

1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SUPERCONDUCTING ALLOYS OF VARIABLE COMPOSITION -U-

AUTHOR-(03)-SAVITSKIY, YE.M., BARON, V.V., GINDINA, S.D.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 338-40

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NIOBIUM ALLOY, TANTALUM ALLOY, ELECTRON BEAM MELTING,
SUPERCONDUCTIVITY, SUPERCONDUCTING ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1115

STEP NO--UR/0020/70/191/002/0338/0340

CIRC ACCESSION NO--AT0116581

UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SUPERCONDUCTING PROPERTIES WERE STUDIED FOR THE Nb-Ta SYSTEM IN WHICH A CONTINUOUS SERIES OF SOLID SOLNS. IS FORMED AND THE VALUE OF T SUBC WAS DETD. AS A FUNCTION OF THE COMPN. A NEW METHOD IS DESCRIBED FOR PREPG. MASSIVE SAMPLES OF VARIABLE COMPN. USING VACUUM ZONE FUSION BY AN ELECTRON BEAM. THE VALUES OF T SUBC SHOW THAT IN THE 5.1-10.5 DEGREE SK RANGE PART OF THE SAMPLE OF VARIABLE COMPN. IS IN THE NORMAL STATE AND PART IN THE SUPERCONDUCTING. FACILITY: INST. MET. IM. BAIKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 533.9.082.5

BORODIN, V. S., GEBEKOV, V. D., GINDINA, V. E., KAGAN, Yu. M.

"Diagnostics of the Plasma of a Pulse Discharge in Hydrogen,
Part II"

Leningrad, Optika i Spektroskopiya, No 1, Jan 72, pp 17-21

Abstract: As indicated in the title, this article is the second part of a paper begun in volume 31, 1971, p 525. The first part dealt with the theory of plasma diagnostics; the present half is concerned with the experimental verification of the theoretical conclusions derived. For these experiments, the authors used a pulse discharge in a chamber made of 4-cm thick plexiglass, measuring 20 cm on a side, the chamber being cubic in shape. The electrodes were tungsten rings with an inner diameter of 0.7 cm, placed 1.2 cm apart in the chamber. Quartz windows were set in both sides of the chamber for the purposes of observation. The hydrogen filling the chamber had a pressure of 400-760 mm Hg, and

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USSR

BORODIN, V. S. et al, Optika i Spektroskopiya, No 1, Jan 72,
pp 17-21

the discharge in the chamber was made with a capacitor of 72 μ F charged from a rectifier. Diagrams of the equipment are given, as well as pulse-shape photographs. A table of electron concentrations measured in accordance with a method described in the first half of the article is provided.

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USSR

UDC 576.858

SKARLAT, I. V., KALININA, NO., GINEVSKAYA, V. A., and AGOL, V. I., Moscow State University imeni M. V. Lomonosov and Institute of Poliomyelitis and Virus Encephalitides, USSR Academy of Medical Sciences, Moscow

"Synthesis of Virus-Specific Proteins in Cells Infected with Encephalomyocarditis Virus"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 3, Jan 71, pp 713-716

Abstract: Protein synthesis was studied in cells of ascites carcinoma Krebs-II, infected with encephalomyocarditis virus. The cells were infected with C^{14} -labeled virus and then subjected to electrophoresis. Comparison studies involving incubation of infected and noninfected cells were conducted. Two virus-specific peptides formed in the infected cell correspond in electrophoretic mobility to structural proteins isolated from mature virus. No evidence of the low-molecular-weight, minor peptide entering into the composition of the virus particle was detected in an extract of the infected cells. The data found confirmed the hypothesis that a high-molecular-weight peptide (or peptides) is the primary product of the translation of RNA. This high-molecular-weight peptide subsequently splits up into functionally active proteins. In later stages of virus particle formation, it is

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USSR

SKARLAT, I. V., et al., Doklady Akademii Nauk SSSR, Vol 196, No 3, Jan 71,
pp 713-716

possible that the peptides are split into even smaller fragments. It is assumed that proteases participate in the breakdown of the primary polypeptide, which gives specificity to this process. Further studies are required to elucidate this point.

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USSR

UDC 629.7.036.3:533.679.2

GINEVSKIY, A. S., KOLESNIKOV, A. V., PODOL'NIY, I. N., and SMOL'YANIKOVA, A. N.

"Aerodynamic Characteristics of Flat Nonstalling Diffusers"

Moscow, Promyshlennaya Aerodynamika--Sbornik (Industrial Aerodynamics--Collection of Works), Mashinostroyeniye, No 30, 1973, pp 5-25 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 10, 1973, Abstract No 10.34.56. Resume)

Translation: Results are presented of computer calculations of the aerodynamic characteristics of the initial and principal sectors of a series of diffusers with straight walls for a broad range of angles of aperture (from 0° to 20°) and Reynolds numbers (from 10^4 to 10^7), and a parameter characterizing the initial nonuniformity of the velocity profile within the input cross section of the diffuser. 20 figures. 8 references.

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UDC 532.526

USSR

VLASOV, YE. V., GINEVSKIY, A. S.

"Effect of Sonic Disturbances on the Transition of a Laminar Boundary Layer to Turbulent"

Uch. zap. Tsentr. aero-gidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1971, Vol 2, No 2, pp 1-10 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B588)

Translation: The results of an experimental study of the effect of sound vibrations of different intensity and frequency propagated along the flow on the turbulence of the external flow and the transition at the boundary layer are discussed. It is demonstrated that for sufficiently high sound intensities the degree of turbulence of the longitudinal velocity pulsations increases sharply at the same time as the degree of turbulence of the transverse components of the velocity pulsations remains practically invariant. It is noted that the mechanism of forced transition under the effect of sound vibrations can be dual: for a very intense signal, independently of the frequency, the transition is caused by increased turbulence of the external flow; for a comparatively weak signal, but entirely defined frequencies, the transition is caused by resonance phenomena, that is, the interaction of sound waves and Tollmin-Schlichting waves in the boundary layer.

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PHYSICS

Acoustics

USSR

UDC 535.225:534.232.8

GINGIS, A. D., DOKHIKYAN, R. G., KARINSKIY, S. S., and MOROSOV, A. I.

"Measurement of Ultrasonic Wave Attenuation and Photoelastic Constants for Cubic CaF_2 and BaF_2 Crystals"

Moscow, Izvestiya Akademii Nauk SSR, Seriya Fizicheskaya, Vol 35, No 5, May 71, pp 984-986

Abstract: The article describes results of a study of the dependence of longitudinal ultrasonic wave absorption in CaF_2 and BaF_2 crystals on frequency. as well as the photoelastic constants of BaF_2 single crystals. the results indicate the following: 1) BaF_2 and CaF_2 materials are promising for use in ultrasonic devices owing to low ultrasonic wave attenuation and the possibility of fabricating large-size crystals; 2) BaF_2 single crystals can be used as an acoustic line for ultrasonic light modulators over a wide range of light waves.

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Acc. Nr:

AP0048388

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:

UR 051

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94412x Epitaxial piezoelectric transducers. Morozov, A. I.;
Gingis, A. D.; Kotelyanskii, I. M.; Aitkhozhin, S. A.; Panteleev,
V. V. (Inst. Radiotekh. Elektron., Moscow, USSR). *Fiz.
Tverd. Tela* 1970, 12(1), 109-113 (Russ). Epitaxial piezotrans-
ducers were prepd., based on CdS films grown by gas transport.
Frequency characteristics were investigated of these transducers
of longitudinal and transverse ultrasound waves at 10-600 MHz.
The dynamic range of such piezoelec. transducers is > 80 decibels.
The relative transmission band is 100-120%, with conversion
losses of 20-5 decibels. Good temp. stability was noted for these
transducers. Data are given on damping of longitudinal ultra-
sound waves in Ge at 80, 300, and 430°K. Prospects for appli-
cation of piezoelec. transducers are discussed. A. Libackyj /

BvK

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REEL/FRAME
19800096

4

Analysis and Testing

USSR

UDC:669.18.046.546.2

SYPKOVA, YE. A., GINIYATULLIN, I. N., SHADRUNOVA, A. P. and TRAKHTENGERTS, M. L., Magnitogorsk Mining and Metallurgical Institute

"Determination of the Content of Sulfur in Steel by a Thermoelectric Method"

Moscow, Metallurg, No 1, Jan 74, pp 23-25

Abstract: The influence of sulfur on the thermal emf of steel is slight, so that the content of sulfur in a sample of steel cannot be determined by direct measurement of the thermal emf. However, if a strictly measured quantity (1.5%) of aluminum is dissolved in the steel specimen, a portion of the aluminum is bonded with the sulfur, while a portion remains in solid solution. The quantity of aluminum remaining in solid solution is inversely proportional to the quantity of sulfur in the specimen. Aluminum in solid solution has a great influence on the thermal emf, allowing an indirect determination of the content of sulfur in the steel. Laboratory and industrial experiments performed at two metallurgical combines have shown that the method provides good accuracy of sulfur determination (mean square variation from chemical method in sulfur content ranges 0.02-0.12% and 0.12-0.22% is ± 0.0025 and $\pm 0.0042\%$ S respectively). The analysis time is not over 1.5-2 minutes.

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1/2 035 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THERMOELECTRIC METHOD FOR DETERMINING THE DEPTH OF AN ALUMINIZED
LAYER -U-
AUTHOR-(03)-SHADRUNOVA, A.P., GINIYATULLIN, I.N., DOLMATOVA, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZAVCD. LAB. 1970, 36(3), 305-6
DATE PUBLISHED-----70

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

TOPIC TAGS--METALLURGIC RESEARCH FACILITY, METAL TUBE, METALLOGRAPHY,
SOLID SOLUTION, IRON ALLOY, ALUMINUM ALLOY, INTERMETALLIC COMPOUND,
METALLOGRAPHY, ALUMINIZING, METAL COATING, THERMOELECTROMOTIVE FORCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0529

STEP NO--UR/0032/70/036/003/0305/0306

CIRC ACCESSION NO--AP0126277

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126277

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE THERMAL EMF. UPON THE AL CONTENT WAS USED FOR DETG. THE DEPTH OF ALUMINIZED LAYERS OF STEEL TUBES. THE THERMAL EMF. HAS A MAX. AT THE SURFACE OF THE SAMPLE, PASSES THROUGH A MIN., THEN RISES TO A CONST. VALUE. THE ALUMINIZED LAYER THICKNESS INDICATED BY METALLOGRAPHIC ANAL. COINCIDES WITH THE MIN. OF THE THERMAL EMF. AND CORRESPONDS TO THE LOCATION OF THE FE SUB3 AL PHASE, WHILE THE THERMOELEC. METHOD GIVES THE ACTUAL DEPTH (UP TO THE POINT WHERE THE THERMAL EMF. BECOMES CONST.) THUS INCLUDING THE THICKNESS OF THE ALPHA SOLID SOLN. FACILITY: MAGNITOGORSK. GURNOMENT. INST. IM. NOSOVA, MAGNITOGORSK, USSR.

