, while its controlling input is connected to the one-output terminal of the kipp oscillator and its output is connected to the counting input of the recognition flip-flop. To find a given graph from among several graphs recorded on magnetic tape, the plotter contains a sixth switch whose controlling input is connected to the one-output terminal of a search flip-flop, the latter also being connected to the inhibit input of a code comparison circuit, while the output of the sixth switch is connected to the input of the total reset kipp oscillator. The device also contains a kipp oscillator whose input is connected to the zero-output terminal of the actuating flip-flop, while the one-output terminal is connected to the pulse input of the sixth switch, and the zero-output terminal is connected to the inhibit input of the code coincidence circuit. Five illustrations.

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USSR UDC 661.143

GUGEL', B. M., KUZNETSOV, V. B., and ROMANENKO, Z. G.

"CRT Screens with Cascade Excitation, High Resolution and Increased Durability"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Substances), 1971, vyp 6, pp 61-70 (from RZh-Khimiya, No 17, Oct 72, Abstract No 17L171)

Translation: The paper describes cascade screens for radar cathode ray tubes with high resolution. Data are given on the luminescence characteristics of the screens.

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USSR UDC 678.5:620.173

ROMANENKOV, I. G. and IVANOV, V. A., Central Scientific Research Institute of Building Structures imeni Kucherenko

"Influence of the Dimensions of the Specimens Upon Strength and Deformability During the Compression of Honeycomb Boards"

Moscow, Zavodskaya Laboratoriya, No 5, 1972, pp 603-606

Abstract: The character of the influence of the dimensions of a specimen, namely the cross-section area and the height, upon the ultimate strength and the modulus of elasticity during the compression of fabric- and paper-base honeycomb boards, is established. An empirical equation is proposed, which makes it possible satisfactorily to approximate the experimental data, and to compare results obtained during the testing of specimens of different dimensions. It is pointed out that analagous relationships were also obtained with the stretching of honeycomb boards. 3 figures. 2 tables, 3 references.

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USSR

UDC 678-06. = 419.8:677.521.7.01:53

ROMANENKOV, I. G., and IVANOVA, G. N.

"Glasstextolite Strength During the Action of Long lasting Loads"

Moscow, Plasticheskiye Massy, No 10, 1971, pp 32-33

Abstract: The changes in transitory tensile strength (σ_{tr}) of glasstextolite are analyzed as functions of the duration of an action and of the magnitude of the applied static stretching rension (σ_{st}). A textolite prepared from a modified phenolic resin VFB-1 and fiberglass T_1 was used as the test object. It has been established that during the action of long lasting static tensions which do not exceed the longitudinal strength of the material, the phenolic glasstextolite undergoes a strengthening process. The strengthening effect is due to the development of relaxation, orientational processes in the material. The degree of such strengthening depends on the duration of the action and the magnitude of the load applied. Maximum strengthening is observed when a tension is applied which corresponds to 0.3 of the transitory strength of the glasstextolite.

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USSR

UDC 678.01.53/.54

ROMANENKOV, I. G.

Fiziko-Mekhanicheskiye Svoystva Penistykh Plastmass (Physicomechanical Properties of Solid Foam Plastics), Moscow, 1970, 127 pp

Abstract: A short description is given of the technological characteristics of the preparation and processing of various types of solid foam plastics. Their physico-chemical and physicomechanical properties are reviewed taking into a account the effects of temperature, moisture, and time factors. Their relationship to other properties is pointed out, attention is given to the statistical treatment of the results of physico-mechanical experiments carried out with these materials, and special features of the utilization of foam plastics as construction materials for laminated construction are discussed.

The book is intended for specialists of various industrial branches working in the area of production, processing, and application of foam plastics as well as for workers in the related design and research organizations.

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USSR

ROMANENKOV, I. G., Fiziko-Mekhanicheskiye Svoystva Penistykh Plastmass, 1970

Chapter I. Preparation of Foam Plastics

Chapter II. Physico-Chemical Properties of Foam Plastics

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USSR

ROMANENKOV, I. G., Fiziko-Mekhanicheskiye Svoystva Penistykh Plastmass, 1970

3/3

1/2 025 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--EVALUATION OF THE EXTENT OF DEFORMATION OF RIGID CELLULAR PLASTICS -U-

AUTHOR-(02)-ROMANENKOV, I.G., KOZLOV, K.V.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 177

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--COMPRESSIVE STRESS, PLASTIC DEFORMATION, POLYSTYRENE RESIN, FOAM PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0808 STEP NO--UR/0374/70/006/001/0177/0177

CIRC ACCESSION NO--AP0107350

UNCLASSIFIED

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0107350 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRESS STRAIN DIAGRAM OF RIGID CELLULAR PLASTICS (I) WAS DISCUSSED. A STRUCTURAL MODEL, ESSENTALLY A HEXAGONAL PRISM COMPOSED OF RECTILINEAR VERTICAL AND DIAGONAL RODS, IS PROPOSED FOR THE DESCRIPTION OF COMPRESSION DEFORMABILITY OF I. THE MODEL PROPOSED LED TO THE DERIVATION OF EQUATIONS USED FOR CALCN. OF THE MECH. CONSTS. OF I, E.G. POLYSTYRENE PSB FOAM. THE CALCD. CONSTS. WERE IN GOOD AGREEMENT WITH THE EXPTL. RESULTS.

UNCLASSIFIED

UDC 331.875.4.676

USSR

ROMANENKOV, V. I., Engineer (Head of the Main Computer Center of the Ministry of the Cellulose-Paper Industry of the USSR) and KOSAREV, V. P., Candidate of the Economic Sciences (Moscow Financial Institute)

"Acquisition and Transmission of Information in an Branched Automatic Control System"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 11, 1973, pp 26-27

Abstract: A description is given of a branched automatic control system for improving the administrative system in the Ministry of Cellulose-Paper Industry, USSR. The technical basis of the system is the Main Computer Center, which is equipped with the Minsk-32 computer; three combinations of alphanumeric punched card/tape computers; and devices ofor the reception, transmission, and storage of information. A list of the functional subsystems in the overall equipment is given, together with a description of how they are used for administrative purposes. Technical and economic advantages of the system are discussed. Also discussed is a special "Control" device assembly, which improves the quality of digital information reception from telegraph communication lines.

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USSR

UDC 518 : 517.948

LYUDKEVICH, I. V., Docent, GORDIYCHUK, V. I., Student, ROMANIV, L. YE., Postgraduate Student, L'vov University; SITNIKOVA, T. G., Engineer, L'vov Kinescope Plant

"Numerical Method for Computer-Aided Calculation of Electrostatic Field and Electron Trajectories of Focusing Electron-Optical Systems"

Kiev, Vychislitel'naya i Prikladnaya Matematika, No 17, 1972, pp 51-62

Abstract: The article gives algorithms and describes a method for determining the electrostatic field and electron trajectories for electron-optical systems of complex configuration by the nonlinear parameter method. The Dirichlet problem in an axisymmetric space with slits is reduced by means of the potential of a simple layer to a Fredholm integral equation of the first kind, which is solved by the collocation method. The density is sought in the form of the sum of rational functions with nonlinear parameters. General routines for a Minsk-22 computer are compiled according to the algorithms, and their block diagrams are shown. An example is given of calculating the density, potential,and trajectories of a parallel and a conical beam of electrons.

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USSR UDC 537.533.3+537.534.3:621.38.032.269

PRUSOV, I. A., and ROMANIV, L. Ye.

"On the Problem of Calculating the Field of Axisymmetric Magnetic Lenses"

Teor, elektrotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Theoretical Electrical Engineering, Republic Interdepartmental Scientific-Technical Collection), 1970, No 9, pp 101-104 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh681)

Translation: A method is proposed for calculating the field of axisymmetric armored magnetic lenses which is based on reducing the given problem to the problem of determining the scalar magnetic potential. The case is considered in which $\mu = \infty$ (μ is the magnetic permeability of the magnet). It is shown that at $\mu = \infty$ the solution of the boundary value problem is based on representing the scalar field ϕ_1 by the potential of a simple layer of several sources of the field, the densities of which are assumed to be given on a certain surface S' located a small distance h from the surface of the magnet. The problem reduces to an integral Fredholm equation of the first order which is solved by the method of collocations. Authors abstract.

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USSR UDC 620.10.536.48

ROMANIV, O. N., KUTSYN, M. A., and ZIMA, Yu. V., L'vov Institute of Physico Mechanics, Academy of Sciences UkrSSR

"Cold Brittleness of High-Strength Hardened Steels"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 52-57

Abstract: An investigation was made of the cold brittleness of high-carbon, chrome-silicon 40KhS, 60KhS, and 9KhS steels. Their mechanical properties were investigated on the basis of the results of short-time torsional and tensile tests at temperatures up to 77° K. The torsional strength and yield point were determined from shear stress diagrams based on the theory of elastic-plastic torsion of a round rod. The conditional yield point was computed from the value of residual stress, equal to 0.346%, which corresponds to 0.2% at tension. An accurate electron-fractographic analysis of fracture surfaces showed that specific drops on yield curves which were observed with low-temperature tempered steels, are related primarily to changes in the mechanism of plastic deformation of high-carbon steel martensite from slip to twinning.

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USSR

ROMANIV, O. N., et al, Problemy Prochnosti, No 8, Aug 70, pp 52-57

A number of tongue-shaped diggings and crests on cleaved surfaces, attesting to the appearance of twins on the fracture surface, were observed on the fractograms. It is concluded that the twinning processes contribute to an increase in steel plasticity in the range of low-temperature brittle failure, and at the same time, they contribute to a substantial reduction of plasticity during ductile failure. The mechanical properties of the steels considered are presented in graphs.

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USSR

UDC 621.789:669.15"24"26

ROMANIV, O. N., DYAKIV, I. R., and KUKLYAK, N. L., Institute of Physics Mechanics, Academy of Sciences, Ukrainian SSR, L'vov

"Influence of Heat and Mechanical Treatment on Rupture Work of Medium-Alloy Steel"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, No 2, 1971, pp 24-27

Abstract: Earlier studies have indicated the primary influence of high-temperature heat and mechanical treatment on the brittle strength of machine building steels. This article studies the question of the criteria of the favorable influence of this treatment on the crack propagation resistance of these steels. The studies were performed using chrome-silicon and chrome-nickel steels. A comparative estimate was made of the work of rupture of bar specimens with stress concentrators and with fatigue cracks formed at the mouths of the concentrators under impact loading. The resistance to crack propagation was found to increase only if the temperature at which the tests were performed was below the upper threshold of cold brittleness of the specimens. The optimal degree of compression during high-temperature heat and mechanical treatment depends not only on the chemical composition and treatment mode of the steel, but also on the conditions of subsequent mechanical testing. As the test conditions become more rigid, the influence decreases.

