

USSR

UDC 669.76:539.216.2:5317.311.3

PETROSYAN, V. I., MOLIN, V. N., DAGMAN, E. I., TAGVER, B. A., SKRIPKINA, P. A.,
and ALEKSANDROV, L. N., Institute of Semiconductor Physics, Siberian Department
of the Academy of Sciences USSR

"Characteristics of Quantum Size Effects in Thin Untextured Polycrystalline
Films of Bismuth Produced by the Electric Explosion Method"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 4, Apr 71, pp 725-730

Abstract: Possibilities of the occurrence of quantum size effects (QSE),
their peculiarities in untextured polycrystalline bismuth films, and the
role of crystallographic anisotropy in QSE were investigated on the basis of
oscillation (period $\sim 200 \text{ \AA}$) dependences of the specific resistance ρ and
the Hall constant R on the thickness in untextured polycrystalline foils.
The foils were produced by the electric explosion method in the thickness
interval of 50-700 \AA . In contrast to previous findings, the Hall constant
was found to be negative. The experimental results are discussed by ref-
erence to diagrams showing temperature dependences of ρ and R and densities
of electron and hole conditions as functions of the film thickness. Control
measurements made on the same films, annealed at 70°C, on which the texture
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PETROSYAN, V. I., et al., Fizika Metallov i Metallovedeniye, Vol 31, No 4,
Apr 71, pp 725-730

originated, demonstrated that the derived characteristics are related to a
polycrystallinity. Three figures, six formulas, eight bibliographic refs.

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1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PECULIARITIES OF FORMATION AND PROPERTIES OF SEMICONDUCTOR FILMS
DEPOSITED BY ELECTRICAL EXPLOSION -U-
AUTHOR--(05)--ALEKSANDROV, L.N., DAGMAN, E.I., ZELEVINSKAYA, V.I.,
PETROSYAN, V.I., SKRIPKINA, P.A.
COUNTRY OF INFO--USSR
SOURCE--THIN SOLID FILMS 1970, 5(1), 1-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--THIN FILM SEMICONDUCTOR, TEMPERATURE DISTRIBUTION,
CRYSTALLIZATION, INDIUM ANTIMONIDE, INDIUM ARSENIDE, ELECTRON
DIFFRACTION, ELECTRON MOBILITY, CRYSTAL GROWING, ELECTRIC DISCHARGE
CCNTRCL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1221 STEP NO--NE/0000/70/005/001/0001/0006
CIRC ACCESSION NO--AP0124875
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124875

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CALC. AND EXPTL. INVESTIGATION OF THE TEMP. DISTRIBUTION IN THIN FILMS DEPOSITED BY THE ELEC. EXPLOSION METHOD WERE MADE. AS A RESULT OF RELEASING THE CONDENSATION ENERGY, CRYSTN. PROCESSES OCCUR FROM THE MELT. FILMS OF INSB AND INAS DEPOSITED ON ISOLATED NONORIENTED SUBSTRATES WERE INVESTIGATED BY ELECTRON DIFFRACTION, AND THEIR MOBILITY, CARRIER CONC., AND COND. WERE MEASURED. THE UNUSUALLY SMALL VALUES OF MOBILITY ARE DISCUSSED IN TERMS OF THE DIMENSIONAL EFFECT IN VERY THIN FILMS. FACILITY: INST. SEMICOND. PHYS., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC: 621.387.322.4

DAGOV'YER, B. B.

"On Selecting the Number of Pull-Out Protectors in the Fuse System of a Receiver"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1970, vyp. 1, pp 110-116 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D9)

Translation: The author confirms the advisability of increasing the number of discharge spaces in a resonance discharger, which makes it possible to reduce the leakage power and recovery time. The rates of recovery of the individual discharge spaces should be close in value. Resumé.

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USSR

UDC 518.9

GAMBROV, L. A., SUMTSOV, A. A., ~~DAGYAN, A. V.~~

"The Problem of Distribution of Resources as a Game with Matrix Strategies"

Tekhn. Kibernetika (Khar'kov. Otd.). Vyp. 1 [Engineering Cybernetics (Kar'kov Division), No. 1 -- Collection of Works] Kiev, 1970, pp 10-14 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V528 by I. Fokin).

Translation: The problem of the distribution of several types of means of attack and defense between objects of fixed values is studied as a game with matrix strategies. The case is studied in which the strategies of the attacker include the possibility of using special attack devices for suppression of defense.

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FOR DAI

SEE DAY

USSR

UDC: 8.74

BREKHOV, A. M., DAKELIN, A. I., MELAMUD, T. I.

"Automatic Distribution of the External Memory of the Computer Complex of an Automated Control System"

Tr. Leningr. inzh.-ekon. in-ta (Works of Leningrad Engineering Economics Institute), 1972, vyp. 94, pp 26-29 (from RZh-Kibernetika, No 5, May 73, abstract No 5V770 by V. Mikheyev)

Translation: The authors consider a machine algorithm for automatic distribution of the external memory when recording data blocks. In accordance with this algorithm, ordinal numbers are assigned to all data blocks during automatic processing. According to these ordinal numbers, catalog I is compiled which contains the following quantitative characteristic of each block: $\{r; l; m; k; A; a\}$, where r is the ordinal number of the block; l is a data recording tag; m is the number of quanta in the block; k is the length of a quantum; A and a are respectively the number of the magnetic tape and the address on that tape where the block begins;

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BREKHOV, A. M. et al., Tr. Leningr. inzh.-ekon. in-ta (Works of Leningrad Engineering Economics Institute), 1972, vyp. 94, pp 26-29

$z = \begin{cases} 0 & \text{if the block is recorded on one section of the external memory;} \\ 1 & \text{if the block is recorded on two sections of the external memory.} \end{cases}$

When $z=1$ the quantitative characteristic of the second part of the block is contained in catalog II, whose structure is analogous to that of catalog I. The assignment of magnetic tape volumes set aside for solution of a specific problem is contained in catalog III. The cell address in catalog III is the number of the tape-transport mechanism, the length of the tape in this unit characterizing the content of this cell.

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USSR

UDC 577.4

GOLENKO, D. I., DAKELIN, A. I., KUCHUROV, YU. M.

"Definition of the Optimal Policy of Filling an Order with a Random Nonstationary Demand in the Material and Technical Supply System"

Tr. Leningr. inzh.-ekn. in-ta (Works of Leningrad Economic Engineering Institute), 1972, vyp. 91, pp 155-163a (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V535)

No abstract

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1/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CHARACTERISTICS OF HEAT TRANSFER NEAR THE STAGNATION POINT FOR A
TURBULENT JET IMPINGING ON A PLATE SITUATED NORMAL TO THE FLOW -U-
AUTHOR--(05)-ANDREYEV, A.A., DAKHNO, V.N., SAVIN, V.K., TSIRLIN, O.V.,
YUDAYEV, B.N.
COUNTRY OF INFO--USSR
SOURCE--MASHINOSTROENTIE, NO. 3, 1970, P. 57-60
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER RATE, STAGNATION POINT, TURBULENT JET, FLAT
PLATE, PARAFFIN WAX, FLOW VISUALIZATION, FLOW VELOCITY, VORTEX FLOW,
BOUNDARY LAYER FLOW, TWO PHASE FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/0865

STEP NO--UR/0418/70/000/003/0057/0060

CIRC ACCESSION NO--AP0131452

UNCLASSIFIED

2/2 045

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131452

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF EXPERIMENTS IN WHICH PARAFFIN COATED PLATES WERE USED TO VISUALIZE THE FLOW PATTERN FORMED BY AN IMPINGING TURBULENT AIR JETS EXPULSED FROM TWO DIMENSIONAL (135 TIMES 15 MM) AND AXISYMMETRIC (30 MM DIAM) NOZZLES. THE VELOCITY OF THE JETS VARIED BETWEEN 30 AND 100 M-SEC. THE JET TEMPERATURE WAS 100 DEG C. THE RESULTS INDICATE THAT THE INCREASED HEAT TRANSFER RATE AT THE FORWARD STAGNATION POINT (SPREADING LINE) IS ASSOCIATED WITH THE FORMATION OF STABLE VORTEX SYSTEM IN WHICH THE VORTICES ARE ORIENTED ALONG THE LINES OF FLOW. UNDER THE ACTION OF THIS SYSTEM, THE TWO DIMENSIONAL BOUNDARY LAYER FLOW BECOMES A THREE DIMENSIONAL FLOW, LEADING TO A SUBSTANTIAL INCREASE IN THE HEAT TRANSFER RATE.

UNCLASSIFIED

1/2 050 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INVESTIGATION OF HEAT TRANSFER IN A GRADIENT FLOW REGION FOR PLANE
TURBULENT JET IMPINGING ON PLATE SITUATED NORMAL TO THE FLOW -U-
AUTHOR-(04)-ANDREYEV, A.A., DAKHNO, V.N., SAVIN, V.K., YUDAYEV, B.N.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 631-637

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, TURBULENT FLOW, LAMINAR BOUNDARY LAYER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1753

STEP NO--UR/0170/70/013/000/0631/0637

CIRC ACCESSION NO--AP0125370

UNCLASSIFIED

2/2 050
CIRC ACCESSION NO--AP0125370

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DETERMINATION OF THE BOUNDARY CONDITIONS REQUIRED FOR THE SOLUTION SYSTEM OF EQUATIONS OF MOTION, DISCONTINUITY EQUATION, AND ENERGY EQUATION DESCRIBING HEAT TRANSFER IN THE GRADIENT FLOW REGION ARISING WHEN A PLANE ISOTHERMAL TURBULENT JET IMPINGES ON PLATE SITUATED NORMAL TO THE FLOW. THE BOUNDARY CONDITIONS ARE OBTAINED IN THE FORM OF A UNIVERSAL RELATION BETWEEN THE VELOCITY AT THE OUTER BOUNDARY OF THE BOUNDARY LAYER, THE COORDINATE ALONG THE PLATE, AND THE SPACING BETWEEN THE PLATE AND THE NOZZLE. FORMULAS FOR CALCULATING THE HEAT TRANSFER COEFFICIENT IN A LAMINAR BOUNDARY LAYER ARE DERIVED. A SUBSTANTIAL DISCREPANCY IS FOUND TO EXIST BETWEEN THE EXPERIMENTAL AND THEORETICAL RESULTS. AN ANALYSIS OF THE CHANGES IN THE EXPERIMENTAL HEAT TRANSFER COEFFICIENT NEAR THE SPREADING LINE AS A FUNCTION OF THE SPACING BETWEEN THE NOZZEL AND THE PLATE, AND THE INFLUENCE OF THIS SPACING ON THE DEGREE OF TURBULENCE INDICATES THAT THE RELATION BETWEEN THIS COEFFICIENT AND THE DEGREE OF TURBULENCE MAY BE CONSIDERED TO BE LINEAR IN THE FIRST APPROXIMATION. THIS RESULT IS USED AS A BASIS FOR DERIVING FORMULAS FOR THE HEAT TRANSFER COEFFICIENT IN THE GRADIENT FLOW REGION UNDER CONSIDERATION.