UNCLASSIFIED

USSR

UDC 678.7.074

GINIYATULLIN, M. KH., KHASANOV, M. KH., TIMERGALEYEV, R. G., and VOSKRESENSKIY, V. A., Chair of Plastic Materials, Kazan' Engineering Construction Institute

"Synthesis and Study of Modifying Properties of Phosphorus Containing Oligourethanes"

Ivanovo, Izvestiya VUZ -- Khimiya i Khimicheskaya Tekhnologiya, Vol 16, No 4, 1973, pp 631-632

Abstract: A study was carried out on the possibility of modifying polyvinyl chloride with specially synthesized oligourethanes containing phosphorus. The oligomers were obtained by reacting 2,4-toluylenediisocyanate, a simple polyester, with trihydroxymethylphosphine at 80°, in a stream of nitrogen. A complex of physical properties of the system PVC-oligourethane has been presented as a function of the concentration of components. An interpretation has been presented for the non-linear type of changes of the effective viscosity, glassing temperature, temperature of fluidity, and flow index n for the above system. It has been shown that addition of small quantities of oligourethanes (4-5 weight parts per 100 weight parts of PVC) to PVC lowers the n_{cf} , T_s and increases $1/2$

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USSR

GINIYATULLIN, N. KH., et al., Izvestiya VUZ -- Khimiya i Khimicheskaya Tekhnologiya, Vol 16, No 4, 1973, pp 631-632

relative elongation, improving the processing and utilization qualities of the material.

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USSR

UDC 547.76'241.542.952.1

ARBUZOV, B. A., VIZEL', A. O., GINIVATULLIN, R. S., and SHCHUKINA, L. I.,
Institute of Organic and Physical Chemistry imeni A. ye. Arbuzov, Academy of
Sciences USSR, Kazan'

"Isomerization of 1-Oxo-chlorophosphenes in Presence of Phosphorus Trichloride"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 12, Dec 71, pp 1616-1619

Abstract: The effect of phosphorus trichloride on 1-oxo-1-chlorophosphenes was studied. Heating the phospholenes to 130-160° in presence of PCl_3 leads to a migration of the double bond: phospholenes-3 are converted to derivatives of phospholenes-2 at a high conversion yield. The reverse process is difficult. Further experiments have shown that dry hydrogen chloride is incapable of causing similar double bond migration. No migration was observed also in case of 3-methyl- and 4-methylphospholenes. Anotherwords, during the synthesis of phospholene derivatives, isomerization may occur due to the presence of PCl_3 , leading to a mixture of products.

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GINKAS, M.A.

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2 Jan 78

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On-duty dispatcher, senior physician for the shift, and the doctors or medical feldshere of all teams on duty that respond to calls independently take care of coding data on the primary record forms.

In order to assess the work at the emergency station of Vilnius, whose volume of work is increasing annually (see Table), the Minsk-22 computer has been used since 1968. The basic principle of the system is as follows. Information is gathered according to developed primary record forms which are needed due to the nature and scope of routine operation for the stations administrators, statistical reports, and management bodies. The primary forms of work records are the emergency call card (form No 232a) the latest variant of which has been used at the emergency stations of Vilnius and Kaunas with the permission of the office of health statistics of the USSR Ministry of Health since 1 January 1971; report of the senior physician on duty or the shift; medical personnel record card; dispatcher's report about operation of ambulances during his shift; stub (form No 234) to assess the quality of diagnostics; a record dealing with expenditure of budget resources over a period of one month.

In order to respond to calls promptly and render good care to the sick and victims of accidents it is necessary to use better and more effective forms of organization of the work of different elements of the emergency station. This requires up to date, objective, and sufficient information about the different work indices, possible only by using computers.

The emergency medical service is of primary significance in the public health system, since the people's needs for such service should be met fully and promptly.

Article by I.I. Solonits and V.B. Gurnuskas, Candidate of Medical Sciences, and M.A. Ginkas, Scientific Research Institute of Experimental and Clinical Medicine of Lithuanian SSR, Vilnius; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1972, subtitled 29 June 1972, pp 47-52]

USE OF COMPUTERS IN THE EMERGENCY MEDICAL SERVICE

UDC: 614.681-07:681.3

(3)

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EXAMINATION OF THE RESISTANCE OF THE PURIFIED PREPARATION OF THE
HYPOTHALAMIC FACTOR STIMULATING THE DISCHARGE OF THE LUTEINIZING HORMONE
AUTHOR--(02)-BASOVA, G.G., GINODMAN, L.M.

COUNTRY OF INFO--USSR

SOURCE--PROBL. ENDOKRINOL. 1970, 16(2), 68-72

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PITUITARY HORMONE, PROTEOLYTIC ENZYME, CHEMICAL REACTION,
AMINO ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1996/0601

STEP NO--UR/0502/70/016/002/0068/0072

CIRC ACCESSION NO--AP0117829

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117829

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE ACTIVITY OF THE LH RELEASING (LR) FACTOR WAS LOST AFTER INCUBATION WITH ENDOPEPTIDASES (PEPSIN CHYMOTRYPSIN, AND TRYPSIN) AND DID NOT CHANGE AFTER INCUBATION WITH EXOPEPTIDASES (CARBOXYPEPTIDASES A, AND N, AND LEUCINAMINOPEPTIDASE). THE LOSS OF THE ACTIVITY AFTER TRYPSIN TREATMENT INDICATES THAT ARGININE AND LYSINE ARE INCLUDED IN THE PEPTIDE FRAGMENTS. ABSENCE OF THE AMINO ACIDS ON THE END OF PEPTIDE FRAGMENT MIGHT BE AN EXPLANATION FOR THE PERSISTENCE OF THE LR FACTOR ACTIVITY AFTER THE INCUBATION WITH EXOPEPTIDASES. FACILITY: INST. EKSP. ENDOKRINOL. KHIM. GORMON., MOSCOW, USSR.

UNCLASSIFIED

UDC 621.315.592

USSR

GLADKOV, P. S., GINODMAN, V. B., ZHURKIN, B. G., PERIN, N. A.

"Photodielectric Effect in Compensated p-Type Silicon"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 11, 1971, pp 2219-2221

Abstract: A study was made of the photodielectric effect caused by localized charge carriers in p-type silicon alloyed with zinc and phosphorus. Study of this material permitted observation of the photodielectric effect caused by the polarizability of the neutral phosphorus atoms arising from two causes: 1) the initial material had p-type conductivity and all the phosphorus atoms were ionized, that is, polarization of the small donor atoms (phosphorus) was absent; 2) inasmuch as the zinc in the silicon is a deep acceptor admixture, the polarizability of the zinc atoms could be neglected since the polarizability $\alpha \sim (E_i)^{-3}$, where E_i is the ionization energy of the admixed atoms. The experimental setup is described, and the results are discussed. The experimentally obtained value of the polarizability of the donor admixture of phosphorus in the silicon agrees well with the theoretical value of α_{theory} calculated by the formula presented in the paper by D'Altroy, et al. [Phys. Rev., No 103, 1671, 1956]. Under the assumption that the basic contribution to the

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USSR

GLADKOV, P. S., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 11, 1971, pp 2219-2221

polarizability of the light donor admixture is made by an electron with an effective mass $m_{\perp}^* = 0.19 m_0$, and the contribution of the electron with the mass $m_{\parallel}^* = 0.97 m_0$ can be neglected. The calculations show that the electron with heavy mass gives a polarizability of $1.7 \cdot 10^{-20} \text{ cm}^3$ which is two orders less than the contribution to the polarizability by the light electron equal to $2.3 \cdot 10^{-18} \text{ cm}^3$. A graph is presented for the time dependence of the frequency shift of the oscillator used in the experiment after cessation of illumination. The decay curve is nonexponential, which is characteristic of the process of inter-admixture recombination.

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1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DEPENDENCE OF HYPERFINE SPLITTING ON UNIAXIAL COMPRESSION IN THE
EPR SPECTRUM OF PHOSPHORUS IN STRONGLY DOPED N SILICON -U-
AUTHOR-(04)-GINODMAN, V.B., GLADKOV, P.S., ZHURKIN, B.G., PENIN, N.A.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 325-8.
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SILICON SEMICONDUCTOR, ELECTRON PARAMAGNETIC RESONANCE,
PHOSPHORUS, LINE SPLITTING, HYPERFINE STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1868 STEP NO--UR/0449/70/004/002/0325/0328
CIRC ACCESSION NO--AP0118832
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0118832

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE TITLE EFFECT WAS STUDIED IN 3 N SI SAMPLES WITH DIFFERENT DONOR CONCENTRATIONS. (N SUBD EQUALS 3 TIMES 10 PRIME16, 2 TIMES 10 PRIME17, AND 5 TIMES 10 PRIME17-CM PRIME3) AT 4.2 DEGREES K. COMPRESSION P EQUALS 26 KG-MM PRIME2 WAS APPLIED PERPENDICULAR TO THE (100) AXIS. THE PRESSURE DEPENDENCE OF THE MAGNITUDE OF HYPERFINE SPLITTING A IN SAMPLES WITH N SUBD EQUALS 3 TIMES 10 PRIME16-CM PRIME3 COINCIDES WITH THE THEORETICAL, WHILE THE SAME DEPENDENCES IN THE MORE STRONGLY DOPED SAMPLES LIE WELL ABOVE THE THEORETICAL. THE A PRESSURE DEPENDENCE IS CONSIDERED AND APPROPRIATE EXPRESSIONS ARE DERIVED SHOWING THAT THE SHIFT TO HIGHER A VALUES IS CONSISTENT WITH THE ANTIFERROMAGNETIC CHARACTER OF THE EXCHANGE INTERACTION OF THE P DOPANT. THE ENERGY OF EXCHANGE INTERACTION J IS DETERMINED. EXPTL. AND THE DEPENDENCE OF J ON THE MEAN DISTANCE R BETWEEN DONOR ATOMS IS PLOTTED WITH PRESENT AND EARLIER DATA. THE EXPTL. POINTS LIE FAIRLY CLOSE TO THE THEORETICAL LINE CALCULATED. WITH J SUBD EQUALS 6.28 TIMES 10 PRIME14 HZ, A BOHR RADIUS ALPHA EQUALS 20.8 ANGSTROM; AND R EQUALS 0.69 N SUBD PRIME17 NEGATIVE ONE THIRD. FACILITY: FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.325.6

GINOVNER, A.S., GUSEV, A.A., KON'KOV, V.P., KURYSHEV, G.L., MISHIN, A.I.,
SINITSA, S.P., TEPMAN, B.G.

"Integrated Circuit With Programmed Structure Using MIS Memory Transistors"

Radiotekhnika i elektronika, Vol XVII, No 7, July 1972, pp 1351-1352

Abstract: The integrated circuit is described of an all-purpose element filled with conventional MIS [metal-insulator-semiconductor] transistors and MIS transistors with a memory (memory transistors). The integrated circuit realizes the following logical function:

$$z(t + \delta) = \bar{v}a_i x_i \quad (i = 1, 2, 3, 4),$$

where x_i is the input logical variables; a_i is the state characterizing the i -th memory transistor; z is the output variable; and δ is the delay. The circuit can be used for construction of a specialized array for fulfillment of logical, switching, and memory functions and also for construction of all-purpose structurally-uniform logical nets, which makes it possible for each problem to organize a specialized computing device by a programmed adjustment of its elements. 1 fig. 5 ref. Received by editors, 16 June 1971.

