

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129269

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED CHANGES IN THE DUODENUM, CARDIOVASCULAR SYSTEM, COAGULATING AND ANTICOGAGULATING SYSTEMS OF THE BLOOD, ELECTROLYTE COMPOSITION OF THE BLOOD SERUM, LIVER AND THE BILE DUCTS IN PATIENTS WITH CHRONIC PANCREATITIS. CORRELATION IS SHOWN BETWEEN TRYPSIN, TRYPSIN INHIBITOR AND OTHER ENZYMES WHEN THEY ENTER THE BLOOD CANAL DUE TO WHAT INVOLVEMENT OF OTHER ORGANS AND SYSTEMS INTO THE PATHOLOGICAL PROCCES OCCURS. A SIGNIFICANT INCREASE OF PROTEOLYTIC ACTIVITY IN THE BLOOD SERUM AT THE STAGE OF EXACERBATION OF CHRONIC PANCREATITIS IS NOTED. ON THE BASIS OF THE DATA OF CLINICO BIOLOGICAL STUDIES THE INTER RELATION BETWEEN FUNCTIONAL, BIOCHEMICAL AND HORMONAL DISCRDERS IN THE MENTIONED ORGANS IS SHOWN IN CHRONIC PANCREAYITIS.

UNCLASSIFIED

USSR

UDC: 621.373.826

KNYAZEV, I. N.

"Investigation of Physical Processes in Pulse Gas-Discharge Lasers on Molecules of Hydrogen, Deuterium, and on the First Positive System of Bands in the Nitrogen Molecule"

Tr. fiz. in-ta AN SSSR (Works of the Physics Institute of the Academy of Sciences of the USSR), 1971, 56, pp 119-190 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3D223)

Translation: A systematic study is made of pulse emission on a powerful current pulse front in molecular hydrogen, deuterium and nitrogen on electron transitions in the near infrared region of the spectrum. The spectral, time and energy characteristics of lasers are studied. Onset of emission is qualitatively and quantitatively interpreted on the basis of the mechanism of excitation of working levels by electrons from the ground state with regard to the Franck-Condon principle. In molecular nitrogen, an investigation is made of the overall physical pattern of development of the pulse discharge, and the physical conditions in the discharge at the time of emission are determined. A description is given of the dynamics

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USSR

KNYAZEV, I. N., Tr. fiz. in-ta AN SSSR, 1971, 56, pp 119-190

of excitation of the working states. Laser operation in the amplification and saturation mode is quantitatively analyzed. The question of laser efficiency is discussed. Thirty-seven illustrations, two tables, bibliography of 124 titles. Resumé.

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USSR

UDC 621.373.826

KASLIN, V. H., KHYZAEV, I. R., PETRASH, G. G.

"Pulse Generation in the First Positive Nitrogen Band System with Cooling of the Working Gas"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), Moscow, No 5, 1971, pp 44-52 (from RZh-Radiotekhnika, No 1, 1972, Abstract 1D343)

Translation: A study was made of the laser characteristics in the first positive nitrogen system with cooling of the working gas. It was demonstrated that in this laser there is a significant increase in amplification on cooling the gas. The studies permitted significant improvement of the power, the generation pulse energy and the efficiency of the system. Superluminous emittance conditions were obtained in this system for the first time. It was found that the optimal conditions of existence of generation are uniquely determined by the parameter  $\gamma \sim E/N$  (where E is the electric field intensity in the discharge tube, N is the working gas density). A record generation power for the given laser of 55 kilowatts was achieved. The significant role played by the build-up rate of the photon avalanche in pulse lasers was demonstrated experimentally. A new phenomenon in molecular spectroscopy was discovered: inversion of alternation of the intensities in the molecular spectra of stimulated radiation. There are 4 illustrations and a 12-entry bibliography.

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USSR

UDC: 621.373:530.145.6

KNYAZEV, I. N.

"Electron Energy and Concentration of Electrons in a Pulse Plasma of a Molecular Nitrogen Laser"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1971, No 2, pp 50-56 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D153)

Translation: A study is made of changes in the average energy and concentration of electrons in nitrogen. The concentration of electrons along the axis of the discharge tube was measured by an interferometric method using a helium-neon laser ( $\lambda = 0.63$ ). The current was determined by means of a  $0.01 \Omega$  resistor connected in series with the discharge tube. The resultant relationships are checked by calculating the time behavior of the relative population of the state  $C^3\pi_g, v = 0$ . A. K.