FACILITY: NAUCHNO-ISSLEDOVATEL'SKII INSTITUT STROITEL'NOI FIZIKI; MOSKOVSKOE VYSSHEE TEKHNICHESKOE UCHILISHCHE, MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INFLUENCE OF A DEVIATION FROM NEUTRALITY ON THE ELECTROLUMINESCENCE
OF ZINC SULFIDE SINGLE CRYSTALS -U-
AUTHOR-(04)-GCKHFELD, YU.I., GURO, G.M., DAKHOVETS, V.T., KOVTONYUK, N.F.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. PCLUPROV. 1970, 4(4), 772-4. *D*
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--SINGLE CRYSTAL, ZINC SULFIDE, COPPER, ELECTROLUMINESCENCE,
DIELECTRIC CONSTANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0485 STEP NO--UR/0449/70/004/004/0772/0774
CIRC ACCESSION NO--AP0126237
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126237

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE RADIATION ENERGY ON THE POTENTIAL PULSE AMPLITUDE WAS INVESTIGATED FOR INSULATED AND SEMI INSULATED ZNS-CU CRYSTALS BY A PREVIOUSLY DESCRIBED METHOD (1969). FOR INSULATED CRYSTALS, THE DEPENDENCE IS QUADRATIC AND INDEPENDENT OF THE POLARITY OF THE APPLIED POTENTIAL. FOR SEMI INSULATED CRYSTALS, A NO. OF OBSD. PECULIARITIES ARE DISCUSSED. TO BOTAIN HIGH RADIATION ENERGIES, IT IS ESSENTIAL TO INCREASE THE DIELEC. CONSTS. OF THE DIELECS. FACILITY: FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.315.592

GOKHFEL'D, Yu.I., GURO, G.M., DAKHNOVETS, V.T., and KOVTONYUK, N.F.

"Effect of Deviations from Neutrality on the Electroluminescence of ZnS Monocrystals"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, pp 772-774

Abstract: The present communication is the most recent of a series of articles by the above-named authors regarding the electroluminescence of ZnS crystals insulated from both field electrodes. The difference between this system for investigating the characteristics of semiconductors and that of the field effect is that electrical neutrality is not violated in the specimen and that the field is screened only because of the redistribution of charges in the crystal volume. This communication describes experiments performed by the authors to confirm their ideas that: if the crystal is one of the capacitor faces (in the field effect system) its electrical neutrality will be violated when the voltage is connected; if the semiconductor resistance is high, ionization will permeate the semiconductor until the external dielectric field is completely screened by free charges; in a semiconductor in which only the impurity centers are excited, the electroluminescence may be different depending on the sign of the battery terminal connected to the crystal. Curves are given showing the radiation energy as a function of the voltage for various arrangements of the crystal.

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USSR

UDC: 621.375.7

DAKHNOVICH, A. A., RUBAN, A. S., TER-MARTIROSYAN, L. T., YANCHENKO, Yu. F.

"Development of Parametric Microwave Amplifiers on a Nonlinear Dielectric"

Izv. Leningr. elektrotekhn. in-ta (News of Leningrad Electrical Engineering Institute), 1972, vyp. 101, pp 33-40 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D283 [résumé])

Translation: There has recently been a considerable increase of interest in nonlinear dielectrics as applied to parametric amplifiers in the SHF range. The prospects for paramps on a nonlinear dielectric are associated with a number of their advantages over paramps on semiconductors: intrinsically higher reliability, greater dynamic range, looser requirements for stability of the pumping level, etc. The development of such amplifiers involves a number of specifics stemming from the particular properties of ferroelectric materials. A particularly important role in this regard is played by the problem of ensuring effectiveness of heat removal from the nonlinear capacitor heated by the pumping oscillations. The paper gives the results of an experimental study of certain amplifiers with elements of VK7 ferroceramic and crystalline strontium titanate. An amplification of 20 dB is achieved in the continuous mode in a one-loop amplifier on 1/2

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DAKHNOVICH, A. A. et al., Izv. Leningr. elektrotekhn. in-ta, 1972, vyp. 101,
pp 33-40

crystalline strontium titanate with pumping on 2 GHz and cooling with
liquid nitrogen. Nine illustrations, bibliography of twenty titles.

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USSR

UDC 621.165:533.64

DEYCH, M. Ye., KOBAYEV, A. V., and DAKHNOVICH, A. A.

"Experimental Investigation of Supersonic Active Cascades With Different Relative Height"

Tr. Mosk. Energ. In-ta (Works of the Moscow Power Engineering Institute), No 99, 1972, pp 9-14 (from Referativnyy Zhurnal, Turbostroyeniye, No 5, 1972, Abstract No 5.49.26)

Translation: An investigation was made of the influence of end phenomena upon energy losses in active cascades within the Mach number range from 0.9 to 1.75 and with change of the relative height l/b from 0.43 to 1.30. The principal aim of the work was to determine the influence of the Mach number of a supersonic stream upon the intensity of the secondary flows and the linking of the end zones, as well as to investigate the region of small relative heights, in which the linear relationship of the loss coefficient to the value of b/l is infringed. 3 figures. 3 references.

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USSR

UDC: 621.372.852.2(088.8)

ANTONOV, N. N., VENDIK, O. G., DAKHOVICH, A. A., MIRONENKO, I. G., Lenin-grad Electrical Engineering Institute

"A Capacitive Phase Shifter"

USSR Author's Certificate No 261493, filed 2 Dec 68, published 28 May 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B212 P)

Translation: The proposed capacitive phase shifter contains a strip line and controllable capacitors based on a nonlinear dielectric. To keep phase displacement constant over a wide temperature range, the phase shifter is made in the form of a series circuit of capacitors connected in a break in the central conductor of the line. One illustration.

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USSR

UDC: 621.375.7.029.6

VENDIK, O. G., DAKHNOVICH, A. A., RUBAN, A. S., TER-MARTIROSYAN, L. T.,
YANCHENKO, Yu. F.

"A Cooled Parametric Amplifier on Strontium Titanate"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, pp 1981-1983

Abstract: The paper gives the results of an experimental study of a two-circuit regenerative mavar for reflection with a planar nonlinear capacitor based on a strontium titanate thin film. The current-voltage characteristic of the capacitor is given. The signal frequency in the amplifier was 1.78 GHz, and the pumping frequency was 5 GHz. The amplifier was made in the coaxial strip version. The nonlinear capacitor was connected in a break in the central conductor of the strip line. As a distinguishing feature of the design, the energy from the pumping oscillator and the signal are sent to the same coaxial input. Separation is by a filter. Tests were done in a cryostat at 77 kelvins. The coaxial Y-circulator was located outside the cryostat. Losses in the input circuits including the circulator amounted to 1.0 dB; losses in the output circuits were 3 dB. At an amplification factor of 15 dB, the band of the proposed mavar was 12 MHz. The

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VENDIK, O. G. et al., Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72,
pp 1981-1983

pumping power consumption was no more than 500 mW. The calculated noise
temperature was 200 K, and measurements gave 320 K. The authors thank
V. V. Smirnyy for furnishing the crystal specimens.

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USSR

UDC 632.952:633.13

DAKHNYUK, G. D., and SABEL'NIKOVA, V. YA., Khar'kov Agricultural Institute

"Comparative Effectiveness of Various Mercury-Organic Compounds Against Oat Smut"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 12, Dec 70, pp 33-35

Abstract: Timely digestion of seeds had a positive effect on field germination, density of plants, and better growth of the plants. The most effective agent against oat smut was granozan, followed by radosan and agronal; germizan was ineffective against oat smut. Studies with these agents were carried out in 1965-1968. Phenylmercuryacetate was tested only in 1968, its effectiveness being between that of radosan and agronal. Treatment of the oat seeds with mercury-organic agents had a positive effect on the harvest.

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USSR

UDC 535.34

MIKhAYLOV, V. A., ZOLCTAREV, V. N., and DAKhShIYeV, N. G.

"The Relation Between the Observed and Real Absorption Spectra of Molecules in a Condensed Medium. VII. On One of the Physical Causes for the Violation of Beer's Law in Concentrated Solutions."

Leningrad, Optika i Spektroskopiya, Vol 34, No 6, Jun 73, pp 1082 - 1087

Abstract: Factors related to the dispersion of an effective field of light waves acting on molecules in a condensed medium must, in the general case, lead to a violation of Beer's law. These violations are usually explained on the basis of a change in the coefficient of absorption due to the presence in the system of intermolecular interactions, without specifying the nature of these interactions. Detailed quantitative studies of a 2-component CCl_4 -- CHBr_3 system in the region of the intense ν_3 oscillation band of the CCl_4 molecule ($700 - 800 \text{ cm}^{-1}$) show that there are effects due to the light field and due to intermolecular interactions. The authors use a model of the system in which the absorption capacity is characterized by spectral values such as the spectra of the Einstein coefficients and the optical polarizability. Using the corrected characteristic, the model approaches quite closely to Beer's law. The difference between the model and the actual values is considered to be due to the effects of concentration on molecular characteristics. It is suggested that a generalized Lorentz-Lorentz equation can be used to determine the relative contributions of these two factors.

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USSR

UDC 678.743.22:66.095.268


DAKIN, V. I., YEGOROVA, Z. S., and KARPOV, V. L.

"The Effect of Triallyl Esters of Cyanuric or Isocyanuric Acids on the Radiation Crosslinking of Polyvinyl Chloride"

Moscow, *Plasticheskiye Massy*, No 6, 1973, pp 37-38

Abstract: It was shown that the effectiveness of the crosslinking of polyvinyl chloride compositions containing the triallyl ester of cyanuric or isocyanuric acids is identical. Therefore the radicals forming during the isomerization process of triallyl ester of cyanuric acid into the isocyanuric acid are of no consequence as far as the spacial structure of the composition is concerned. These data support the hypothesis of the reaction mechanism based on the formation of free radicals due to the splitting of low molecular weight fragments from the allyl group and from the macromolecules of the polymer itself.