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SECTION V SO: SELECTED, RESEARCH MEMORANDUM
FACILITIES

PC-5-89

SEPT 71

biology
Description: Human Institute of Photocatalysis, Pushchino

(U) During this quarterly reporting period, four new articles were located from the Institute of Photocatalysis at Pushchino. On the basis of these articles, it was possible to identify five new personalities with the Institute. These personalities, the subjects of the articles, and the dates are given below:

<u>Gins, V. K.</u>	<i>all-biology/Photosynthesis</i>	1970 (61)
<u>Kuznetsov, V. P.</u>	effect of illumination	1970 (62)
<u>Lebedeva, A. I.</u>	phosphorylation	1970 (62)
<u>Polevaya, V. S.</u>	phosphorylation	1970 (63)
<u>Shvedova, T. A.</u>	plant pigment	1971 (64)
	chlorophyll	

USSR

- GINSBURG

Untitled (Information on the All-Union Scientific Research Institute of Optical and Physical Measurements)

Moscow, Izmeritel'naya Tekhnika, August 1970, p 96

Translation: A laboratory apparatus has been designed for studying nonstationary phase phenomena (shock waves, plasma, burning processes, etc.) by a method of holographic interferometry -- recording on holograms two states of the phenomenon studied, with a given time delay. With such a method the interference of two recorded images takes place, resulting in a visualization of the variation in phase. The processing of the recorded picture of the interference bands gives information on the phase variations in the area occupied by the phenomenon studied which have taken place between the two exposures.

Basic technical data: duration of the pulse from the ruby laser, 10 nsec; radiation energy in single mode, 0.1 j; area of illumination and dimensions of holograms, 10 x 10 cm; minimum measurable phase variations of phenomenon, $\frac{1}{10} \lambda$ ($\lambda = 0.69 \mu$); angle of field of view from aperture of hologram, up to 60°; power required, 1 kw, 220 v.

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USSR

- GINSBURG, Izmeritel'naya Tekhnika, August 1970, p 96

Dimensions of apparatus: 100 x 150 x 400 cm.

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USSR

AKHIEZER, I. A.; GINSBURG, A. E. (Khar'kov State University)

"Spin Waves and Scattering Processes of Slow Neutrons and Light in Antiferromagnetics with a Small Exchange Constant"

Kiev, Ukrainskiy Fizicheskiy Zhurnal; August, 1972; pp 1339-45

ABSTRACT: The authors studied high-frequency properties of an antiferromagnetic phase in magnetically ordered crystals in which a transition from an antiferromagnetic to ferromagnetic state is possible. A crystal with an "easy plane"-type anisotropy was considered. Spectra of spin waves and correlation functions of the values characterizing such a crystal were determined. Near the critical point of the transition from the antiferromagnetic to the ferromagnetic phase the correlation functions were shown to increase sharply (phenomenon of critical fluctuations). Scattering processes of slow neutrons and light were studied, and differential cross sections of these processes near the critical point were shown to be anomalously large.

The article includes 23 equations. There are three references.

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USSR

AKHIEZER, I. A.; GINSBURG, A. E. (Physicotechnical Institute of the Ukrainian Academy of Sciences, Kharkov)

"Fluctuations and Scattering of Slow Neutrons and Electromagnetic Waves near the Critical Antiferromagnetic-Ferromagnetic Transition Point"

Leningrad, Fizika Tverdogo Tela, January, 1972, pp 178-82

Abstract: The fluctuations and scattering of slow neutrons and electromagnetic waves in antiferromagnetic crystals near the critical antiferromagnetic-ferromagnetic transition point were studied. Correlators of the fluctuations characterizing such crystals were determined, and it was shown that as the critical point is approached, the correlators increase sharply, which phenomenon is related to an instability of the spin system of the crystal arising at that point. As a consequence of this, the differential scattering cross section of the slow neutrons and electromagnetic waves increases sharply as the critical point is approached.

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USSR

AKHIEZER, I. A. and GINZBURG, A. E.

"Spin Waves and Scattering of Slow Neutrons and Light Near the Critical Point of Transition from the Ferromagnetic to the Antiferromagnetic Phases"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol. 61, No. 4(10), October 1971, pp 1712-1718

Abstract: This paper deals with those magnetically ordered crystals which are ferromagnetic above a particular temperature level and antiferromagnetic below it, an example of which is the crystal of FeRh for which this critical temperature is 350° K. The peculiarities of the high-frequency characteristics of such crystals are investigated as they approach the critical temperature from the side of the ferromagnetic phase. It is shown that at temperatures close to critical the spin wave spectrum of these crystals differs markedly from those of ordinary ferromagnetic and antiferromagnetic ones. Fluctuations in the magnetic moments are examined and it is found that the level of their fluctuations rises sharply as the critical temperature is approached. This phenomenon of the critical fluctuations is the result of the crystal spin system instability. Fluctuations and dispersion produced in the

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USSR

AKHIEZER, I. A., et al, Zhurnal Eksperimental'noy i teoreticheskoy Fiziki, vol. 61, No. 4(10), October 1971, pp 1712-1718

sublattice ferromagnetics far from the critical temperature are investigated, and it is shown that additional maxima, absent in ordinary ferromagnetics, arise in the cross sections of slow neutron and light scattering. The authors are connected with the Physico-Technical Institute of the Ukrainian Academy of Sciences.

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1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ASYMPTOTICAL BEHAVIOUR OF FEYNMAN GRAPHS FOR QUASIELASTIC PROCESSES
-U-
AUTHOR-(02)-BUDNEV, V.M., GINSBURG, I.F. 6
COUNTRY OF INFO--USSR
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 2, PP
171-177
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--ASYMPTOTIC PROPERTY, INTEGER, TOPOLOGY, ELASTIC SCATTERING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0326 STEP NO--UR/0646/70/003/002/0171/0177
CIRC ACCESSION NO--AP0129558

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129558

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SIMPLE RECIPE IS GIVEN TO OBTAIN THE ASYMPTOTICAL BEHAVIOUR OF ANY GRAPH WITH INTEGER SPIN IN THE T CHANNEL FROM ITS TOPOLOGY IN THE THEORY L EQUALS G BAR Ψ GAMMA PRIME5 Ψ PHI PLUS H PHI PRIME4 FOR QUASIELASTIC PROCESSES. IF THE GRAPH HAS TWO PARTICLE DIVISIONS IN THE T CHANNEL, THE RECIPE NEARLY COINCIDES WITH THAT GIVEN IN (1) FOR THE CASE OF ELASTIC SCATTERING. THE ASYMPTOTICAL BEHAVIOUR IS LOGARITHMICAL IN S . THE POWER OF THE LOGARITHM FOR THE CONTRIBUTION OF EVEN SIGNATURE IS DETERMINED ONLY BY THE NUMBER OF TWO PARTICLE DIVISIONS IN THE T CHANNEL. BESIDES THIS, PINCH TYPE CONTRIBUTIONS APPEAR FOR THE CASE ODD SIGNATURE CONTRIBUTIONS. GRAPHS WITHOUT TWO PARTICLE DIVISIONS IN THE T CHANNEL HAVE ASYMPTOTICAL BEHAVIOUR AS SOME NEGATIVE POWER OF S .
FACILITY: INSTITUT MATEMATIKI SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--FATE OF INFLUENZA VIRUS RNA IN CELLS TREATED WITH ULTRAVIOLET RAYS
-U-
AUTHOR--(04)-GENDON, YU.Z., GINSBURG, V.P., SOLOVEV, G., MARKUSHIN, S.G.
COUNTRY OF INFO--USSR
SOURCE--J. GEN. VIROL. 1970, 6(2), 249-55 (ENG)
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--INFLUENZA VIRUS, RNA, FOWL PLAGUE VIRUS, TISSUE CULTURE, UV
RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/0593 STEP NO--UR/0000/70/006/002/0249/0255
CIRC ACCESSION NO--AP0116091
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116091

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FATE OF RNA PRIME14 C OF FOWL
PLAGUE VIRUS WAS STUDIES IN UNIRRADIATED AND UV IRRADIATED CULTURES OF
CHICK EMBRYO FIBROBLASTS. UV IRRADN. OF CELLS DID NOT PREVENT VIRUS
PENETRATION INTO THE CELL AND DEPROTEINIZATION OF VIRUS RNA AND ITS
PENETRATION INTO THE CELL NUCLEUS. HOWEVER, RNA PENETRATING INTO
NUCLEI OF IRRADIATED CELLS UNDERWENT PRACTICALLY COMPLETE DEGRADATION.
RNASE ACTIVITY INCREASED 2 TO 3 FOLD IN THE NUCLEAR FRACTION OF
IRRADIATED CELLS. IT IS SUGGESTED THAT THIS RNASE MAY PARTICIPATE IN
THE DEGRADATION OF VIRUS RNA IN NUCLEI OF IRRADIATED CELLS.
FACILITY: MOSCOW RES. INST. VIRUS PREP., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 575.23

TIMOFEYEV-RESOVSKIY, N. V., GINTER, Ye. K., GLOTOV, N. V., and IVANOV, V. I.,
Institute of Medico-Biological Problems, Ministry of Health USSR, Institute of
Medical Radiology, Academy of Medical Sciences USSR, Obninsk, and Chair of
Genetics and Selection, Moscow State University

"Genetic and Somatic Effects of X-rays and Fast Neutrons (Experiments on
Arabidopsis and Drosophila"

Moscow, Genetika, No 4, 1971, pp 42-52

Abstract: Fast neutrons (average energy ~ 5.6 Mev, average LET ~ 30 to 35 kev/mcm, dose rate ~ 6 krad/hour) were more effective than x-rays (average energy ~ 0.1 Mev, average LET ~ 1.6 kev/mcm, dose rate ~ 6 krad/hour) in inducing visible sex-linked mutations and recessive sex-linked lethals, loss and nondisjunction of X chromosomes in *Drosophila melanogaster* and recessive embryonal and chlorophyll mutations in *Arabidopsis thaliana* seeds at high spontaneous levels, i.e., the radiation-genetic reactions caused by gene and chromosome mutations. At low spontaneous levels of nondisjunction of X chromosomes in *Drosophila*, the rate of nondisjunction tended to increase with the dose of both x-ray and neutron irradiation, but there were no significant

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USSR

TIMOFEYEV-RESOVSKIY, N. V., et al, Genetika, No 4, 1971, pp 42-52

differences in the effectiveness of the two forms of irradiation. The values of the RBE of fast neutrons in their lethal effect on Arabidopsis and in inhibiting plant growth and development, in decreasing fertility, and in inducing embryonic and chlorophyll mutations were very similar.

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USSR

UDC 615.216.5.015

KIMENIS, A. A., KLUSHA, V. YE., and GINTERS, YA. YA., Laboratory of Pharmacology, Institute of Organic Synthesis, Academy of Sciences Latvian SSR, and the Clinic of the Chair of Faculty Surgery, Riga Medical Institute

"Pharmacology of Dioxonium -- a New Muscle Relaxant"

Moscow, Farmakologiya i Toksikologiya, Vol 35, No 2, Mar/Apr 72, pp 172-175

Abstract: Dioxonium has a curarizing activity which exceeds d-tubocurarine by a factor of 22, decamethonium by a factor of 2, and diplicin by a factor of 246. Animal experiments and clinical observations indicate that dioxonium affects neither hemodynamics nor pupil diameter. The drug has a compound mechanism of action. Its H-cholinomimetic activity in the smooth abdominal muscle of the frog is lower than that of ditiline (celocaine) by a factor of 172, it displays a greater affinity for specific H-cholinoreceptors, but it has a lower internal activity than ditiline and decamethonium. In experiments on cats and pigeons, the depolarizing property of dioxonium predominates. However, in human patients, dioxonium functions primarily as an antidepolarizing muscle relaxant. Proserine is its most effective antagonist.

