"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR B UDC 536.248.2.001.5

BAKLASTOV, A. M., and KLEVTSOV, A. V.

"Studies of Change in Pressure and Coefficient of Friction during Condensation of Moving Vapor in a Slotted Conduit"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Sekts. Promteploenergetiki. Podsekts. Sushil'n i teploobmen. ustroistv (Reports of the Scientific-Technical Conference on Summaries of Scientific Research Work for 1968-1969. Industrial Thermal Engineering Section, Subsection on Desiccating and Heat Transfer Devices), Moscow Power Engineering Institute, 1970, pp 91-95 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G91)

Translation: Experimental values are determined for coefficient of friction in condensates of water vapor, ethyl alcohol and benzol, passing through a slotted channel 1.1mm wide by 300mm long. The channel is formed by two parallel walls of sheet brass, one of which is cooled and the other insulated. Two figures, five references.

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USSR UDC 536.248.2.001.5

GORBENKO, V. A., and BAKLASTOV, A. M.

"On the Question of Condensing Vapor Out of Vapor-Bearing Media Onto Porous Surfaces, and Removal of Condensate through Capillaries"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Sekts. Promteploenergetiki. Podsekts. Sushil'n i teploobmen. ustroistv (Reports of the Scientific-Technical Conference on Summaries of Scientific Research Work for 1968-1969. Industrial Thermal Engineering Section, Subsection on Desiccating and Heat Transfer Devices), Moscow Power Engineering Institute, 1970, pp 103-108 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G88)

Translation: Experimental values have been determined for the pressure drop required to evacuate condensate through glass and steel capillaries with diameters of 0.25 and 0.4mm, and lengths up to 60mm. Two figures, nine references.

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USSR

UDC 616.001+612.172.4

LIRMAN, A. V., BAKMAN, S. M., and BAKMAN, A. M.

"Electrocardiographic Characteristics of Stress States"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 8, 1973, pp 24-26

Abstract: EKG examination of three groups of patients under stress -- individuals who suffered injuries, cancer patients during planned operations, patients receiving glucocorticoid therapy for various somatic diseases - revealed more or less similar changes: decrease in amplitude of the R and T waves, occasional appearance of the U wave, lengthening of the PQ and ST intervals, displacement (usually downward) of the ST interval, and increase in the systolic index. These changes were paralleled by alterations in the concentration of sodium, potassium, and calcium ions. EKG examination in stress situations, especially in the acute stage of a trauma, reveals metabolic disturbances and permits timely corrective action.

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Acc. Nr: A70052586 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0000

B

4

101349n **Basic trends in high-frequency methods of heating during the preparation of articles from expanded polystyrene.** Dmitriev, A. V.; Shelina, T. A.; Knyazhevskaya, G. S.; Bakman, L. L.; Lepilova, M. V.; Zakharov, V. G.; Suknotov, K. F.; Antonova, E. N. (USSR). *Tr. Vses. Nauch.-Issled. Inst. Tokov Vys. Chastoty* 1969, No. 10, 162–74 (Russ). A continuous process for producing expanded polystyrene (I) shapes, such as are used in packaging or in insulation, was developed. Dry I granules are wetted with 0.5% soap soln., to increase the elec. loss factor, and heated in molds acting as electrodes by an alternating electromagnetic field at 13 MHz frequency and 500 V/cm field potential. The energy generated by such a field is ~0.5 W/cm³ I, which is sufficient to sinter and bond the granules. Diagrams show the molds and the process lay-out. CPJR

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REEL/FRAME
19821283

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

Acc. Nr: AT0052581 Abstracting Service: CHEMICAL ABST. 5-7 B Ref. Code: URC000

101207q **Thermal treatment of polyamides by high-frequency heating.** Zakharov, V. G.; Kushch, E. V.; Knyazhevskaya, G. S.; Bakman, L. L.; Podymov, A. N. (USSR). *Tr. Vses. Nauch.-Issled. Inst. Tokov Vys. Chastoty* 1969, No. 10, 189–200 (Russ). The heat treatment of polyamides (I), e.g., Kapron, P-68, and AK-7, and their elec. properties were studied. Optimum heat treatment conditions were: the I article was immersed in hot mineral oil I-45 (≥ crystn. temp. of I) between the electrodes of a condenser and heated in a high frequency current (27 MHz, 1000–2000 V/cm) to the crystn. temp. The article was then removed from the condenser area, set aside until the crystn. was completed, and removed from the hot oil allowing to cool in the air. The technique increased the heat treatment rate 5–10-fold and could be readily automated. I articles treated in a high frequency current had good mech. properties. CKJR

REEL/FRAME
19821278

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USSR

UDC 616.001+612.172.4

LIRMAN, A. V., BAKMAN, S. K., and BAKMAN, A. M.

"Electrocardiographic Characteristics of Stress States"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 8, 1973, pp 24-26

Abstract: EKG examination of three groups of patients under stress -- individuals who suffered injuries, cancer patients during planned operations, patients receiving glucocorticoid therapy for various somatic diseases - revealed more or less similar changes: decrease in amplitude of the R and T waves, occasional appearance of the U wave, lengthening of the PQ and ST intervals, displacement (usually downward) of the ST interval, and increase in the systolic index. These changes were paralleled by alterations in the concentration of sodium, potassium, and calcium ions. EKG examination in stress situations, especially in the acute stage of a trauma, reveals metabolic disturbances and permits timely corrective action.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

BAKO ANDRAS

"Methods of Solution and Application of the Problem of Search for Minimum Paths between Many Points"

Magy tud. akad. Szamitastechn. kozp. kozl. [Hugarian], 1971, No 6, pp 49-55 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V565 by V. Kozyrev)

Translation: A review is presented of methods of solution of problems formulated in the title. These methods are analyzed (RZhMat, 1961, 1A311; 1967, 6V301; 1973, 1V679) from the computational standpoint. Applied problems of the PERT type are presented, requiring that minimal paths be located.

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USSR

UDC: 8.74

BAKONIN, V. N., BALUYEV, A. N., BELOVA, K. M., KURKOV, V. L., RABININ, V. N.

"Packet Processing System for the BESM-3M Computer"

V sb. Metody vychisleniy (Methods of Computations--collection of works), vyp. 7, Leningrad, Leningrad University, 1971, pp 139-147 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V538)

Translation: The authors consider an operational system for packet processing of a stream of small problems. The system is a development of the "Avtooperator" system worked out at the Computing Center of the Siberian Department of the Academy of Sciences of the USSR. In accordance with this system, a supervisory program is placed in the memory of the BESM-3M to control packet processing, and each problem of the packet is provided with an instruction written in a special language. The supervisory program reads each instruction and prints out the number and time of reception of the problem on the alphanumeric printer. The instruction is then verified, translated into the internal language, and execution begins. It is noted that the supervisory program can model both operations in accordance with the set of codes on the control panel register and on the halt register.

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USSR

BAKONIN, V. N. et al., Metody vychisleniy, vyp. 7, Leningrad, Leningrad University, 1971, pp 139-147

However, if commutation between external devices, changing of magnetic tapes and so forth is required, the supervisory program signals to the operator and prints out the appropriate request on the alphanumeric printer. When a situation arises in which a client's problem is interrupted, the supervisory program prints out standard information on this interruption, performs the next point of the instruction, and returns control to the program of the problem. After a new interruption, the supervisory program goes on to the next point if there has been no special instruction to interrupt this order. Taking the problem from the computer, the supervisory program records its number, the date and elapsed time in a special register, and prints out the time of day and the reason for the removal. Reasons may be: 1) completion of a job in accordance with instructions; 2) lapse of requested time; 3) a situation has arisen which is not provided for in the instructions. The operation of the computer in the packet processing mode is described. Instructions on the supervisory program are given.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 632.934

GEGECHAVA, G. V., and BARRADZE, I. S.,

"Cvicidal Effect of Combined Mixture of Sevin with Phosphamide and Methylnitrophos"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 58, No 1, 1970, pp 205-208

Abstract: Results of the toxicity study of combined mixtures of sevine with phosphamide and methylnitrophos (metathion) against the ova of citrus white fly are reported. It has been determined experimentally that the mixture of sevine and phosphamide is most effective. A synergistic effect is observed with components mixed in ratios of 1:2.5; 1:6.24; 1:11.2; and 1:0.068. When sevine is mixed with methylnitrophos, such a phenomenon is observed only with ratios of 1:0.16 and 1:0.5. Other ratios give lower toxicity, down to the level of only a marked antagonism.

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USSR

UDC 612-019

BAKRADZE, O. S., Institute of Physiology, Academy of Sciences, Georgian SSR

"Mechanisms of Radiation-Induced Disturbances in the Visual System of Rabbits"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 61, No 1, 1971, pp 157-160

Abstract: Light flashes and electrical stimulation of the lateral geniculate body or optic tract were used to study disturbances in the visual system of rabbits following irradiation. Irradiation of the head at doses of 3 to 4 rad produced a slight intensification of evoked potential but at total doses of 12 to 15 krad, the amplitude of the evoked potential decreased and at doses of 17 to 20 krad it disappeared completely. Electrical stimulation of the lateral geniculate body after disappearance of the evoked potential in response to adequate visual stimulation produced evoked potential only in the ipsilateral side of the

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USSR

BAKRADZE, O. S., Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 61, No 1, 1971, pp 157-160

cortex. Doses of 40 to 45 krad produced a slight decrease in the negative component of the evoked potential in response to electrical stimulation, while doses of 50 to 55 krad caused it to disappear completely. The positive phase of the evoked potential, on the other hand, did not change significantly at this time. The disappearance of evoked potential in the visual cortex after doses of 17 to 20 krad is ascribed to the injurious effect of radiation on the visual analysor. However, at these doses the cortex can continue to function and respond to electrical stimulation of the lateral geniculate body.