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1/2 039 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EPR STUDIES OF THE RADIOLYSIS OF SOME ALLYL MONOMERS IN THE SOLID
STATE -U-
AUTHOR-(02)-DAKIN, V.I., KARPOV, V.L. 
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 409-15
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--EPR SPECTRUM, POLYMER, TRIAZINE, ELECTRON EFFECT, RADIATION
EFFECT, RADIOLYSIS, ETHER

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0250 STEP NO--UR/0459/70/012/002/0409/0415
CIRC ACCESSION NO--AP0106906
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106906

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPR SPECTRA WERE OBTAINED FOR
ROAC, RO SUB2 CH SUB2 CH:CH SUB2, RO SUB2 C(CH SUB2) SUB4 CO SUB2 R, RO
SUB2 C(CH SUB2) SUB8 CO SUB2 R, O,RO SUB2 C, C SUB6 H SUB4 CO SUB2 R,
(RO) SUB3 PO, 2,4,6-TRIS(ALLYLOXY)-S-TRIAZINE, AND ROR (R EQUALS H SUB2
C:CHCH SUB2), WHICH WERE RADIOLYZED BY A BEAM OF FAST ELECTRONS AT
100DEGREEK. THE EPR SPECTRA OF THESE ETHERS AT 100DEGREEK SHOWED THE
PRESENCE OF R; AT THIS TEMP. THERE IS NO RECOMBINATION OF THESE
RADICALS. AT TEMPS. LARGER THAN 100DEGREEK POLYMERIC RADICALS CONTG.
MINUS OC TIMES HCH:CH SUB2 END GROUPS ARE PRESENT.

UNCLASSIFIED

Organ and Tissue Transplantation

USSR

UDC 616.74-053.9

ZNGENTI, V. K. (Academician, Georgian Academy of Sciences), ~~BAKALAK~~
ISHVILI, M. L., and KUTUBIDZE, R. A., Tbilisi State Medical Institute

"Study of the State of Axial Cylinders and Cholinesterase Activity
During the Regeneration Process in an Autotransplant of Ground
Muscle"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 57, No 1,
Jan 70, pp 229-232

Abstract: Experiments were conducted on 60 male rabbits of various
ages. The animals were killed at different stages of regeneration
of the autotransplant from ground skeletal muscle. It was deter-
mined that reproduction of muscular elements begins simultaneouly
with manifestations of cholinesterase activity and the regrowth of
axial cylinders. The increased number of axial cylinders and in-
creased cholinesterase activity occur at the time of maturation of
muscle elements. Nerve endings processing high cholinesterase
activity may be discovered after the regeneration process of re-
stored muscle fibers is completed. None of the regenerated tissue
showed proprioceptors, so it was concluded that the death of re-
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ZHGENTI, V. K., et al., Tbilisi, Soobshcheniya Akademii Nauk
Gruzinskoy, SSR, Vol 57, No 1, Jan 70, pp 229-232

stored skeletal muscle fibers is due to the failure of tropic
nervous function, which in turn is due to the absence of the pro-
prioceptors that determine the motor function of muscle fibers.

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USSR

UDC 536.2.001.57

DALAKISHVILI, O. N. and GVANTSELADZE, SH. YE.

"Determination of the Transmission Function by Mathematical Modeling"

Moscow, Metrologiya, No 5, May 73, pp 63-66

Abstract: An electrical model of a cylindrical heat sensor is examined under conditions of a changing coefficient of heat transfer. Sensor modeling is accomplished by variable electrical resistance. Formulas are presented for determining the parameters of the electrical model. A method is proposed for determining the equivalent thermophysical parameters of a nonuniform heat sensor which makes it possible to establish the electrical model parameters and the transmission function. 1 figure, 2 bibliographic references.

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1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CN PRINCIPLES UNDERLYING SURGICAL TREATMENT OF GASTRIC AND DUODENAL
ULCERS -U-
AUTHOR--(04)--SHALIMOV, A.A., SAYENKO, V.F., ZAYTSEV, V.T., DALAVURAK, V.P.
CCOUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 23-28
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SURGERY, DUODENUM, DIGESTIVE SYSTEM DISEASE, SECRETION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3002/1770 STEP NO--UR/0531/70/000/000/0023/0028
CIRC ACCESSION NO--AP0129138
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129138

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BOTH CLASSICAL GASTRIC RESECTION AND VAGOTOMY WITH DRAINAGE OPERATIONS OR WITH ANTRUMECTOMY ACCORDING TO RIGIDLY SUBSTANTIATED INDICATIONS SHOULD BE EMPLOYED IN SURGICAL TREATMENT OF PEPTIC ULCER. CLASSICAL RESECTION IS DONE IN THE ABSENCE OF DISTURBANCES IN THE FIRST PHASE OF GASTRIC SECRETION AND WITH AN ELEVATED OR NORMAL SECOND PHASE. SELECTIVE VAGOTOMY WITH ANTRUMECTOMY IS INDICATED IN HYPERSECTION BOTH DURING THE FIRST AND SECOND PHASES OF GASTRIC SECRETION. SELECTIVE VAGOTOMY WITH DRAINAGE OPERATION IS PERFORMED IN HYPERSECTION DURING THE FIRST STAGE OF SECRETION. THE RESTORATIVE STAGE OF THE OPERATION IS REALIZED WITH DUE ACCOUNT FOR PREDISPOSITION TO THE DUMPING SYNDROME. FROM 1966 UP TO JULY 1968 A TOTAL OF 181 OPERATIONS FOR PEPTIC ULCER WERE PERFORMED. IMMEDIATE AND LATE RESULTS OF THE SURGERY PROVED SATISFACTORY. FACILITY: NII DBSHCHEY I NEOTLOZHNOY KHRURGII, KHAR'KOV.

UNCLASSIFIED

USSR

UDC: 547.665;547.541;543.422

GEYTA, L. S., DALBERGA, I. E., MEDNE, K. K., AREMS, A. K., Institute of Organic Synthesis, Academy of Sciences Latvian SSR, Order of the Red Banner of Labor

"Study of Unsaturated Acylindandiones. Part 6. Sulfoderivatives of 2-Cyannamoylindiones-1,3"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Khimicheskaya, no 5, 70, pp 571-575

Abstract: Sulfuration of 2-cyannomoylindandiones-1,3 (CI) has shown that the 2-sulfoacid CI which is formed by treating CI with dioxanosulfotrioxide is unstable; however, when sulfurated in a benzene ring, by treatment with chlorosulfonic acid, CI becomes a stable compound. Sulfochlorides and sulfonamides have been synthesized and their infrared spectra studied. The tuberculostatic activity of CI tested on strains of microorganisms H₃₇Rv, Ravenel, Valice u D has shown their low activity. The minimal inhibiting concentration of the growth of tubercular cultures by CI sulfoderivatives fluctuates between 1.7 mcg/ml and > 50.00 mcg/ml, while tubazid inhibits microbacterial growth in concentrations of 0.10 to 22.46 mcg/ml. Tables 1/2

USSR

GEYTA, L. S., et al, Izvestiya Akademii Nauk Latvviyskoy SSR, Seriya
Khimicheskaya, no 5, 70, pp 571-575

in the original article provide data on infrared spectra and tuberculostatic
activities of various CI sulfoderivatives, their formulas, melting points,
composition (%), and yields (%).

2/2

USSR

UDC 517.948:513.88

KREYN, M. G., and DALETSKIY, Yu. L.

"Certain Results and Problems of the Stability Theory of Solutions of Differential Equations in Banach Spaces"

Kiev, Tr. 5-y Mezhdunar. konferentsii po nelineyn. kolebaniyam (Transactions of the Fifth International Conference on Nonlinear Vibrations), Vol 1, 1970, pp 332-347 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B871)

Translation: This is a review paper in which certain problems of the theory of linear and nonlinear differential equations in Banach spaces are discussed. Concepts frequently used in the qualitative theory of differential equations are as follows: roughness, strength, and stability, which are among the properties of solutions of these equations that are preserved for any given perturbations of the equations. Properties that are "rough" in the sense that they are preserved in the transition to infinite-dimensional space are examined. B-rough (preserved in the transition to Banach spaces) and H-rough (in the transition to Hilbert spaces) are distinguished. The methods of differential analysis employed in this extension often prove the most natural in considering finite-dimensional problems. From this point of
1/2

USSR

KREYN, M. G., and DALETSKIY, Yu. L., Tr. 5-y Mezhdunar. konferentsii po nelineyn. kolebaniyam (Transactions of the Fifth International Conference on Nonlinear Vibrations), Vol 1, 1970, pp 332-347 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B871)

view the following problems are considered: properties of general indicators of increase of solutions, exponential expansion (in particular, dichotomy), aggregates of solutions, integral manifolds of nonlinear equations, problems of the theory of canonical equations studied by methods of operator theory in spaces with indefinite metrics, and so on.

It is noted that stronger variants with H-roughness replaced by B-roughness are possible for certain theorems on H-roughness. Particular emphasis is given to a problem that is unsolved even in the finite-dimensional case, called the W-problem. Authors' Abstract.

2/2

USSR

UDC: 547.94

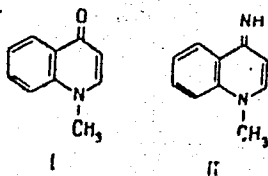
AVRAMOVA, B., ZHELYAZKOV, L., DALEVA, L., STEFANOVA, D., Scientific Research
Chemico Pharmaceutical Institute, Sofia

"Biologically Active 1-Substituted-4-Quinolonimines. I."

Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1970, pp 98-101

Abstract: Echinopsine-1-methyl-4-quinolone (I) and its structural analog echi-
nopsidine (II) both show physiological activity, but in different ways.