1/1

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--HEAT TRANSFER IN UNIFORM MIXTURE OF TWO DISPERSE MATERIALS -U-  
AUTHOR--(03)-GORBIS, Z.R., ~~KNYAZEV, L.P.~~ KUKLINSKIY, V.V.  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 45-51  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--HEAT TRANSFER, MATERIAL MIXING  
  
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DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/2004 STEP NO--UR/0170/70/018/001/0045/0051  
CIRC ACCESSION NO--AP0120647  
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2/2 031

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120647

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIG. 1. NU VERSUS D SUB1 (D SUB1, MM): 1. COOLING OF METAL SPHERE IN FILLING OF METAL SPHERES (D SUB2 EQUALS 4.76 MM) IN THE TEMPERATURE RANGE 660-250DEGREESC; 2. THE SAME IN THE RANGE OF TEMPERATURES 250-100DEGREES C; 3. COOLING OF METAL SPHERE IN SEMI COKE FILLING IN THE RANGE FROM 600 TO 250DEGREESC (D SUB2 EQUALS 3 DIVIDED BY 5 MM); 4. COOLING OF METAL SPHERE IN THE TEMPERATURE RANGE 350-100DEGREESC. FIG. 2. SCHEME OF EXPERIMENTAL INSTALLATION: 1. DRYING CABINET; 2. WOODEN BOX; 3. SPHERES; 4. PORCELAIN GRID; 5. SAND; 6. COLD THERMOCOUPLE JUNCTION; 7. GALVANOMETER. FIG. 3. COMPARISON OF PREDICTED AND EXPERIMENTAL DATA (TAU, MIN): 1. CALCULATION BY NUMERICAL METHOD; 2. EXPERIMENTAL DATA; 3. CALCULATION BY METHODS. FIG. 4. COMPARISON OF NUMERICAL SOLUTIONS AND THOSE BY EQUATIONS (9), (10) (TAU MIN): 1. NUMERICAL CALCULATION; 2. BY EQUATIONS (9), (10). SUMMARY. HEAT TRANSFER IN DISPERSE SYSTEM OF IMMOVABLE UNIFORM MIXTURE OF COARSE AND FINE DISPERSE MATERIALS IS CONSIDERED. THE PROBLEM IS SOLVED AT BOUNDARY CONDITIONS OF THE IV KIND. SOLUTIONS OF THE PROBLEM ARE COMPARED WITH EXPERIMENTAL DATA. EXPRESSIONS ARE RECOMMENDED FOR CALCULATION OF THE CHANGE IN TEMPERATURE OF MIXTURE COMPONENTS AND TIME OF THERMAL EQUILIBRIUM ONSET.

UNCLASSIFIED

KNYAZEV, L.V.

math  
phys. sciences

(3)

Series: PPKS 415-2831  
72 Aug 1972

UDC 531.501.6

MOVEMENT OF VERTICAL MOVEMENTS IN CLOUD SYSTEMS BY PULSED-DOPPLER RANGING METHOD

Article by Doctor of Physical and Mathematical Sciences A. G. Gurelyukhina, L. V. Knyazev, B. B. Lopyrev, Central Aerological Observatory, Moscow, USSR. International Journal of Meteorology, Moscow, No 6, 1972, pp 87-96

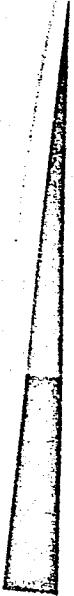
The results of studying the structure of vertical movements in clouds by deuterium-pulse-coherent radar are discussed. A block diagram of a device for recording the echo and statistical processing of it by means of an optical spectral analyzer is presented. The results are presented in the form of time-altitude sections.