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1/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SOME CHARACTERISTICS OF CRACK PROPAGATION IN QUENCHED ,CHROMIUM, STEELS DURING DELAYED FAILURE -U-

AUTHOR-(03)-ROMANIV, O.N., DUDIN, V.A., ZIMA, YU.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 25-30

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELECTRON MICROSCOPY, CHROMIUM STEEL, CRACK PROPAGATION, STEEL QUENCHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0158 STEP NO--UR/0369/70/006/001/0025/0030

CIRC ACCESSION NO--AP0129414

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129414

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPAGATION OF DELAYED FAILURE CRACKS IN QUENCHED CR STEELS WITH A RELATIVELY HIGH C CONTENT WAS STUDIED. THE GROWTH OF THE DELAYED FAILURE CRACKS WAS SENSITIVE TO THE FORM AND NATURE OF THE HEAT TREATMENT APPLIED TO THESE MATERIALS, REACTING IN DIFFERENT WAYS, FOR EXAMPLE, TO HIGH TEMP. THERMOMECHANICAL TREATMENT AND THE PRESENCE OF AN ACTIVE MEDIUM. THE MECHANISMS ACTING AT TWO KEY STAGES OF THE PROCESS (INITIAL CRACK GROWTH AND ULTIMATE FAILURE OR COLLAPSE) ARE DISCUSSES ON THE BASIS OF ELECTRON MICROSCOPE EXAMINATION.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DOUBLE IRON FREE TOROIDAL BETA SPECTROMETER FOR THE INVESTIGATION OF SHORT LIVED ACTIVITIES -U-

AUTHOR-(05)-RAKIVNENKO, YU.N., ROMANIY, I.A., KLYUCHAREV, A.P., SKAKUN, YE.A., YATSENKO, G.I.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(4), 578-82

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--BETA SPECTROMETER, PARTICLE ACCELERATION, CESIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0588 STEP NO--UR/0185/70/015/004/0578/0582

CIRC ACCESSION NO--AP0137673

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A BETA SPECTROMETER IS DESCRIBED FOR USE IN STUDYING SHORT LIVED ACTIVITIES WHICH ARE FORMED FROM THE INTERACTION OF ACCELERATED PARTICLES WITH VARIOUS TARGETS. EACH LENS OF THE SPECTROMETER CONTAINS 100 COILS PREPD. FROM A PROFILED CU TUBE, THE SHAPE OF THEIR OPERATING SEGMENTS BEING DESIGNED SO THAT 2-MEV E CAN BE FOCUSSED. THE APP. CAN MEASURE DOUBLE AND TRIPLE COINCIDENCES. THE TARGET IS CHANGED BY MEANS OF A VACUUM VALVE WITHOUT DESTROYING THE VACUUM IN THE APP. THE APP. WAS TESTED BY USING 10-MK PRIME137 CS SOURCES. FOR THESE SOURCES THE APRAMETERS OF THE APP. WERE DETD. TO BE AS FOLLOWS: TRANSMISSION OF 1 LENS 16PERCENT OF 4 PI, RESOLN. 1.0PERCENT. FACILITY: FIZ.-TEKH. INST., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 621.396.6.013

ROMANKEVICH, A. M., RUKKAS, O. D., TOLPANOV, YU. A.

"Matrix Recorder of Galvanic Couplings"

USSR Author's Certificate No 291205, filed 30 Jun 69, published 10 Jun 71 (from RZh—Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A529P)

Translation: A matrix recorder of galvanic couplings is proposed which contains coordinate switching units and two triode matrices. There are 3 illustrations.

1/1

USSR

UDC 51.621.391

LUPANOVA, R. I., ROMANKEVICH, A. M.

"Realization of k-Valued Functions by m-Valued Elements"

Vestn. Kiev. Politekhn. In-ta Ser. Avtomatiki i Elektronpriborostr [Herald of Kiev Polytechnical Institute. Automation and Electrical Instrument Building Series], No 8, 1971, pp 39-41, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V629).

NO ABSTRACT.

1/1

USSR

UDC 681.326.34

BUBNOV, A. I., ROMANKEVICH, A. M., RUKKAS, O. D., TOLPANOV, Yu. A., Kiev Electronic Computer and Controlling Machine Plant

"A Device for Troubleshooting an Electrical Installation"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288420, class 42, filed 14 Feb 69, published 3 Dec 70, p 156

Translation: This Author's Certificate introduces a device for troubleshooting an electrical installation. The device contains registers, input, output and control modules, a comparison circuit, logic elements, a pulse generator and a device for registration of electrical connections. As a distinguishing feature of the patent, the device is simplified and speed is increased by connecting the output of the input module to the input of one register, and through a coincidence circuit to the input of the other register. The second input of the coincidence circuit is connected to the output of the control module, and the outputs of the registers are connected to the inputs of the device for registration of electrical connections, the comparison circuit and the output module. The outputs of the output module are connected to the inputs of the input and control modules.

1/1

USSR

UDC: 681.142

KORNEYCHUK, V. I., ROMANKEVICH, A. M., TARASENKO, V. P., Kiev Polytechnical Institute imeni the Fiftieth Anniversary of the Great October Socialist Revolution

"A Device for Shaping Carry Signals in Addition"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 293240, Division G, filed 23 Jan 70, published 15 Jan 71, pp 163-164

Translation: This Author's Certificate introduces a device for shaping carry signals in addition. The device contains AND and OR circuits, a logic circuit based on a magnetic core, a flip-flop and a reference pulse oscillator. As a distinguishing feature of the patent, the device is simplified and speed is increased by connecting one of the inputs of the device to an input of the OR circuit, and connecting the second input of the device to the other input of the OR circuit and to the input of the first AND circuit. The output of the OR circuit is connected to the readout winding of the core, the record winding of the core being connected to the reset terminal of the flip-flop and to the first output of the reference pulse oscillator. The second and third outputs of the oscillator are connected to the inputs of the second and third AND circuits respectively. The output winding of the

USSR

KORNEYCHUK, V. I. et al., USSR Author's Certificate No 293240

core is connected to the set terminal of the flip-flop through the first AND circuit. The one-output and zero-output terminals of the flip-flop are connected through the second and third AND circuits to the inputs of another OR circuit, and the output of this OR circuit is connected to the output of the device.

2/2

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SYNTHESIS OF COMBINATIVE SCHEMES OF SUMMATION AND MULTIPLICATION IN MULTICIPHERED STRUCTURAL ALPHABET -U-

AUTHOR-(02)-KORNEYCHUK, V.I., RUMANKEVICH, A.M.

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEKHANIKA, 1970, NR 2, PP 171-174

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--AUTOMATIC CONTROL, MATHEMATIC CONTROL THEORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1965 STEP NO--UR/0103/70/000/002/0171/0174

CIRC ACCESSION NO--AP0054763

UNCLASSIFIED

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0054763 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD OF THE SYNTHESIS IN THE K CIPHERED STRUCTURAL ALPHABET OF THE SCHEMES REALIZING THE OPERATIONS OF SUMMATION AND MULTIPLICATION BY THE K MODULUS IS SUGGESTED.

UNCLASSIFIED

USSR

ROMANKO, A. M., VERBICHASHVILI, K. G., and OKROPIRIDZE, Z. A.

"Modification of the Differential Ballistooscillograph of the Extremities"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 68, No 3, Dec 72, p. 772

Translation of Russian Abstract: Schematic wiring diagrams of the modified ballistooscillograph of extremities are presented. Several curves of the differential ballistooscillogram of the extremities obtained on different individuals (athlete, patient) are given. The modifications introduced into the design of the ballistooscillograph have transformed it into a universal sensing device, with a cranio-caudally directed functions. This device makes it possible to record a ballistocardiogram, as well as to prepare differential ballistooscillograms of extremities without changing the position of a patient. This was impossible to do before with any known type of ballistooscillograph. The modified instrument is applicable for the examination of bed patients, as well as in sports medicine. Curves obtained with the modified ballistooscillograph are of a definite configuration, without any technological aftereffects. The clinical testing of the device indicated its suitability in medical practice. Curves recorded with it showed the reabilitation signs in the function of differential extremities after surgery.

1/1

USSR UDC 66.067

PROTOD'YAKONOV, I. O., and ROMANKOV, P. G.

"An Adaptive System of Automatic Regulation of Continuous Absorption"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol 15, No 11, 1972, pp 1756-1758

Abstract: Here a countercurrent column adsorber of continuous action and a system of automatic regulation are considered together as an adaptive system. The adsorber consists of a column of indented plates, with the gas entering at the bottom of the column and the sorbent at the top. The regulatory mechanism depends upon 2 paramteters: (1) the number of plates, and (2) the hydraulic resistance of the fluidized layer. The first changes by discrete steps, the second continuously. This adaptive system for the automatic regulation of a continuous adsorption process can be used in the automation of adsorption systems.

1/1

USSR

UDC 66.071.71

ASTAKHOV, V. A., DUBININ, M. M., MASHAROVA, L. P., and ROMANKOV, P. G., Belorussian Technological Institute imeni S. M. Kirova, Institute of Physical Chemistry, Academy of Sciences SSSR, and Leningrad Technological Institute imeni Lensoveta

"Calculation of the adsorption Equilibrium on Chemically and Structurally Different Adsorbents"

Moscow, Teoreticheskiye Osnovy Khimicheskoy Tekhnologii , Vol 6, No 3, 1972, pp 373-379

Abstract: A statistical method is discussed for the analysis of adsorption isotherms relative to choosing the most accurate distribution function for engineering calculations. Equations for the Poisson, Gaussian, and the Veibul [transliterated] distrubution curves are given [eqs. 1, 2, and 3 respectively] and the mathematical implications of each considered. The veibul equations seem to be the simpliest, the most general and the most amenable to engineering applications.