(a)



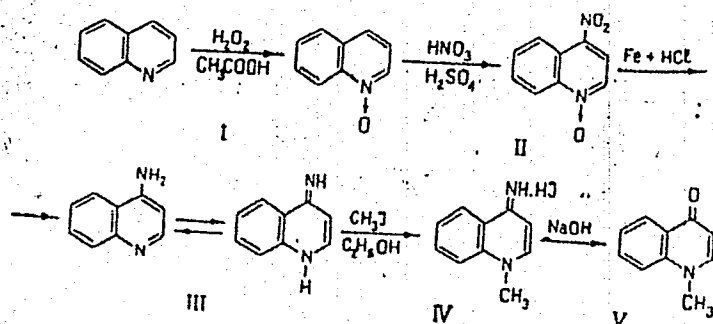
It is assumed that the difference in the biological effects of these two compounds are due to the structural difference -- the substituent in the fourth position (=O or the NH group). New 1-substituted quinolonimines which may be considered structural analogs of echinopsidine were synthesized by a four-stage process similar to that used for synthesis of echinopsine:

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USSR

AVRAMOVA, B., et al, Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1970, pp 98-101

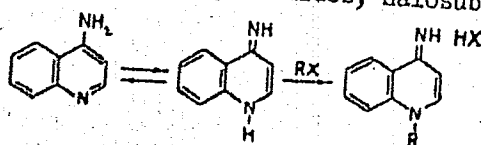
(b)



except that on the fourth stage, in addition to the methylating agent, 4-aminoquinoline is interacted with various alkyl of aralkyl halides, halosubstituted ketones or other alkylating agents:

(c)

2/3



-O-

USSR

AVRAMOVA, B., et al, Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 98-101

The reaction was carried out with boiling 4-aminoquinoline together with an excess of the appropriate alkylating agent in a suitable solvent. Reaction time varies from 6 to 25 hours. All the resultant quinolonimines were found to be biologically active with respect to the central nervous system, most of them having centrally stimulating and antidepressant properties. The strongest antidepressant action is shown by echinopsidine, the first member of the homologous series ($R = CH_3$). As the carbon chain associated with the nitrogen atom increases in length to four atoms, the antidepressant property decreases, and there is an increase in non-specific stimulation of the central nervous system. Two aromatic derivatives showed elements of antidepressant activity, though weaker than in echinopsidine, and the double bond in the substituent seems to lead to a tranquilizing effect. Larger doses of the compounds produce a curare-like myorelaxant effect which increases in strength when the methyl group associated with the nitrogen atom is replaced by heavier radicals. Carbonyl groups in the molecule reduce the myorelaxant effect. With respect to anticholinesterase activity, quinolonimines are much more active than echinopsine, but less active than galanthamine. The quinolonimines are more biologically active and more toxic than echinopsine.

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Acc. Nr.

A70045638

Abstracting Service:
CHEMICAL ABST.

Ref. Code

UR 0020

D 4/70

89718x Preparation of methyl methacrylate from methacrylonitrile. Mekhtiev, S. I.; Dalin, M. A.; Guseinov, A. G.; Sleptsova, O. M.; Lukina, E. M.; Porchay, R. A. (USSR). Dokl. Akad. Nauk SSSR 1970, 190(1), 108-9 [Chem] (Russ). Me methacrylate (I) was prepd. in 86.2% yield in a continuous reactor by heating equimolar amts. of methacrylonitrile and 84% H₂SO₄ 30 min at 100°, followed by heating the intermediate methacrylamide with 2 moles MeOH 2 hr at 95°. I (57.8%) was also obtained when the process was run in a 60-l. exchange reactor.

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REEL/FRAME

19780624

7

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--A CHROMIUM CATALYST -U-
AUTHOR--(04)-GUREVICH, V.R., GOLIKOVA, V.I., ARUTYUNOVA, K.M., DALIN, M.A.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 186,390
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHROMIUM, CHEMICAL PATENT, CATALYST, CATALYTIC POLYMERIZATION,
ALKENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0847 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136281
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CR CATALYST, HAVING A HIGHLY DEVELOPED SURFACE, FOR POLYMN. OF OLEFINS, IS PREPD. BY SATG. SILICA GEL WITH A SOLN. OF CR ANHYDRIDE IN AN ORG. LIQ., E.G. IN ACETONE. FACILITY: VSESOYUZHNY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT PO POLUCHENIYU I PERERABOTKE NIZKOMOLEKULYARNYKH OLEFINOV S OPYTNYM ZAVODOM.

UNCLASSIFIED

USSR

UDC 576.852.23.097.29

DALIN, M. V., MIGUNOV, V. N., FISH, N. G., POLIKAR, A. Ch., and IL'NITSKAYA, Ye. A.,
Moscow Institute of Vaccines and Sera imeni Mechnikov, and Sofia Institute of
Epidemiology and Microbiology

"Heterogeneity of a Specific Toxin in a Filtrate of *Corynebacterium diphtheriae*"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, Jul 70,
pp 115-118

Abstract: In an earlier study, the authors showed that toxin in filtrates of *Corynebacterium diphtheriae* strain PW-8 may consist not only of proteins with a sedimentation rate of about 4S, but also of larger components. In the present work, the molecular composition of toxic filtrates from the Weisensee and Massachusetts varieties are compared and the composition of filtrates obtained at different times of culturing is analyzed. *C. diphtheriae* Strain PW-8 grown in stab culture produced two types of specific toxin in the filtrates: macromolecular, with a sedimentation rate of about 6 to 11S; and low-molecular, with a sedimentation rate of about 4-5S and possessing greater toxicity and antibinding activity (attributed to proteolysis of the molecules of specific toxin during culturing). The macromolecular toxin appeared in the filtrates within a few hours after the start of growth and persisted throughout (36 hours). It is tentatively identified as Ehrlich's "toxon."

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U S S R

B O O K

3 5 5

DALIN, V. N.

UDC 629.735.45.02(075)

KONSTRUKTSIYA VERTOLETOV (Helicopter Design), Moscow, "Mashinostroyeniye", 1971, 271 pp, illus, biblio, 5,000 copies printed

Written as a textbook for the course, "Design of Helicopters", at the intermediate special educational institutions. It presents the design fundamentals for helicopter assemblies and subassemblies, structural concepts, propulsion means, and ways of improving the fatigue strength of structural and mechanical elements and their attachments.

Foreword	3
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Chapter II. Design of Helicopter Assemblies	24
Chapter III. Brief Information on the Planning of Helicopters	197
Chapter IV. Design of Parts and their Attachments which Are Subject to the Effects of Variable Loading	215

USSR

UDC: 621.397:621.396.61

DALINENKO, N. K., YEFREMOV, V. A., DEMINA, N. F., KRUPCHATNIKOV, V. A.,
SURIKOV, I. N.

"A Method of Objective Measurement of the Noises and Signal From Fine Details
of Images of the Dissectors in the Small-Frame Scanning Mode"

Elektron. tekhnika. Nauch.-tekhn. sb. Elektronoluch. i fotoelektr. pribory
(Electronic Technology. Scientific and Technical Collection. Electron-Beam
and Photoelectric Devices), 1970, vyp. 4(18), pp 40-46 (from RZh-Radiotekh-
nika, No 5, May 71, Abstract No 5G113)

Translation: The authors discuss an objective method of measuring the signal-
-to-noise ratio and depth of modulation of the signals of fine details in an
image in cameras with dissectors in the small-frame scanning mode. The
characteristics of the equipment developed are presented together with the
results of measurements made by the proposed method. Resumé.

1/1

- 68 -

Lasers

USSR

UDC 621.383.292 + 1

VIL'DGRUBE, G.S., DUNAYEVSKAYA, N.V., PODOKSINA, M.D., RONKIN, ZH.M.,
DALINENKO, N.K.

"Photomultiplier For Observation Of Coherent Radiation"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronoluch. i fotoelektr. pribory
(Electronic Technology. Scientific-Technical Collection. Electron Beam And
Photoelectric Devices), 1970, Issue 2(15), pp 3-5 (from RZh--Elektronika i yeye
primeneniye, No 4, April 1971, Abstract No 4A253)

Translation: The construction is described and the principal parameters are presented of the FEU [photomultiplier]--84 with multialkali photocathodes, intended for observation of the coherent radiation signals of a laser; the FEU-84 has the dimensions and basing of the FEU-15 and FEU-16. The spectral response of the photocathode at a wavelength of 700 nm amounts to 80 ± 270 microampere/lm. The multiplier system contains 12 louvered dynodes of CuAlMg alloy. The limiting output current is 5 ma in a static regime and 0.8 a in a pulsed. The anode sensitivity is 100 a/lm at a voltage of 1250--1500 v. The number of noise pulses at a plateau of the counter characteristic curve does not exceed $3 \div 7 \cdot 10^2 \text{ sec}^{-1}$. The sensitivity threshold is $3-8 \cdot 10^{12} \text{ lm/hz}^{-1/2}$. 2 ill. 2 ref. N.S.

1/1

Amplifiers

USSR

UDC 621.383.212 (088.8)

DALINENKO, N. K.

"Secondary-Electron Multiplier"

USSR Author's Certificate No 266079, filed 11 Mar 68, published 22 Jul 70 (from RZh-Elektronika i yeye primeneniye, No 2, Feb 71, Abstract No 2A260P)

Translation: A secondary-electron multiplier is proposed, in which, with the object of improving the sensitivity threshold, the strength of the collector insulation is increased. For this purpose, between the collector (secured at the insulating traverses in common with the other electrodes to the armature) and all the neighboring conductive parts of the armature, guard rings are placed which are connected among themselves and with the guard rings of the collector output. Construction drawings are included. N.S.

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USSR

UDC 620.193.4

MULYAKAYEV, L. M., DUBININ, G. N., DALISOV, V. B., POLUBOYARTSEVA, L. A.,
MAITOROVA, T. M., and REYFER, A. A., MOSCOW Aviation Institute imeni
Sergo Ordzhonikidze

"Corrosion Resistance of Diffusion Chrome Plated Steel in Certain Mediums"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 66-70

Abstract: A study was made of the corrosion behavior of chrome plated steels in a series of industrial aggressive media. Specimens of carbon steels (brands 35 and 45) and of OKh21N5T austenitic-ferritic class steel were chromated according to a technology developed by the Chair of Aviation Science of Metals of Moscow Aviation Institute; their diffusion layer was x-ray-analyzed and its thickness and microhardness measured. Corrosion resistance curves of brand 45 steel before and after diffusion chrome plating at 1100° for 10 hrs show that diffusion chromating protects brand 45 steel against corrosion in a 15% solution of tartaric acid and in a 3% solution of table salt, but does not reliably protect it in a concentrated freon solution widely used in refrigerating plants at operating conditions of 300° and 60 at. Results of corrosion tests under industrial conditions of up to two years duration of brand 35 steel and OKh21N5T steel, chromated and not chromated, are shown. The corrosion rate of brand 35 steel subjected to the action of an aggressive
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USSR

MULYAKAYEV, L. M., et al., Zashchita Metallov, Vol 9, No 1, Jan-Feb 73,
pp 66-70

medium for up to 672 hrs with a diffusion coating is ten times lower than without a coating and approximately equal to the corrosion rate of OKh21N5T stainless steel in this medium. The use of a chromated diffusion coating to increase the corrosion resistance of OKh21N5T proved to be of little effect. Two figures, two tables, five bibliographic references,

2/2

- 1A -

USSR

UDC 620.198;621.793.3

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., RUSIN, S. I.,
ZAMIKHOVSKIY, V. S., and BRODYAK, YA. P., Academy of Sciences Ukrainian SSR,
Physicomechanical Institute

"Endurance of Chemically Nickel-Plated Aluminum Alloy D16"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

Abstract: The article describes results of a study of the effect of chemical nickel-plating on the fatigue and corrosion-fatigue strength of D16, an aluminum alloy widely used in industry (0.74 percent Mn, 4.6 percent Cu, 0.87 percent Si, 0.56 percent Fe, 1 percent Mg). Specimens were nickel-plated in an alkaline solution of the composition (g/l): NiCl_2 21, NaH_2PO_2 24, $\text{Na}_2\text{C}(\text{CO}_2\text{H})_2(\text{OH})\text{C}_3\text{H}_4$ 45, NH_4OH 50, NH_4Cl 30 at a temperature of 75-80°.