At this time pulse-coherent radar is widely used in meteorological practice. By means of this radar and receiving the statistical characteristics of the echo, it is possible rapidly and with sufficient accuracy to obtain data on the wind, turbulence and vertical movements. The utilization of pulse-coherent radar to investigate the fields of vertical air movements attending the development and basic parameters of cumulus congestus is especially prospective. Such work has been performed abroad beginning in 1961 [7, 11]. The results obtained during vertical sounding of the clouds are analyzed in these papers.

The methods of estimating the velocities of the vertical air movements are used. First, let us consider the method of estimating these velocities with respect to the left-hand edge of the doppler spectrum. It is proposed that this edge is caused by the presence of light particles with gravitational velocities of about 1 m/sec in the dispersion medium the echo from which somewhat exceeds the noise level [8, 12]. The second method is by the data from simultaneous measurements of the mean doppler shift of the frequency and power of the echo [2, 13]. As is demonstrated in [9], the measurement errors by each of these methods can be significant [to 3-4 m/sec].

Recently, a number of new papers [10, 11, 14] have appeared on the structure of vertical movements in precipitation. Thus, the measurements described in [10] and performed simultaneously by two radars permitted maps of the vertical and horizontal movements of the droplets in a cloud to be obtained and the area of primary growth of droplets to be located.

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Organ and Tissue Transplantations

USSR

UDC 616.13-089.843

KNYAZEV, M. D., LEHENEV, V. L., and STEPANOV, G. A., Scientific Research Institute of Clinical and Experimental Surgery, Ministry of Health USSR

"Autotransplantation of the Aorta and Its Main Branches"

Leningrad, Vestnik Khirurgii imeni I. I. Grekov, No 10, 1971, pp 93-95

Abstract: The authors describe a combined vascular prosthesis consisting of a segment from one of the patient's arteries implanted at the site of physiological flexion (e.g., inguinal ligament) and a synthetic graft inserted in an immobile portion of the blood vessel. This technique prevents kinking, retains the advantages of endarterectomy by eversion, and shortens the prosthesis. Such prostheses were implanted in 20 patients with atherosclerosis, arteritis, etc. and the immediate results were good: complete restoration of circulation in the extremity and patency of the prosthesis. Follow-up of 14 patients for over 2 years showed that all continued to hold their jobs, and there were no signs of ischemia in the extremity. The prosthesis became thrombosed on one woman because it was compressed during pregnancy.

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Surgery

USSR

UDC 616.132+616.13]-89.28-07:616.151.5-07

PETROVSKIY, B. V., KNYAZEV, M. D., KOBLOV, L. F., STEPANOV, G. A., and SMIRNOVA, L. A., Scientific Research Institute of Clinical and Experimental Surgery, Ministry of Health USSR

"Hemostasis After Repair Operations on the Aorta and Major Arteries Using Electroconductive Prostheses"

Moscow, Kardiologiya, No 4, 1971, pp 9-14

Abstract: Vascular prostheses woven with silver threads were implanted in 30 patients with occlusion (due to atherosclerosis and endarterteritis) of the terminal portion of the aorta and iliac arteries or aneurysms of the aorta). A like number of patients with similar lesions received nonconducting terylene prostheses. Hypercoagulability was characteristic of both groups of patients before surgery because of high fibrinogen concentration, lowered fibrinolytic activity, increased antifibrinolysin activity, and slow blood flow. Postoperatively, none of the patients who received an electroconductive prosthesis required anticoagulant and fibrinolytic therapy, whereas most of those who received a terylene prosthesis showed signs of hypercoagulability, and several developed thrombosis despite the administration of anticoagulants.

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USSR

UDC: 513.88+517.948

KNYAZEV, P. N.

"On Strong Convergence of Conjugate Operators"

Vestn. Belorus. un-ta (Belorussian University Herald), 1970, ser. 1, No 3,  
pp 11-13 (from RZh-Matematika, No 5, May 71, Abstract No 5E771)

Translation: The work establishes a criterion of strong convergence of  
 $A_n \rightarrow 0$  and  $A_n^* \rightarrow 0$  for a sequence of bounded linear operators in Hilbert space.  
Author's resumé.