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USSR

ASTAKHOV, V. A., et al., Teoreticheskiye Osnovy Khimicheskoy Tekhnologii, Vol 6, No 3, 1972, pp 373-379

$$F(\alpha) = 1 - \exp[-m\alpha] \sum_{p=0}^{n-1} \frac{1}{P!} (m\alpha)^P \qquad (1)$$

$$F(\delta) = \operatorname{erf}(\alpha) = \frac{1}{\sigma\sqrt{2\pi}} \int_0^{\alpha} \exp\left[-\frac{(\delta - \delta_0)^2}{2\sigma^2}\right] \qquad (2)$$

$$F(\delta) = 1 - \exp[-\delta^n] \qquad (3)$$

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USSR

UDC 541.183.12+541.67

MOISEYEVA, N. P., SINYAVSKII, V. G. and ROMANKEVICH, M. Ya., Institute of Colloidal and Water Chemistry

"Magnetochemical Study of Amino Acetate Ion-Exchange Resins with Ions of Transition Metals"

Leningrad. Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 943-947

Abstract: The synthetic ion-exchange resins KhKA-1 and -2, the cationic resin KU-2, and their low-molecular analogues, aniline diacetic acid and phenyl glycerin were studied. The magnetic susceptibility and effective magnetic moment were determined for the resins using the ions Ca^{2+}, Cu^{2+}, Co^{2+}, Mn^{2+}, Ni^{2+}, Fe^{3+}, and Cr^{3+}. The results showed that the KhKA series formed coordination bonds between the resin and metal, while the bonding of the KU-2 resin was ionic in character. Conclusions concerning the 3-dimensional structure of the resin-metal complex were based on the magnitude of the effective magnetic moment. Finally, the capacity of the chelating ion-exchange resin to form different complexes was shown to be dependent on the nature of the ionite and the metal ion. This appears to be characteristic for the low-molecular complexes as well.

V. N. TOLMACHEV and N. S. PIVNENKO collaborated in this work.

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USSR

UDC 551.463:8+551.464.38

ROMANKEVICH, YE. A., Institute of Oceanology imeni P. P. Pirshov, Academy of Sciences USSR, Vladivostok

"Relationship Between Suspended Organic Matter, Bottom Sediments, Benthos, and Biological Productivity"

Moscow, Doklady Akademii Nauk SSSR, No 5, 1971, pp 1199-1202

Abstract: Recent oceanological research in the southeastern Pacific indicates that there is a genetic relationship between hydrological and hydrochemical characteristics, primary production, net plankton, organic matter in the water and in bottom sediments, microflora, and benthos. The principal natural factor responsible is the cold Peruvian current which drives together the coastal waters and brings the abyssal waters enriched with biogenic elements into the photic zone. In the regions where the upwelling of cold waters is most pronounced, the surface wates exhibit the maximum phytoplankton production, content of suspended carbohydrates, and heterotrophic microorganisms. These layers are also marked by the lowest pH values and oxygen concentration and by a very high content of biogenic elements.

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USSR

UDC 619:616.988.43:614.44

ROMAN'KO, G. K., Chief Veterinary Physician, Karachayevo-Cherkasskaya Autonomous Oblast

"Measures Taken in a Foot-and-Mouth Disease Focus"

Moscow, Veterinariya, No 9, 1971, pp 50-51

Abstract: An account is given of measures taken to eradicate an outbreak of foot-and-mouth disease (FMD) in Kavkazskiy Sovkhoz and Technical School, Karachayevo-Cherkasskaya Autonomous Oblast, Stavropol' Kray. The sovkhoz normally has 4,600 head of cattle, 3,000 hogs, and 10,000 sheep. The outbreak occurred in January 1971; in the course of 10 days 512 animals, one-third of the total in the section, were affected by the disease. The pathogen was FMD virus type A, variant A_{22}. From the beginning of the outbreak, prompt measures were taken to control and arrest the spread of the disease. All noninfected animals were immediately vaccinated, and older stock was given double doses of the vaccine. The section was completely sealed off by a strict quarantine enforced 24 hours a day. Special veterinary personnel were assigned to the section. All access to the section, except for authorized personnel, was halted. The schools were closed, and all construction was suspended. Communication with the section was conducted

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710002-5"

USSR

ROMAN'KO, G. K., Veterinariya, No 9, 1971, pp 50-51

by telephone. Stray dogs, cats, and other animals were killed. Personnel clothing and footwear were regularly disinfected in a steam-formalin chamber; all premises, equipment, and areas were disinfected with a 3% solution of sodium hydroxide. Within 19 days from the outbreak of the disease, no animals with symptoms of the disease were found in the section, and within 31 days the quarantine was removed.

2/2

USSR

UDC 621.373:530.145.6:621.317.17

KATS, L. I., ROMAN'KO, K. S.

"Using the Photoelectromagnetic Effect to Study Laser Emission"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Technology. Scientific and Technical Collection), 1970, ser. 11 (19), pp 137-139 (from Ref-zhurnal-tekhnika, No 10, Oct 70, Abstract No 10D333)

Translation: Experiments are described on measuring the amplitude-modulated emission of a laser by using a photoelectromagnetic receiver. These experiments show the possibility of utilizing the photoelectromagnetic effect in alternating magnetic fields to determine the spectral composition of modulated laser emission. One illustration, one table, bibliography of four titles. N. S.

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UNCLASSIFIED

TITLE—INHIBITION OF THE CYTOKININ INDUCED PROTEIN SYNTHESIS IN ISOLATED CHLOROPLASTS TREATED WITH ACTINOMYCIN D -U-

AUTHOR-(02)-KULAYEVA, O.N., ROMANKO, YE.G.

PROCESSING DATE—30OCT70

COUNTRY OF INFO--USSR

SOURCE—TSITOLOGIYA 1970, 12(2), 251-3

DATE PUBLISHED-------70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—PROTEIN SYNTHESIS, CHLOROPLAST, ANTIBIOTIC, LEUCINE, CARBON ISOTOPE, RNA, TAGGED ATOM/(U)OLIVOMYCIN ANTIBIOTIC, (U)ACTINOMYCIN D ANTIBIOTIC

CONTROL MARKING—NO RESTRICTIONS

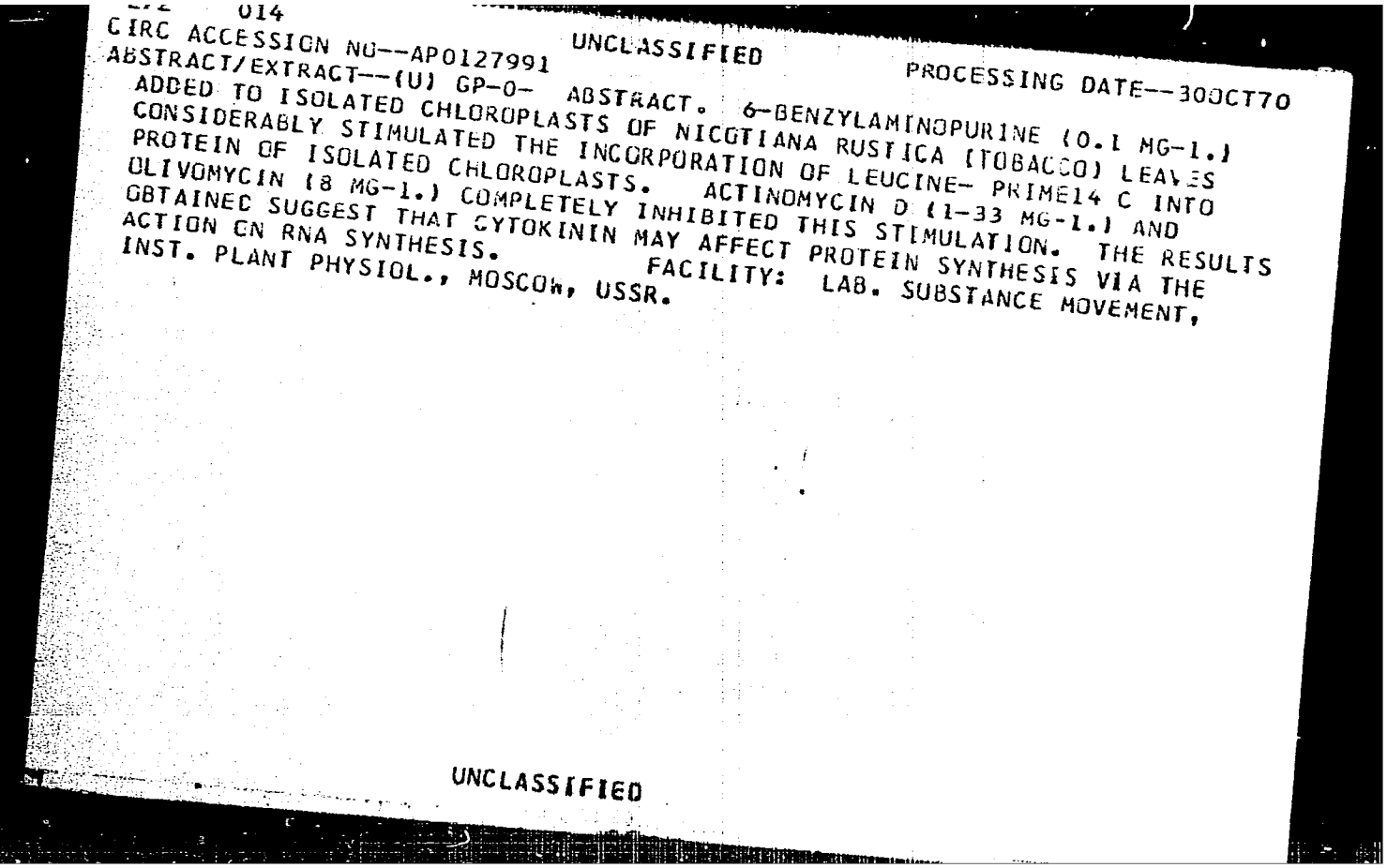
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0429