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SOLUBILITY OF YTTRIUM ALUMINATES AND GALLATES CONTAINING NEODYMIUM IN PBF SUB2.1.17PBO.0.35B SUB2 O SUB3 MELTS -U-

AUTHOR-(03)-BAKRADZE, R.V., KUZNETOSVA, G.P., SADOVNIKOVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 82-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--GARNET, YTTRIUM, ALUMINATE, GALLIUM, NEODYMIUM, CRYSTAL, SOLID SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0714 STEP NO--UR/0020/70/191/001/0082/0085

CIRC ACCESSION NO--AT0124384

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0124384
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. METHOD WAS USED TO DET. THE CONDITIONS FOR THE ISOMORPHOUS SUBSTITUTION OF AL BY GA AND OF Y BY ND DURING THE CRYSTN. OF Y-AL AND Y-GA GARNETS FROM MIXTS. OF THE CORRESPONDING OXIDES. THE SOLY. WAS DETD. AT 1100DEGREES BY THE ISOTHERMAL METHOD. THE SOLID PHASES WHICH ARE FORMED ARE SINGLE CRYSTALS OF (Y,ND) SUB3 AL SUB5 O SUB12, (Y,ND) SUB3 GA SUB5 O SUB12, AND Y SUB3 (AL,GA) SUB5 O SUB12 WITH THE GARNET STRUCTURE, WHICH DO NOT CONTAIN INTERSTITIAL TRACES OF THE SOLVENT. ALL OF THE SYSTEMS EXHIBIT THE FORMATION OF SOLID SOLNS. CRYSTALS OF SOLID SOLNS. OF ANY GIVEN COMPN. CAN BE OBTAINED ON THE BASIS OF THE SOLY. ISOTHERMS FOR THE GIVEN SYSTEM. FACILITY: VSES. ZAOCH. MASHINOSTROIT. INST., USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

UDC 616.936.3-084.4(479.22)

USSR

BAKRADZE, T. L., Department of Epidemiology of Contagious Diseases, Scientific Research Institute of Medical Parasitology and Tropical Medicine imeni S. S. Virsaladze, Ministry of Health Georgian SSR, Tbilisi

"Elimination of Four-Day Malaria in the Georgian SSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 4, Jul/Aug 71, pp 434-437

Abstract: P. malariae was found in 21-30% of blood samples in Georgia in the years 1921-1927. Evidence for the 25-year period of 1945-1969 shows that this disease is now statistically insignificant. Figures are presented for incidence by district. In 1961-1965 there were no cases noted at all. Five cases were registered in the period 1966-1969, and these are described in detail. In the 1954-1960 period, two cases were found that resulted from blood transfusion. The article concludes that malaria has been eradicated in Georgia, and that any isolated instances occurring now might be caused by newcomers bringing the disease into Georgia in the new heavy wave of migration.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 621.396.677.861.061.1

BAKSENBURG, S. I., GUREVICH, V. I., and LUGANIN, V. A.

"Synthesis of Homogeneous Polarization Radiation Patterns in Single-Reflector Antenna Systems"

Moscow, Antenny, No 12, 1971, pp 34-46

Abstract: The authors analyze polarization patterns PD (the dependence of the radiated field polarization on the angular direction) which are homogeneous, i.e., the field polarization is constant over the entire antenna radiation pattern, for axial-symmetric and offset-feed highly directional reflector antennas. Optimal homogeneous PD have been difficult for form, particularly in antennas having adjustable polarization, and such systems have been hard to design. A rectangular waveguide horn having Huygens' sources distributed over the aperature is used as the primary radiator. The antenna electric field vector components in polar coordinates are used to relate the feed and aperature field phasors. By solving this relationship, the synthesis conditions for a homogeneous PD are obtained and applied to axial-symmetric and circularly, linearly, and elliptically polarized offset-feed reflector antennas. The first two types require that the feed radiates a homogeneous circularly polarized field, while the offset linear PD requires that the radiator field contains a

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USSR

BAKSENBURG, S. I., et al., Antenny, No 12, 1971, pp 34-46

component polarized orthogonally to the basic component and which has an antiphased radiation pattern with respect to the corresponding amplitude and initial phasing. For the offset elliptical version, the polarization ellipse formed by the electric feed radiation field vector components should be rotated by a certain angle, while the phase patterns of two orthogonal components should differ and the differential phase pattern should be of odd parity. The polarization field structure in the aperature is described for sets of cophased parallel and orthogonal electric and magnetic dipoles and 90° out-of-phase vertical and horizontal electric and parallel electric and magnetic dipole sources. Equations are formulated to relate the feed aperature mismatch to the antenna PD. Thus, without considering the antenna radiation characteristics in the far-field region, the conditions for forming homogeneous PD and determining the polarization structure in the aperature is made possible for various types of primary sources.

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USSR UDC 621.791.053:620.172.24:620.172.25

BAKSH, O. A., MONOSHKOV, A. N., and ANISIMOV, Yu. I., Chelyabinsk, Chelyabinsk Polytechnical Institute

"Low-Temperature Effect on the Efficiency of Welded Joints Under Static Tension"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 74-79

Abstract: An outline is given for a procedure for the theoretical evaluation of the ductility and brittleness of welded joints of compact cross section with a smooth interlayer, which are subjected to static tension. Mechanical inhomogeneity and temperature (up to 78° K) are taken into account. The plastic properties and type of failure, in relation to service temperature, were investigated under certain assumptions. Tests samples were made of 45Kh and St10 steels, welded by friction. Tests were conducted on an UMM-5 test machine at temperatures of -20, -78, -100, -150, -170, and -196°C, with a deformation rate of 1.1×10^{-3} sec. The results show that with decreasing T and with a reduction in the relative thickness of the interlayer χ, the yield point and short-time strength increase.

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BAKSH, O. A., et al, Problemy Prochnosti, No 8, Aug 70, pp 74-79

A transfer of fracture from the soft interlayer toward the hard metal was observed in the entire temperature range and at sufficiently small values of χ. The range of interlayers with brittle fracture widened with decreasing temperature, attaining $\chi = 0.9$ at 78° K. The test procedure is described briefly.

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USSR

UDC 661.728.87

PREDVODITELEV, D. A., BAKSHEYEVA, M. S., All-Union Scientific Research Institute of Synthetic Fiber

"New Method of Synthesizing Sulfur-Containing Phosphorus Acids Cellulose Esters"

Leningrad, Zhurnal prikladnoy khimii, Vol 64, No 10, Oct 71, pp 2355-2356

Abstract: The phosphorylation reaction of phosphorus-containing cellulose esters by thion-and thiolderivatives of phosphorus acids is described. The objective of the study was the synthesis of the corresponding acid chlorides: phosphorus thiochloride ($PSCl_3$), butyl thiodichlorophosphite ($C_4H_9SPCl_2$), di-butyl dithiochlorophosphite ($(C_4H_9S)_2PCl$) and ethyl butyl thiochlorophosphonite, as well as the effects of reaction conditions (time, treatment temperature, solvents) on the P content in the synthesized cellulose esters. The starting material was sized viscose staple fabric. Sulfur-containing acid chlorides of trivalent phosphorus were found to be more reactive than thioacid chlorides of pentavalent phosphorus, they yielded cellulose thiolobutylphosphites

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PREDVODITELEV, D. A., et al, Zhurnal prikladnoy khimii, Vol 64, No 10, Oct 71, pp 2355-2358

with up to 8% P. The reaction rate of this acid chlorides with cellulose is closely related to the solvent employed. The highest reaction rate is shown by a reaction in the presence of nitrogen-containing bases. IR spectra of cellulose esters obtained by reaction with phosphorus thiochloride show a weak band in the 780cm-1 region which may be identified as the stretching vibration of P=S groups; the spectra of cellulose esters produced by reaction with butyl thiodichlorophosphite show a band in the 540 cm-1 characterizing the presence of P-S bands. As expected, cellulose thiophosphates have a higher hydrolytic stability than sulfur-containing esters of trivalent phosphorus acids and cellulose. All phosphorus containing esters of polyhydroxy-compounds with 2-4% P are flame- and glow resistant.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 621.791.052:539.414

BAKSHI, O. A., Doctor of Technical Sciences; KLYKOV, N. A., Candidate of Technical Sciences, and RESHETOV, A. L., Engineer

"Fatigue Strength of Welded Joints With Soft Interlayer in Bending With Twisting"

Moscow, Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 1-3

Abstract: A study was made of the effect of the relative thickness (k) of a soft interlayer, determinable as the ratio of interlayer thickness to the thickness of the specimen, on the fatigue strength of 250 x 18 x 18 mm specimens of brand 35 steel in a plane state of stress in bending with twisting. The hardness of the base metal and of the interlayer metal were found to be independent of k. In the plane state of stress, the fatigue strength of specimens with a soft interlayer increases with decreasing k; on twisting, it is independent of the interlayer thickness. At given relative interlayer thickness, with increasing ratio $\gamma = \tau_{yx}/\sigma_x$, where τ_{yx} and σ_x are the tangential and normal stresses acting in the cross section of the specimen, a decrease of limiting normal stresses σ_x is observed. The character of the fatigue failure of specimens with an interlayer depends

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BAKSHI, O. A., et al., Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 1-3

on the dimension of the latter. At k changing from 0.13 to 0.17 and $\delta > 0$, an egress of the fatigue crack into the base metal is observed. At $k \geq 0.6$, the fatigue crack is always located in the metal of the soft interlayer. Four figures, three tables, six bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 621.791:621.642.001.2

BOGOMOLOVA, A. S., Candidate of Technical Sciences, and BAKSHI, O. A., Doctor of Technical Sciences, Chelyabinsk Polytechnic Institute; SEDYKH. V. S., Doctor of Technical Sciences, and TRYKOV, YU. P. and BELOUSOV, V. P., Candidates of Technical Sciences, Volgograd Polytechnic Institute; BORISOVA, V. A., KARAN, A. B., POPOV, A. S., and SAPRYGIN, V. D., Engineers, Moscow

"Practical Design of Welded Vessels and Pipe From Dissimilar Materials"

Moscow, Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

Abstract: Welding tests were conducted for welding dissimilar materials to join dissimilar metals in the fabrication of vessels and pipe. A steel+copper+niobium+titanium joint was made from steel Kh18N10T, M1 copper, niobium, and OT4 titanium, and a magnesium alloy+titanium+aluminum+aluminum alloy joint was made from magnesium alloy MA2-1, VT1 titanium, Ad1 aluminum, and aluminum alloy AMg6. The goal of this work was to determine the proper materials which would yield a reliable diffusion barrier in the intermediate weld layers, and a joint with a strength equal to that of the base metal. Mathematical formulas are given for calculating the tensile and yield strengths of the soft sublayer and critical magnitude of relative thickness of the soft sublayer for which an equal-strength joint can be achieved. For the titanium-steel joint the

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USSR

BOGOMOLOVA, A. S., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

the relative thickness required for the copper sublayer was approximately 0.5 while this value for the magnesium-aluminum was not computed. 4 figures, 1 table, 12 bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 620.178.2

BAKSHI, O. A., KUKIN, A. G., and MONOSHKOV, A. N., Chelyabinsk, Chelyabinsk Polytechnical Institute

"A Method of Evaluating the Reliability of Materials and Welded Joints, Operating at Low Temperatures"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 70-73