Fatigue tests showed that the endurance of aluminum alloy D16 with a nickel layer of about 0.045 (nickel-plating for three hours without subsequent heat treatment) is no less than that of the alloy without a coating, despite the presence of residual tensile stresses. Heat treatment of chemically nickel-plated specimens at 240° for one hour significantly increased their fatigue

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USSR

KARPENKO, G. V., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

strength. The endurance limit of specimens with a coating about 0.008-0.010 mm thick (nickel-plating for 0.5 hour) increased 45 percent compared to uncoated specimens and specimens nickel-plated without subsequent heat treatment. An increase in the coating thickness to 0.040-0.045 mm led to a further rise in the endurance limit to almost 70 percent. The effect of a rise in endurance declines somewhat with a further increase in the coating thickness to 0.070-0.075 mm (nickel-plating for five hours). In the case of the simultaneous action of cyclic strains and a corrosive medium (3-percent aqueous solution of sodium chloride), chemically deposited nickel is not an effective means of protection against corrosion-fatigue failure of aluminum alloy D16.

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USSR

UDC 620.198.539.431.621

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., and ZAMIKHOVSKIY, V. S.,
Institute of Physics and Mathematics, Academy of Sciences Ukrainian SSR

Vliyaniye Diffuzionnykh Pokrytiy na Prochnost' Stal'nykh Izdeliy (The Effect
of Diffusion Coating on the Strength of Steel Parts), Kiev, "Naukova Dumka,"
1971, 166 pp

Translation of Annotation: This monograph studies the effect of electro-
plating and diffusion coating on the short-term static and fatigue strength
of steel articles in the air and in some working media. The role of residual
stresses is examined and a new classification is proposed for them. The
possibility of healing such defects as cracks through diffusion metallization
and the restoration of the continuity and strength of defective parts is shown.
Some methods of intensifying the processes of diffusion saturation are pre-
sented.

This monograph is intended for metal scientists, process engineers, and
designers in the machine building industry, and for instructors at higher
educational institutions.

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USSR

KARPENKO, G. V., et al., "Naukova Dumka," 1971, 166 pp

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USSR

KARPENKO, G. V., et al., "Naukova Dumka," 1971, 166 pp

Data on Methods of Intensifying the Processes of Diffusion Steel

Saturation

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- 6 -

USSR

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

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

Moscow, Yadernaya Fizika, Vol 17, No 5, May 73, pp 1084-1089

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

1/1

- 42 -

USSR

DAL'KAROV, O. D., MANDEL'TSVEYG, V. B., and SHAPIRO, I. S. (Institute of Theoretical and Experimental Physics, State Committee for the Use of Atomic Energy)

"Generation Cross Sections of Quasinuclear Meson Resonances"

Moscow, Yadernaya Fizika, Vol 13, No 2, 1971, pp 332-335

Abstract: The differential production cross sections of heavy quasinuclear meson resonances corresponding to the stripping and capture mechanisms are calculated for the reactions: $\bar{p} + d \rightarrow N + X$ (I) and $d + p \rightarrow N + X$ (II). The development of the differential cross sections as functions of applied momentum is found to depend essentially on the orbital moment relative to motion of N and \bar{N} , components of the quasinuclear meson. The full cross section $\sigma \approx 1-200$ microbarns. Evaluations are presented for the production cross section of quasinuclear mesons in substitution reactions. The differential and complete production cross sections of the four quasinuclear mesons are calculated, with kinetic energies of antiprotons of 0.4 and 10 KeV, in reaction (I). The corresponding cross sections in reaction (II) are found to be on the same order of magnitude.

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USSR

DAL'KAROV, O. D., MANDEL'STVEYG, V. B., and SHAPIRO, I. S., Institute of Theoretical and Experimental Physics

"Possible Quasinuclear Nature of Heavy Meson Resonances"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 59, No 4, Oct 70, pp 1363-1367

Abstract: The article studies the possibility of the existence of nonrelativistic bound states in the NN system. The authors' starting point is the potential correctly describing low-energy NN scattering. The static variant of the Bryan-Phillips potential is used. It is shown that the potential interaction of nucleon and antinucleon at nonrelativistic energies leads to the existence of a number of nuclear-like bound states which manifest themselves as heavy mesonic resonances (with masses close to the double nucleon mass). The authors thank L. N. BOGDANOVA, YA. B. ZEL'DOVICH, A. P. SOKOLOV and K. A. TER-MARTIROSYAN for useful discussion, as well as N. YANIYEVA, A. V.

1/2

USSR

DAL'KAROV, O. D., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 59, No 4, Oct 70, pp 1363-1367

GASPARYAN, A. L. LYUBIMOV and A. N. NIKITIN for their hospitality and assistance in performing numerical calculations on the computer of the Joint Institute of Nuclear Research.

2/2

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NONRELATIVISTIC BOUND STATES IN THE NUCLEON ANTINUCLEON SYSTEM -U-
AUTHOR--(03)-DALKAROV, O.D., MANDELTSVEYG, V.B., SHAPIRO, I.S.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(4), 889-95
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--NUCLEON INTERACTION, ANTIPARTICLE, NUCLEAR ENERGY LEVEL,
NUCLEAR RESONANCE, EXCITED STATE, EXCITATION ENERGY, NUCLEAR ISOBAR,
MESON INTERACTION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1079 STEP NO--UR/0367/70/011/004/0889/0895
CIRC ACCESSION NO--AP0136499
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136499

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE MASS REGION 1580-1880 MEV, 7 MESON RESONANCES WITH THE APPROX. WIDTH OF 40-110 MEV AND A MEAN DISTANCE OF LESS THAN OR EQUAL TO 40 MEV BETWEEN THEM WERE LOCATED REPRESENTING THE QUASI NUCLEAR BOUND STATES OF THE N-BARN SYSTEM. THE QUANTUM NOS. OF 4 OF THEM WERE DETD. TO BE 0 MINUS MINUS, 0 MINUS PLUS, 1 MINUS MINUS, AND 1 MINUS PLUS. THE PERIPHERAL INTERACTION OF AN $\bar{B} \bar{A} R N$ WITH $2N$ SHOULD LEAD TO THE EXISTENCE OF A SERIES OF BARYON RESONANCES AT 2500-800 MEV AND THE MULTINUCLEAR RESONANCES OF THE SAME TYPE SHOULD RESULT AS THE EXCITED STATES ON NUCLEI WITH THE EXCITATION ENERGY OF 1.5-2 GEV. IN THIS WAY, THE LEVEL SPECTRUM OF NUCLEI EXTENDED TO THE EXCITATION ENERGY OF SEVERAL GEV AND COULD BE CHARACTERIZED IN THIS SERIES: THE ORDINARY NUCLEUS LEVELS WERE FOLLOWED BY LEVELS WITH THE EXCITATION ENERGY OF SEVERAL HUNDREDS OF MEV CORRESPONDING TO THE EXISTENCE OF NUCLEON ISOBARS AND AT SIMILAR TO 2 GEV THE ABOVE STUDIED LEVELS STARTED.

FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

ANZON, Z. V., et al, Institute of Nuclear Physics, Academy of Sciences, Kazakh SSR, Alma-Ata; BOZOKI, G., et al, Central Research Institute of Physics, Budapest; DAIKHAZHAN, N., et al, High-Energy Laboratory, Joint Institute of Nuclear Research, Dubna; BABETSKIY, Ya., et al, Laboratory of High-Energy Physics, Institute of Nuclear Research, Krakow; ZHDANOV, G. B., et al, Physics Institute imeni P. M. Lebedev of the Academy of Sciences, USSR, Moscow; ALEKSEYEVA, K. I., Scientific Research Institute of Nuclear Physics, Moscow State University, Moscow; CHERNEV, Kh., TODOROV, P. T., Institute of Nuclear Physics, Bulgarian Academy of Sciences, Sofia; AZIMOV, S. A., et al, Institute of Nuclear Physics, Academy of Sciences, Uzbek SSR, Tashkent; CHADRAA, V., SHARKHI, D., TUVDENDORZH, D., Institute of Physics and Mathematics, Mongolian Academy of Sciences, Ulan-Bator

"General Characteristics of Pion-Nucleon Interactions in a Nuclear Emulsion at Energies of 45 and 60 Gigaelectron-Volts"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 9, 1970, pp 1934-1937

Abstract: In the paper are presented the general characteristics of ion-nucleon interactions in nuclear emulsions irradiated on the accelerator in Serpukhov. The preliminary experimental data, obtained in various groups coordinated by the

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USSR

ANZON, Z. V., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 9, 1970, pp 1934-1937

Photoemulsion Committee of the Joint Institute of Nuclear Research, were presented simultaneously to the International Conference on the Physics of Elementary Particles in Lund and at the 11th International Conference on Cosmic Rays in Budapest. In the present paper are presented results obtained on the basis of extensive statistical material. Approximately 1500 π -N-interactions at energies of 60 and 45 gigaelectron-volts are analyzed. The free paths of inelastic interaction are 43.7 ± 0.5 and 42.8 ± 1.2 cm long respectively. The average multiplicity for π -p-interactions at 60 gigaelectron-volts equals 6.4 ± 0.3 . 4 figures, 6 bibliographic entries.