STEP NO--UR/9053/70/012/002/0251/0253

CIRC ACCESSION NO--AP0127991

UNCLASSIFIED



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UNCLASSIFIED
CIRC ACCESSION NO--AP0127991 PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 6-BENZYLAMINOPURINE (0.1 MG-1.) ADDED TO ISOLATED CHLOROPLASTS OF NICOTIANA RUSTICA (TOBACCO) LEAVES CONSIDERABLY STIMULATED THE INCORPORATION OF LEUCINE- PRIME14 C INTO PROTEIN OF ISOLATED CHLOROPLASTS. ACTINOMYCIN D (1-33 MG-1.) AND OLIVOMYCIN (8 MG-1.) COMPLETELY INHIBITED THIS STIMULATION. THE RESULTS OBTAINED SUGGEST THAT CYTOKININ MAY AFFECT PROTEIN SYNTHESIS VIA THE ACTION ON RNA SYNTHESIS. FACILITY: LAB. SUBSTANCE MOVEMENT, INST. PLANT PHYSIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 581.174

KULAYEVA, O.N. and ROMANKO, YE.G., Laboratory of Translocation of Substance and Laboratory of Photosynthesis Institute of Plant Physiology, Academy of Sciences USSR

"Inhibition of Cytokinin-Induced Stimulation of Protein Synthesis in Isolated Chloroplasts Treated With Actinomycin D"

Leningrad, Tsitologiya, No 2, 1970, pp 251-253

Abstract: Addition of 6-benzylaminopurine (0.1 mg/l) to a suspension of isolated chloroplasts from Nicotiana rustica leaves markedly stimulated the incorporation of C^{14}-leucine into chloroplasts protein. A specific inhibitor of RNA synthesis, actinomycin D, introduced into the medium in concentrations ranging from 0.1 to 33 mg/l, effectively neutralized the effect of 6-benzylaminopurine. This suggests that since cytokinin stimulates protein synthesis in isolated chloroplasts by activating RNA synthesis, the inhibition of protein synthesis by actinomycin D takes place at the same level. Another antibiotic, olivomycin (8 mg/l), had the same action. It did not affect protein synthesis in chloroplasts in the absence of cytokinin, but completely inhibited the process in its presence.

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1/2 023 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COMPUTER DESIGN OF ION EXCHANGE PROCESSES -U-

AUTHOR-(04)-VOLZHINSKIY, A.I., SMIRNOV, N.N., ROMANKOV, P.G., VIKTOROV, V.K.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(1), 118-22

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION KINETICS, MAGNESIUM, CALCIUM, ION EXCHANGE, SORPTION, COMPUTER APPLICATION, MODEL, ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1085 STEP NO--UR/0455/70/004/001/0118/0122

CIRC ACCESSION NO--AP0104483

UNCLASSIFIED

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0104483 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SORPTION KINETICS OF MG PRIME2 POSITIVE OR CA PRIME2 POSITIVE IONS BY A SINGLE BEAD OF CATION EXCHANGE RESIN WERE TREATED BY A. I. VOLZHINSKII (1969) AND THE BEHAVIOR OF A COLUMN OF RESIN ONLY ONE BEAD DEEP IS SIMILAR. THE TREATMENT IS EXTENDED TO CALC. THE ELUTION CURVE FOR A COLUMN PACKED WITH THE RESIN, BY NUMERICAL INTEGRATION OF THE EQUATION DOWN THE COLUMN. THE WAY IN WHICH A COMPUTER PROGRAM WAS WRITTEN TO PERFORM THE INTEGRATION, APPROX. BY ITERATIVE SUMMATION, IS SHOWN IN A FLOW DIAGRAM. COMPARISON WITH EXPT. SHOWS A SMALL DISCREPANCY AT HIGH LEVELS OF SORPTION OF MG AND CA, WHICH IS EXPLAINED BY INTERNAL RESISTANCE TO DIFFUSION; AN IMPROVED VERSION OF THE KINETIC EQUATION FOR THE ELEMENTARY LAYER OF RESIN IS SUGGESTED.

UNCLASSIFIED

UDC: 533.6.011.72

USSR

DORONIN, G. S., STUPNIKOV, V. P., ROMAN'KOV, V. Y., BELENKIY, V. Ya., ZASLAVSKIY, B. I., and BATSANOV, S. S.

"Compression of Plexiglass Cylinders by Glancing Detonation Waves"

Leningrad, Zhurnal tekhnicheskoy fiziki, No 5, 1973, pp 1059-1064

Abstract: This article pertains to the physical-chemical investigation of materials, subject to dynamic compression, which are kept in cylindrical containers under glancing detonation waves. Research of this type is now being intensively pursued. The purpose of this paper is to investigate the irregular reflection of shock waves in plexiglass cylinders under compression by glancing detonations, by a method suggested in an earlier article (G. A. Adadurov, et al, Fiz. gor. vzryva, vol 3, No 2, p 281, 1967). This method proposed using, as a model of the cylinder, plexiglass cylinders observed by high-speed photography to investigate the picture of the air flow through the fine, scintillating gaps between the plates composing the cylinders. A description is given of the explosive material used in the experiments and, briefly, of the experimental equipment. Results of the experiments are given in the form of curves of the change in velocity of the shock waves and

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USSR

UDC: 533.6.011.72

DORONIN, G. S., et al, Zhurnal tekhnicheskoy fiziki, No 5, 1973, pp 1059-1064

the relative dimensions of the main shock wave as functions of the cylinder length. A description of the picture of the phenomenon is given together with an explanation of the results as shown by the curves.

2/2

ROMAN'KOV, V.V.

RMP / R 1960 / 5-MAY 73
NOV 1972

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(5)

IV. INTERACTION OF SHOCK WAVES WITH SOLIDS

Batsanov, S. S., Ye. V. Dulepov, E. M. Moroz, L. V. Lukina, and V. V. Roman'kov. Effect of explosions on materials. Shock compression of rare earth metal fluorides. FGiV, no. 2, 1971, 256-269.

Results of a study of shock compression of ten rare earth metal (REM) fluorides and yttrium fluoride are presented. It is shown that the greatest physical characteristics change occurs using 30-50 g hexogene charges, with the exception of CeF_3 and PrF_3 for which the most significant changes occur using 100-150 g charges. All the shock-compressed materials displayed optical anisotropy, since the initial materials were finely dispersed and therefore were pseudoisotropic. The new phase is normally inhomogeneous, and the properties change occurs (or accumulates) in different grains with varying intensity; the value of the effect is maximal only in a small number of crystalline particles. Table 1 shows refractivity indices of the new phases:

a	b			c		
	r^3, g/cm^3	n_p	n_g	r^3, g/cm^3	n_p	n_g
LaF$_3$	5.97	1.61	1.80	5.87	1.59	1.77
CeF$_3$	6.03	1.61	1.80	5.78	1.58	1.76
PrF$_3$	6.08	1.61	1.80	5.80	1.58	1.76
NdF$_3$	6.17	1.61	1.80	5.84	1.58	1.76
SmF$_3$	6.28	1.61	1.80	5.93	1.58	1.76
EuF$_3$	6.33	1.61	1.80	6.03	1.58	1.76
GdF$_3$	6.48	1.61	1.80	6.15	1.58	1.76
TbF$_3$	6.58	1.61	1.80	6.18	1.58	1.76
DyF$_3$	6.68	1.61	1.80	6.23	1.58	1.76
HoF$_3$	6.78	1.61	1.80	6.34	1.58	1.76
YF$_3$	7.01	1.61	1.80	6.45	1.58	1.76
	7.44	1.61	1.80	7.02	1.58	1.76
	8.02	1.61	1.80	7.39	1.58	1.76
				8.00	1.58	1.76
LaF$_3$	10.7	1.61	1.80	14.5	1.58	1.76
CeF$_3$	11.1	1.61	1.80	15.3	1.58	1.76
PrF$_3$	11.4	1.61	1.80	21.0	1.58	1.76
NdF$_3$	11.6	1.61	1.80	15.9	1.58	1.76
SmF$_3$	11.7	1.61	1.80	15.9	1.58	1.76
EuF$_3$	11.8	1.61	1.80	15.9	1.58	1.76
GdF$_3$	11.9	1.61	1.80	15.9	1.58	1.76
TbF$_3$	11.9	1.61	1.80	15.9	1.58	1.76
DyF$_3$	11.9	1.61	1.80	15.9	1.58	1.76
HoF$_3$	11.9	1.61	1.80	15.9	1.58	1.76
YF$_3$	11.9	1.61	1.80	15.9	1.58	1.76
	11.2	1.61	1.80	11.7	1.58	1.76

Table 1. a - compound; b - initial material; c - compressed material

ROMANKOVA MP

Acc. Nr: AP0047373

Ref. Code: UR0587

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970, Vol 104, Nr 1, pp 107-111

THE EFFECT OF VARIOUS METHODS OF PREMEDICATION ON SOME NEURO-ENDOCRINOUS REACTIONS IN SURGICAL PATIENTS

By V. A. Leosko, V.YE. Ryzhenkov, G. L. Kotomina, V. M. Korsakin and M. P. Romankova

In 166 surgical patients the effect of various combinations of preparations used for premedication has been studied. The data obtained enabled the authors to recommend the authors a more wide use of cholinolytics of central action in a complex of premedication agents.

11

42

REEL/FRAME
19790899

2

AN0032787

UR9018

AUTHOR-- ROMANOV A., CORRESPONDENT

TITLE-- STEPS INTO SPACE

NEWSPAPER-- SOVETSKAYA KIRGIZIYA, MARCH 27, 1970, P 3, COLS 2-6

ABSTRACT-- IN THIS INTERVIEW, M. K. TIKHONRAVOV, HERO OF THE SOCIALIST LABOR, CHRONICLES THE EVENTS THAT LED TO THE LAUNCHING OF THE FIRST SOVIET SATELLITE. THE FOREFATHER OF ALL SOVIET SPACE RESEARCH ORGANIZATIONS WAS THE SOCIETY FOR THE STUDY OF INTERPLANETARY TRAVEL, FORMED IN 1924. ITS FIRST CHAIRMAN WAS G. M. KOMAROV /STILL IN GOOD HEALTH/. K. E. TSIOLKOVSKIY, V. P. VETCHINKIN, F. A. TSANDER, AND MORIS LEYTEYZEN, STUDENT OF THE ZHUKOVSKIY ACADEMY, WERE AMONG ITS MEMBERS.

THE GDL /THE GAS DYNAMICS LABORATORY/, IN LENINGRAD, AND V. P. GLUSHKO, I. I. KALUGIN, YE. N. KUZ'MIN, P. I. MINAYEV, AND V. P. YUKOV ARE CREDITED WITH LAYING THE FOUNDATIONS OF THE SOVIET ROCKET MOTOR DESIGN.