1/1

USSR

UDC 623.4

KNYAZEV, V. A., and LIPSITS, D. V., Moscow Oblast Scientific Research Institute of Potato Farming

"Protein Inhibitors of X Virus in Potato Leaves"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1,233-1,236

Abstract: X virus inhibitors were investigated in five potato strains with different resistance to this virus. Juice extracted from the leaves of the most resistant potato plants was most effective in protecting other plants from this infection. This ability was greatest during the blooming period. After inoculation with X virus, the concentration of the inhibitors increased in the leaves of resistant strains. Analysis of the extracts reveals that the inhibitors were thermostable and could not be separated by centrifugation; the extract retained its antigenic activity after dialysis but lost it after precipitation of proteins with trichloroacetic acid. Fractional precipitation with ammonium sulfate and chromatography demonstrated that several protein fractions possessed antigenic activity. Further chemical analyses of the fraction with the greatest inhibitory activity revealed the presence of thermostable proteins and trace amounts of nucleic acids and carbohydrates. X virus inhibitors are not totally specific since they also are fairly

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USSR

KNYAZEY, V. A., and LIPSITS, D. V., Doklady Akademii Nauk SSSR, Vol 200,  
No 5, 1971, pp 1,233-1,236

effective against tobacco mosaic virus. The mechanism of action remains  
to be elucidated.

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USSR

UDC 551.510.721:539.12.08:621.039.524.4-97

KNYAZEV, V. A., KOTIKOV, P. I., LAPTEV, V. G., and CHECHETKIN, YU. V.

"Control of the External Environment of Atomic Electric Power Plants With a Boiling Water Reactor"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 18-21

Abstract: A brief outline is given of the program used to control the external environment of an atomic electric power plant with a boiling water reactor. Data are presented on the mean diurnal discharge intensity, the wind rose diagram, and the amount of atmospheric precipitation during operation of atomic electric power plants with fuel elements which are not gas-tight, the mean annual results of measuring the  $\beta$ -activity of samples of the external environment taken at distances of 1 and 65 km from the ventilation pipes of atomic electric power plants compared with data on the discharge intensity of radioactive gases, and the intensity of the radiation exposure dose locally caused by flaring radioactive gases under various meteorological conditions and for various intensities of discharge through the ventilation pipe.

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USSR

KNYAZEV, V. A., et al., Atomnaya Energiya, Vol. 29, No 1, Jul 70, pp 10-21

The results of measuring the radioactive fallout and radiometric analysis of the snow, soil, and vegetation samples permit the conclusion to be drawn that with a gas discharge intensity up to 1,000 curies/day, the contribution of the eliminated radioactive waste to the total activity of various objects of the external environment is not noticeable against the background of global fallout. The experimental values of the exposure dose intensity were used to calculate the absorbed radiation doses caused by an active cloud in the vicinity of the atomic electric power plant in a year. These estimates demonstrated that with a radioactive gas discharge intensity of 1,000 curies/day the absorbed radiation dose at a distance of more than 3 km from the ventilation center does not exceed 0.05 rads/year.

From the investigated data and the operating experience it has been concluded that two programs must be developed for controlling the external environment: for normal operating conditions of the atomic electric power plant, and for the occurrence of emergency discharge of radioactive substances into the external environment. Both control programs are outlined.

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KNYAZEV, V. A., et al., Atomnaya Energiya, Vol 29. No 1, Jul  
70, pp 18-21

It is noted that the total number of samples and measurements  
is multiplied by 5 or 10; times in the case of an emergency  
situation.

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Nuclear Science and Technology

USSR

UIC: 621.039.50,68:539.6

*K*  
DIRIGES, I. K., KRYAZEV, V. A., MOISEYEV, A. A., MOSKALEV, YU. I., SIVINSEV,  
YU. V., TEVEROVSKIY, YE. N., TERMAN, A. V., and SHANOV, V. P.