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Nuclear Physics

USSR

BELOV, A. G., GANGRSKIY, Yu. P., DALKHSUREN, B., KUCHER, A. M., NGUYEN, Kong Kkhan', Joint Institute of Nuclear Research

"Search for α -Emission in Decay of Spontaneously Fissioning Isomers"

Moscow, Yadernaya Fizika, Vol 17, No 5, May 73, pp 942-946

Abstract: The paper gives the results of experiments to detect α -emission in decay of spontaneously fissioning isomers of Am^{242} ($T_{1/2} = 14$ ms), Am^{240} (0.9 ms) and Pu^{241} (27 μs) formed in reactions (n,2n) with a cross section of 100-200 μb at a neutron energy of 14.7 MeV, which is considerably greater than the cross sections of reactions with charged particles. The α -particles were registered by a multifilament proportional counter 120 mm in diameter with a resolving time of about 0.1 μs . No alpha-emitters were observed with energy greater than 7 Mev and half-life in the region of 10^{-5} - 10^{-2} sec. This would seem to indicate that α -transitions from isomer levels are forbidden. The authors thank G. N. Flerov for continued interest in the work.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SPARK COUNTER FOR FISSION FRAGMENTS -U-
AUTHOR--(05)-GANRSKIY, YU.P., DALKHSUREN, B., LAZAREV, YU.A., MARKOV,
B.N., NGUYEN, C.H.
COUNTRY OF INFO--USSR
SOURCE--PRIB. TEKH. EKSP. 1970, (2), 63-5
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--NUCLEAR FISSION, SPARK CHAMBER, NUCLEAR PHYSICS APPARATUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/2016 STEP NO--UR/0120/70/000/002/0063/0065
CIRC ACCESSION NO--AP0138870

UNCLASSIFIED

2/2 Q14 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0138870
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN OF MEASUREMENTS
OF THE EFFICIENCY OF REGISTRATION FOR FISSION FRAGMENTS AND OF THE
RESOLVING TIME FOR SEVERAL GAS MIXTS. BASED ON HE, NE, AR, KR, XE, AND N
SUB2. FOR A SERIES OF GAS MIXTS., AN EFFICIENCY OF LESS THAN OR EQUAL
TO 50PERCENT WAS OBTAINED FOR THE FRAGMENTS, AND FOR ALPHA PARTICLES, IT
WAS LESS THAN 10 PRIME NEGATIVE 10PERCENT. FACILITY: OB'EDIN.
INST. YAD. ISSLED., DUBNA, USSR.

UNCLASSIFIED

Acc. Nr:

DALLAKYAN G.
~~Abstracting Service: L-7/C~~
-INTERNAT. AEROSPACE ABST.

Ref. Code:

4R0020

A70-25400 # Certain regular correlations between the degree of manifestation of the skin galvanic reaction and changes in the EEG accompanying local injuries of limbic (rhinencephalic) structures of the human brain (Nekotorye zakonomernye sootnosheniia vyrazhennosti K.G.R. i izmenenii E.E.G. pri lokal'nykh povrezhdeniakh limbicheskikh/rinentsefal'nykh/ struktur mozga cheloveka). I. G. Dallakian, L. P. Latash, and L. T. Popova (Akademiiia Nauk SSSR, Laboratoriia Problem Upravleniia v Organizme Cheloveka i Zhivotnykh, Moscow, USSR). *Akademiia Nauk SSSR, Doklady*, vol. 190, Feb. 1, 1970, p. 991-994. 13 refs. In Russian.

Investigation of the role of a selective injury of only one specific formation of a limbic system (or of a disturbance of certain components of the system) in the suppression of the skin galvanic reaction. A study was made of patients with various types of focal brain injuries, involving a comparison of the special features of the dynamics of the skin galvanic reaction with the nature of the changes in the EEG and the location of the pathological process in the brain. Comparisons of changes in the biocurrents in the brains of patients with injuries in various parts of the brain and with various degrees of manifestation of the skin galvanic reaction revealed some interesting relations. It was found that the skin galvanic reaction is absent significantly more often in patients with injuries of the mediobasal temporal formations, in the EEGs of whom there are signs of

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Ch. 2

REEL/FRAME
19831667

AT0054511

disturbances of the activity of similar (symmetrical) formations in the opposite hemisphere. The presence of 'mirror' foci in the EEGs of patients with convexital injuries in the temporal portion of the brain was, as a rule, not associated with the suppression of the skin galvanic reaction.

A.B.K.

Handwritten mark, possibly initials.

Handwritten initials, possibly "CK".

19831668

USSR

UDC 547.341

FRIDLAND, S. V., DALMATOVA, L. K., and CHIRKUNOVA, S. K., Kazan' Chemical-
Technological Institute Imeni S. M. Kirov

"Reaction of Phosphorus Pentachloride With Some 1,3-Dioxolanes. IV. Bromination
of the Reaction Products"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1916-1919

Abstract: Bromination of β -(β -chloroethoxy)- β -ethylvinylphosphonic acid,
 β -(β -chloroisopropoxy)isopropenylphosphonic acid, and β -(β -chloroethoxy)-
isopropenylphosphonic acid dichlorides was investigated. It was shown that the
reaction takes place only with compounds which have a hydrogen atom in α -posi-
tion to the dichlorophosphoryl group.

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USSR

UDC 576.851.45.097.2

BAKHRAKH, Ye. E., BORVIKOVA, T. P., VEYNBLAT, V. I., DAL'VADYANTS, S. M., and TARENENKO, T. M., All-Union "Mikrob" Plague Research Institute

"Characteristics of Somatic Antigens of Pasteurella pestis"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1972, pp 101-105

Abstract: Chemical analysis of the main somatic antigen of Pasteurella pestis showed that it does not contain lipid A or the sugars characteristic of the central polysaccharide-aldoheptose and ketodesoxyoctanate. The monosaccharides present include galactose, glucose, glucosamine, mannose, and rhamnose. Fractionation of the main somatic antigen on Sephadex G-75 results in 2 components. One consists mostly of protein and a small quantity of nucleic acids and a polysaccharide. The other contains not only proteins but all the sugars present in the original antigen. The polysaccharide-containing haptene is regarded as the lateral O-specific chain of a liposaccharide.

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USSR

UDC 621.762.4

KIPARISOV, S. S., NARVA, V. K., DALYAYEVA, L. I., and NAGORNYI, N. YU., Moscow Institute of Steel and Alloys, Chair of Rare and Radioactive Metals and Powder Metallurgy

"Investigation of the Process of Dross Molding of Titanium Carbide"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 147-152

Abstract: Conditions are analyzed for production of highly porous billets from titanium carbide by the method of injection molding of thermoplastic drosses. The degree of porosity of the specimens (40-70%) was dictated by their further use for producing materials of the ferro-TiC class by the impregnation method and with a specified relationship of titanium carbide in steel. Porous objects of titanium carbide were produced by injection molding of thermoplastic drosses according to the schema of mixing titanium carbide (screen undersize) with the bond and the filler followed by injection molding, bond distillation, filler separation, and sintering. The best bonds are 85% paraffin and 15% wax and 91% paraffin, 6% wax, and 3% oleinic acid. Alcohol, starch, and dextrin are recommended as fillers. The porosity of titanium
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USSR

KIPARISOV, S. S., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 147-152

carbide samples produced by injection molding of thermoplastic drosses can be varied depending on the quantitative correlation of titanium carbide, the bond, and the filler, and also depending on the sinetering temperature of porous objects. Four figures, two table, six bibliographic references.

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1/3 023 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ADSORPTION OF IODINE AND CESIUM IONS ON MERCURY FROM SOLUTIONS IN
DIMETHYLFORMAMIDE -U-
AUTHOR--(03)-DOJLIDU, J., IVANOVA, R.V., DAMASKIN, G.B.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKIMIYA 1970, 6(1), 3-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IODINE, CESIUM, MERCURY, ADSORPTION, AMIDE, FORMIC ACID,
ELECTRODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0433 STEP NO--UR/0364/70/006/001/0003/0008
CIRC ACCESSION NO--AP0107041
UNCLASSIFIED

2/3 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF I PRIME NEGATIVE AND CS PRIME POSITIVE IONS ON HG FROM VACUUM DISTD. DIMETHYLFORMAMIDE (DMF) SOLNS. WAS STUDIED BY MEASURING BOTH THE DIFFERENTIAL CAPACITY (WITH AN IMPEDANCE BRIDGE) AND THE INTERFACIAL TENSION (WITH AN ELECTROMETER) AS A FUNCTION OF ION CONC. AND POTENTIAL. TWO SOLNS. WERE EXAMD.; THE 1ST CONTAINED XM NAI PLUS (0.5 MINUS X)M NACIO SUB4 WHERE X EQUALS 0, 10 PRIME NEGATIVE3, 10 PRIME NEGATIVE2, 5 TIMES 10 PRIME NEGATIVE2, 10 PRIME NEGATIVE1, AND 2 TIMES 10 PRIME NEGATIVE1 M; THE 2ND CONTAINED YM CSCIO SUB4 PLUS (0.5 MINUS Y)M NACIO SUB4 WHERE Y EQUALS 0, 10 PRIME NEGATIVE2, 5 TIMES 10 PRIME NEGATIVE2, 10 PRIME NEGATIVE1, 2 TIMES 10 PRIME NEGATIVE1, AND 3 TIMES 10 PRIME NEGATIVE1 M. THE DIFFERENTIAL CAPACITY CURVES SHOWED THAT NEITHER NA PRIME POSITIVE NOR CIO SUB4 PRIME NEGATIVE IONS WERE SPECIFICALLY ADSORBED AT LESS THAN 0.5M. THE CAPACITY OF THE HG ELECTRODE INCREASED WITH INCREASING CONC. OF I PRIME NEGATIVE AND CS PRIME POSITIVE; I PRIME NEGATIVE SHIFTED THE ELECTROCAPILLARY MAX. FROM SIMILAR TO 378 DYNES-CM AT 0.35 V FOR SOLN. I WHERE X EQUALS 0, TO SIMILAR TO 366 DYNES-CM AT 0.7 V FOR THE 1ST SOLN. WHERE X EQUALS 2 TIMES 10 PRIME NEGATIVE1 M NAI. THE SURFACE ACTIVITY OF I PRIME NEGATIVE WAS LESS AT THE HG-DMF INTERFACE THAN AT THE HG-WATER INTERFACE BECAUSE OF COMPETITIVE ADSORPTION BETWEEN I PRIME NEGATIVE ANIONS AND THE DMF SOLVENT MOLS. BUT THE SURFACE ACTIVITY (OR DECREASE IN INTERFACIAL TENSION AT AN UNCHARGED HG SURFACE) OF I PRIME NEGATIVE WAS ABOUT THE SAME AS IN N METHYLFORMAMIDE AND MORE THAN IN FORMAMIDE.