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19701130

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AN0032787

GIRD /GROUP FOR THE STUDY OF REACTIVE PROPULSION/, IN MOSCOW, HEADED BY S. P. KOROLEV, LAUNCHED THE FIRST LIQUID-FUELED ROCKETS. ONE OF THEM, DESIGNED BY TIKHONRAVOV, WAS LAUNCHED AUGUST 17, 1933, AND THE OTHER, DESIGNED BY TSANDER, WAS LAUNCHED IN NOVEMBER OF THE SAME YEAR.

ON FEBRUARY 28, 1940, A ROCKET-PROPULSED PLANE WITH AN "RDA-150" MOTOR DESIGNED BY KOROLEV, WAS TESTED. THIS IS ATTRIBUTED TO THE RNII /THE REACTION RESEARCH INSTITUTE/ ESTABLISHED IN 1933. THE INSTITUTE ALSO DEVELOPED "KATYUSHA" ROCKET LAUNCHERS. I. T. KLEYMENOV, THE INSTITUTE,S FIRST HEAD, G. E. LANGEMAK AND V. A. ARTEM,YEV WERE ASSOCIATED WITH THE INSTITUTE.

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19701131

1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--EFFECT OF RARE EARTH METALS ON THE FLAKE SENSITIVITY OF ALLOY STEEL -U-

AUTHOR-(05)-SERBIN, A.P., SKLYUYEV, P.V., SOKOLOV, V.YE., ROMANOV, A.A., FRIDMAN, A.YA.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 245

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--RARE EARTH METAL, NONMETALLIC INCLUSION, STEEL FLAKE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0458 STEP NO--UR/0370/70/000/001/0245/0245

CIRC ACCESSION NO--AP0050475

UNCLASSIFIED

2/2 010

CIRC ACCESSION NO--AP0050475 UNCLASSIFIED PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 0.2-0.3PERCENT RARE EARTH METALS REDUCED THE TENDENCY TO FLAKE FORMATION TO 215, WHILE IMPROVING THE DEGREE OF FINENESS OF NONMETALLIC INCLUSIONS.

USSR

UDC 536.422

VASIL'YEV, I. N., TRELIN, Yu. S., and ROMANOV, A. A.

"Experimental Data on the Speed of Sound in Saturated and Superheated Cesium Vapor Up to 1280°K"

Moscow, Teplofizika Vysokikh Temperatur, Akademiya Nauk SSSR, Vol 9, No 1, Jan-Feb 1971, pp 59-66

Abstract: The following method of measuring the speed of sound in cesium vapor was used. 20 gram of distilled liquid cesium was introduced into the vapor generator of the measuring chamber. Absence of gas in this chamber was checked ultrasonically. The vapor temperature was measured by thermocouples. The vapor pressure was determined by measuring the vapor temperature close to the liquid surface. The speed of sound was measured acoustically by the method described in an article by the same authors in the same journal, No 6, 1969, p 7.

The experimental data were correlated by the least squares method.

An analytical expression of the speed of sound as a function of temperature and pressure has been worked out.

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USSR

VASIL'YEV, I. N., et al., Teplofizika Vysokikh Temperatur, Akademiya Nauk SSSR, Vol 9, No 1, Jan-Feb 1971, pp 59-66

The experimental and correlated data for different pressures and temperatures are presented in tables and graphs in the range of temperatures from 825 to 1280°K, pressures from 0.25 to 10.2 atmospheres.

The speeds of sound were also calculated from the equation of state for a mixture of mono-atomic and biatomic vapor. The agreement with the experimental data is within 2%.

USSR UDC: 621.376.23

ROMANOV, A. A.

"An Amplitude Discriminator"

USSR Author's Certificate No 265970, filed 1 Apr 68, published 1 Jul 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D76 P)

Translation: An amplitude discriminator is proposed which is based on a flip-flop with emitter coupling. The discriminator contains a storage capacitor which is connected in parallel with the input. To reduce temperature instability of the discrimination level and increase the input impedance, a normally open switch which is closed during signal arrival is connected in parallel with the storage capacitor.

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USSR

UDC: 621.373.351.1(088.8)

BEZLEPKIN, V. I., ROMANOV, A. A.

"A Slave Multivibrator"

USSR Author's Certificate No 261454, filed 22 Aug 68, published 22 May 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G193 P)

Translation: This Author's Certificate introduces a slave multivibrator based on two transistors with a common resistor in the emitter circuit. To increase the power of the output pulse, a circuit which consists of a storage capacitor and a resistor shunted by a semiconductor diode is connected between the normally open transistor and the power supply.

USSR R UDC 621.315.592

ROMANOV, A. A., Novosibirsk State University, Novosibirsk, Ministry of Higher and Secondary Specialized Education RSFSR; Institute of Semiconductor Physics, Novosibirsk, Siberian Department, Academy of Sciences USSR

"Thermal e.m.f. of Thin Semiconductor Films Considering Entrainment of Electrons by Phonons"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970 pp 904-907

Abstract: Nondegenerate dimensionally quantized semiconductor film was investigated. Assuming mirror reflection of electrons from the boundary and their scattering on acoustic phonons, the magnitude of the differential thermal e.m.f. of the film was calculated considering entrainment of the electrons by the phonons. Filling of one film level is assumed. Under defined conditions phonon entrainment makes a significant contribution to the magnitude of the thermal e.m.f. When the film is grown on a substrate with the same elastic constants, phonons in the film are considered the same as in the mass of the sample. The

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USSR

ROMANOV, A. A., Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 904-907

spectrum of the charge carriers is considered quadratic and isotropic. A weak electric field and temperature gradient of VT are applied along the x-axis, and the z-axis is considered transverse to the film, $h = k_0 \approx 1$. In solving the problem of entrainment it is necessary to solve the system of kinetic equations for nonequilibrium distribution functions of electrons and phonons. However, with sufficiently small electron concentration in the sample ($n_e \lesssim 10^{15}$ cm^{-3}), the effect of the nonequilibrium state of electrons on the nonequilibrium state of phonons can be neglected, and the system of equations splits into a pair of independent equations.

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1/2 033 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--THE USE OF HYPOTHERMIA IN TREATMENT OF ACUTE PANCREATITIS -U-

AUTHOR--ROMANOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP 43-45

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPOTHERMIA, PANCREAS, PROPHYLAXIS

CONTPOL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0647 STEP NO--UR/0589/70/104/003/0043/0045

CIRC ACCESSION NO--AP0102633

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF USING HYPOTHERMIA IN TREATMENT OF ACUTE PANCREATITIS IN 34 PATIENTS AND IN 5 PATIENTS WITH OTHER FORMS OF THIS AFFECTION ARE REPORTED. IN ACUTE PANCREATITIS HYPOTHERMIA PROVED TO BE AN EFFECTIVE METHOD OF TREATMENT.

UNCLASSIFIED 0123

UDC 62i.762.2(088.8)

USSR

PATYUKOV, G. M., ROMANOV, A. I., BARANOV, M. N., BUTORIN, N. I., KHROMENKO, G. S., GONCHAROV, M. I., and SAGUNOV, T. M., Noril'sk Mining and Metallurgical Combine imeni A. I. Zavenyagin

"Electrolyzer for Making Metal Powder"

USSR Authors' Certificate No 267080, Cl. 40c, 1/02; 40c, 5/00, (C 22d), filed 21 Feb 67, published 23 Jan 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract NO 3G405P)

Translation: The electrolyzer contains a bath, anodes, disk cathodes fastened on a shaft, current supply unit, and drive mechanism. In order to decrease power consumption and increase dependability of electrolyzer operation, the drive mechanism is supplied with a toothed rack, which engages with the gear that is fixed on the shaft with the cathodes and imparts to the cathodes a reciprocating motion along the path of a pendulum. The contact at the ppint of the current supply to the shaft by the cathodes is made to be fixed. One illustration.

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USSR

VYSOTSKIY, D. A., PETROV, M. D., REKOV, A. I., ROMANOV, A. I., SEPP, V. A., SEREBRENNIKOVA, V. Ye., SMIRNOVA, L. G., KURTEPOVA, O. I., Institute of High Temperatures of the Academy of Sciences USSR

"Test Results on Installations and Electrode Materials in a Plasma Jet"

Moscow, Teplofizika vysokikh temperatur, No. 3, May/Jun 72, pp 635-639

Abstract: The characteristics of electrodes of silicon carbide with additives of alloying metals (Mo, Ti, Cr), interelectrode insulators of refractory concretes based on high-alumina VGB and AFB concretes and magnesian MB concrete and module insulation walls of MB concrete were investigated in a model of an MHD generator. The maximum electrode temperature during the experiments reached 2300°K, the interelectrode insulators reached 2100°K and the installation walls reached 1700°K. The electrode samples were prepared by pressing a mixture of SiC powders and the appropriate alloying additive (Mo, Ti, Cr) with organic binding and subsequent heat treatment at a temperature of 2100°C for 10-15 min. The experimental device in which the materials were tested consisted of the following elements: a plasmatron producing an air flow with a

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USSR

VYSOTSKIY, D. A., et al, Teplofizika vysokikh temperatur, No. 3, May/Jun 72, pp 635-639

temperature of 3000°K, a mixing chamber where an easily ionized additive was introduced into the air flow in the form of potassium or K_2CO_3 vapors, a nozzle, the MHD generator channel, and a system for evacuating the gas flow. The flow rate in the channel was approximately 500 m/sec. The advantages of a sectional structure for the channel are shown and it was established that the current density is determined by the conductivity of the films from the interaction products of the electrode and additive materials, independent of the type of alkali additive (potassium or potash vapor) at the temperature of its condensation on the electrode surface. At an electrode temperature of less than 900°K in supplying K-vapors and of 1200°K in supplying K_2CO_3 powder, the current density remains constant at 0.2 a/cm^2. At these temperatures the current density is evidently determined by the conductivity of the liquid film of the interaction products of the additive material, the working gas, and the electrode and of their emission properties. With an increase in electrode temperature above 900-1200°K the emission properties of the electrode material directly begin to play a basic role.

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USSR

UDC 621.384.32

OVSYANNIKOV, V. A. and ROMANOV, A. M., Candidate of Sciences

"Methods of Converting the Three-Dimensional Spectra of Brightness Fields"

Optiko-mekhanicheskaya Promyshlennost', No 11, Nov 72, pp 20-22.