Abstract: A method for evaluating the resistance of materials and welded joints to brittle fracture is presented. The method is based on tensometric recording of the process of impact flexure of samples, with subsequent processing of the stress-time oscillogram, for determining the energy of crack formation and propagation, the average speed of crack development, the impact strength, and the breaking point of a sample. A specially designed sample with three notches was used for comparative evaluation of the properties of characteristic sections of materials and welded joints. A procedure is outlined for determining the elastic energy of a sample-machine system for any time instant of sample deformation, right up to the formation of a critical crack in it. Oscillograms of impact flexure of standard and notched samples with a soft interlayer are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 620.178.2

BAKSHI, O. A., KUKIN, A. G., and MONOSHKOV, A. N., Chelyabinsk Polytechnical Institute

"Effect of the Mechanical Inhomogeneity of Welded Joints on Their Resistivity to Brittle Failures Under Low-Temperature Conditions"

Kiev, Problemy Prochnosti, No 10, Oct 70, pp 106-108

Abstract: The effect of the mechanical inhomogeneity of welded joints at low temperatures on the indices of the specific energy of crack formation and propagation, impact toughness, and breaking force was investigated. It is demonstrated that a mechanical inhomogeneity significantly affects the breaking parameters to be determined. The incorrectness of estimating mechanical inhomogeneities of joints from results of impact bending tests of standard specimens is substantiated.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--KINETIC MODEL OF THE CATALYTIC OXIDATIVE DEHYDROGENATION OF N BUTENES OF 1,3,BUTADIENE -U-

AUTHOR-(05)-BAKSHI, YU.M., SNAGOVSKIY, YU.S., GURYANOVA, R.N., GELBSHTEYN, A.I., OSTROVSKIY, G.M.

COUNTRY OF INFO--USSR

B

SOURCE--NEFTEKHIMIYA 1970, 10(1), 7-15

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPUTER, CALCULATION, CHEMICAL REACTION RATE, BUTENE, BUTADIENE, CATALYTIC DEHYDROGENATION, ALGORITHM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1887 STEP NO--UR/0204/70/010/001/0007/0015

CIRC ACCESSION NO--AP0112867

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0112867
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A KINETIC MODEL FOR A COMPUTER PROGRAM WAS USED TO CALC. RATE CONSTS. WITH AN AV. RELATIVE ERROR IS SMALLER THAN OR EQUAL TO 20PERCENT (20-30PERCENT FOR O-CONTG. BY PRODUCTS) FOR N BUTENE CONVERSION TO H SUB2 C:CHCH:CH SUB2 (I) DURING OXIDATIVE DEHYDROGENATION AT 425-70DEGREES OF A BUTENE FRACTION (29.6PERCENT 1, 22.6PERCENT CIS,2, AND 31.6PERCENT TRANS,2,BUTENE,3.12PERCENT H SUB2 C:CME SUB2, 2.3PERCENT I, AND 10.7PERCENT OTHER C SUB2-4 HYDROCARBONS) ON AN UNSUPPORTED, PROMOTED 1:1 BI-MO CATALYST. AT 470DEGREES WITH A FEED MIXT. CONTG. C SUB4 H SUB8, O, N, AND H SUB2 O IN A RATIO OF 1:1.8:18.5:3.9, WITH CONTACT TIME 8.2 SEC, CONVERSION AND SELECTIVITY WITH RESPECT TO I WERE CALCD. TO BE 75 AND 72PERCENT AND WERE FOUND EXPTL. TO BE 75 AND 68PERCENT, RESP. CONSTS ENTERING INTO THE RATE EQUATIONS WERE DETD. WITH THE USE OF A STEEPEST DESCENT ALGORITHM METHOD FOR FINDING THE MIN. OF A FUNCTION OF IN A AND E VALUES OF THE ARRHENIUS EQUATIONS. FACILITY: NAUCH. ISSLED, FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC: 681.337.1

BAKSHIS, B. P., BACHULIS, R. I., GIRDZIYAUSKAS, S. I., ZARETSKAS, V.-S. S., RAGUL'SKAS, K. M., Kaunas Polytechnical Institute

"A Photoelectric Input Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296132, division G, filed 11 Aug 69, published 12 Feb 71, p 158

Translation: This Author's Certificate introduces a photoelectric input device which contains a series hook-up comprised of a source of light flux, a condenser lens, a specimen table with the object to be studied, and an objective lens and photovoltaic cells. As a distinguishing feature of the patent, in order to facilitate focusing of the light flux and adjustment of the sensitive layers of the photovoltaic cells with respect to the object to be studied, the photovoltaic cells in the device are held in a coordinate-positioning unit. Mounted in front of the positioning unit is a beam-splitting element, an objective lens, and a device for visual tracking fitted with a screen with a coordinate grid.

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USSR UDC [illegible]

PASHAYEV, A.Y., TURKIN, I.N., BAKSHIYEV, I.I., GUSEYNOV, G.D.

"Devices For Investigation Of The Conductivity Of Heavily Doped Semiconductors"

Za tekhn. progress (For Technical Progress), 1970, No 6, pp 6-8 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B427)

Translation: A device is described for a noncontact method of measurement of electrical conductivity, which is based on measurement of the losses in an oscillatory circuit during introduction of a specimen. The device is intended for checking of semiconductor disks [shaybu] and ingots under production conditions. The generator feeding the sensor [datchik] circuit with a HF current is assembled using one transistor. By virtue of the elimination of a d-c amplifier and regulators of the anode and filament power supply from the device, a simple portable unit is created. The voltage at the indicator is supplied from a rectifier diode loosely coupled with the circuit; the compensation voltage is supplied from a highly-stable standard cell. Checking of the resistivity is accomplished in the range of 10^{-2}-- 10 ohm.cm. Reproducibility of the results is better than 1% [sic]. The reliability and stability of operation of the device were checked by tests with prolonged uninterrupted operation (from 50 to 150 hours). 3 ref. I.R.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR UDC 621.375.82

BAKSHT, R. B., BYCHKOV, Yu. I., MESYATS, G. A.

"Possibility of Using Vapor Formed Under the Effect of a Powerful Electron Beam on a Target as a Means of Obtaining Coherent Radiation"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 3, Moscow, Soviet Radio, 1972, pp 89-90 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D931)

Translation: The possibility of obtaining metal vapor under the effect of a powerful electron beam on a target formed during pulse vacuum breakdown is discussed. The optimal parameters of such a beam (10^8 watts/cm^2 with an energy of 100-200 kiloelectron volts) permit the expenditure of an energy equal to the sublimation energy on evaporating one atom. Discharge to the vacuum diode of the storage element with an energy of 450 joules offers the possibility of obtaining a vapor concentration of no less than 10^{17} cm^{-3} in a volume of 20 cm^3. The vapor formed can be used as a means of generating radiation.

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USSR UDC: 519.2

BAKSHTIS, A.

"Convergence to Logarithmic Distribution Laws"

Lit. mat. sb. (Lithuanian Mathematics Collection), 1972, 12, No 1, pp 23-39 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V33 [author's abstract])

Translation: Logarithmic distribution laws are generalized to the entire number line, and a proof is given for a criterion where the limiting distribution function of products of independent random quantities can be determined from the limiting distribution function of the sums of these quantities.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC: 519.21

BAKSHTIS, A.

"Convergence to Logarithmic Distribution Laws"

Vil'nyus, Litovskiy Matematicheskiy Sbornik, vol 12, No 1, 1972, pp 23-39

Abstract: The purpose of this paper is to investigate the role played by the logarithmic distribution laws in a multiplication of independent random values, the so-called M system. Also discussed is the place of these distribution laws in the central limit problem of the M system. The paper is divided into three sections. In the first, the distribution laws are extended over the whole straight line; in the second, the M-unlimitedly divisible logarithmic laws are considered; in the third, the convergence criterion to the quasisymmetrical distribution laws is proved. The author is associated with the Kaunas Polytechnical Institute.

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BAKSHTIS, A.

"Convergence of Distribution Rules of Products of Independent Random Quantities"

Lit. mat. sb. [Lithuanian Mathematics Collections], Vol 11, No 4, 1971, pp 727-744, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V35 by the author).

Translation: A central limit theorem is proven for the products of independent random quantities

$$\zeta_n = a_n \xi_{n1} \xi_{n2} \cdots \xi_{nk_n},$$

in which ξ_{nk} are M-limit negligible: for any $\varepsilon > 0$

$$\lim_{n \to \infty} \max_{1 \leq k \leq k_n} P\{(|\xi_{nk}| - 1)^2 > \varepsilon\} = 0.$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PRINCIPLES OF THE FORMATION OF CRYSTALS AND CRYSTALLINE CONCRETIONS OF CALCIUM HYDROXIDE IN SETTING CEMENT STONE -U-

AUTHOR-(05)-BUTT, YU.M., TIMASHEV, V.V., BAKSHUTOV, V.S., ILYUKHIN, V.V., GOLOVACHEV, V.P.

COUNTRY OF INFO--USSR

B

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

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--X RAY DIFFRACTION, CRYSTALLIZATION, CALCIUM COMPOUND, CEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0894 STEP NO--UR/0101/70/000/002/0020/0022

CIRC ACCESSION NO--AP0137922

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137922

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VISUAL, X RAY DIFFRACTION, AND ELECTRONOGRAPHIC STUDY OF CRYSTALS AND CRYST. CONCRETIONS OF PORTLANDITE CO(OH) SUB2 (I), FORMED AND GROWING UNDER DIFFERENT CONDITIONS: SATD. SOLNS. CACL SUB2 AND KOH, HYDRATATION OF TRI,CA SILICATE, AND CEMENTS IN EXCESS OF WATER OR IN USUAL D. OF CEMENT PASTE, IS GIVEN. I CRYSTALLIZES IN THE FORM OF COLORLESS HEXAGONAL TABLETTES OF PRISM AND BELONGS TO THE SPACE GROUP C3ML, A EQUALS B EQUALS 3.60, C EQUALS 5.0 ANGSTROM, INTERAT. DISTANCES CA,O 1.14, O,H 0.79, H,H 1.03 ANGSTROM. THE CONCRETIONS ORIGINATE IN THE PERIOD OF SUPERSATD. COMPN. OF SOLN. OWING TO SIMULTANEOUS GROWTH OF CRYSTALS FROM ONE POINT OR EDGE. THE SIZE OF CRYSTALS FORMING THE CONCRETIONS IS NOT HIGHER THAN THE SIZE OF CRIT. CRYSTG. NUCLEUS (10 PRIME NEGATIVE6-10 PRIME NEGATIVE5 CM); BY FURTHER INCREASE OF THE CRYSTAL SIZE, THE PROBABILITY OF FORMATION OF THE CONCRETIONS DECREASES. FACILITY: MKHTI IM. MENDELEEVA, MOSCOW, USSR.