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1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--KINETICS OF CATION ADSORPTION FROM SOLUTIONS OF LOW CONCENTRATIONS
BY ANION EXCHANGERS BASED ON POLYETHYLENEPOLYAMINES -U-
AUTHOR--(05)--ASAMBADZE, G.D., KOPYLOVA, V.D., SALDADZE, K.M., GINTSBERG,
E.G., KOVARSKAYA, B.M.
COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 257

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANION EXCHANGE RESIN, COPPER, COBALT, NICKEL, CATION,
POLYETHYLENE, POLYAMINE, DIFFUSION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0473

STEP NO--UR/0076/70/044/001/0257/0257

CIRC ACCESSION NO--AP0107079

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0107079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF CU PRIME2 POSITIVE, CO PRIME2 POSITIVE, OR NI PRIME2 POSITIVE CATIONS ON THE TITLE EXCHANGER BELOW 25DEGREES IS GOVERNED BY THE DIFFUSION RATE INTO THE EXCHANGER GRAINS. ABOVE 35DEGREES AND GREATER THAN OR EQUAL TO 0.001M CATION CONC. THE DIFFUSION INTO THE EXCHANGER GEL PARTICLES IS THE PREDOMINANT FACTOR. THE DIFFUSION COEFFS. ARE 4.57 TIMES 10 PRIME NEGATIVE9, 5.27 TIMES 10 PRIME NEGATIVE9, OR 6.4 TIMES 10 PRIME NEGATIVE9 CM PRIME2-SEC FOR CU PRIME2 POSITIVE, OR N PRIME2 POSITIVE, RESP.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF ION EXCHANGE ON POLYSTYRENE TYPE SULFONIC CATION
EXCHANGERS CROSSLINKED WITH M AND P-DIVINYLBENZENE -U-
AUTHOR-(04)-BELFER, S.I., SALDADZE, K.M., GINTSBERG, E.G., KOVARSKAYA,
B.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1104-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POLYMERIZATION, STYRENE, BUTADIENE, BENZENE, SULFONATION, ION
EXCHANGE RESIN, CHEMICAL KINETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0791 STEP NO--UR/0076/70/044/004/1104/1105
CIRC ACCESSION NO--AP0136225

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136225

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYM. OF STYRENE WITH M-DIVINYLBENZENE (I) OR P-DIVINYLBENZENE (II) IN THE PRESENCE OF BZ SUB2 O SUB2, FOLLOWED BY SULFONATION GAVE ION EXCHANGE RESINS. THE POLAROGRAPHIC STUDY OF THE ION EXCHANGE RATES OF BU SUB4 N PRIME POSITIVE WITH H PRIME POSITIVE SHOWED THAT THE RESIN BASED ON I EXCHANGED THIS BULKY ION (RADIUS 12.2 A) FASTER THAN THE RESIN BASED ON II. THE DIFFUSION COEFFS. FOR THESE 2 RESINS WERE RESP. 3.8 TIMES 10 PRIME NEGATIVE8 AND 1.7 TIMES 10 PRIME NEGATIVE8 CM PRIME2 -SEC WHEN 6 MOLE PERCENT OF I OR II WERE PRESENT IN THE COPOLYMER. THE ION EXCHANGE CAPACITIES WERE NEARLY THE SAME: 4.82 AND 4.84 MEQ-G. FACILITY: NAUCH.-ISSLED. INST. PLASTMASS, MOSCOW, USSR.

UNCLASSIFIED

GINTSBURG, L. YA

Academy of
Science

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ASPECTS OF LABOR LEGISLATION DISCUSSED

[Article by L. Ya. Gintsburg, Senior Scientific Associate, USSR Academy of Sciences, Institute of State and the Law, Doctor of Juridical Sciences, Professor, "Labor Legislation: Rights, Duties, Realm of Action", Moscow, Sovetskoye Soudarstvo i Pravo, Russian, No 11, November 1971, pp 42-49.]

One of the main ideas in the USSR and Union Republic legislative Foundations is that of further ensuring the labor rights of the Soviet citizens. As a result of the overthrow of the exploiters' rule and the establishment of public ownership of capital goods conditions were created for the real freedom of the toiling man and for the all-round blossoming of the individual. Labor free from exploitation, guaranteed by the socialist system, and mentioned in the preamble of the Foundation, means free labor, the possibility to work for oneself, for one's society. Free labor in the USSR is governed by strict socialist laws and all-round respect for the labor rights of the citizens. "The labor rights of the citizens are safeguarded by the law. The defense of labor rights is provided by the state organs and trade unions and other social organizations," states the preamble of the Foundations.

Article 2 of the Foundations stimulates the labor rights of the Soviet citizens whose labor the Foundations regulate; the labor of another segment of Soviet citizens -- the workers' members -- is described in Article 1. Our purpose here is to bring to light the content of these two articles of the legislative Foundation dealing with labor.

Content and Nature of Soviet Labor Rights and Obligations

Article 2 of the legislative Foundations on labor stimulates: "The right of the USSR citizens to work is ensured by the socialist organization of the national economy, the continuous growth of production forces of the Soviet society, the elimination of the possibilities for economic crises, and the elimination of unemployment."

"Blue and white collar workers exercise their right to work by signing labor contracts to work in enterprises, offices, and organizations."

USSR

UDC 538.69:539

AKHIYEZER, I. A., and GINZBURG, A. E., Khar'kov State University imeni A. M. Gor'kiy

"Slow Electromagnetic Waves in Antiferromagnets Near the Transition Point to the Ferromagnetic Phase"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 850-851

Abstract: The article considers connected electromagnetic-spin waves in antiferromagnets in which a phase transition to the ferromagnetic state is possible. It is assumed that the crystal has magnetic anisotropy of the easy plane type.

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USSR

UDC 541.49:547.1'118:546.711:546.811'131

GINZBURG, A. G., SETKINA, V. N., and KURSANOV, D. N., Institute of Hetero-Organic Compounds, Academy of Sciences USSR

"The Reaction of Manganese η -Cyclopentadienylphosphine Complexes With Tin (IV) Chloride"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 481

Abstract: η -C₅H₅Mn(CO)₂L (I) was found to react with SnCl₄ in CH₂Cl₂ to form the inclusion complex C₅H₅Mn(CO)₂L·2SnCl₄ (II), where L=PPh₃, AsPh₃, P(i-C₃H₇), and P(C₆H₁₁)₃. Compound II appears as a yellow or brown substance which is stable in an argon atmosphere or in sealed ampules. In solutions containing O or N atoms (water, alcohols, acetone, ether, MeCN), II breaks down instantly to regenerate I. Compound II is insoluble in apolar solvents (benzene, CCl₄, CHCl₃, CS₂), weakly soluble in MeNO₂, and more soluble in PhNO₂. The latter solution conducts electricity. During the formation of II the stretch frequencies of CO increase by 70-100 cm⁻¹, which indicates decreased electron density on the Mn atom.

USSR

UDC 541.49+546.11

GINZBURG, A. G., NEMIROVSKAYA, I. B., SETKINA, V. N., KURSANOV, D. N.,
Corresponding Member of the USSR Academy of Sciences

"Characteristic Features of the π -Cyclopentadienyldiphosphine Complexes of Manganese in Hydrogen Exchange Reactions with Acids"

Moscow, Doklady Akademii Nauk SSSR, Vol 208, No 6, 1973, pp 1353-1355

Abstract: It was demonstrated earlier [D. N. Kursanov, et al., Izv. AN SSSR, ser. khim., 2842, 1969; V. N. Setkina, et al., 434, 1971; A. G. Ginsburg, 177, 1971] that replacement of one of the Co ligands in the CpMn(CO)_3 ($\text{Cp} = \pi\text{-C}_5\text{H}_5$) by the tertiary phosphines PR_3 leads to acceleration of the acid hydrogen exchange by 2-4 orders depending on the nature of the R radical. A study has now been made of the reactivity in the acid hydrogen exchange reactions of cyclopentadienyl complexes of manganese containing bidentate ditertiary of phosphines with the structure $\text{Ph}_2\text{P(CH}_2)_n\text{PPh}_2$ ($n = 1 - 3$).

The kinetics of the hydrogen exchange reaction were investigated by the deuterium content in the initial material isolated after interrupting the reaction by pouring the reaction mixture into a soda solution. The values of the chemical shifts are presented on the δ -scale (internal standard -- hexamethyl disiloxane for the paramagnetic resonance spectra and tetramethyl silane for the ^{13}C nuclear magnetic resonance spectra).

USSR

UDC 541.49

KHATAMI, A. I., GINZBURG, A. G., NEFEDOVA, M. N., SETKINA, V. N., and KURSANOV, D. N.

"Cyclopentadienylmanganesedicarbonyltriphenylphosphines Substituted in the Cyclopentadienyl Ring"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 12, Dec 72, pp 2665-2667

Abstract: Carbonyl ligands in complex transition metal compounds can be easily replaced by PPh₃ group upon irradiation with UV light. This method was used to synthesize derivatives of CpMn(CO)₂PPh₃, where Cp = C₅H₅, containing Et, PhCH₂, MeS, Cl, Br, I, and COOMe substituents in the Cp ring, from the respective derivatives of CpMn(CO)₃. The new products are yellow crystalline compounds with high melting points. In the solid state they are stable in air, dissolve easily in CCl₄, CHCl₃, and CS₂. The structure of these products was confirmed by PMR and IR spectroscopical analysis.

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GINZBURG, A. G.

COMPLEXES OF TRANSITION METALS WITH ORGANIC LIGANDS

(Second All-Union School)

[Article By Candidate of Chemical Sciences A. G. Ginzburg, Moscow, Vestnik Akademii Nauk SSSR, Russian, Vol 41, No 10, October 1971, P 107]

One of the most interesting achievements of the chemistry of complex compounds and organic chemistry in the recent period is the discovery and detailed study of a new class of substances -- complexes of transition metals with organic ligands. The establishment and rapid development of that essentially new area of heteroorganic chemistry started after the discovery of ferrocene. Several thousand compounds of that type have already been obtained now, enormous factual material has been accumulated on methods of synthesis and properties of complexes with various organic molecules, new concepts of the nature of the chemical bond have appeared, and molecules with a previously unknown geometry of surprisingly different structures have been synthesized. The use of complexes of transition metals has permitted improving and developing new methods of synthesis, separation and purification of many organic substances. Thus, for example, the complexation of transition metals has made it possible to stabilize unstable molecules of the type of carbenes and cyclobutadiene.

In recent years the development of investigations in that area has proceeded with ever-increasing rates. Complexes of the type under consideration are catalysts of many processes of enormous practical importance. Among them are the oxidation of ethylene into acetaldehyde and vinyl acetate, numerous transformations of acetylene, the polymerization of dienes, reactions of carbon-ylation, etc. Organic complexes of transition metals are used as effective and non-toxic anti-detonators and medicines and are used to obtain superpure materials and coatings. Investigations have been conducted in that area in many institutes and laboratories, and the further development of the work requires systematization of the obtained data and the training of qualified specialists.

SPRS 54678
10 Oct 1971

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USSR

UDC 541.49 + 661.718.1 + 546.711

SETKINA, V. N., GINZBURG, A. G., KISLYAKOVA, N. V., and KURSANOV, D. N.
Institute of Element-Organic Compounds, Acad. Sc. USSR

"Quantitative Evaluation of the Effect of Triphenylphosphine and
Triphenyl Phosphite Ligands in π -Cyclopentadienyldicarbonylphosphinic
Complexes of Manganese"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2,
Feb 71, pp 434-435

Abstract: Tertiary phosphines and phosphites are stronger donors than the carbonyl groups in transition metal complexes.. When one of the carbonyl groups of cyclopentadienylmanganesetricarbonyl (CpMT) was replaced with PPh_3 or $P(OPh)_3$, the rate of acid hydrogen exchange was increased 2000- and 70-fold, respectively. Such an exchange leads to a higher electron density, increased rate of electrophilic reactions in the cyclopentadienyl rings π -bonded to the transition metal. Hammett's equation holds for the acid hydrogen exchange of CpMT.