Abstract: The problem of conversion of the three-dimensional spectra of an optical background produced using one measurement apparatus for another measurement apparatus with different optical-electronic unit characteristics is studied. This problem is solved for two models of background spectra: isotropic and separable. The solution produced is correct for the case of negligibly low noise levels of the measurement apparatus. The results of this work may be useful for processing of data on three-dimensional frequency fluctuations of an optical background produced by one-dimensional scanning. The background models studied allow the two dimensional energy spectrum to be restored on the basis of three dimensional frequencies from the known one dimensional spectrum.

USSR

UDC 681.327.12

SMOLYANSKIY, B. Ye., VASIL'YEV, N. G., and ROMANOV, A. M.

"Graph Reader"

USSR Authors' Certificate No 298939, Cl. G 06 k 11/00, filed 21 Jan 69, published 26 Apr 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A456P)

Translation: A graph reader is proposed. To increase accuracy in reading the graphic recording of several processes, the reading-spot deflection oscillators through amplitude comparators are coupled with the outputs of the phase demodulators of the two adjacent channels, while the search sweep oscillators of all channels are series-connected, one of them being coupled with the unit for indicating the simultaneous presence of second harmonics of the reading channels. One illustration.

USSR UDC 539.3

ROMANOV, A. N., GADENIN, M. M., Moscow

"Study of Process of Deformation with Low-Cycle Loading"

Problemy Prochnosti, No 11, 1971, pp 10-15.

ABSTRACT: The changes in true stresses and deformations are studied during cyclical, quasistatic rupture of softening, hardening and stabilizing materials. It is demonstrated that the true deformations and stresses may differ considerably from the conditional stresses usually used to perform calculations. It is established that the intensity and duration of hardening, softening and stabilization are determined, on the one hand, by the plastic properties of the material, and on the other hand, by the loading conditions. The intensity of hardening depends on the value of the fraction $(\sigma_b - \sigma_{0.2})/\sigma_b$, while the type of material (hardening, softening or stabilizing) depends on the ratio of even elongation corresponding to σ_b to the total static elongation.

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UDC 8.74

USSR

VASILENKO, V. A., PIRUMOV, R. N., ROMANOV, A. N.

"Some Problems of Training Pattern Recognition Machines"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Engineering -- collection of works), Vyp. 10, Moscow, Mashinostroyeniye Press, 1972, pp 74-103 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V661)

Translation: A study was made of the problems of training automata to recognize complex three-dimensional figures by their two-dimensional projections. Special attention was given to the procedure for learning recognition in the presence of noise. Studies were made of various principles of data processing during input and output from the trained automaton. It was demonstrated that the best results have been achieved as a result of the differentiating transformation of the brightness function of the image scanning row and the transition to description of input situations in the space of the properties realized in the process of feeding the images to the digital computer. On the basis of the results obtained by the authors, defined practical recommendations are made. The bibliography has 16 entries.

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USSR UDC: 518.5:681.3.06

NEMCHINOV, V. K., ROMANOV, A. N.

"Problems of Using a Normative Base in Calculating the Requirements of a Sector for Material Resources"

V sb. Teoriya i praktika mashin. obrab. ekon. inform. (Theory and Practice in Computer Processing of Economic Data--collection of works), Moscow, 1971, pp 142-159 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V611)

[No abstract]

USSR UDC 8.74

VASILENKO, V. A., PIRUMOV, R. N., ROMANOV, A. N.

"On Certain Problems in Teaching a Machine to Recognize Images"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Technology -- Collection of Works), No. 10, Moscow, "Mashinostroyeniye", 1972, pp 74-103 (from RZh-Matematika, No 9, Sep 72, Abstract No 9V661)

Translation: The article discusses problems of teaching an automaton to recognize complex three-dimensional figures on the basis of their plane projections. Particular attention is given to a technique for teaching recognition in the presence of noise. Various principles for the processing of isoinformation during its input and output from the learning automaton are investigated. It is shown that the best results are achieved through differentiating conversion of the function for the clarity of the line of separation of the image and the transition to the description of input situations in the space of properties that is achieved during input of images into the computer. Certain practical recommendations are made on the basis of results obtained by the authors. 16 ref. Authors abstract.

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USSR UDC 543.544.2:546.791:551.464

RYABININ, A. I., ROMANOV, A. S., DOROSHENKO, G. A., and LAZAREVA, Ye. A.

"Sorption Method for Isolating Uranium and Other Valuable Metals From Sea Water"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 884-885

Abstract: Experimental results are reported on extraction of uranium and other elements out of sea water using a specially prepared exchange resin. The resin was obtained by saturating granules of AN-2F anion exchange resin with highly dispersed titanium hydroxide. Sea water was passed through a column packed with this material; 46% of the uranium present in sea water was extracted in one passage. This material separated also Cu, Co, Zn, Ag, In, Tl, Cd, and Hg. Traces of Ni, V, Mo, Pb and Mn were identified spectrophotometrically.

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1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EXTRACTION OF NOBLE METALS AND ACCOMPANYING IMPURITIES FROM POLYMETALLIC ORES -U-

AUTHOR-(02)-ROMANOV, A.S., ANISIMOV, S.M.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z. TSVETNAYA MET., 1970, (2), 93-96

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--FLOTATION REAGENT, GOLD, ORE BENEFICATION, PLATINUM, SILVER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1491 STEP NO--UR/0149/70/000/002/0093/0096

CIRC ACCESSION NO--AT0130420 UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 008

CIRC ACCESSION NO--AT0130420

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS OF EXTRACTING NOBLE METALS AND ACCOMPANYING TRACE ELEMENTS FROM POLYMETALLIC ORES ARE DESCRIBED AND DISCUSSED. THE BEST METHODS ARE THOSE BASED ON GRAVITATIONAL AND FLOTATIONAL BENEFICIATION. AN IMPORTANT FACTOR IN THE PROCESS AS A WHOLE IS THE PRELIMINARY EXTRACTION OF COARSE AU IN THE INITIAL STAGES OF ORE PROCESSING. A DISADVANTAGE OF DIRECT SELECTIVE FLOTATION IS THE NECESSITY OF CRUSHING THE ORE FINELY.

UNCLASSIFIED

UDC 629.1.018.4

USSR

BEZZAB', V. Ye., Candidate of Technical Sciences, ROMANOV, A. V., Engineer

"Microwave Level Indicators for Liquids and Particulates"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 10, 1972, pp 17-18

Abstract: New types of microwave signal units are described which utilize the capacity of liquid or particulate media to reflect or absorb electromagnetic radiation. The amplitude and phase component of the electromagnetic field are altered by the presence of the medium in the measurement zone. The proposed level indicators comprise an oscillator, a waveguide line, an actuating circuit, and a power supply. The open end of the waveguide serves as the radiator. Schematics are given and described for three remote level indicators based on this principle. The proposed units are simple and reliable, and direct contact with dangerous substances is not required. The measurement accuracy is within ±0.3 cm of the exact level for liquids and particulates with permittivity of 1.5 or higher and loss tangent of 0.05 or greater on a wavelength of 3.2 cm. Power consumption is 15 W.

Acc. Nr. AP0055642 Abstracting Service: CHEMICAL ABST. Ref. Code 4R0460

112014a **Determination of the composition of copolymers containing hydrogen and fluorine by wide-line nuclear magnetic resonance.** Romanov, B. S. (USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(2), 152-5 (Russ). The title method was used to det. the monomer unit ratios in the copolymers: $H_2C{:}CH_2{-}CF_2{:}CF_2$, $H_2C{:}CH_2{-}CF_2{:}CFCl$, $CF_2{:}CH_2{-}CF_2CF{:}CF_2$, and $CF_2{:}CH_2{-}CF_2{:}CFCl$. The exptl. error was ~2%. These dets. were also performed by using the high resolution NMR method: the error in this case was ≤1%. CPJR

REEL/FRAME
19840944

USSR UDC 536.46

ROMANOV, E. N., and KHAYKIN, B. I., Institute of Chemical Physics, USSR Academy of Sciences, Moscow

"Flame Propagation through Particle Suspension in a Gas"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 1, Nov-Dec 1971, pp 144-147

Abstract: In the case of a combination of particles or fuel droplets suspended in a gaseous mixture containing an oxidizer, if the particles are small enough they will burn with kinetic heating and the combustion of the suspension will be close to that of a homogeneous system; while the heating zone will be much wider than the reaction zone, the velocity of the front will depend exponentially on the temperature, etc. But a quite different front structure is possible.

Various formulas for use in assessing the parameters of flame propagation are adduced, with consideration of several possible controlling conditions.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710002-5"

1/7 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--LENINGRAD'S PRODUCTION ASSOCIATIONS DISCUSSED -U-

AUTHOR--~~ROMANOV, G.~~

COUNTRY OF INFO--USSR

SOURCE--MOSCOW KOMMUNIST NO 3, SIGNED TO PRESS 16 FEB 70 PP 80-91 L

DATE PUBLISHED--16FEB70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--INDUSTRIAL ASSOCIATION, INDUSTRIAL MANAGEMENT, R AND D FACILITY MANAGEMENT, MINISTERIAL CONTROL, GOVERNMENT DECENTRALIZATION, R AND D PLANNING ORGANIZATION, POLITICAL STRUCTURE, INDUSTRIAL AUTOMATION, R AND D EFFECTIVENESS, HEAD INSTITUTE, REGIONAL ECONOMIC PLANNING, R AND D ORGANIZATION STRUCTURE, R AND D PLANNING, DESIGN BUREAU, PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0024 STEP NO--UR/9041/70/000/003/0080/0091