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USSR UDC 547.821.07:542.944.1

PROSTAKOV, N. S., BANTIDAYEV, O. B., Friendship of Peoples University imeni Patrice Lumumba, Moscow

"Substituted Pyridines. 5-Methyl-4-phenyl-2(aminoalkoxy, aroxymethyl)pyridines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 9, Sep 71, pp 1211-1212

Abstract: 2,5-Dimethyl-4-phenylpyridine was used in the synthesis of α-aminomethyl and α-alkoxy(aroxy)methyl derivatives of this pyridine system. The transition from the pyridine base to its derivatives was accomplished through 5-methyl-4-phenyl-2-(bromomethyl)pyridine. Bromination of 2,5-dimethyl-4-phenylpyridine was accomplished with N-bromosuccinimide by the Wohl-Ziegler reaction in the presence of benzoyl peroxide.

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B

USSR UDC 615.371:576.851.45].015.46

BAKTYGALIYEV, G. G., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR

"The Effect of Immunization with EV Plague Vaccine on Some Factors Affecting Natural Resistance"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, p 134

Translation: Active immunization against plague is already 70 years old and it now embraces many millions of people. However, science has very little information on the effect of plague vaccine on natural resistance to various infections or on the individual mechanisms responsible for this resistance.

The purpose of the work was to study the effect of the vaccinal process stimulated by the use of live EV plague vaccine on the humoral mechanisms of natural resistance - lysozyme and complement activity, properdin level, and general bactericidal activity of blood serum. Suitable observations were conducted on animals (rabbits) and human beings systematically vaccinated against plague.

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USSR

BAKTYGALIYEV, G. G., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, p 134

The experiments on rabbits revealed that the vaccine produced distinct changes in the indices of natural immunity. The changes included a decrease in the activity of the humoral mechanisms of natural immunity shortly after vaccination (1-7 days), with restoration to the original level by the 30th day.

Observations on human beings revealed different kinds of changes in the mechanisms of nonspecific resistance after primary immunization and revaccination some time later. The initial administration of EV vaccine did not bring about any significant changes in the indices studied (except a slight increase in the lysozome content on the 15th day after injection). Revaccination some time later caused a clearly significant decrease in serum lysozyme and complement, and reduction in the nonspecific bactericidal activity of serum. These changes were most apparent three days after vaccination. The properdin level was more or less unaffected.

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BAKTYGALIYEV, G. G., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, p 134

The mechanism of the phenomenon observed seems to be chiefly nonspecific, and related to the effect of the vaccine as an extreme stimulant of the nervous system, as indicated by the indistinct antigenic properties exhibited by the vaccine. Specific antibodies were found in the blood of vaccinated animals in only 3 of 29 determinations, in very low titers. Specific immunological shifts in the blood were noted in only eight of 45 of the vaccinated and revaccinated persons. It was apparently due to the low antigenic activity of EV activity after 7 days that there were no profound changes in the state of the humoral antimicrobial factors, as is usually the case when immunization is carried out with preparations that stimulate the active production of specific antibodies.

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USSR

DERYAGIN, B. V., BAKUL', V. M., and FEDOSEYEV, D. V.

"Synthesis of Diamonds at Low Pressures"

Kiev, Visnik Akademiyi Nauk Ukrayins'koy RSR, Vol 35, No 5, May 71, pp 80-88

Abstract: On the basis of results obtained at the Institute of Superhard Materials, State Plan of the UkSSR, production of synthetic diamonds was organized in 1961 at an experimental plant of this institute. This initiated the development of a USSR synthetic diamond industry. At present the static method of high-pressure synthesis (50-70 kilobar at 1200-1500°) is being applied in preference to the dynamic method involving shock-wave compression to 750-1000 kilobar, which takes less time, but leads to smaller crystals. Since 1956, work on the low-pressure synthesis of diamonds has been conducted at the Division of Surface Phenomena, Institute of Physical Chemistry, Academy of Sciences USSR. The low-pressure synthesis is based on the decomposition of a carbon-containing gas such as methane and epitaxial crystallization of C in the diamond form on face (III) of diamond seed crystals. The theory of epitaxial synthesis is outlined in articles by Fedoseyev, V. P. Varnin, and Deryagin (DAN SSSR, Vol 195, No 6, 1970) and Bakul' (Sinteticheskiye Almazy Vol 2, No 8, 1970). In work carried out jointly by the Institute of Physical Chemistry and the Institute of Superhard Materials, it was established that

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DERYAGIN, B. V., et al, Visnik Akademiyi Nauk Ukrayins'koy RSR, Vol 35, No 5, May 71, pp 80-88

epitaxial crystallization of C on diamond seed crystals with the formation of diamond single crystal grains takes place at 1000-1100° and a CH_4 pressure of 0.20 mm. Epitaxial diamond films that can be applied in radioelectronics were also obtained. Spitaxial crystallization of C in the form of diamond was furthermore found to take place from molten metals in which C was dissolved. In the experiments conducted, it was necessary to remove black non-diamond carbon from the diamond surface by treatment with $HClO_4$ or with H_2 at 200 atm and 1000°, because this carbon interfered with the growth of diamond crystals, but methods for purification by gas treatment under mild conditions and a procedure in which parasitic C does not form have been developed. It was found that it is possible to grow epitaxial diamond crystals in the form of threads (Deryagin et al, Kristallografiya, Vol 14, No 3, 1969). This discovery was of importance because of the high rate of growth of such crystals (approx. 10 microns per hr. on the average, reaching 100-400 microns/hr) and because of the exceptional mechanical strength of thread-like crystals or whiskers (presence of 5% by weight sapphire whiskers increases the strength of Ni by a

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DERYAGIN, B. V., et al, Visnik Akademiyi Nauk Ukrayins'koy RSR, Vol 35, No 5, May 71, pp 80-88

factor of four). The VLS method has been developed for growing diamond whiskers under drops of molten metals. Diamond whisker crystals formed minute spheroids that often developed facets, giving rise to isometric crystals. The low-pressure synthesis, in addition to being of value as such, forms a useful supplement to the high-pressure synthesis, because it makes it possible to increase the size of diamond micropowders obtained by the high-pressure method and thus produce a powder with a larger particle size that can be used for industrial grinding. An installation for the application of the low-pressure, epitaxial synthesis on an industrial basis has been completed; production of the first batch of diamonds by this method on a semi-industrial scale is expected in 1971. The weight of the diamonds used for seeding can be increased by 20% per day by the method in question. In the epitaxial synthesis fractionation of C isotopes takes place, so that the crystals which are grown become enriched in ^{13}C. The authors thank V. O. Ryabov, B. V. Spitsyn, Yu. I. Nikitin, A. V. Bochko, V. P. Varnin, V. L. Primachuk, and A. V. Lavrent'yev for their collaboration in the work described.

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BAKULEV, P.A. radio engr

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BAKULEV, P.A.

Glorin

SO: JPRS 56143
01 June 1972

UDC 629.7.058.6.001

PROBABILITY DISTRIBUTION DENSITY OF THE AMPLITUDE DIFFERENCE OF THE SUM OF THE TARGET SIGNAL AND CORRELATED NOISE

P. A. Bakulev, Candidate of Technical Sciences
M. B. Tenin, Engineer

Pages 156-162

In the article on "Joint Probability Distribution Density of the Amplitude and Phase Difference of the Sum of the Signal and Correlated Noise in Interpreted Compensation Devices" the joint probability distribution density of the amplitude and phase difference of the sum of the signal and correlated noise was obtained. In order to obtain the probability distribution density of only the amplitude difference of the sum of the signal and noise it would be possible to integrate the expression for the joint probability density of the amplitude and phase difference with respect to all possible values of the phase difference. However, this operation encounters serious mathematical difficulties as a result of the complexity of the initial expression. Therefore, in the present paper the desired expression for the probability distribution density of the amplitude difference is found by integration of the general expression with respect to the phases Φ_1 and Φ_2 on the basis of the general expression (11) on page 150 for the four-dimensional probability distribution density of the amplitudes and the phases of the sum of the target signal and noise at two points in time t and t - τ

Radio engr

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BAKULEV, P.A. Radio engr

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

BAKULEV, P. A.

Radar

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR UDC 621.396.969.35:621.391.84

BAKULEV, P. A.

"On Analyzing the Effectiveness of Systems of Selection of Moving Targets When Devices for Period-by-Period Compensation are Used"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 134-138 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G18)

Translation: Structural models of systems for selection of moving targets are proposed and substantiated. These models are convenient for analyzing the effectiveness of such systems with regard to the statistical properties of signals and interference. Four illustrations. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

BAKULENKO, V. M.

"Effective Power Arrangement for Flash Tubes"

Minsk, Zhurnal Prikladnoy Spektroskopii; September, 1970; pp 413-7

ABSTRACT: An arrangement for charging a capacitive storage device from a source of sinusoidal voltage through a diode is presented. It is shown that with a zero initial phase of the input sinusoidal voltage it is possible to obtain a high efficiency factor for the charge of the storage device which is theoretically equal to unity. The simplicity and reliability of the storage device, together with other merits, makes possible the wide application of such power sources for gas-discharge flash tubes.

There are 4 illustrations and 5 bibliographic references.

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BAKULEVSKIY A.A.

Acc. Nr: AP0042127 Abstracting Service: NUCLEAR SCI. ABST. 4-70 Ref. Code: UR0089

12371 CORROSION AND ELECTROCHEMICAL BEHAVIOR OF CARBON STEELS UNDER CONDITIONS SIMILAR TO THOSE IN REACTOR OPERATION. Gerasimov, V. V.; Gromova, A. I.; Lupakov, I. S.; Morozova, I. K.; Bakulevskii, A. A.; Belous, V. N.; Kolesov, B. I. At. Energ. (USSR); 28: 13-18(Jan 1970). (In Russian).

The corrosion and electrochemical behavior of carbon steels was studied in water at 300°C with oxygen concentrations equal to 0.02 to 40 and 1000 ppM. The samples of carbon steels, irradiated in the reactor and non-irradiated samples were tested under static and dynamic conditions. The increase of oxygen concentration in water intensified corrosion of carbon steels. Irradiation reduced steel corrosion resistance during the initial test period. (auth)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 621.039.553.36:620.193.47.4

GERASIMOV, V. V., GROMOVA, A. I., LUPAKOV, I. S., MOROZOVA, I. K., BAKULEVSKIY, A. A., BELOUS, V. N., and KOLESOV, B. I.