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USSR

UDC 541.515 + 541.49 + 541.124 + 546.11

~~GINSBURG~~, A. G., SETKINA, V. N., and KURSANOV, D. N., Institute of Element-Organic Compounds, Acad. Sc. USSR

"Effect of a Radical Bound to a Phosphorus Atom in the $C_5H_5Mn(CO)_2PR$ Complexes on the Rate of Hydrogen Exchange in the Ring and on the Frequency of Carbonyl Stretching Vibrations"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 1, pp 177-179

Abstract: Hydrogen exchange reaction between CF_3COOD and $C_5H_5Mn(CO)_2PR_3$ in dichloroethane at 25° was studied. The reaction was found to depend on the radical attached to phosphorus. The rate of hydrogen exchange in the cyclopentadienyl ring increases with a transition from triphenylphosphine to trialkylphosphine substituents. In the series $R = OC_2H_5$, C_6H_5 , $CH_3C_6H_5$, $isoC_6H_{11}$ the rate of hydrogen exchange increases and the frequency $\bar{\nu} = 0$ decreases.

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1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--INHIBITION OF SUPERDISLOCATIONS BECAUSE OF CORRELATION DESTRUCTION
IN CLOSE PACKED SOLID SOLUTIONS -U-
AUTHOR-(03)-KOZLOV, E.V., POPOV, L.YE., GINZBURG, A.YE.
COUNTRY OF INFO--USSR
SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(1), 146-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SOLID SOLUTION, ORDERED ALLOY, CRYSTAL DISLOCATION PHENOMENON,
TRANSITION TEMPERATURE, YIELD STRESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1340 STEP NO--UR/0185/70/015/001/0146/0149
CIRC ACCESSION NO--AP0107813
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107813

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VALUE AND DEPENDENCE OF FORCES THAT INHIBIT DISLOCATIONS ON THE EXTENT OF LONG RANGE ORDER WERE DETD. FOR SOLID SOLNS. HAVING L1 SUB2 STRUCTURE (OF AUCU SUB3 TYPE). THESE DISLOCATIONS FORMED DUE TO DESTRUCTION OF CORRELATION. MAX. INHIBITION OF DISLOCATION EXIST AT THE ORDERING TEMP. (T SUBR). ABOVE T SUBR THE DISLOCATIONS MOVE IN PAIRS. THE BEHAVIOR OF YIELD STRESSES CANNOT BE ATTRIBUTED SOLELY TO THE INHIBITION OF DISLOCATIONS, WHICH OCCUR DUE TO CORRELATION, DESTRUCTION.

UNCLASSIFIED

USSR

UDC 621.922.34:666.233

GINZBURG, B. I., Candidate of Economics, NAZAROV, V. I., engineer, Superhard
~~Materials Institute~~, and MIKHAYLICH, V. V., engineer, VPNTI stroydormash
(All-Union Planning, Design and Technological Institute of Road Machine
Building)

"Utilization of Synthetic Diamonds by the Branch Enterprises"

Moscow, Stroitel'nyye i Dorozhnyye Mashiny, No 3, March 1971, pp 36-37

Abstract: The use of synthetic diamonds by the enterprises of the Ministry of Construction, Road and Utility Machine Building has been investigated by the Superhard Materials Institute. The investigation showed that 89.1% of synthetic diamonds were used in the form of cutting tools, 2.6% in powder form, 8.3% in the form of paste. The use of synthetic diamonds resulted in an increase of the cutting tool wear resistance by 1.1 to 3.0 times, improvement of finish of machined surface, increase of productivity by 7 to 30%.

The total consumption of 147,000 carat of synthetic diamond resulted in savings of 352,400 rubles.

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USSR

GINZBURG, B. I., et al., Stroitel'nyye i Dorozhnyye Mashiny, No 3, March 1971, pp 36-37

In order to widen the use of synthetic diamonds it is necessary to provide more suitable equipment, such as universal tool sharpeners, and to educate the personnel on the use of synthetic diamonds.

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1/2 051 UNCLASSIFIED 6 PROCESSING DATE--04DEC70
TITLE--MECHANICAL AND THERMOMECHANICAL PROPERTIES OF POLYIMIDE FIBERS -U- 3

AUTHOR--(05)-DPRITS, Z.G., KUDRYAVTSEV, G.I., KORZHAVIN, L.N., GINZBURG,
B.M., FRENKEL, S.YA.
COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (3), 61-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SYNTHETIC FIBER, POLYIMIDE RESIN, PLASTIC MECHANICAL PROPERTY,
PYROMELLITIC ACID, ORGANIC SULFUR COMPOUND, ETHER, TENSILE STRENGTH,
ELECTRON BOMBARDMENT, UV RADIATION, NYLON, POLYESTER RESIN, CRYSTALLINE
POLYMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/E03 STEP NO--UR/0183/70/000/003/0061/0064

CIRC ACCESSION NO--AP0140306

UNCLASSIFIED

2/2 051

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140306

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTL. FIBERS WERE PREPD. BY THE POLYCONDENSATION OF PYROMELLITIC DIANHYDRIDE WITH (P,H SUB2 NC SUB6 H SUB4) SUB2 O, (P,H SUB2 NC SUB6 H SUB4) SUB2 S, OR P,C SUB5 H SUB4 (OC SUB6 H SUB4 NH SUB2 P) SUB2 AND SPINNING THE RESULTING POLY(IMIDE ETHERS) OR THIOETHERS. THE FIBERS RETAINED THEIR INITIAL TENSILE STRENGTH AT BREAK (SIGMA) AFTER HEATING IN THE AIR AT 200DEGREES FOR 216 HR, AND LOST SIMILAR TO 30PERCENT SIGMA UNDER THE SAME CONDITIONS BUT AT 300DEGREES. THE FIBERS RESISTED BOILING IN 10PERCENT H SUB32 SO SUB4 AND HCL SOLNS. FOR GREATER THAN OR EQUAL TO 100 HR. THE ALK. SOLNS. AND CONCD. ACIDS DEGRADED THEM. THE FIBERS RESISTED THE BOMBARDMENT WITH FAST ELECTRONS OR UV IRRADN. BETTER THAN NYLON 6 OR POLYESTERS. X RAY DIFFRACTION SHOWED THAT THE FIBERS WERE/ CRYST.

UNCLASSIFIED

USSR

UDC 620.183:677.4

TUYCHIEV, Sh., SULTANOV, N., GINZBURG, B. M., and FRENKEL', S. Ya., Institute of High-Molecular Compounds, Academy of Sciences of the USSR

"Effect Which Drawing has on the Supermolecular Structure of Polymer Fibers"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 12, Series A, No 9, Sep 70, pp 2,025-2,035

Abstract: Wide-angle and narrow-angle x-ray diffraction methods are used to study polyvinyl alcohol fibers with various degrees of hot drawing. X-ray studies were also done on iodine-contrasted specimens. It is shown that for a simple two-phase model of the supermolecular structure of oriented fibers, the size of amorphous sections increases with the degree of hot-drawing, reaching 86-92% of the crystallite density for "dry" polyvinyl alcohol fibers. As the degree of drawing increases, there is a slight reduction in the crystallite density (by approximately 1%), and the lattice type goes from monoclinic toward orthorhombic. A scheme is proposed for the rearrangements in the supermolecular structure of polyvinyl alcohol fibers with an increase in the degree of hot-drawing. According to this scheme, as the degree of hot-drawing increases there is a rise in the number of continuous chains and a reduction in

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USSR

TUYCHIEV, Sh., et al, Vysokomolekulyarnyye Soyedineniya, Vol 12, Series A, No 9, Sep 70, pp 2,025-2,035

the number of folded chains. At the same time, there is somewhat of a reduction in the transverse dimensions of fibrils due to a reduction in the number of blocks in the "mosaic" in the fibril crystallites, accompanied by an increase of shear fractures in the fibril packing. Drawing increases the density of both intrafibrillar and interfibrillar amorphous layers. On the whole, the structure of the fibers becomes more uniform. The authors thank D. Ya. TSVANKIN, A. I. SLUTSKER, Yu. V. BRESTKIN and S. L. DOBRETISOV for discussing the results and for useful criticism, and also A. G. POVESHCHENKO for constant interest in the work.

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USSR

UDC 632.95

OVCHINNIKOV, P. N., BAT', I. I., MIRONOVA, G. A., and GINZBURG, B. R.

"Study of the Kinetics of the Liquid Phase Reduction of 3-Chloro- and 3,4-Dichloronitrobenzenes Over Platinized Carbon"

Alma-Ata, Katalitich. reaktsii v zhidkoy faze (Catalytic Reactions in the Liquid Phase) Nauka, 1972, pp 399-403 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7N687 by T. A. Belyayeva)

Translation: The preparative technology for chloro- and dichloroanilides used as poly products during the synthesis of herbicides is based on the catalytic reduction of the corresponding nitro compounds with H_2 under a pressure of 200-300 atm, in the presence of 0.5 to 1% platinized carbon. It was shown that the rate of reduction of $3-ClC_6H_4NO_2$ and $3,4-Cl_2C_6H_3NO_2$ in a 75% ethanol on 0.5, 1, and 2% platinized carbon was proportional to the concentration of the active complex on the catalyst surface. The reaction rate is limited by the activation of H_2 .

1/1

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USSR

UDC 621.371.25

GINZBURG, F. I., ZHURAVSKIY, O. G., Institute of Geology and Geophysics of the Siberian Department of the USSR Academy of Sciences

"Statistical Fading Model of Shortwave Radio Signals Obliquely Reflected from the Ionosphere"

Gor'kiy, Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XV, No 1, 1972, pp 5-10

Abstract: Experimental data are presented as a basis for the following proposition: the distribution function of the shortwave signal levels is determined by a large number of model parameters the relative effect of each of which is small. Rapid fading of shortwave signals is simulated by a Poisson pulse train. The distribution laws of the pulse amplitudes and durations are determined, and the autocorrelation and distribution functions of the signal levels are calculated. A comparison is made with the experimental data.

Significant divergence of the experimental and theoretical curves in the probability range less than 0.2 is explained as follows. When deriving the distribution function it was assumed that the distribution laws of the "positive" and "negative" amplitudes coincide. However, the negative amplitude distribution breaks away sharply in the $a \lesssim \bar{\xi}$ region (a is the amplitude of an

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USSR

GINZBURG, E. I., et al., Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika,
Vol XV, No 1, 1972, pp 5-10

pulse, ξ is the maximum signal level in the interval), which must lead to a
rapid decrease in the theoretical curve in the range of large negative levels.

2/2

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USSR

UDC 54-162.3

GINZBURG, F. L., KARANTSEVICH, T. S., and MAKSIMOV, V. F.

"The Problem of the Coprecipitation of Plutonium and Americium With a Precipitate of Barium Sulfate"

Leningrad, Radiokhimiya, Vol 15, No 4, 1973, pp 481-487

Abstract: The conditions for coprecipitation of americium and plutonium with BaSO_4 precipitate was investigated. It was shown that quantitative precipitation takes place from 0.001 M HNO_3 solution. Plutonium can be redissolved by treating the BaSO_4 precipitate with ≥ 1 M HNO_3 solution. Under these conditions the desorption of americium does not exceed 40-50%. Both americium and plutonium coprecipitated with BaSO_4 from nitrate solutions, containing aluminum and lanthanum nitrates may be fully redissolved by treating the precipitate with ≥ 1 M HNO_3 .