UNCLASSIFIED

3/3 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107041

ABSTRACT/EXTRACT--THE CHANGE TO AN APROTIC SOLVENT CAUSED THE ANION TO BE
LESS SOLVATED. SPECIFIC ADSORPTION OF CS PRIME POSITIVE BECAME
NOTICEABLE ONLY AT A NEG. CHARGED ELECTRODE AND DID NOT LEAD TO AN
OVERCHARGED ELECTRODE.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--SOLVENT EFFECT ON THE DIFFERENTIAL CAPACITY AND INTERFACIAL TENSION
OF A MERCURY ELECTRODE IN CONCENTRATED LITHIUM NITRATE SOLUTIONS -U-
AUTHOR-(03)-IVANUV, V.F., DAMASKIN, B.B., MAYOROVA, L.F.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKIMIYA 1970, 6(3), 382-4

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MERCURY, DROPPING MERCURY ELECTRODE, LITHIUM COMPOUND, NITRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0211

STEP NO--UR/0364/70/006/003/0382/0384

CIRC ACCESSION NO--AP0115915

UNCLASSIFIED

2/2 010

UNCLASSIFIED


PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL CAPACITY C AND THE INTERFACIAL TENSION σ OF A Hg ELECTRODE WERE MEASURED IN 0.1N AND SATD. SOLNS. OF LINO SUB3. THE DELTAC AT THE MIN. OF THE C PHI CURVES AT EPSILON SMALLER THAN 0, AND DELTA SIGMA AT EPSILON EQUALS 0 WERE PLOTTED VS. THE MOLAR CONC. C SUB0, OF LINO SUB3 IN SOLNS. OF H SUB2 O, MEOH, AND ETOH, WHERE PHI IS THE ELECTRODE POTENTIAL AND EPSILON THE SURFACE CHARGE D. ON THE ELECTRODE. THE C AT EPSILON SMALLER THAN 0, INCREASES AND SIGMA AT EPSILON EQUALS 0, DECREASES, WITH INCREASING C SUB0, IN THE ORDER H SUB2 O LARGER THAN MEOH LARGER THAN ETOH. THESE EFFECTS ARE ATTRIBUTED BASICALLY TO A LOW SOLV TION OF NO SUB3 PRIME NEGATIVE IONS AND THE DISPLACEMENT EFFECT OF THE SOLVENT MOL. THEREON. MIN. IN THE DELTA SIGMA C SUB0 CURVES FOR MEOH AND ETOH ARE ASCRIBED TO THE ADSORPTION ON THE Hg SURFACE OF A LAYER OF SOLVENT MOL. BENEATH ADSORBED NO SUB3 PRIME NEGATIVE IONS. THE VALUES OF THE SHIFT OF THE ZERO CHARGE POTENTIAL, ON INCREASING C SUB0 FROM 0.1N TO SATN., ARE MINUS 140, MINUS 100, AND MINUS 20 MV IN H SUB2 O, MEOH, AND ETOH SOLNS. RESP., I.E., IN THE ORDER OF DECREASING DISPLACING EFFECT.

FACILITY: TUL. POLITEKH. INST., TULA, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ADSORPTION OF IONS FROM CONCENTRATED CESIUM FLUORIDE SOLUTIONS -U-
AUTHOR--(03)-DAMASKIN, B.B., IVANOV, V.F., MELEKHOVA, N.I.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKIMIYA 1970, 6(3), 385-8 
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADSORPTION, AQUEOUS SOLUTION, SURFACE TENSION, CESIUM
COMPOUND, POTASSIUM COMPOUND, FLUORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/1138 STEP NO--UR/0364/70/006/003/0385/0388
CIRC ACCESSION NO--AP0121697
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121697

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF IONS AT THE SOLN. HG AND SOLN. AIR INTERFACES FOR CSF SOLNS. WAS INVESTIGATED BY THE DIFFERENTIAL CAPACITY CURVE, ELECTROCAPILLARY CURVES, AND SURFACE TENSION METHODS. MEASUREMENTS WERE MADE IN SOLNS. AT CSF CONCNS. OF 0.01-15.4 M (SATD. SOLN). AT 20 PLUS OR MINUS 1 DEGREE AND PH 7.5-8. A GREAT SIMILARITY WAS NOTED BETWEEN THE BEHAVIOR OF CSF SOLNS. AND KF SOLNS. THE DIFFERENCES AND SIMILARITIES IN THE BEHAVIOR OF THESE SALTS ARE DISCUSSED AND EXPLAINED. FACILITY: TUL. POLITEKH. INST., TULA, USSR.

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134957

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PRINCIPLES UNDERLYING THE CONCEPT OF THE CHARGE OF AN ELECTRODE AND ITS RELATION TO THE LIPPMANN EQUATION ARE DISCUSSED WITH SPECIAL REF. TO THE CASES OF PT AND TL-HG ELECTRODES. IT IS SHOWN THAT A DISTINCTION MUST BE DRAWN BETWEEN THE TOTAL CHARGE ENTERING INTO THERMODYNAMIC RELATIONSHIPS AND THE FREE CHARGE ASSOCIATED WITH A PARTICULAR MODEL OF THE ELECTRIC DOUBLE LAYER ON THE ELECTRODE SURFACE. EXPRESSIONS FOR THE TOTAL CHARGE OF SUCH SYSTEMS ARE GIVEN FOR CASES IN WHICH THE L. EQUATION IS SATISFIED, AND THE RESULTS ARE APPLIED TO THE QUESTION OF ELECTROCAPILLARY PHENOMENA OBSERVED UNDER POLAROGRAPHIC CONDITIONS.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THEORY OF THE DOUBLE LAYER AT THE METAL SOLUTION INTERFACE IN THE
PRESENCE OF THE ADSORPTION OF DIPOLAR CAPILLARY ACTIVE SUBSTANCES. 1.
AUTHOR--(03)-KIRYANOV, V.A., KRYLOV, V.S., DAMASKIN, B.B.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKIMIYA 1970, 6(4), 533-41
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METAL, AQUEOUS SOLUTION, ADSORPTION, DIPOLE MOMENT, ISOTHERM,
MOLECULAR STRUCTURE, VAN DER WALLS FORCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1998/1127 STEP NO--UR/0364/70/006/004/0533/0541
CIRC ACCESSION NO--AP0121686
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121686

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. KNOWING THE DISCRETE MOL. STRUCTURE OF THE ADSORBED LAYER AT A METAL SOLN. INTERFACE, THE ADSORPTION ISOTHERMS AND DIFFERENTIAL CAPACITY CURVES WERE CALCD. FOR SYSTEMS WITH EITHER DIPOLE DIPOLE OR VAN DER WAALS INTERACTION. THE INTERACTION EFFECTS OF THE DIPOLE MOMENTS OF THE ADSORBED SPECIES WITH THE METAL OR THE SOLN. WERE ALSO CONSIDERED. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

DAMASKIN, I. A., KOVARSKIY, V. A., PYSHKIN, S. L., RADAUTSAN, S. I.,
~~FERDMAN, N. A.~~, and TEZLEVAN, V. Ye.

"Luminescence of CdIn₂S₄ Monocrystals in the Excitation of Ruby
Laser Light by Giant Pulses"

V sb. Issled. slozhn. poluprovodnikov (Investigating Complex Semi-
conductors--collection of works) Kishinev, 1970, pp 85-89 (from
RZh-Radiotekhnika, No. 3, March 71, No. 3, Abstract No. 3D312)

Translation: The results are given of an investigation of CdIn₂S₄
monocrystals in two-photon optical excitation. With an excitation
intensity of about $8 \cdot 10^{25}$ kV/cm²sec, a narrow intense band at 660
nm is detected in the luminescence spectrum, whose half-width de-
creases substantially with increasing intensity of the excitation
light. The detected phenomenon is interpreted as forced radia-
tion in the so-called phononless line. Estimates of the lumines-
cence spectrum half-width are obtained and a model of the detected
phenomenon is proposed. Four illustrations, bibliography of eight.
Author's abstract.

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USSR

UDC 621.357:621.79.027(088.8)

KOTEL'NIKOV, A. I., DAMASKIN, Yu. I., MEL'NIKOV, G. I.

"Method of Electrochemical Dimensional Working"

USSR Author's Certificate No 295642, Filed 8/05/69, Published 7/04/71,
(Translated from Referativnyy Zhurnal, Khimiya, No 2, 1972, Abstract No
2 L256 P by A. D. Davydov).

Translation: The method of electrochemical dimensional working suggested differs in that in order to eliminate the influence of the voltage drop over the length of the part (P) on processing accuracy, the process is conducted by a cathode tool corresponding in its dimensions to the P being worked and made of a material with the same specific resistance, and the current is fed to the P and cathode so that an increase in voltage drop along the length of the cathode corresponds to an even decrease in voltage drop along the length of the P. For example, when the poles of the power supply are connected to the opposite ends of the cathode tool and the P, forming a plane-parallel clearance, the voltage between the P and the cathode is identical over its entire length.

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B. Graph Theory

USSR

DAMBIT, YA. YA.

"Estimation of the Number of Trees in a Graph"

Latv. Mat. Yezhegodnik [Latvian Mathematics Annual], 1973, 12, pp 70-86
(Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract
No 9V372)

Translation: A certain procedure of removal followed by consolidation of lines of a nonoriented graph G which leads to construction of an upper estimate O of the number of trees (frames) $\tau(G)$ of graph G is studied.

This procedure consists in the following. Suppose graph $G(\bar{v})$ is produced from G by contraction of line v (that is identification of the ends of this line) while $G(\bar{v})$ is produced from G by removal of v . Obviously,

$$\tau(G) = \frac{1}{m-n+1} \sum_{v \in G} \tau(G(\bar{v})) < \frac{m}{m-n+1} \max_v \tau(G(\bar{v}))$$

and

$$\tau(G) = \frac{1}{n-1} \sum_{v \in G} \tau(G(\bar{v})) < \frac{m}{n-1} \max_v \tau(G(\bar{v})),$$

where n is the number of points, m is the number of lines of graph G .
In order to construct an estimate, first the ribs are removed which break

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USSR

DAMBIT, YA. YA., Latv. Mat. Yezhegodnik, 1973, 12, pp 70-86

the minimum number of ribs in the graph produced, and the first inequality is applied. Then the cyclomatic number of the graph resulting from the removal of the ribs becomes equal to the cyclomatic number of a certain full graph, successive contraction of ribs contained in the maximum number of trees is begun, and the second inequality is applied. This process leads to graph G_{n_1} with n_1 points and $\frac{n_1(n_1 - 1)}{2}$, after which inequality $\tau(G_{n_1}) \leq \tau(K_{n_1})$, is applied, which follows from estimate O_1 produced in the article RZHMat, 1968, 4V265. The numerical examples show that the estimate O produced is better than O_1 where $m \leq 2n$ and worse O_1 where $m > 2n$. It is therefore suggested that the estimate $\tau(G) \leq \min\{O, O_1\}$ be used.