"Corrosion and Electrochemical Behavior of Carbon Steels Under Quasi-reactor Conditions"

Moscow, Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 13-18

Abstract: The article describes results of a study of the corrosion and electrochemical behavior of steels of the perlitic class in water at 300° C at various oxygen concentrations (0.02-40 and 1000 mg/kg) at pH = 7-10, as well as a study of the effect of reactor irradiation on the corrosion processes of perlitic steels. The corrosion and electrochemical tests were staged under static and dynamic conditions. The perlitic steels studied included St. 20 (C 0.17%; Cr 0.25%; Ni 0.25%; Mn 0.35%; Si 0.17%) ; 12KhM (C 0.12%; Cr 0.94%; Mn 0.59%; Si 0.3%; Mo 0.4%); and 16GNM (C 0.18%; Ni 1.41%; Mn 1.18%; Si 0.23%; Mo 0.26%). Specimens of stainless steel Kh18N10T (C 0.08%; Cr 17÷19%; Ni 9÷11%; Mn 1.2%; Si 0.8%; Ti 0.6%) were comparison-tested.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

GERASIMOV, V. V., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 13-18

It was found that in demineralized water at 300° C an increase in the oxygen concentration from 0.02 to 40 mg/l increases the corrosion rate of perlitic steels, with pitting corrosion developing with a pit depth of up to 0.1 mm. In oxygen-containing water under static conditions a complex dependence of anodic process rate on potential is observed in steels of the perlitic class. In demineralized deaerated water an increase in the pH to 10 (by introducing ammonia) results in a decrease in the corrosion rate, with no development of pitting corrosion being observed. Irradiation reduces the corrosion resistance of the steels during the initial testing period. The corrosion rate under irradiation decreases with an increase in exposure time, and after 3500 hours of tests the corrosion rate for the perlitic steels is practically the same with or without irradiation.

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1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DETERMINATION OF GAS MOISTURE -U-

AUTHOR-(05)-DEMYANOV, YU.A., KOMISSAROV, N.M., BAKULIN, A.I., OXHIGIN, V.S., RUZAVIN, YE.I.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 261,740
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 74(5)
DATE PUBLISHED--13JAN70

SUBJECT AREAS--METHODS AND EQUIPMENT, MATERIALS

TOPIC TAGS--SPECTROSCOPIC ANALYSIS, MOISTURE MEASUREMENT, CHEMICAL PATENT, GAS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0878 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132968
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2/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0132968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAS MOISTURE IS DETD. IN A WIDE PRESSURE RANGE BY 1ST HEATING THE GAS IN A HERMETIC CELL BY USING SHOCK WAVES AND THEN DETG. THE AMT. OF OH PRIME NEGATIVE, FORMED FROM DISSOCN. OF H SUB2 O VAPOR, BY ABSORPTION SPECTROSCOPY.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC: 539.163:546.296

BAKULIN, V. N., STARIKOV, B. G.

"Separate Determination of the Concentration of Rn, RaA, RaB and RaC in Air From the Curve for Decay of α-Radioactivity of a Filter"

Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR (Works. Institute of Experimental Meteorology. Main Administration of the Hydrometeorological Service Affiliated With the Council of Ministers of the USSR), 1972, vyp. 25, pp 102-108 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.1274)

Translation: The relations between radon and its decay products are of interest in studying processes of turbulent mixing and elution of impurities in the lower troposphere. Analysis of different methods of separate determination of concentrations of daughter products of radon shows that only a few of them give satisfactory accuracy for low concentrations of radon in the atmosphere. An analytical analog is developed for the graphic method of separate determinations of concentrations of Po^{218}, Pb^{214} and Bi^{214} from the curve for decay of α-radioactivity of a filter, which gives the same accuracy as the method of least squares for three unknowns, but is several

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USSR

BAKULIN, V. N., STARIKOV, B. G., Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR, 1972, vyp. 25, pp 102-108

times simpler with respect to computations. Comparison of these methods under conditions of unknown proportions between radon decay products has shown the complete adequacy of the method. A proof is given for the existence of standard proportions between short-lived products of radon disintegration under natural conditions, which permits determination of the concentration of each of them from the curve of α-disintegration in the range from 11-13 to 60 minutes after completing filtration. Three illustrations, four tables, bibliography of eighteen titles. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--TURBULENT EXCHANGE AND WASH OUT BY MEASUREMENT OF NATURAL RADIOACTIVITY IN SURFACE AIR -U-
AUTHOR-(04)-BAKULIN, V.N., SENKO, E.E., STARIKOV, B.G., TRUFAKIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--J. GEOPHYS. RES. 1970, 75(18), 3669-74

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ATMOSPHERIC SCIENCES

TOPIC TAGS--ATMOSPHERIC RADIOACTIVITY, RADON, ATMOSPHERIC CIRCULATION, AEROSOL, DIFFUSION COEFFICIENT, NATURAL RADIOACTIVITY, RADIOACTIVE DECAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1060 STEP NO--US/0000/70/075/018/3669/3674

CIRC ACCESSION NO--AP0136480

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON A COMPARISON OF METHODS OF MEASURING THE DEGREE OF DISEQUIL. BETWEEN THE SORT LIVED DECAY PRODUCTS OF RN, AN IMPROVED AND SIMPLIFIED METHOD IS PROPOSED FOR GENERAL USE. IN ACCORDANCE WITH THEORETICAL CONSIDERATIONS, THE EXISTENCE OF A LINEAR DEPENDENCE BETWEEN RAA-RAB (PRIME218 PO-PRIME214 PB) AND RAB-RAC (PRIME214 PB-PRIME214 BI) CONCN. RATIOS IN THE ATM. IS ESTABLISHED, PERMITTING DETN. OF THE ATM. CONCNS. OF RN, RAA, RAB, AND RAC FROM 2 POINTS ON THE RADIOACTIVITY DECAY CURVE FOR AEROSIL SAMPLES COLLECTED ON A FILTER. AS A RULE, 2 MAX. IN THE DIURNAL VARIATION OF DISEQUIL. BETWEEN RN AND ITS DAUGHTER PRODUCTS HAVE BEEN OBSERVED. FROM THE DIFFERENCES IN THIS VARIATION AT ALTITUDES OF 1, 11, AND 20 M, AN ATTEMPT IS MADE TO EXPLAIN THE MECHANISM OF CONVECTIVE AND DYNAMIC COMPONENTS OF TURBULENT EXCHANGE NEAR THE GROUND. FROM THE DIURNAL VARIATIONS OF RN AND THORON (PRIME220 RN) CONCNS. AT 1 AND 5 M AND THEIR SHORT LIVED DECAY PRODUCTS AT 1, 11, AND 20 M ABOVE THE GROUND, THE DIURNAL CHANGE IN THE TURBULENT DIFFUSION COEFF. IN THE SURFACE LAYER IS COMPUTED AND COMPARED WITH THAT FROM METEOROL. PARAMETERS. THE VELOCITY OF WASH OUT OF THE TROPOSPHERE IS ESTD. FROM RN-RAD CONCN. RATIO VARIATIONS AVERAGED FOR 1 DAY INTERVALS. FACILITY: STATE TEACHER INST., KIROV, USSR.

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USSR

UDC 542.91:547.85:547.1'118

REZNIK, V. S., BAKULIN, V. S., IVANOV, B. YE., GOL'DFARB, E. I., and SAMARTSEVA, S. A., Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Acad. Sc. USSR

"Synthesis and Properties of Pyrimidinylalkylphosphonic Acids. Communication 7. Synthesis and Properties of Uracylphosphates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 4, Apr 73, pp 879-883

Abstract: The sodium salt of uracyl reacted with diphenylchlorophosphate (I) in absolute benzene to yield 2,4-bis(diphenylphosphonoxy)-pyrimidine. Reaction of the sodium salt of 1,6-dimethyluracyl with (I) in m-xylene gives 1,6-dimethyl-4-(diphenylphosphonoxy)uracyl, and the reaction of the sodium salt of 3,6-dimethyluracyl with (I) in m-xylene gives a mixture of inseparable isomers. All of these uracylphosphates react with alcohols at about 20° giving quantitative yields of uracyls and corresponding alkyldiphenylphosphates.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR UDC 542.91:547.85:547.1'118

REZNIK, V. S., BAKULIN, V. S., and IVANOV, B. YE., Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Acad. Sc. USSR

"Synthesis and Properties of Pyrimidinylalkylphosphonic Acids. Communication 6. Reaction of Certain Hydroxypyrimidines With Dibutyl Ester of 3-Chloropropylphosphonate"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 4, Apr 73, pp 875-878

Abstract: This study was aimed at the reactions of sodium salt of uracyl (I), 6-methyluracyl (II) and 2-amino-4-hydroxy-6-methylpyrimidine (III) with dibutyl ester of 3-chloropropylphosphonic acid (IV) in DMF or butanol, using equimolar quantities of the reagents. The reaction of (I) and (IV) gives a mixture of 1,3-bis[3'-dibutylphosphono)propyl]uracyl and dibutyl ester of 3-(2',4'-dioxo-1',2',3',4'-tetrahydropyrimidinyl-1')propylphosphonic acid. (II) reacted with (IV) yields also a mixture of two products -- analogues of above compounds with a 6-methyl substituent. Reaction of (III) and (IV) in refluxing butanol yields a mixture of dibutyl esters of 3-(2'-amino-6'-methyl-pyrimidinyl-4'-hydroxy)propylphosphonic acid and 3-(2'-amino-4'-oxo-6'-methyl-3',4'-dihydropyrimidinyl-3')-propylphosphonic acid.
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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

BAKULIN, Ye. A., BREDOV, M. M., VASIL'YEV, V. A., Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences of the USSR, Leningrad

"Plasma Oscillations in 3d Metals and Alloys"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 8, Aug 72, pp 2430-2434

Abstract: The authors investigate the spectra of characteristic losses of energy in transition metals and their alloys with aluminum. Calculations are based on a phenomenological model of oscillations with regard to two types of oscillating electrons differing in the energy of local binding. It is shown that the experimental material may be interpreted by a hypothesis which assumes incomplete participation of valence electrons in collective oscillations: i. e. that there are two groups of valence electrons in iron, cobalt, nickel, and their alloys with aluminum. Characteristic energy loss spectra show a single intense loss line in aluminum alloys with transition metals which corresponds to excitation of oscillations of only one group of valence electrons. No loss lines were observed corresponding to oscillations of all valence electrons.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR UDC: 519.21

BAKULIN, Yu. D., BILYK, M. G.