1/1

- 65 -

Organophosphorous Compounds

USSR

UDC 546.74-386

TROITSKAYA, A. D., SENTEMOV, V. V., GINZBURG, G. D., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Spectrophotometric Study of the Complex Formation of Nickel Rhodanide (II) with Trialkyl Phosphites in Benzene"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol XVIII, No 1, 1973, pp 270-271

Abstract: A study was previously made of the complex formation of nickel bromide (II) with trialkyl phosphites in ethanol and benzene [G. D. Ginzburg, et al., Tr. Kazansk. khim.-tekhnolog. in-ta, No 34, 38, 1965; No 36, 124, 1965; Zh. neorgan. khimii, No 13, 1585, 1968; No 16, 1923, 1971]. The spectrophotometric method has now been used to study the complex formation of nickel rhodanide (II) with triethyl, tripropyl, triisopropyl, tributyl, triisobutyl and trifluorobutyl phosphites in benzene. The experimental procedure, synthesis of the initial materials and preparation of the solvents are described in the above-mentioned references and by P. M. Zavlin, et al., [Zh. Prikl. khimii, No 10, 2376, 1960; C. Puglisi, et al., J. Inorg. Nucl. Chem., No 4, 1069, 1967].

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USSR

TROITSKAYA, A. D., et al., Zhurnal Neorganicheskoy Khimii, Vol XVIII, No 1, 1973, pp 270-271

The intensity of the shortwave absorption band of the nickel rhodanide (II) complexes with trialkyl phosphites is different and increases from the nickel (II) complexes with triethyl phosphite to complexes with triisopropyl phosphite. The intensity of the long wave absorption band increases for complexes with n-trialkyl phosphites: from the nickel (II) complexes with triethyl phosphite to the complexes with tributyl phosphite; it decreases for the complexes with isotrialkyl phosphites in the order triisobutyl phosphite greater than triisopropyl phosphite greater than trifluorobutyl phosphite. The absorption spectra of the complexes of nickel rhodanide (II) with trialkyl phosphites in benzene show that the increase in length of the hydrocarbon radical chain in the molecules of n-trialkyl phosphites does not in practice have any effect on the position of the absorption band peaks of the complexes. The iso-radical in the trialkyl phosphite molecule in the β -position with respect to the phosphorus atom also has no essential effect: the absorption band peaks of the complexes of nickel (II) rhodanide with tributyl phosphate and triisobutyl phosphate correspond to the same wavelength. If the iso-radical is in the α -position with respect to the phosphorus atom, however, this causes a shift of the absorption bands of the complexes to the shortwave range.

2/2

- 20 -

GINZBURG, G.N.

Medicine
Service

J-9605

113

SO: Military Service
Jovianov Nov 1996 UDR 616-774-001616-24-003-656-3

Outline of Medical Sciences, Lieutenant-Colonel of the Medical Service, G.N. Ginzburg. Pneumoencephalographic examination of patients for long-term consequences of a closed cerebral trauma.

A pneumoencephalograph was used to examine 66 patients who, in the past, suffered a cerebral trauma. The investigation was carried out by the generally accepted method. The investigation as the contrast medium. Analysis of the results showed that, out of the total number of patients examined, 45 cases showed changes in the cerebral liquor system in the pneumoencephalogram. Changes in the basal internal hydrocephalus, 7 — changes in the subarachnoid space, 6 had combined disorders of the ventricular system and subarachnoid space, 2 showed hypertrophy of the ventricular system in the area of the ventricular collateral trigonum, 1 — had classical smolton of the right lateral ventricle, and 1 showed a tendency of resorption, without any changes in the liquor system. In 15 cases, along with changes in the ventricular system, there was also noted a lowering of resorption.

It was also established that, the older the trauma, the more pronounced were the changes reflected in the pneumoencephalogram. Thus, no compared with other methods of investigation, pneumoencephalography provides a possibility to indirectly significant changes in the liquor space after cerebral trauma, which, in turn, makes it possible to use the best methods of treatment in each case and make appropriate expert decisions.

Received in June 1988.

USSR

UDC 624.072.2.04.012.35

GINZBURG, I. I. (Khar'kov)

"With Regard to the Strength Calculation of Sectional Reinforced-Concrete Beams"

Moscow, Stroitel'naya Mekhanika i Raschet Sorruzheniy, No 1, 1971, pp 23-26

Abstract: The influence of the strength of the fastenings upon the load-bearing capacity of sectional reinforced-concrete beams, consisting of individual plate and rib elements, is considered. An investigation is made of the forms of the limit equilibrium of such beams. Calculation formulas are obtained for determining the breakdown load upon the beam in cases of uniformly distributed load and a concentrated force in the middle of the span. 5 figures, 5 bibliographic entries.

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USSR

GINZBURG, I. N., KAN, S. N.

"Selection of Optimal Parameters of Eccentrically Attached Stringers of a Cylindrical Envelope in Elastic Compression"

Teoriya Plastin i Obolochek [Theory of Plates and Envelopes -- Collection of Works], Moscow, Nauka Press, 1971, pp 55-59, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V371 by the author's).

Translation: Optimal planning of eccentrically attached cylindrical envelopes is stated as a problem of mathematical programming. The goal function is the weight of the structure, the limitations are the conditions of strength, stability and certain structural limitations. The material of the structure, dimensions and axial compressive load are considered fixed, while the thickness of the envelope, height and thickness of the stringer (of rectangular cross section) and distance between stringers are to be determined. The solution is performed by the gradient method on the Ural-2 computer. The results are presented as graphs showing the dependence of optimal weight on axial compressive load individually for the internal and external locations of the stringers, and various relationships of the length of the shell to the radius of the midsurface.

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USSR

GINZBURG, I. P., KUKLEV, Ye. A., SHALYGIN, A. S.

"Selection of Optimal Parameters of Control Systems for Flight Vehicles with Random Perturbations"

Izbr. Tr. Vses. Mezhvuz. Simpoz. po Prikl. Mat. i Kibernet, Gor'kiy, 1967
[Selected Works of All-Union Interdepartmental Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967], Moscow, Nauka Press, 1973, pp 157-160 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V245, by the authors).

Translation: Methods of solution of problems of analysis and synthesis of dynamic systems describing the motion of flight vehicles with random perturbations are studied. The optimal parameters of the systems are defined by methods of random or directed search. Examples are studied.

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USSR

UDC: 533.6.011

GINZBURG, I. P., RUDOV, Yu. M., USKOV, V. N.

"Investigation of Gas Flow in Isolated and Composite Jets Interacting With an Obstacle"

Tr. II Resp. konf. po aerogidromekkh., teploobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey" (Works of the Second Republic Conference on Aerohydromechanics, Heat Exchange and Mass Exchange. "High-Velocity Aerodynamics" section), Kiev, Kiev University, 1971, pp 150-153 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B320)

Translation: Qualitative pictures of the interaction between supersonic jets and a flat barrier are constructed on the basis of the results of experimental research with cold air jets in the range of Mach numbers $M_0 = 1.0-3.5$ and roughness factors $n=1-30$. An investigation is made of the pattern of interaction between an isolated jet and a barrier as a function of the angle between the barrier and the axis of the jet, which was varied from 0° to 90° . Particular attention is given to the properties of viscous flow in the zone of detachment of the boundary layer on the barrier. The shock-wave structure is also plotted for the flow when a four-nozzle jet

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USSR

GINZBURG, I. P. et al., Tr. II Resp. konf. po aerogidromekh., teploobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey", Kiev, Kiev University, 1971, pp 150-153

is incident on a barrier normal to the axis of the jet with gasdynamic and geometric parameters of the nozzle assembly and barrier such that jet interaction takes place on the axis of the set-up close to the bottom screen. It is found that under certain conditions maximum pressure on the barrier is reached on the periphery rather than on the jet stagnation point (for both isolated and composite jets), which leads to the development of circulation flow in the central part of the barrier. M. G. Lebedev.

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USSR

GINZBURG, I. P., KOCHERYZHENKOV, G. V., MATVEYEV, S. K.

"Semi-empirical Methods of Calculating Turbulent Boundary Layers"

Teplo. i Massopereenos. T. 1. [Heat and Mass Transfer, Vol 1 -- Collection of Works], Minsk, 1972, pp 65-74, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B730, by P. P. Vorotnikov).

Translation: Results are analyzed of numerical calculations of a turbulent boundary layer, in which various rules of change of path length of displacement across the boundary layer were tested. According to these calculations, the velocity profiles in the boundary layer constructed in coordinates u/u_* , yv/γ_* are independent of the Reynolds number near the wall and in the buffer area. In the outer portion of the boundary layer, the velocity profiles do not depend on the Reynolds number if constructed in coordinates y/δ , $(u - u_e)/v_*$. In the last case, the form of the theoretical curve is determined to a great extent by the hypothesis used for the length of the displacement path. A curve calculated using the following formula for displacement path length agrees best with experimental results:

$$\frac{1}{\delta} = \begin{cases} k \frac{y}{\delta}, & \text{if } y_a < y < \frac{\lambda \delta}{k} \\ \lambda, & \text{if } \frac{\lambda \delta}{k} < y < \delta \end{cases}$$

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USSR

GINZBURG, I. P., KOCHERYZHENKOV, G. V., MATVEYEV, S. K., Teplo. i Massoperenos. T. 1., Minsk, 1972, pp 65-74.

where $\lambda = 0.10$ is an empirical constant. The distribution of friction stress over the cross section of the boundary layer on an impermeable plate is found to be little sensitive to Reynolds number.

As analysis of numerical solutions shows, when there is a moderate longitudinal pressure gradient or injection, when the last expression is used for displacement path length, the dependence of u/v_* on yv_*/v near the wall remains near universal. Nevertheless, the pressure gradient is found to have a strong influence on the dependence of $c_+/2$ on $R^{**} = u_e \delta^{**}/v$, which is related to the influence of pressure gradient or injection on the velocity profile and on the friction stress profile in the external portion of the boundary layer. To provide a single-parameter representation of the friction stress profile in the boundary layer when there is a pressure gradient and injection, it is suggested that the new parameter

$$A = \frac{\delta}{\tau_w} \frac{dp}{dx} + \frac{\delta}{v_*} \frac{dv_*}{dx} \zeta^2 \left| \zeta^2 + \frac{v_* \delta}{v} \frac{1}{k_1} e^{(k_1 - k_2 \zeta^2)} \right|$$

be used, which provides a universal representation for $\tau/\tau_w = \tau/\tau_w(v/\delta)$ with various condition of friction in the boundary layer. 16 Biblio. Refs.
2/2

- 13 -

USSR

GINZBURG, I. P., SOBKOLOV, B. N., AKIMOV, G. A.

"Determination of the Principal Flow Parameters in a Supersonic Stream of an Ideal Gas"

Leningrad, Uchenyye Zapiski Leningradskogo Gosudarstvennogo Universiteta, No 357, SER. MAT. NAUK, No 46, 1970, pp 38-55.

Abstract: This work suggests a refined approximation method for calculating the principal flow parameters in a supersonic stream of an ideal gas. The task of the work includes primarily determination of the gas dynamic parameters in various areas of the stream, as well as determination of boundaries of jumps in the stream and compression.

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USSR

UDC 77

GINZBURG, K. M., KOLESOVA, T. B., BELYAYEVA, V. A., GUTMAN, I. M.