CIRC ACCESSION NO--AN0100608

UNCLASSIFIED

2/7 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0100608

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DECISIONS OF THE CONGRESS AND OF THE CPSU CENTRAL COMMITTEE DECEMBER (1969) PLENUM ENVISAGE ACCELERATING TECHNICAL IMPROVEMENT IN SOCIALIST PUBLIC PRODUCTION. THIS IS OF PARTICULARLY GREAT SIGNIFICANCE FOR THE LARGEST SCIENTIFIC AND INDUSTRIAL CENTERS, WHERE MACHINES, INSTRUMENTS, AND EQUIPMENT FOR MANY OF THE COUNTRY'S ENTERPRISES ARE DEVELOPED AND PRODUCED, AND WHERE ONE MIGHT SAY THE FOUNDATIONS OF SCIENTIFIC TECHNICAL PROGRESS ARE LAID. ONE SUCH CENTER IS LENINGRAD AND LENINGRAD OBLAST. PRECISION MACHINE BUILDING, POWER ENGINEERING, SHIPBUILDING, AND THE RADIO TECHNICAL AND INSTRUMENT BUILDING INDUSTRIES HAVE UNDERGONE HIGH DEVELOPMENT HERE. SUFFICE IT TO SAY THAT TODAY PEOPLE IN LENINGRAD PRODUCE MORE THAN ONE HALF OF THE STEAM AND HYDRAULIC TURBINES MANUFACTURED IN THE COUNTRY, MORE THAN HALF THE HYDRAULIC GENERATORS, 30 PERCENT OF THE LARGE ELECTRICAL MACHINES, ALMOST ONE THIRD OF THE POLYGRAPHIC EQUIPMENT, AND MANY ELECTROVACUUM INSTRUMENTS. A CONSIDERABLE PART OF THE SHIPS BUILT IN THE SOVIET UNION EACH YEAR ARE LAUNCHED FROM THE SLIPWAYS OF OUR SHIPBUILDING PLANTS. RECENT TIMES HAVE SEEN THE COMMISSIONING OF MAJOR ENTERPRISES FOR REFINING PETROLEUM, PRODUCING FERTILIZERS AND CEMENT, AND MANY OTHERS. APPROXIMATELY 400 SCIENTIFIC RESEARCH AND PLANNING INSTITUTES, SCIENTIFIC ORGANIZATIONS, AND DESIGN BUREAUS, IN WHICH ARE OCCUPIED OVER 13,000 DOCTORS AND CANDIDATES OF SCIENCES AND TENS OF THOUSANDS OF HIGHLY QUALIFIED ENGINEERS AND TECHNICIANS, FUNCTION IN LENINGRAD AND LENINGRAD OBLAST. IN MANY BRANCHES OF SCIENCE AND PRODUCTION THE PEOPLE OF LENINGRAD ARE, AS THEY SAY, THE INITIATORS.

UNCLASSIFIED

3/7 · 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0100608

ABSTRACT/EXTRACT--THE MACHINES, INSTRUMENTS, AND MECHANISMS DEVELOPED BY THEM ARE SENT TO PRACTICALLY EVERY REGION IN OUR COUNTRY AND TO MANY FOREIGN COUNTRIES. IT IS THUS CLEAR THAT THE DEVELOPING SCIENCE AND PRODUCTION AND ACCELERATING THE RATES OF TECHNICAL PROGRESS ARE THE SUBJECT OF PARTICULAR CONCERN FOR THE LENINGRAD PARTY ORGANIZATION. THE PARTY ORGANIZATIONS ESTABLISHED CONTROL OVER THE CREATION AND FUNCTIONING OF SECTIONS AND BUREAUS AND SHOPS AND SECTORS OF AUTOMATION AND MECHANIZATION AT ALL MAJOR ENTERPRISES, AND OVER THE FULFILLMENT OF THE TECHNICAL PROGRESS PLANS. PREVIOUSLY EXISTING DESIGN AND TECHNOLOGICAL SERVICES DEVELOPING MECHANIZATION EQUIPMENT AND MEANS WERE REINFORCED, AND THEIR LABORATORY AND EXPERIMENTAL BASE WAS STRENGTHENED. THIS HAS HELPED INCREASE THE RATES AND EXPAND THE FRONT OF PRODUCTION AUTOMATION AND MECHANIZATION. THE EXPERIENCE OF THE WORK OF THE AMALGAMATED ENTERPRISES AND SPECIALIZED PRODUCTION FACILITIES GAVE THE LENINGRAD WORKERS THE OPPORTUNITY TO EXPAND AND DEEPEN SPECIALIZATION. AS AN EXPERIMENT, NINE PRODUCTION ASSOCIATIONS WERE CREATED SOME YEARS AGO WHICH COMPRISED 49 ENTERPRISES AND 14 SCIENTIFIC RESEARCH AND PLANNING AND DESIGN ORGANIZATIONS. THESE ASSOCIATIONS EMBRACED THE LEADING BRANCHES OF LENINGRAD INDUSTRY AND WERE FORMED ON THE BASIS OF THE HOMOGENEITY OF THE OUTPUT AND THE COMMUNITY OF THE APPLIED TECHNOLOGY AROUND THE LARGEST ENTERPRISES POSSESSING A HIGH PRODUCTION AND SCIENTIFIC AND TECHNICAL POTENTIAL AND QUALIFIED CADRES.

UNCLASSIFIED

4/7 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0100608

ABSTRACT/EXTRACT--THE INCLUSION OF MAJOR SCIENTIFIC AND TECHNICAL ORGANIZATIONS IN THE ASSOCIATIONS, THEIR ORGANIC LINK WITH PRODUCTION, AND CONSEQUENTLY THE INCREASED RESPONSIBILITY FOR THE TECHNICAL STANDARD AND QUALITY OF PRODUCTION AND FOR THE EFFICIENCY OF PRODUCTION HAVE PERMITTED A CONSIDERABLE REDUCTION IN THE TIME TAKEN FOR DEVISING AND ASSIMILATING NEW ARTICLES AND AN INCREASE IN THE VOLUME OF SCIENTIFIC, RESEARCH, EXPERIMENTAL, AND DESIGN WORK. THE TECHNICAL STANDARD AND QUALITY OF ARTICLES HAVE CONSIDERABLY RISEN IN ALL ASSOCIATIONS, AND EXPORT SUPPLIES HAVE INCREASED SHARPLY. THE OBKOM BUREAU RECENTLY EXAMINED THE QUESTION OF THE ROLE OF A LENINGRAD INSTITUTE IN RAISING THE TECHNICAL LEVEL OF PRODUCTION AND LABOR PRODUCTIVITY IN THE ENTERPRISES OF THE RADIO INDUSTRY. IT TURNED OUT THAT, DESPITE THE INSTITUTE'S GREAT WORK, ITS INFLUENCE THERE WAS EXTREMELY SMALL. THUS, IN RECENT YEARS THE INSTITUTE HAS DEVELOPED UPWARDS OF 200 TYPES OF MODEL TECHNOLOGICAL EQUIPMENT AND MEANS OF MECHANIZATION, WHILE ONLY INDIVIDUAL, ISOLATED MODELS ARE IN USE IN THE ENTERPRISES, AND THERE IS NO QUESTION OF THE COMPLEXITY OF INTRODUCING THEM. THIS IS EXPLAINED BY THE FACT THAT THERE WERE NO FACILITIES FOR THE SERIES MANUFACTURE OF THE EQUIPMENT PROPOSED BY THE INSTITUTE. A SIMILAR SITUATION EXISTS IN THE WORK OF THE LEADING INSTITUTES OF A NUMBER OF OTHER MINISTRIES. THE OBKOM BUREAU CAME TO THE CONCLUSION THAT THE CREATION OF SCIENTIFIC, PRODUCTION AND TECHNOLOGICAL ASSOCIATIONS MAY BE THE SOLUTION TO THIS PROBLEM. SUCH AN ASSOCIATION HAS NOW BEEN ORGANIZED IN LENINGRAD BY THE USSR MINISTRY OF SHIPBUILDING INDUSTRY.

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ABSTRACT/EXTRACT--IT COMPRISES THE SCIENTIFIC RESEARCH INSTITUTE OF THE TECHNOLOGY OF SHIPBUILDING WITH EXPERIMENTAL PRODUCTION, AND THREE SERIES PRODUCTION PLANTS LOCATED IN THE CITY AND THE OBLAST WHICH ARE REORGANIZING PRODUCTION FOR THE OUTPUT OF MEANS OF MECHANIZATION AND AUTOMATION FOR THE SHIPBUILDING ENTERPRISES. IN THE ELECTRONICS INDUSTRY THE SCIENTIFIC AND PRODUCTION POSITRON ASSOCIATION WILL OBVIOUSLY BE ABLE TO CONSIDERABLY ACCELERATE THE COMPLEX MECHANIZATION AND AUTOMATION OF PRODUCTION. IT COMPRISES A LEADING INSTITUTE, THE DEVELOPER OF RADIO PARTS, TWO PLANTS INTENDED FOR THE COMPLEX ASSIMILATION OF SERIES PRODUCTION AS WELL AS NEW TECHNOLOGICAL EQUIPMENT, IN ADDITION TO A NUMBER OF OTHER ENTERPRISES AND ORGANIZATIONS. THUS A SINGLE PROCESS IS BEING CREATED, THE DEVELOPMENT OF THE NEW ARTICLE, THE EQUIPMENT AND TECHNOLOGY NECESSARY FOR ITS OUTPUT, AND THE ORGANIZATION OF THE SERIES OUTPUT OF THE ARTICLE. IT SHOULD ALSO BE MENTIONED THAT, UNDER THE CONDITIONS OF THE ECONOMIC REFORM AND THE CENTRALIZED BRANCH CONTROL OF INDUSTRY, PRODUCTION AND SCIENTIFIC PRODUCTION ASSOCIATIONS ARE PROVIDING THE POSSIBILITY FOR THE MOST HARMONIOUS COMBINATION OF THE ECONOMIC AND ADMINISTRATIVE METHODS OF THE LEADERSHIP OF ENTERPRISES, AND ARE CREATING FAVORABLE CONDITIONS FOR THE WORK OF THE CENTRAL ECONOMIC ORGANS. THERE IS A REDUCTION IN THE NUMBER OF PROJECTS SUBJECT TO CONTROL FROM THE CENTER, WHILE MINISTRIES, DEPARTMENTS, AND PLANNING ORGANS ARE BEING RELEASED FROM THE SOLUTION OF MANY SHORT TERM QUESTIONS, AND CAN OCCUPY THEMSELVES MORE WITH THE MAIN DIRECTIONS OF THE DEVELOPMENT OF THE BRANCHES OF THE NATIONAL ECONOMY.