"On Some Problems for Trajectories of Gaussian Markov Processes"

V sb. Regional'n. nauch.-tekhn. seminar po statist. analizu, modelir. i avtomatiz. kontrolya ob"yektov s konstruktivno-slozhn. strukturoy (Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automation of the Inspection of Objects of Complex Structural Design--collection of works), vyp. 2, Taganrog, 1970, pp 127-131 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V146)

Translation: The authors write out the probability that the stationary Gaussian Markov process $x(t)$, $0<t<T$, will remain in the region bounded by the curves $l_i(t)=A_ie^{\alpha t}+B_ie^{-\alpha t}$, $i=1, 2$, where A_1, $B_1>0$, A_2, $B_2<0$, assuming that $x(0)=0$. G. Molchan.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR UDC 621.396.619.13:6[illegible]

BAKULIN, Yu. L., KAAZIK, V. T., RAKOV, M. A., Institute of Physics and Technology, Academy of Sciences of the UkrSSR

"A Frequency Divider"

USSR Author's Certificate No 256399, Filed 7 Jun 68, Published [illegible] Mar 7[illegible] (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D62 P)

Translation: This Author's Certificate introduces a frequency divider which contains a magnetotransistorized flip-flop and a single-core divider. To expand the functional possibilities of the device, the input circuits of the single-core divider and the magnetotransistorized flip-flop are connected in series through a shaping element.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 911.3:616.9(477)

KRIVOSHEIN, Yu. S., VASILYEVA, V. I., LOZINSKAYA, T. M., RYBALOVA, I. I., BAKULINA, E. V., and DORSHCHOVA, G. N.

"Complement-Fixing Antibodies in Healthy Human Serum to Mycoplasma -- Pneumonia and Acute Respiratory Infections"

Sb. tr. Krym. [illegible] in-t (Works of the Crimean Medical Institute -- collection of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract [illegible])

Translation: S[illegible] investigation of 868 healthy humans in various rayons of [illegible] and that the agent of mycoplasma pneumonia infected 13.3% of the city dwellers studied, 39.2% of country dwellers in the northern part of the Crimea, and 19.7% in the southern part. The influenza virus [illegible] Hong Ag more frequently infected city dwellers, and influenza virus [illegible] -- rural inhabitants. In the partially isolated collective, formed [illegible] prior to the study, the prevailing [illegible] were pneumonia, [illegible] influenza, type II adenovirus, and respiratory-syncytial virus. [illegible] prior to the [illegible], Hong Kong flu influenza virus and [illegible] predominated. Adults had [illegible] higher [illegible]

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USSR

KRIVOSHEVN, Yu. S., et al., Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.196)

influenza type and B influenza; and children -- more infection with para-influenza viruses type I and II.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--X RAY DIFFRACTION STUDY OF MAGNESIUM SUPEROXIDE MG (O SUB2) SUB2 -U-
AUTHOR-(04)-BAKULINA, V.M., TOKAREVA, S.A., LATYSHEVA, YE.I., VOLNOV, I.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 158-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, SUPEROXIDE, MAGNESIUM COMPOUND, MAGNESIUM OXIDE, MAGNESIUM CARBONATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0782 STEP NO--UR/0192/70/011/001/0158/0159

CIRC ACCESSION NO--AP0104228
UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104228

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SAMPLES OF OZONIZED MGO SUB2 CONTG. 60PERCENT MG(O SUB2) SUB2, 20PERCENT MG(OH) SUB2, 10PERCENT MGO SUB2, AND 4-5PERCENT MGCO SUB3 WERE EXAMD. BY POWDER, PHOTOGRAPHIC METHOD (CAMERA DIAM. 86 MM, CU KALPHA) AT LIQ. N TEMP. THE LINES CORRESPONDING TO MG(O SUB2) SUB2 (C-A EQUALS 1.1, A EQUALS 11.44 ANGSTROMS), MG(OH) SUB2, AND MGO SUB2 WERE FOUND. THE LINES CORRESPONDING TO MGCO SUB3 WERE NOT VISIBLE.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 619:614.9-084.47:636

BURTSEV, V. I., BONDARENKO, I. M., and BAKULOV, I. A., All Union Scientific Research Institute of Veterinary Virology and Microbiology

"Classification of Methods of Immunizing Animals"

Moscow, Veterinariya, No 10, 1971, pp 50-53

Abstract: With respect to the technique of using antigen, the authors propose classifying methods of vaccinating animals: (1) injection, (2) scarification, (3) instillation, (4) dispersion, (5) alimentary, and (6) combined. With respect to the site of injecting antigen, they distinguish the following: (1) enteral (oral) and cloacal, (2) respiratory (nasal, intratracheal, inhalation or aerosol), (3) subcutaneous, (4) cutaneous - epicutaneous and intracutaneous; (5) intramuscular, (6) intravenous, (7) intraudder or intracisternal, (8) intraperitoneal, (9) conjunctival, and (10) intrasinusal. In discussing the respiratory site, the authors note that when an aerosol is used, part of the vaccine enters the respiratory tract and part settles on the skin. Under these conditions the antigen has little immunizing effect because it is inactivated by environmental factors (temperature, ultraviolet rays, and so forth).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 619:616.9-084

BAKULOV, I. A. and YURKOV, G. G., All-Union Scientific Research Institute of Veterinary Virology and Microbiology

"Anti-Epizootic Measures in Specialized Enterprises of the Industrial Type"

Moscow, Veterinariya, No 6, Jun 71, pp 45-58

Abstract: More than 100 animal diseases are known and it is impossible to eradicate them universally. Specific prophylactic measures have been developed for one group of infectious diseases (anthrax, emphysematous carbuncle, brucellosis, erysipelas, plague, swine fever, leptospirosis, foot-and-mouth disease, rabies, Aujeszky's disease, smallpox, salmonellosis, and others). Another group of infectious diseases has been studied relatively little, with no specific prophylactic measures in existence, but a complex of measures for prophylaxis and eradication does exist (tuberculosis, necrobacillosis, vibriosis, infectious atrophic rhinitis, dermatomycosis and others). Another group of diseases has been insufficiently studied and a system of effective practical measures is being developed for them (infectious cattle rhinotracheitis, cattle diarrhea, infectious gastro-enteritis of swine, and others). A fourth group includes exotic infections which are widespread in other countries and could be carried into the Soviet Union in one way or another (African swine fever,

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

BAKULOV, I. A., et al, Veterinariya, No 6, Jun 71, pp 45-58

vesicular stomatitis, catarrhal fever, and other diseases). Large accumulations of farm animals may change veterinary-sanitary conditions and may enhance the possibility of introducing infectious disease. The most common measures (diagnostic examination, vaccination, and general measures) which different types of animal and poultry farms in the Soviet Union should have available for protection of farm animals and poultry are presented. Additional research remains to be done in the development of measures and new devices against infectious animal diseases. The development of aerosol generators and a method for aerosol vaccination of poultry, particularly against Newcastle disease, is mentioned. The newly developed method is extremely successful and economical and has been introduced on many poultry farms. Also, aerosol vaccination against swine fever has been very successful in farm tests.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

UDC 533.607

USSR

BAKUM, B. I.

"Special Features of Working Flow in Hypersonic Wind Tunnels in the Presence of Solid Particle Impurities."

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 19, No 4, Oct 70, pp 698-704

Abstract: Special features of a hypersonic flow in different sections of a hypersonic wind tunnel (prechamber, nozzle, and shock layer before a blunt model) in the presence of solid particles impurities are analyzed under a series of assumptions. The nitrogen flow parameters are: $P_o = 2000 \times 10^5$ N/m^2; stagnation temperature T = 1750°K; Mach number M = 10-15; particle diameter d_p=5.50 and 500 micrometer; particle density ρ_p = 3000-8000 kg/m^3; specific heat capacity of particles c_p = 0.8kJ/kg K°. The analysis of particles' condition in prechamber shows, that this condition can be characterized by the presence of the average and pulsating velocity components. It is shown that particles from forechamber entering the nozzle are heated-up to stagnation temperature 10^{-3}-10^{-2} sec after the start of the test. Due to substantial

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USSR

BAKUM, B. I., Inzhenerno-Fizicheskiy Zhurnal, Vol 19, No 4, Oct 70, pp 698-704

dynamic and thermal lag of particles taking place in the nozzle, the flow around particles may be supersonic. The turbulization of flow in nozzle and shock layer is explained by the appearance of micro-shock waves around particles and trails behind them. In the shock layer the heating, lag and side drift of particles is insignificant. 3 figures, 10 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

Composite Materials

USSR UDC 669.2:621.771

BAKUMA, S. F., BELOUSOV, V. P., SEDYKH, V. S.,and TRYKOV, Yu. P.

"Production of Plate Metal Compositions by Explosive Welding and Intermediate Rolling"

Moscow, Tsvetnyye metally, No 5, May 72, pp 58-62

Abstract: Proposed are new flow charts for producing composite materials with provisions for combining explosive welding with either cold, warm, or hot rolling. Explosive welding of bimetal joints from hard-to-weld metal combinations (Ti-Fe, Al-Mg, Nb-Fe,and others) require strict adherence to specific parameters including precise setting of root gap openings between the plates, perfect dosage of composition and appropriate density of the explosive powder, and special surface preparation. Violation of either condition may cause drastic reduction of weld strength and even lamination. The new flow charts offer potentials for increasing the mechanical properties of bimetal weld joints. The complex technology is justified by the savings in costly and scarce materials and realization of new design problems. (3 illustrations, 1 table, 7 bibliographic references)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/3 012 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--CONDITIONS OF DEEPSEATED PETROGENESIS -U-

AUTHOR-(05)-SOBOLEV, V.S., BAKUMENKO, I.T., DOBRETSOV, N.L., SOBOLEV, N.V., KHLESTOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 4, PP 24-35

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--MAGMA, IGNEOUS ROCK, UPPER MANTLE, GEOLOGY, GEOPHYSICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0042 STEP NO--UR/0210/70/000/004/0024/0035

CIRC ACCESSION NO--AP0114442

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/3 012 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0114442