"Aging of Photographic Papers"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 171-173 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1329)

Translation: The aging kinetics of AgBr-photographic papers of three gradations is compared: normal (No. 3), contrast (No. 4), and high contrast (No. 6). Aging of the normal type was observed for No. 3 and anomalous aging for Nos. 4 and 6 (with a rapid loss of sensitivity for No. 6). These differences are due to technological characteristics: degree of aging, etc. Certain characteristics of the behavior of No. 6 are associated with the presence of rhodium ions introduced to obtain high contrast. The protective layer which only No. 3 has slows down aging but the introduction of benzotriazole has little effect except to accelerate (thermostatic) aging. The latter should be avoided, however, since according to the data of the authors it distorts the nature of processes occurring in ordinary aging and produces a false picture of the tendency in the change

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GINZBURG, K. M., et al, Uspekhi nauchn. fotogr., 1970, Vol. 14, pp 171-173

of the photographic properties of the papers. Phenomena were observed indicating the course of redistribution aging in emulsion layers of Unibrom papers. Authors abstract.

USSR

UDC 621.173.162.4

SHENYREV, P. D., Candidate of Technical Sciences, DROBININ, I. N., Candidate of Technical Sciences, docent, TUMANOV, V. I., Candidate of Technical Sciences, and GINZBURG, M. A., Engineer

"Friction Forces and the Coefficient of Friction During the Attrition of Hard Alloys in a Medium of Liquid Nitrogen"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 7, 1972, pp 28-31

Abstract: The results are presented of an experimental investigation of the friction forces and the coefficient of friction during the sliding friction of pairs of specimens of hard alloys VK60M and VK6 in a medium of liquid nitrogen. It was established that within the limits of change of the rate of friction from 0.2 to 0.4 m/sec, the coefficient of friction increases as the rate of friction increases, and with an increase of the load from 35 to 135 kg/cm² the coefficient of friction decreases. 4 figures. 1 table. 6 references.

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USSR

UDC 669.275'25'784'018.25

SHNYREV, P. D., DROBININ, I. N., TUMANOV, V. I., GINZBURG, M. A., and
SHNYREV, G. D.

"Investigation of Wear of Cermet Hard-Metal Alloys in Liquid Nitrogen Medium"

Issledovaniye iznosa metallokeramicheskikh tverdykh splavov v srede zhidkogo azota (cf. English above), Institute of Metallurgy, Academy of Sciences USSR, Moscow, 1971, 8 pp, ill, bibliography with five titles, No 3214-71 Dep (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 11820 Dep by authors)

Translation of Abstract: The work investigates the influence of Co content and grain size of tungsten carbide on the wear of WC-Co alloys during testing in liquid N₂ medium. The investigation reveals that wear increases with an increase in Co content; the magnitude of wear rises with an increase in WC-phase grain size; volume wear of WC-Co alloys of varying composition and with varying grain size of tungsten carbide is inversely proportional to Rockwell hardness. Three illustrations. One table. Bibliography of five titles.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CALCULATION OF ACCURACY OF CENTRALIZED CONTROL SYSTEMS -U-

AUTHOR--(02)-SHENBROT, I.M., GINZBURG, M.YA. 6

COUNTRY OF INFO--USSR

SOURCE--(RESCHET TOCHNOSTI SISTEM TSENTRALIZOVANNOGO KONTROLYA) MOSCOW,
ENERGIYA, 1970, 407 PP
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ELECTRONICS AND
ELECTRICAL ENGR.
TOPIC TAGS--HANDBOOK, AUTOMATIC CONTROL SYSTEM, DATA PROCESSING EQUIPMENT,
ACCURACY STANDARD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1743

STEP NO--UR/0000/70/000/000/0001/0407

CIRC ACCESSION NO--AM0130591

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AM0130591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 3.
INTRODUCTION 8. PART I ACCURACY OF CENTRALIZED CONTROL. CHAPTER I
ERROR IN CENTRALIZED CONTROL OPERATIONS 16. II EVALUATION OF
ACCURACY 60. PART II CALCULATION OF ERRORS IN CONVERSION OF VALUES.
CHAPTER III ERRORS IN CONVERSION INTO A CONTINUOUS SIGNAL 101. IV
ERRORS IN CONVERSION INTO A DISCRETE SIGNAL 140. PART III CALCULATION
OF ERRORS IN MEASUREMENT AND CONTROL OF PROCESSES. CHAPTER V ERRORS
IN MEASUREMENT AND CONTROL OF PROCESSES 211. VI CORRECTING
FILTRATION 281. VII CALCULATION OF INDICATORS 343. VIII
CONCLUSION 384. BIBLIOGRAPHY 393. ALPHABETICAL INDEX 405.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--FEATURES SPECIFIC TO THE CLINICAL PICTURE OF SYSTEMIC LUPUS
ERYTHEMATOSUS IN MEN -U-
AUTHOR--GINZBURG, N.B.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 135-139

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN DISEASE, KIDNEY, HORMONE, ELECTROCYTE, METABOLISM,
HEMORRHAGE, MYOCARDIUM, NECROSIS, DRUG SENSITIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1765

STEP NO--UR/0497/70/048/005/0135/0139

CIRC ACCESSION NO--AP0129133

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129133

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO CASES OF SYSTEMIC LUPUS ERYTHEMATOSUS ARE ANALYZED. IN ONE PATIENT THERE WAS A CHRONIC COURSE WITH WAVE LIKE EXACERBATION AND PREVALENT AFFECTION OF THE KIDNEYS IN MILDLY PRONOUNCED CUTANEOARTICULAR SYNDROME. THE PROLONGED EMPLOYMENT OF STEROID HORMONES RESULTED IN DISTURBANCE OF THE ELECTROLYTE METABOLISM AND PERIODICAL CONVULSIVE SEIZURES. STABILIZATION OF THE PROCESS WAS ACHIEVED BY THE USE OF DELAGYL IN COMBINATION WITH TRIAMSILOLONE. IN THE SECOND PATIENT THE ACTUE MALIGNANT COURSE OF SYSTEMIC LUPUS ERYTHEMATOSUS WAS MANIFESTED BY A SEVERE AFFECTION OF THE KIDNEYS AND GENERALIZED THROMBOVASCULITIS. IN TWO MONTHS RENAL INSUFFICIENCY, MASSIVE HEMORRHANGE INTO THE RETRORENAL CELLULAR TISSUE AND FOCI OF MYOCARDIAL NECROSIS DEVELOPED. DRUG INTOLERANCE OF THE PATIENT WAS AN AGGRAVATING FEATURE.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--1600170
TITLE--SYNTHESIS OF ANALOGS OF ACTINOMYCINS. III. THE SIMPLEST CHLORO
ANALOGS CONTAINING OMEGA AMINO ACIDS -U-
AUTHOR-(03)-SINITSYN, V.G., GLIBIN, YE.N., GINZBURG, O.F. **G**
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(3), 500-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ACTINOMYCES, AMINO ACID, CONDENSATION REACTION,
ESTERIFICATION, ALIPHATIC ESTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0373 STEP NO--UR/0366/70/006/003/0500/0504
CIRC ACCESSION NO--AP0113291
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113291

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF H SUB2 HICH SUB2) SUBN CO SUB2 H WITH 2,NITRO,3,BENZOYLOXY,4,CHLOROBENZOYL CHLORIDE IN PHME SOLN. CONTG. NAOH GAVE I (R IS NH(CH SUB2) SUB2 CO SUB2 H, NH(CH SUB2) SUB3 CO SUB2 H, OR NH(CH SUB2) SUB5 CO SUB2 H). THE ESTERIFICATION OF I GAVE THE CORRESPONDING ET ESTERS. THE CATALYTIC HYDROGENATION OF I ACIDS OF I (R EQUALS NH-(CH SUB2) SUB3 CO SUB2 ET) GAVE II. THE OXIDN. OF II WITH K SUB3 FE(CN) SUB6 IN A PHOSPHATE BUFFER GAVE THE FOLLOWING ACTINOMYCIN ANALOGS: 2,AMINO,4,6, DICHLORO,3H,PHENOXAZIN,3,ONE,1,9,BIS(GAMMA,CARBONYLAMINO BUTYRIC ACID) (III), 2,AMINO,4,6,DICHLORO,3H,PHENOXAZIN,3, ONE,1,9,BIS(GAMMA,CARBONYLALANINE), 2,AMINO,4,6,DICHLORO,3H,PHENOXAZIN, 3,ONE,1,9,BIS(EPILON,CARBONYLAMINOCAPROIC ACID), AND THE DI,ET ESTER OF III. THE CATALYTIC HYDROGENATION OF I (R EQUALS NH(CH SUB2) SUB2-CO SUB2 ET) CAUSED THE REMOVAL OF CL AND GAVE THE CORRESPONDING DECHLORINATED II WHICH WAS OXIDIZED TO 2,AMINO,3H,PHENOXAZIN,3, ONE,1,9,BIS(BETA,CARBONYLALANINE) DI,ET ESTER. FACILITY: Leningrad. TEKHNOL. INST. IM. LENSIVETA, Leningrad, USSR.

REF ACCESSION

172 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SYNTHESIS OF ANALOGS OF ACTINOMYCINS. V. THE SIMPLEST CHLORO
ANALOGS CONTAINING GLYCINE GROUPS -U-
AUTHOR-(03)-GLIBIN, YE.N., SINITSYN, V.G., GINZBURG, O.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1020-2

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--ANTIBIOTIC, CHLORINATED ORGANIC COMPOUND, GLYCINE, CHEMICAL
SYNTHESIS, CATALYTIC HYDROGENATION, METAL CATALYST/(U)ACTINOMYCIN
ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3003/1101

STEP NO--UR/0366/70/006/005/1020/1022

CIRC ACCESSION NO--AP0130134

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130134

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATMENT OF
N, (3, BENZYLOXY, 4, CHLORO, 2, NITROBENZOYL) GLYCINE (I) WITH F SUB3 CCO SUB2
H GAVE THE 3, HYDROXY ANALOG (II) WHICH WAS ESTERIFIED TO THE ET ESTER
(III). ESTERIFICATION OF I WITH ABS. ETOH SATD. WITH DRY HCL GAVE I ET
ESTER AND SOME III. HYDROGENATION OF II OR III OVER RANEY NI GAVE THEIR
2 AMINO ANALOGS, WHICH WERE CONVERTED INTO 1,8, BIS(RCOCH SUB2
NHCO), 2, AMINO, 4, 5, DICHLORO, 3H, PHENOXAZIN, 3, ONE (R IS OH OR OET) BY
TREATMENT WITH BUFFERED AQ. SOLNS. OF K SUB3 FE(CN) SUB6.
FACILITY: LENINGRAD. TEKHNOLOG. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr:

APO053444

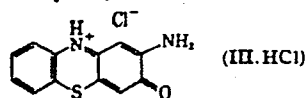
Abstracting Service:

CHEMICAL ABST.