A. Kel'mans

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USSR

UDC: 533.95

KRUPNIK, L.I., DAMCHENKO, P.A. and SELEMIR, V.D.

"Interaction of Plasma Flow With Metal Surface"

Moscow, 2-y Vses. Simpoz. po Vzaimodeystviyu Atom. Chastits s Tverdym Telom (Second All-Union Symposium on Interaction of Atomic Particles With Solid Bodies), 1972, pp 224-227 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B102 by B.A. Chesnokov)

Translation: The experimental setup and test results of investigation of hydrogen plasma parameters before and after interaction with the metal surface are described. Plasma density is $2.8 \times 10^{14} - 1.9 \times 10^{15} \text{ cm}^{-3}$, electronic temperature 6-8 ev, velocity $(3 + 8) \times 10^6 \text{ cm/sec}$, degree of ionization 0.6, pressure in the interaction space $1 \times 10^6 \text{ mm Hg}$. An increase of density in the boundary layer by three times after the plasma hit the metal obstacle was observed. Neutrals, forming by the interaction of the charged particles with the atoms of the obstacle and by elastic and nonelastic collisions with the particles in the boundary layer, become plasma's main component. The installation diagram and the graphs of plasma component densities versus distance from obstacle are presented.

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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ANISOTROPY OF THE PROPERTIES OF FILLED POLYETHYLENE DURING
INJECTION MOLDING -U-
AUTHOR--(04)-LISTKOV, V.M., YUZHIN, V.M., DAMINOV, YU.F., MARTYNOV, M.A.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (5), 46-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PLASTIC INJECTION MOLDING, POLYETHYLENE, ANISOTROPY, FILLER,
MECHANICAL STRENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0910 STEP NO--UR/0191/70/000/005/0046/0049
CIRC ACCESSION NO--AP0134639
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134639

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 20PERCENT TALC, MICA, OR SILICA POWDERS TO HIGH-D. POLYETHYLENE (I) DECREASES THE ANISOTROPY OF I CASTINGS. THE FILLERS REDUCE THE MOBILITY OF I MOLS. AND PREVENT THEIR ORIENTATION DURING MOLDING. ASBESTOS FILLER CAUSES SOME ALIGNMENT OF I MOLS. ALONG ITS FIBERS AND INCREASES ANISOTROPY. THESE FILLERS DO NOT INTERFERE WITH THE WORKABILITY OF I MIXES OR ITS CRYSTALLINITY. CASTINGS CONTG. THESE FILLERS HAVE NEARLY THE SAME MECH. STRENGTH AND SHRINKAGE IN ALL DIRECTIONS.

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Acc. Nr.: AP0046769

Ref. Code: ZR0125

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USSR

UDC 621.791.7:621.387.143.546.831

ESIBYAN, E. M., DANCHENKO, M. YE.

"Energy Properties of an Arc with a Zirconium Cathode"

Kiev, Avtomaticheskaya Svarka (Automatic Welding), No 1, 1970, pp 5-8
(from Avtomaticheskaya Svarka, No 1, 1970, p 79)

Translation: This article contains a study of the static volt-ampere characteristics and power balance of an open and compressed arc with a zirconium cathode in air and in argon. These characteristics are compared with the parameters of the arc with a tungsten electrode in argon. There are 7 illustrations and a 7-entry bibliography.

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Reel/Frame
19790073

USSR

UDC 669.715.5.721.018.29.621.785

DANCHENKO, V. G., ZOLOTOREVSKIY, Yu. S.

"Study of Kinetics of Decomposition of Solid Solutions with Hot Working of Ingots of Alloys in the System Al-Zn-Mg and Its Influence on the Properties of Deformed Semifinished Goods"

Metallovedeniye [Metal Science -- Collection of Works], No. 14, Leningrad, Sudostroyeniye Press, 1970, pp 151-159. (Translated from Referativnyy Zhurnal Metal-lurgiya, No. 5, 1971, Abstract No. 5 I676 by the authors).

Translation: The influence of the addition of the transition elements Mn, Cr, and Zr on the kinetics of decomposition of solid solutions in ingots of alloys in the system Al-Zn-Mg and the dependence of the effect of structural hardening in deformed semifinished goods on the degree and nature of decomposition of the solid solution in the ingots are studied. Decomposition of the solid solution during various stages of hot working of an ingot was studied by means of metallographic analysis and measurement of the electrical resistivity. In order to determine the phase composition of dispersed segregations, electron microscope analysis was employed. The limiting permissible contents of Cr and Zr are determined. 6 figs, 2 tables, 14 biblio refs.

1/1

USSR

UDC:553.495:553.068

DANCHEV, V. I.

"Stages in the Formation of Uranium and Rare-Metal Ore in Sedimentary Rock"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 55-57

Abstract: The processes of formation of elevated concentrations of uranium under exogenic conditions have been little studied. Differences in the migration capability of uranium and accompanying elements determine the variety in their forms of concentration arising in various stages of formation and alteration of the surrounding rock. The nature of appearance and role of various stages of ore formation differ in different types of ore-containing rock. Several examples are given. The experience gained in the study of exogenic uranium and other rare-metal ores is summarized in a table describing the formation of exogenic uranium deposits.

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- 97 -

ACC NR:

AM6030169

Monograph

UR/

Danchev, Vladimir Ivanovich; Stralyanov, Nikolay Pavlovich;
Shilovskiy, Pavel Petrovich

Formation of exogenous deposits of uranium and methods of investigating them (Obrazovaniye ekzogennykh mestorozhdeniy urana i metody ikh izucheniya) Moscow, Atomizdat, 66. 0245 p. illus., biblio. 1,350 copies printed.

TOPIC TAGS: mining engineering, mineral, uranium ore, geological prospecting

PURPOSE AND COVERAGE: The book is intended primarily for geologists working in scientific research institutions as well as in industrial organizations, including ore mines and prospecting parties. It is also recommended for technical field and ore-lithological laboratory personnel. The authors describe the natural processes leading to the formation of the main types of exogenic uranium deposits and the most important methods of field, office, and laboratory studies which are commonly used in solving the problem of the origin and distribution patterns of uranium ores. Some methods are illustrated by examples of their practical application.

Card 1/2

UDC: 553.061:546,74

ACC NR: AM6030169

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Ch. II. Basic trends in the study of exogenic uranium deposits -- 24
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OTH REF: 047/

SUBM DATE: 29Jan66/

ORIG REF: 240/

Card 2/2

Acc. Nr: APO037237

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Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16,
Nr 1, pp 38 - 42

ACTIVATION OF P^{32} -INCORPORATION INTO NUCLEOTIDES OF THYMUS
NUCLEI BY BASES AND RIBONUCLEOSIDES

Dancheva, K. I.

Chair of Biochemistry, High Medical School, Sofia, Bulgaria

Ribonucleotides and bases activate P^{32} -incorporation into nucleotides of thymus nuclei. Ribonucleosides participate in phosphorylation as well as in energy-delivering reactions. Purine bases activate phosphorylation more intensively as compared to the pyrimidines.

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REEL/FRAME
19730162

2

1/2 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--DIACETYLENE DERIVATIVES. XVII. SYNTHESIS OF OMEGA, PHENYLENYNE AND OMEGA, PHENYLENEDIYNE ETHERS, THIO ETHERS, AND AMINES -U-
AUTHOR--(04)-VULKOV, A.N., SKVORTSOV, YU.M., DANDA, I.I., SHOSTAKOVSKIY, M.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 897-902

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, CHEMICAL SYNTHESIS, THIO, ETHER, CONDENSATION REACTION, HYDROGENATION, AMINE DERIVATIVE, AROMATIC AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1332

STEP NO--UR/0366/70/006/005/0897/0902

CIRC ACCESSION NO--AP0135006

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NGV70

CIRC ACCESSION NO--AP0135006

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF PHC TRIPLE BOND CC TRIPLE BOND CH (I) WITH RGH (R IS ET, BU) IN THE PRESENCE OF KOH GAVE 65-70PERCENT PHC TRIPLE BOND CCH:CHOR. SIMILARLY (WITH RSH), PHC TRIPLE BOND CH:CHSBU AND PHC TRIPLE BOND CCH:CHSR PRIMEL(R PRIMEL EQUALS CYCLOHEXYL) WERE PREPO. THE REACTION OF PHC TRIPLE BOND CBR WITH ROCH:CHC TRIPLE BOND CH GAVE PHC TRIPLE BOND CC TRIPLE BOND CCH:CHOR. ANALOGGUSLY, PHC TRIPLE BOND CC TRIPLE BOND CCH:CHSET WAS PREPO. THE SEALED TUBE REACTION BETWEEN I AND HNET SUB2 GAVE PHC TRIPLE BOND CCH:CHNET SUB2. THE HYDROGENATION OF THE ABOVE COMPS. GAVE THE EXPECTED SATD. ETHERS AND THIO ETHERS. FACILITY: IRKUTSK, INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF GAS TEMPERATURE ON THE BREAKDOWN POTENTIAL -U-
AUTHOR--(03)-DANDARON, G.N., DAUTOV, G.YU., MUSTAFIN, G.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. MAKH. TEKH. FIZ. 1970, (1), 148-151
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--GAS DISCHARGE, TUNGSTEN, ELECTRODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3009/0080 STEP NO--UR/0207/70/000/001/0148/0151
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PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138945

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BREAKDOWN WAS STUDIED FOR HEATED AIR AT T EQUALS 500-3500DEGREESK, FOR A DISCHARGE GAP LENGTH OF DELTA EQUALS 0.1-0.5 CM AND P EQUALS 760 MM HG IN THE DISCHARGE GAP BETWEEN W ELECTRODES. THE GENERALIZED PASCHEN RULE FOR THE BREAKDOWN POTENTIAL FOR AIR IS VALID UP TO 2200DEGREESK. ABOVE THIS, THERE IS A MARKED DEVIATION FROM THIS RULE. AT 3300DEGREES FOR DELTA EQUALS 0.5 CM, THE POTENTIAL IS ONE FOURTH THAT PREDICTED BY THIS RULE.

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