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME ASPECTS OF MAGMA FORMATION IN RELATION WITH WATER REGIME BASED UPON RECENT DATA OBTAINED BY THE AUTHORS CONCERNED TO THE UPPER MANTLE COMPOSITION AND TEMPERATURE OF FORMATION OF IGNEOUS ROCKS ARE CONSIDERED IN THE PAPER. THE STUDY OF XENOLITHS IN KIMBERLITES AND CRYSTALLINE INCLUSIONS IN DIAMONDS PROVES THE GREAT DIFFERENTIATION OF THE UPPER MANTLE FROM PREDOMINANT PERIDOTITES UP TO ECLOGITES AND GROSPYDITES. THE DIAMOND BEARING PERIDOTITES ARE THE DEEPEST ORIGIN XENOLITH'S. THE BIOTITE INCLUSIONS DOESN'T YET FOUND IN DIAMONDS BUT PHLOGOPITE IS PRESENT IN THE MOST UPPER PART OF THE MANTLE ACCORDING SOME DATA, AND KIMBERLITIC MAGMA ITSELF IS FORMED IN WATER PRESENCE. THE DEEP FLUIDES ARE OF COMPLEX COMPOSITION, AND PARTIAL WATER PRESSURE FLUCTUATES WITHIN A WIDE RANGE. DEPENDING ON RELATIVE VALUE OF P H SUB2 O THREE TYPES OF MAGMAS CAN BE DISTINGUISHED: I. THE MOST "DRY" MAGMAS, WHICH CAN BE ERUPTED UP TO THE SURFACE; II. MAGMAS, FORMED AT HIGH P SUBTOTAL AND DECREASED P H SUB2 O WHICH ARE ABLE TO ASCEND; III. MAGMAS FORMED AT LOW P SUBTOTAL AND INCREASED P H SUBW O WHICH ARE RAPIDLY CRYSTALLISED AT DECREASE OF P SUBTOTAL (MIGMATITE FIELD). IT PROVED THAT TRANSVAPORIZATION PLAYS A SIGNIFICANT ROLE, IT DECREASES THE MELTING TEMPERATURE AND IMPROVES THE POSSIBILITY OF MAGMA ASCENDING. THE PROBLEMS OF DRAINAGE OF HOST TERRANES FLUIDS AT MAGMA FORMATION AND FLUIDS RELEASE AT MAGMA CRYSTALLISATION ARE ALSO CONSIDERED. THE SPECIAL DIAPHTHORESIS PHENOMENON IS CONNECTED WITH THESE PROBLEMS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

3/3 012 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0114442

ABSTRACT/EXTRACT--THE PROBLEM OF FURTHER STUDY OF VITREOUS AND GAS LIQUID INCLUSIONS IN MINERALS FOR THE PURPOSE OF MORE PRECISE MODEL OF WATER REGIME CONSTRUCTION IN THE EARTH'S CRUST AND MANTLE IS POSED.

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USSR

UDC 632.95

STONOV, L. D., BAKUMENKO, L. A., USACHEVA, N. M., MANDEL'BAUM, YA. A., and BAKANOVA, Z. M.

"A Herbicide"

USSR Author's Certificate No 347045, filed 9 Mar 71, published 6 Sep 72 (from RZh-Khimiya, No 10, May 73, Abstract No 10N605P by T. A. Belyayeva)

Translation: O-(2-Nitrophenyl)-O-methyl-N-n-propylamidothiophosphate (I) in a dose of 1-2 kg/ha is proposed as a herbicide on fields of flax and vegetable crops. With application before sprouting, the activity of (I) in %: for oats 24-15, millet 98-100, beans 20-22, lettuce 17-67, beets 67-87, amaranth 75-88, flax and radish 0. The compound can be used in a mixture with other active compounds to broaden its spectrum of action.

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USSR

UDC 632.95

NURIDZHANYAN, K. A., BLINOVA, V. G., STONOV, L. D., BARUTENKO, L. A., and USACHEVA, N. M.

"Concerning the Herbicidal Activity of Certain Aryl- and Alkyl-Containing Thioureides, Thioureas and Thiouracils"

V sb. Khim sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 197-200 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N445)

Translation: The following compounds were synthesized: 3-R-methyl-2-thiouracils (I) (R and the melting point in °C are cited): Me, 264-5; Et, 202-3; Pr, 172-3; Bu, 163-4; iso-Bu, 214; C_6H_{13}, 120; Ph, 256; o-ClC_6H_4, -; substances with the formula PhCONHCSNHR (II) (R and the melting point in °C are cited): Me, 150; Et, 133; Pr, 133; iso-Pr, 113-4; Bu, 51-2; tert-Bu, 127-8; C_8H_{17}, 152-3; Ph, 143; o-ClC_6H_4, 145-6; p-$O_2NC_6H_4$, 182; p-$Me_2NC_6H_4$, 166-7; and substances with the formula R_2NCSHR (III) (R and the melting point in °C are cited): Me, 108; Et, 108; iso-Pr, 157; Bu, 79; iso-Bu, 93.5; tert-Bu, 165; C_6H_{13}, 83;

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

NURIDZHANYAN, K. A., et al., V sb. Khim. sredstva zashchity rast., Vyp 1, Moscow, 1970, pp 197-200

C_8H_{17}, 97; Ph, 154; o-ClC_6H_4, 142; p-$O_2NC_6H_4$, 190; p-$Me_2NC_6H_4$, 182-3.

Compounds I show higher herbicidal activity with respect to monocotyledons and dicotyledons than the corresponding uracils. Data are presented from tests of compounds II and III.

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USSR

UDC 632.95

BASKAKOV, YU. A., BAKUMENKO, L. A., MEL'NIKOV, N. N., SVIRSKAYA, P. I., STONOV, L. D., SIMONOV, V. D., SHVINDLERMAN, G. S., SHCHERBATYKH, YU. I.

"Meturin -- a New Herbicide for Cotton and Potatoes"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp. 1, Moscow, 1970, pp 179-187 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N446)

Translation: A new herbicide -- meturin (I) (N-phenyl-N-hydroxy-N'-methylurea) -- was synthesized. The compound can be produced with a high yield by reacting phenylhydroxylamine with MeNCO. Treatment of vegetating plants with I is not highly effective. The best results are obtained when the herbicide is introduced into the soil before planting. As a rule, dicotyledons are more effectively suppressed by I than monocotyledons. Highly sensitive to I (70-100% inhibition of growth from a dose of 0.5 kg/hectare) are corn mayweed, sheep sorrel, wild beets, pigweed, wild rice, buckwheat, soybeans, tomatoes, cabbage, cucumbers, radishes, clover and alfalfa. Sensitive to I (70-100% death from a dose of 1.5 kg/hectare) are field pennycress, field wintercress, barley grass, beans, vetch, carrots, beets and flax. Moderately sensitive (complete control with a dose of 3 kg/hectare) are oats, wheat, corn

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USSR

BASKAKOV, YU. A., et al., V sb. Khim. sredstva zashchity rast., vyp 1, Moscow, 1970, pp 179-187

beans, seed onions, and sunflowers. Rough snakeweed is among the weeds resistant to I, while potatoes and cotton are resistant crops. The compound retains high activity throughout the entire vegetative period in the upper layer of soil (0-5 cm). The activity of the herbicide begins to decline within 2 months after introduction in the lower and middle layers of soil. In doses of 3-4.5 kg/hectare, I destroyed 70-90% of the annual weeds in cotton fields, but in some instances caused temporary chlorosis in a dose of 4.5 kg/hectare. In potato fields, the compound in doses from 2 to 3 kg/hectare destroyed annual weeds throughout the entire season, which meant that potatoes could be grown without hilling. The compound has low toxicity for human beings. It is authorized in the Soviet Union for experimental production use on potatoes.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR

UDC 632.954:547.495.1

BARANENKO, L. A., MATYUK, L. N., SHVETSOVA-SHILOVSKAYA, K. D., STONOV, L. D., MEL'NIKOV, N. N., All-Union Scientific Research Institute for Chemical Means of Plant Protection, Moscow, State Committee for Chemistry USSR

"Herbicidal Activity of Some Derivatives of Carbamic Acids"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 6, Jun 70, pp 51-52

Abstract: A series of β-dialkylaminoethyl esters of N-alkyl- (or aryl) carbamic acids and their quaternary ammonium salts with trimethyl (or triethyl) thiophosphate was synthesized and investigated in regard to their herbicidal activity under laboratory conditions. It was determined that an increase in the chain length of the alkyl radical from 2 to 8 carbon atoms increased the herbicidal activity. The chlorosubstituted arylcarbamic esters were found to be more active than the respective nonchlorinated analogues. The activity of β-dialkylaminoethyl esters of N-alkylcarbamic acid was higher than the activity of the N-aryl carbamic acid esters.
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USSR

BAKUMENKO, L. A., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 6, Jun 70, pp 51-52

Introduction of the thiophosphoric acid anion increased the herbicidal activity somewhat, keeping the relationship of the chain length to activity.

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USSR UDC 619:616.988.43:636.22/.28

TOLSTYAK, I. Ye., BAKULENKO, M. D., CHECHETKINA, N. P., KONOZENKO, P. A., and OMELAVENKO, A. A., Ukrainian Scientific Research Institute of Experimental Veterinary Medicine

"Epizootiology of Food-and-Mouth Disease Variant A_{22}"

Moscow, Veterinariya, No 5, May 71, pp 45-46

Abstract: The history of foot-and-mouth disease variant A_{22} in the Ukraine can be separated into two periods: the prevaccination period, when the fight against the infection consists primarily of veterinary sanitation measures, and the vaccination period, characterized by widespread use of aluminum hydroxide formaldehyde vaccine from lapinized A_{22} virus. Still, active immunization of animals in the Ukraine was required. The development of the disease in recent years (1966-1969) in various regions of the Ukraine is reviewed. It was concluded that the establishment of immune zones for cattle, using the above vaccine, might solve the foot-and-mouth disease problem for all animals within a given region.

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USSR UDC 681.332.4

PUKHOV, G. Ye., GALUZINSKIY, G. P., KATKOV, A. F., BAKUMENKO, V. D., Institute of Cybernetics, Academy of Sciences of the UkrSSR

"Reversible Models for Solving Systems of Algebraic Equations"

USSR Author's Certificate No 318037, filed 23 Mar 70, published 24 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7B467 P)

Translation: Reversible models for solving systems of algebraic equations are known which contain operational amplifiers whose inputs and outputs are connected through main and auxiliary conductance matrices to the outer terminals of the model. The conventional devices have low-level working voltages. As a distinguishing feature of the proposed device, it contains controllable current sources with a positive amplification factor whose outputs are connected to the outside terminals and to the lines for the main and auxiliary conductance matrices which correspond to these terminals, and the controlling inputs of these current sources are connected through the auxiliary conductance matrix to the inputs of the operational amplifiers. This increases the working voltage level.

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USSR UDC 621.315.592

AVER'YANOVA, T. V., [redacted], ZARGAR'YANTS, N. N., KURBATOV, L. N., MEZIN, YU. S.