Ref. Code:

4R0366

111397r Synthesis of 3-hydroxy-2',4-diaminodiphenyl sulfide and its oxidation to 2-amino-3-phenothiazone. Sevbo, D. P.; Ginzburg, O. F. (Leningrad. Tekhnol. Inst. im. Lensovet, Leningrad, USSR). *Zh. Org. Khim.* 1970, 6(2), 345-7 (Russ). The condensation of 2-O₂NC₆H₄Cl with 3,4-(MeO)₂NC₆H₃SH gave 3-methoxy-2',4-dinitrodiphenyl sulfide (I) and 3,3'-dimethoxy-4,4'-dinitrodiphenyl sulfide, which were reduced to the corresponding diamines. Heating I with Na₂S₂ gave 3-methoxy-4-amino-2'-nitrodiphenyl sulfide. The demethylation of I gave 3-hydroxy-2',4-dinitrodiphenyl sulfide which was reduced to 3-hydroxy-2',4-diaminodiphenyl sulfide (II). The oxidn. of II



with O, FeCl₃, KMnO₄, or K₂CrO₇ gave 2-amino-3-phenothiazone (III). CPJR

REEL/FRAME
19830469

1/2 012 UNCLASSIFIED PROCESSING DATE--0200170
TITLE--OXIDATION OF α , AMINO PHENOLS -U-
AUTHOR--(24)-KORSHUNOVA, Z.I., GLIPIN, YE.N., ZAKHS, E.R., GINZBURG, D.F.
COUNTRY OF INFO--USSR
SOURCE--Zh. Org. Khim. 1970 (3) 510-12
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--OXIDATION, AMINE, PHENOL, BENZOIC ACID, CARBOXYLIC ACID ESTER,
THIN LAYER CHROMATOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1421 STEP NO--UR/0366/70/006/003/0510/0512
CIRC ACCESSION NO--AP0112415
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 012

CIRC ACCESSION NO--AP0112415

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDN. OF A MIXT. OF ET
2,AMINO,3,HYDROXY,4,METHYLBENZOATE AND ET
2,AMINO,3,HYDROXY,4,CHLOROBENZOATE WITH K SUB3 FEICH) SUB6 IN A BUFFERED
SOLN. AT PH 7.2 GAVE A MIXT. OF DI ET 4,Y,
6,X,DISUBSTITUTED,2,AMINO,3,PHENOXA,ZONE 1,9,DICARBOXYLIC ACID ESTERS
(I) IN WHICH I (X EQUALS Y EQUALS CL), I (X EQUALS Y EQUALS ME), AND I
(X EQUALS ME, Y EQUALS CL) WERE ALSO OBTAINED AND ISOLATED BY THIN LAYER
CHROMATOG.

UNCLASSIFIED

1/2 C11 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--SYNTHESIS OF ANALOGS OF ACTINOMYCINS. IV. LYSINE DERIVATIVES OF
ACTINOMYCIN -U-
AUTHOR--(03)-KORSHUNOVA, Z.I., ZAKHS, E.R., GINZBURG, D.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. DRG. KHIM 1970, 5(3) 504-10

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--ACTINOMYCES, LYCINE, BENZENE DERIVATIVE, CHEMICAL SYNTHESIS,
AMINE, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1422

STEP NO--UR/0365/70/006/003/0504/0510

CINC ACCESSION NO--AP0112416

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--02JCT70
CIRC ACCESSION NO--AP0112416
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF
3,BENZOLYOXY,4,METHYL,2,NITROBENZOYL CHLORIDE WITH RNH SUB2 GAVE
3,BENZYLOXY,4,METHYL,2,NITRO RNHCO SUBSTITUTED BENZENES (I). THE
CATALYTIC HYDROGENATION AND DEBENZOYLATION OF I GAVE THE CORRESPONDING
2,AMINO,3,HYDROXY DRIVS. (II) WHICH WERE OXIDIZED WITH K SUB3 FE(CV)
SUB6 AT PH 7.1 TO
1,9,(RNHCO,DISUBSTITUTED),2,AMINO,4,6,DIMETHYL,3H,PHENOXAZIN,3,ONES (R
IS CH(CO SUB2 H) (CH SUB2) SUB4 NHAC, (CH SUB2) SUB4 CH(NHAC) CO SUB2 H,
(CH SUB2) SUB4 CH(NHAC)CO SUB2 ET, CH(CO SUB2 H) (CH SUB2) SUB4 NHCO
SUB2 C H SUB2 PH, OR 2,PIPERIDINON,6,YL).

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF SOME STRUCTURAL FACTORS ON PHOTOCHEMICAL REACTIONS OF
LEUCOCYANIDES OF TRIARYLMETHANE DYES -U-
AUTHOR-(03)-RTISHCHEV, N.I., MIKHALCHENKO, G.A., GINZBURG, O.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 582-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--PHOTOCHEMISTRY, CYANIDE, METHANE, DYE, PHOTOLYSIS,
LUMINESCENCE, PHOTOEFFECT, ARYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1465

STEP NO--UR/0366/70/006/003/0582/0586

CIRC ACCESSION NO--AP0116902

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116902

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UV IRRADN. OF (RHO,ME SUB2 NC SUB6
H SUB4) SUB2 C(CN)R (I) IR IS RHO,ET SUB2 NC SUB6 H SUB4 C SUB6 H
SUB4,RHO, RHO,MEOC SUB6 H SUB4 C SUB6 H SUB4,RHO, RHO,PHC SUB6 H SUB4,
RHO,ME SUB2 NC SUB6 H SUB4 CH:CH, ET SUB2 NC SUB6 H SUB4 CH:CH,
RHO,(3,4,0 SUB2 N(ME SUB2 N), C SUB6 H SUB3) SUB2 NC SUB6 H SUB4 CH:CH)
CAUSES PHOTOLYSIS AND LUMINESCENCE. THE PHOTOLYSIS OBEYS 1ST ORDER
KINETICS. THE QUANTUM YIELDS OF PHOTODISSOCN. ARE VERY LOW. THE
PROBABILITY OF THE PHOTODISSOCN. REMAINS APPROX. CONST. THROUGHOUT THE
UV WAVELENGTH RANGE. FACILITY: LENINGRAD, TEKHNOL. INST. IM.
LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

GINZBURG, Roza L'vovna

Document

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30 Sep 71

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VI. OBITUARIES OF SOVIET SCIENTISTS

23. USSR

"R. L. Ginzburg"

Moscow, Keldyshskaya Gruzda, 25 Jun 71, p. 4

Abstract: R. L. Ginzburg, Doctor of Natural Sciences, Professor, and Chief of the Department of Traumatology and Orthopedics of the Central Order of Labor and Order of the Patriotic War Scientific Institute of Traumatology and Orthopedics (Sant. N. N. Pirogov of the Ministry of Health USSR), has died.

24. USSR

"V. P. Kapustin"

Moscow, Keldyshskaya Panslologiya: Priznaniye Bozhen, No 6, 1970, p. 74

Translation: Vasily Fedoseyevich Kapustin died on 29 March. He left us a considerable legacy in the area of scientific and practical parasitology and biology, both for doctors and for veterinarians. He was well-known in both domestic and foreign writing.

V. P. Kapustin was born in 1892. Upon finishing at the Kazan Veterinary Institute in 1916, he was drafted into the Army as a veterinary doctor. Having earned difficult and hard experiences in the Tsarist army, Vasily Fedoseyevich eventually determined his attitude toward the revolutionary events of 1917 and in 1918 became a member of the Bolshevik Party.

At the end of the civil war in 1923, he was named chief of the Veterinary Inspection Service of the NKVD (People's Commissariat of Internal Affairs) Border and Internal Forces, and he remained in this position until 1936. Before going on pension, he headed the Veterinary Division of the NKVD and Ministry of Internal Affairs with Administration of Border Forces.

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USSR

UDC 621.376.5.019.4

GINZBURG, S. A., Active Member of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Interference Immunity of Pulse-Time and Pulse-Code Modulation in Incoherent Optical Communications"

Moscow, Radiotekhnika, Vol 26, No 8, Aug 71, pp 22-28

Abstract: The author compared pulse-time and pulse-code modulation in systems where the channel (cadence) interval is broken up into a series of discrete time cells. The input section of the receiver consists of a photosensitive element and an electric filter with time constant τ . It is assumed that the receiver has a fixed passband. In pulse-code modulation the receiver determines the presence or absence of a signal pulse in each of the time cells (in the corresponding digital place) and converts pulse-code to amplitude modulation. In pulse-time modulation, the signal pulse is found in one of the time cells. The position of this cell relative to the beginning of the channel interval corresponds to the signal being transmitted. The receiver determines which cell contains the signal pulse and converts pulse-time to amplitude modulation. The errors in the various cells of the channel interval after demodulation have different weights which are taken into account

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USSR

GINZBURG, S. A., Radiotekhnika, Vol 26, No 8, Aug 71, pp 22-28

in the comparison. It is shown that when the peak power is fixed, 0.1-0.65 dB less peak power is required to achieve a given signal-to-noise ratio with pulse-code than with pulse-time modulation. When the average power is fixed, pulse-time modulation requires 4.6-6.4 dB less average power than pulse-code modulation for a given signal-to-noise ratio. However, in this case the transmission rate is also lower for pulse-time modulation (by a factor of 18.3 for $\mu = 7$, and by a factor of 56.8 for $\mu = 9$).

2/2

- 28 -

USSR

UDC: 681.3

GINZBURG, S. A.

"On the Possibilities of Using Continuous Logic in Analog Technology"

V sb. Analogovaya i analogo-tsifr. vychisl. tekhn. (Analog and Analog-Digital Computer Technology--collection of works), vyp. 4, Moscow, "Sov. radio", 1970, pp 20-32 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V549)

Translation: The paper describes the possibilities of using continuous logic for constructing facilities to depict arbitrary geometric shapes, and for creating reliable (precision) systems with redundancy. Author's abstract.

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1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--YELLOW PLATINUM SULFATE FORMED DURING THE REACTION OF H SUB2 (PTCL
SUB6) WITH SULFURIC ACID -U-
AUTHOR--(U2)-GINZBURG, S.I., SCFRONKOVA, G.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 723-7
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POTENTIOMETRIC TITRATION, MAGNETIC SUSCEPTIBILITY, PLATINUM
COMPOUND, SULFATE, SULFURIC ACID, PLATINUM CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1881 STEP NO--UR/0078/70/015/003/0723/0727
CIRC ACCESSION NO--AP0115700
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115700

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. YELLOW K SUB5 H SUB3(P
SUB4(HSO)SUB4)SUB3 SO SUB4 O SUB5) (I) FORMED WHEN H SUB2 (PTCL SUB6)
WAS TREATED WITH H SUB2 SO SUB4 AT THE B. TEMP. OF THE SOLN. I HAS
GAMMA 1.690 AND ALPHA 1.604 AND IR SPECTRA PROVE THE PRESENCE OF HSO
SUB4 PRIME NEGATIVE AND BIDENTATE SO SUB4 PRIME2 NEGATIVE. ON HEATING,
HSO SUB4 PRIME NEGATIVE DISAPPEARS FROM THE IR SPECTRA OF I IST AT
SIMILAR TO 400DEGREES AND THE BIDENTATE SO SUB4 PRIME2 NEGATIVE AT
HIGHER TEMPS. I IS SOL. IN WATER, DILD. H SUB2 SO SUB4, AND IN HOT H
SUB2 SO SUB4. POTENTIOMETRIC TITRN. INDICATES THAT THE APPARENT OXION.
STATE OF PT IN I IS 3 POSITIVE. HOWEVER, USE OF MAGNETIC
SUSCEPTIBILITY DATA INDICATES THAT I CONTAINS PT(III) AND PT(IV).

UNCLASSIFIED

USSR

UDC 621.791.763.1.04

SLIOZBERG, S. K., MIKHAYLOVA, E. M., and GINSBURG, S. K., All-Union Scientific Research Institute of Electric Welding Equipment

"Selecting an Alloy for the Electrodes of Spot Welding Machines for Low-Carbon Steels"

Kiev, Avtomaticheskaya Svarka, No 3, Mar 71, pp 59-61

Abstract: Results are presented of testing Br. Kh double chromium bronze, Mts5 chromium-zirconium alloy, and Br. Kh chromium bronze with 0.4% Cu and small additions of zirconium and titanium as alloys for the electrodes of spot welding machines for low-carbon steels. The tests indicated that chromium bronze provides insufficient strength, especially at high operating speeds. Small additions of zirconium and titanium improve the plasticity of chromium bronze significantly, especially at increased temperature, where the electrodes operate at a greater welding rate. The addition of titanium also increases the creep strength.

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