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ABSTRACT/EXTRACT--I SHOULD LIKE TO STRESS PARTICULARLY THAT THE LOCALITIES ARE NOT CREATING ANY ADDITIONAL MANAGERIAL LINKS: THE LEADERSHIP OF ENTERPRISES CONTAINED WITHIN THIS OR THAT ASSOCIATION IS PERFORMED THROUGH THE ADMINISTRATION AND APPARATUS OF ITS HEAD ENTERPRISE. THE PARTY OBLAST, CITY, AND RAYON COMMITTEES HAVE ENLISTED PRACTICALLY ALL ENTERPRISE AND BRANCH INSTITUTES FOR THE COMPILATION OF A CONSOLIDATED SPECIALIZATION PLAN FOR LENINGRAD INDUSTRY. THE GENERAL COORDINATION OF THE WORK AND THE METHODOLOGICAL LEADERSHIP HAVE BEEN ENTRUSTED TO THE SCIENTIFIC RESEARCH INSTITUTE FOR MACHINE BUILDING TECHNOLOGY, AND THE BRANCH DRAFTING INSTITUTES WILL DETERMINE THE PROSPECTS FOR THE DEVELOPMENT OF EVERY BRANCH OF LENINGRAD INDUSTRY FOR 1971-1975 AND FOR A NUMBER OF BRANCHES UP TO 1980, TAKING INTO ACCOUNT THE REAL CONDITIONS AND OPPORTUNITIES, WORK FORCE RESOURCES, AND CAPACITIES OF CONSTRUCTION ORGANIZATIONS. GREAT BEWILDERMENT IS CAUSED BY THE POSITION TAKEN BY A NUMBER OF MINISTRIES IN CONNECTION WITH THE JOINING OF SCIENTIFIC RESEARCH AND DESIGN ORGANIZATION AND PLANTS INTO ASSOCIATIONS AND CREATING SCIENTIFIC TECHNICAL PRODUCTION ASSOCIATIONS. HERE EVERYTHING SEEMS TO BE AS CLEAR AS CAN BE: THE EFFECTIVENESS AND GREAT ADVANTAGES OF ORGANIC TIES BETWEEN SCIENCE AND PRODUCTION AND THE CONCENTRATION WITHIN THE FRAMEWORK OF A SINGLE PRODUCTION AND ECONOMIC COMPLEX OF RELATED ENTERPRISES AND ORGANIZATIONS HAVE BEEN PROVED BY EXPERIENCE; THERE ARE PARTY AND STATE INSTRUCTIONS ON THIS SCORE, BUT SOMETIMES NOTHING IS DONE ABOUT IT.

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7/7 018 UNCLASSIFIED PROCESSING DATE--18SEP70
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ABSTRACT/EXTRACT--FOR YEARS, FOR EXAMPLE, WE HAVE FAILED TO CONVINCE THE USSR MINISTRY OF THE MACHINE TOOL AND TOOL BUILDING INDUSTRY TO TRANSFER TO THE SVERDLOV ASSOCIATION AN INDIVIDUAL MACHINE TOOL BUILDING DESIGN BUREAU WHICH WAS ONCE UNDER ONE OF THE PLANTS OF THE PRESENT ASSOCIATION. THIS IS LIMITING THE POSSIBILITIES OF THE LENINGRAD ENTERPRISES IN IMPROVING THE STANDARD AND QUALITY OF THE MACHINE TOOLS BEING MANUFACTURED. IT OFTEN HAPPENS THAT MINISTRIES AGREE TO CREATE ASSOCIATED ORGANIZATIONS AND FIRMS, BUT ONLY FORMALLY. IN ACTUAL FACT NOTHING CHANGES: EACH ORGANIZATION KEEPS ITS OWN CURRENT ACCOUNT AND ITS PREVIOUS COMPLEX OF CONTROL SERVICES, AND THEIR PLANNING AND SUPPLY ARE CARRIED OUT SEPARATELY. IN FORMULATING AND MAKING ANY DECISIONS, THE MINISTRIES AND PLANNING ORGANS STILL PLACE THE RESPONSIBILITY FOR THEIR FULFILLMENT ON THE INDIVIDUAL PLANTS BELONGING TO THE ASSOCIATIONS, THEREBY, AS IT WERE, DISCOUNTING THE VERY EXISTENCE OF THE ASSOCIATIONS, ALTHOUGH IT IS UNDERSTANDABLE THAT UNDER THE CONDITIONS OF THE ASSOCIATION THESE ENTERPRISES IN PRACTICE CANNOT RESOLVE THE MANY TASKS SET BEFORE THEM INDEPENDENTLY AS ISOLATED PRODUCTION FACILITIES. UNDOUBTEDLY SUCH ACTIONS DO NOTHING BUT DISCREDIT THE NEW FORMS OF ORGANIZING SCIENCE AND PRODUCTION.

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AUTHOR-- ROMANOV, G., SECRETARY, LENINGRAD REGIONAL COMMITTEE OF THE COMMUNIST PARTY

TITLE-- TODAY AND TOMORROW OF THE ASU

NEWSPAPER-- EKONOMICHESKAYA GAZETA, JANUARY, 1970, NR 1, P 4

ABSTRACT-- THE ARTICLE OUTLINES THE ROLE OF THE LENINGRAD REGIONAL PARTY COMMITTEE IN PROMOTING THE USE OF ELECTRONIC COMPUTERS AND AUTOMATED MANAGEMENT SYSTEMS /AMS/ IN THE LENINGRAD OBLAST.

DURING THE 60,S, MACHINE COMPUTATION STATIONS AND TRAINING CENTERS WERE ESTABLISHED AT THE IZHORA PLANT, OPTICAL-MECHANICAL, "KRASNOGVARDEYETS", "SKOROKHOD", AND "ELEKTROSILA" CORPORATIONS, AND SOME OTHER PLANTS. IN 1964, HOWEVER, THERE WERE ONLY ONE ELECTRONIC COMPUTER "URAL-4", NINE ENGINEERING TYPE COMPUTERS "URAL-1", AND ABOUT 5,000 RATHER DATED CALCULATING MACHINES IN THE ENTIRE LENINGRAD SOVNARKHOZ. DURING THE SAME YEAR, A SPECIALIZED CORPORATION, "LENELEKTRONMASH", WAS ESTABLISHED. IT WAS RESPONSIBLE FOR THE DEVELOPMENT AND INTRODUCTION OF COMPREHENSIVE AUTOMATED PLANNING AND MANAGEMENT SYSTEMS AT THE SOVNARKHOZ PLANTS AND INSTITUTIONS. SPECIALISTS FROM THE POLYTECHNIC INSTITUTE, THE ENGINEERING-ECONOMY

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INSTITUTE, THE INSTITUTE OF PRECISION MECHANICS AND OPTICS, THE LENINGRAD UNIVERSITY, AND THE ACADEMY OF SCIENCES WERE CONSCRIPTED TO IMPLEMENT THIS PROGRAM AT THE PLANTS. SCHOOLS TO TRAIN CADRE WERE ESTABLISHED AT SOME LENINGRAD INSTITUTIONS OF HIGHER LEARNING. TODAY, THE LENINGRAD AND THE LENINGRAD OBLAST HAVE 143 COMPUTATION CENTERS, 91 STATIONS, AND 155 BUREAUS OF MACHINE CALCULATIONS. THESE INSTITUTIONS OPERATE HUNDREDS OF ELECTRONIC COMPUTERS AND THOUSANDS OF CALCULATORS. THIRTY SHIPBUILDING, RADIOELECTRONICS, ELECTRIC, HEAVY MACHINE CONSTRUCTION, TRANSPORT EQUIPMENT, INSTRUMENT CONSTRUCTION, AND ENERGETICS MACHINERY PLANTS ARE ABOUT TO SWITCH TO AUTOMATED PRODUCTION MANAGEMENT SYSTEMS. PLANS CALL FOR THE ESTABLISHMENT OF THREE CENTERS IN LENINGRAD FOR THE DEVELOPMENT OF AUTOMATED SYSTEMS OF INDUSTRIAL MANAGEMENT. LEADING ORGANIZATIONS AND SHARING COMPUTATION CENTERS ARE BEING ORGANIZED IN THE LEADING INDUSTRIES OF THE REGION.

THE ARTICLE ALSO NOTES THAT, DESPITE THE ACUTE SHORTAGE OF ELECTRONIC COMPUTERS, THE "MINSK-22" TYPE OF A COMPUTER IS USED, ON THE AVERAGE, ONLY 9 HOURS A DAY. SEVENTY-EIGHT PERCENT OF THIS TIME IS SPENT ON ENGINEERING AND RESEARCH PROBLEMS, 12 PERCENT ON THE ECONOMIC INFORMATION PROCESSING, AND ONLY 4 PERCENT ON PRODUCTION PLANNING.

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VDOVENKO, V. M., ROMANOV, G. A., and SOLNTSEVA, L. V.

"Heat of Formation of $UOF(OH) \cdot 0.5\ H_2O$"

Leningrad, Radiokhimiya, Vol 12, No 5, 1970, pp 764-766

Abstract: In continuation of their work, the authors determined the enthalpy of formation of $UOF(OH) \cdot 0.5\ H_2O$ to be -374.9 ± 5.0 Kcal/mole. The following values were found for the reaction

$$UOF(OH) \cdot 0.5\ H_2O = UOF(OH) + 0.5\ H_2O$$

($\Delta H = 5.19$ Kcal/mole, $\Delta\Phi = 1.46$ Kcal/mole, and $\Delta S = 12.48$. The heat of formation of UOF(OH) was found to be -340.8 ± 5.0 Kcal/mole.

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VDOVENKO, V. M., ROMANOV, G. A., KALININ, G. V., and SOLNTSEVA, L. V.

"Synthesis and Investigation of Some Physico-Chemical Properties of $UOF(OH) \cdot 0.5\ H_2O$"

Leningrad, Radiokhimiya, Vol 12, No 5, 1970, pp 762-764

Abstract: The compound $UOF(OH) \cdot 0.5\ H_2O$ was synthesized by adding fluorine ions at a ratio of 1:1 to U(IV) solutions in perchloric acid. Upon addition of a base the color of the solution changes from greenish-blue to brown and a fine crystalline black precipitate falls out at pH 1.8. The product contains 79.76% of uranium, agreeing well with the proposed structure. Thermogravimetric and infrared analyses carried out also supported the proposed structure for the above product. This compound is insoluble in water, and dissolves easily in aqueous solutions of mineral acids forming a fluoride complex UF_3^{+}. When heated to 250° it converts to UOF(OH).

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