"Photoluminescence of the GaAs:Zn, Ge-GaAs:Ge p-n-Junction"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 2, 1972, pp 376-380

Abstract: Results are presented from spectral microphotoluminescent investigations of p-n-junctions obtained by diffusion of zinc in n-type GaAs alloyed with germanium. Inasmuch as the results of investigating the long wave component of the photoluminescence of these p-n-junctions was discussed earlier [T. V. Aver'yanova, et al., FTP, No 5, 331, 1971], only the shortwave part of the emission (8,100-8,500 Å) is ivestigated in the present paper. All the studies were performed at a temperature of 77° K. The photoluminescence was observed from the shearing side with respect to the cleavage planes perpendicular to the p-n-junction plane. A He-Ne laser with λ = 6,328 Å was used as the excitation source. Curves are presented showing the spectral composition of the photoluminescence of n-type GaAs alloyed with Ge for n = $(2.7\text{-}4)\cdot10^{16}$ cm^{-3} and T = 77° K, the photoluminescence and photoresponse characteristics for the structure obtained by diffusion of Zn in n-type GaAs:Ge and the photoluminescence characteristic of the structure obtained by diffusion of zinc in

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AVER'YANOVA, T. V., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 2, 1972, pp 376-380

n-GaAs: Te. The proposed model for explaining the results of the spectral microphotoluminescent measurements appears plausible but requires direct proof.

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USSR

UDC 621.372.413

BAKUMENKO, V. M.

"Determining Losses in Coupled Open Resonators"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interagency Thematic Scientific-Technical Collection of Articles), 1972, vyp.21, pp 113-116 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B123)

Translation: An analytical expression is obtained which makes it possible to determine total losses and mismatch losses in coupled open resonators for known diffraction losses. There is a close coincidence when compared to the results obtained by the numerical method for a system of equations for this type of resonator. Original article: two illustrations and seven bibliographic entries. Resumé.

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USSR

UDC 621.373.826:621.317

BAKUMENKO, V. M., ANTIPENKO, A. P.

"Heterodyne Optical Spectral Analyzer"

V sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch. 2-3 (Utilization of Lasers in Modern Engineering and Medicine. Parts 2-3--collection of works), Leningrad, 1971, pp 8-11 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D627)

Translation: In order to build a heterodyne optical spectral analyzer it was necessary to solve the following problems: 1) obtain single-frequency generation of a heterodyne laser; 2) tune the single-frequency laser in the band of the investigated spectrum; 3) shift the heterodyne frequency by the amount for which the spectra of the signal and mirror channels do not overlap. The experiment confirms the possibility of using a heterodyne spectral analyzer to study the spectrum of an He-Ne laser on a 0.6328 micron wavelength. A single-frequency He-Ne laser with mode selection by means of the Michelson interferometer was used as the heterodyne. The heterodyne frequency varied linearly on supplying a sawtooth voltage from the scanning generator to the piezoelement of the selector; the frequency shift of the signal and the heterodyne was carried out by tuning one of the lasers by a magnetic field. There is one illustration and a 3-entry bibliography.

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USSR UDC 621.396.62.029.7

BAKUMENKO, V. M., ANTIPENKO, A. P.

"Single-Band Optical Mixer"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 340-344

Abstract: A study was made of a scheme for a single-band optical mixer. An experiment was performed to determine the degree of suppression of the image frequency in which a laser operating in the two-frequency mode was used as the signal source, and the heterodyne was a single-frequency tunable laser. The suppression of the image frequency obtained was about 10 decibels. The possibility of using a single-band mixer in the optical range was confirmed. The degree of suppression of the image frequency can be improved by using a heterodyne with high monochromaticity. The mixer can be used in an optical heterodyne spectroanalyzer and also in superheterodyne receivers where suppression of the image frequency is desirable.

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AA0040628 BAKUNIN V.A UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

234642 PLASTIC COMPONENT PRESS MOULD comprises a split case 1 with a runner and a demountable shaped cavity 2 made of rubber with a slit 3. The cavity is taken out from the carcass when the poured plastic is solidified, and is opened up along the slit.

AUTHORS: Beylin, A. M.; Reynsburg, A. M.; Bondar', M. Yu.; Ripman, D. M.; Bakunin, V. A.; and Golovkov, G. V.

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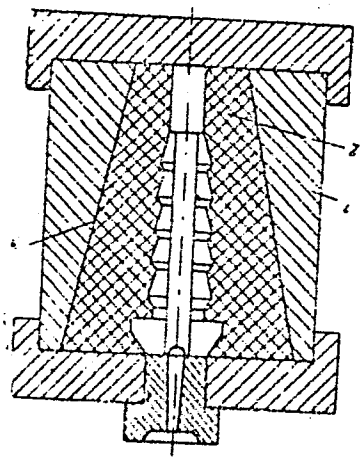

27.12.65. as 1045751/23-5, BEILIN, A.M. et al. (26.6.69) Bul. 4/10.1.69. Class 39a^2 Int. Cl. B 29c.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SPECTROPHOTOMETRIC STUDY OF THE REACTION OF TELLURIUM (IV) WITH BROMIDE IONS IN STRONGLY ACID SOLUTIONS -U-

AUTHOR-(02)-BAKUNINA, L.I., MURASHOVA, V.I.

B

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 142-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, CHEMICAL REACTION, SODIUM BROMIDE, TELLURIUM COMPOUND, COMPLEX COMPOUND, CHEMICAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2170 STEP NO--UR/0075/70/025/001/0142/0146

CIRC ACCESSION NO--AP0125750

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125750
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COLORED COMPLEX IS FORMED ON THE INTERACTION OF TE(IV) WITH NABR IN A STRONGLY ACID MEDIUM. ABSORPTION CURVES OF THE COMPLEX IN H SUB2 SO SUB4, HCLO SUB4, AND H SUB3 PO SUB4 SOLNS. PRACTICALLY MERGE. MOLAR ABSORPTIVITIES AT 320 AND 440 NM ARE 1.6 TIMES 10 PRIME4 AND 3.015 TIMES 10 PRIME3 IN 7M H SUB2 SO SUB4 AND 0.05M NABR, RESP. HIGH ACIDITY OF THE SOLN. AND EXCESS NABR PROMOTE THE FORMATICN OF THE STABLE COMPLEX (TEBR SUB6) PRIME2 NEGATIVE. THE INSTABLITY CONST. OF THE COMPEX IS 1.38 TIMES 10 PRIME NEGATIVE11. BEER'S LAW IS OBEYED IN THE 1-75 MU G TE(IV)-ML RANGE. FACILITY: URAL. POLYTECH. INST., SVERDLOVSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

USSR . B UDC: 541.45:666.3/7:539.4

ADUSHKIN, L.YE., BAKUNOV, V.S., GUZMAN, I.YA., and POLUBOYARINOV, D.N., Moscow Institute of Chemical Technology imeni D.I. Mendeleyev, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Strength and Deformation of Oxide Ceramics"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 753-760

Abstract: The article considers the effect of grain composition (size of filler grains and the pore size determined by them) on the strength and high-temperature deformation of corundum ceramics. The initial material was commercial G-1 brand alumina. A filler (single-fraction Al_2O_3 powder) and binder (finely dispersed Al_2O_3 precalcined at 1450° C) were used to prepare specimens with different structures (textures). The filler grain size varied from 50 to 1000 microns. The experimental specimens prepared were of practically identical phase composition, microstructure and porosity (~ 32 percent) and differed only in texture, i. e. the number and size of the pores with an identical pore size distribution character.

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USSR

ABUSHKIN, L. YE., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 753-760

It was found that the strength of porous ceramics (as compared with dense ceramics) is reduced as a result of reduced contact strength, a decrease in the contact cross-section and the stress concentration of the pores. The deformation rate of porous corundum ceramics of granular structure does not depend on the pore size and is ~1-2 orders of magnitude higher than the deformation rate for dense corundum ceramics with corresponding crystal size. In the temperature range under study deformation is determined by the same mechanisms as the deformation of dense materials. The increase observed in the deformation rate is due to an increase in the effective stress which occurs in the material as a result of a decrease in the cross-section and stress concentration. The effect of porosity and pore size on the deformation rate may be considered in the first approximation from the value of the "limiting proportion of the contact cross-section."

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1

1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRENGTH AND DEFORMATION OF OXIDE CERAMICS -U-

AUTHOR-(04)-ADUSHKIN, L.YE., BAKUNOV, V.S., GUZMAN, I.YA., POLUBOYARINOV, D.N.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 753-60

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MODEL, CORUNDUM CERAMIC, OXIDE CERAMIC, CERAMIC PRODUCT PROPERTY, POROSITY, MECHANICAL STRENGTH, PLASTIC DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1447 STEP NO--UR/0363/70/006/004/0753/0760

CIRC ACCESSION NO--AP0130380
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200230010-1"

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2/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0130380
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRENGTH AND DEFORMATION OF MODEL STRUCTURES OF POROUS CORUNDUM CERAMICS OF A GRANULAR CONSTRUCTION WERE INVESTIGATED. AT CONST. COMPN., MICROSTRUCTURE, AND APPARENT D., THE TEST SAMPLES DIFFERED ONLY IN TEXTURE (THE GRAIN SIZE OF THE POLYCRYST. FILLER AND THE PORE SIZE DETD. BY IT). THE STRENGTH OF POROUS CERAMIC (AS COMPARED TO THE DENSE ONE) IS DECREASED DUE TO THE LOWER CONTACT STRENGTH, DECREASED CONTACT CROSS SECTION, AND DECREASED STRESS CONCN. IN THE PORES. THE DEFORMATION RATE OF POROUS CORUNDUM CERAMICS OF GRANULAR CONSTRUCTION DOES NOT DEPEND ON THE PORE SIZE AND IS SIMILAR TO 1-2 AS GREAT AS THE DEFORMATION RATE OF CORUNDUM CERAMICS. AT 1350-1600DEGREES THE DEFORMATIOOF THE STRUCTURE IS DETD. BY THE VERY SAME MECHANICSMS AS THE DEFORMATION OF DENSE MATERIALS. THE OBSD. INCREASE IN THE DEFORMATION RATE IS ASSOCD. WITH THE INCREASE IN THE EFFECTIVE STRESSES ARISING IN THE MATERIAL AS A RESULT OF THE WEAKENING OF THE CROSS SECTION AND THE STRESS CONCNS. THE SUMMARY ACTION OF THE FACTORS INDICATED CAN IN THE 1ST APPROXN. BE CONSIDERED EMPIRICALLY FROM THE VALUE OF THE "LIMITING FRACTION OF THE CONTACT CROSS SECTION".
FACILITY: MOSK. KHIM.-TEKHMOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

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