"Radiation Safety Standards (NRB-69)"

Moscow, Atomnaya energiya, Vol. 28, No 6, Jun 70, pp 463-467

Abstract: In August 1969 the Ministry of Health of the USSR approved the Radiation Safety Standards (NRB-69) developed by the National Commission on Radiation Protection. Recommendations of the International Commission of Radiological Protection served as the basis for the new standards. These standards set the basic permissible levels for ionizing radiation along with the permissible admission of radioactive isotopes into an organism. This includes three categories of people: Category A including service personnel, Category B including specific individuals in the population who live in areas where the permissible radiation doses may have been exceeded and where radiation conditions are checked, and Category C which includes the entire population with respect to estimating a genetically significant radiation dosage. The new standards are mandatory for the enterprises and establishments of all ministries and agencies using, applying, processing, transporting, storing, and burying radioactive substances and ionizing radiation sources. A short summary is given of the scientific basis which served as the framework for the new standards. The new standards are differentiated from the old. Tables are  
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USSR

DIBOBES, I. K., et al., *Atomnaya energiya*, Vol 28, No 6, Jun 70, pp 463-467

given showing permissible somatic and genetic doses. Permissible surface contamination levels are also given.

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USSR

UDC 669.181

KNYAZEV, V. F., GIMMEL'FARB, A. I., and NEMENOV, A. M.

Beskoksovaya Metallurgiya Zheleza (Cokeless Iron Metallurgy), Moscow, Izdatel'stvo "Metallurgiya," 1972, 272 pp

Translation of Annotation: The book considers the theoretical bases of cokeless iron metallurgy, as well as requirements for the iron ores and the fuel reducing agent in cokeless metallurgy. The current state of cokeless metallurgy in the USSR and elsewhere is reviewed. Technological schemes and processing equipment, technological and economic indices, calculation methods for determining the capacity of the basic industrial equipment, the quality and application of metallurgical products, and prospects for the development of cokeless metallurgy are also discussed.

The book is intended for engineers and technicians at industrial plants and planning and scientific research institutions of ferrous metallurgy dealing with problems of cokeless metallurgy. It may also be useful to teachers and students at metallurgical higher educational institutions.

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KNYAZEV, V. F., et al., Beskoksovaya Metallurgiya Zheleza, Moscow, Izdatel'stvo "Metallurgiya," 1972, 272 pp

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KNYAZEV, V. F., et al., Beskoksovaya Metallurgiya Zheleza, Moscow, Izdatel'stvo "Metallurgiya," 1972, 272 pp

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USSR

UDC 669.181

KNYAZEV, V. F., KABLUKOVSKIY, A. F., and TRAKHIMOVICH, V. I.

"Production and Use of Sponge Iron"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -  
Collection of Works), No 75, Metallurgiya Press, 1970, pp 40-47

Translation: A general characterization is presented of the process of production and application of sponge iron. A review is made of the processes which have been most widely developed, the raw material, and the reducing agents. The chemical composition of sponge iron produced by the Sulinskiy Metallurgical Plant is presented. Brief results of experimental melts of this iron in a 5 T electric arc furnace are presented. The technology if the melts was normal, the melt indicators were somewhat reduced, but the metal produced contained fewer nonferrous metal impurities. Data are presented on melts with continuous charging of sponge iron, which yielded good results. 2 figures; 8 biblio. refs.

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USSR

UDC 669.181

KNYAZEV, V. F., KABLUKOVSKIY, A. F., and TRAKHIMOVICH, V. I.

"Production and Use of Sponge Iron"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -  
Collection of Works), No 75, Metallurgiya Press, 1970, pp 40-47

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1/2 051

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--EFFECT OF NUCLEAR RADIATION ON THE PHYSICOMECHANICAL PROPERTIES OF  
PAINT ENAMEL COATINGS -U-  
AUTHOR--KNYAZEV, V.K., NOVIKOV, V.S., IZOTOV, G.T., GLUSHCHENKO, V.M.,  
SEREGINA, G.P.  
COUNTRY OF INFO--USSR

K

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (1) 42-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PROTECTIVE COATING, PLASTIC COATING, RADIATION EFFECT, GAMMA  
IRRADIATION, HARDNESS, POLYVINYL CHLORIDE, EPOXY RESIN, ENAMEL, AMINE  
DERIVATIVE, RADIATION RESISTANT PLASTIC/(U)GFO20 UNDERCOATING, (U)AGLOS  
UNDERCOATING, (U)PE220 ENAMEL, (U)NK06 NITRATED GLYPTAL RESIN, (U)EP74T  
EPOXY MELAMINE RESIN

CONTROL MARKING--NO RESTRICTIONS

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PROXY REEL/FRAE--1989/0549

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2/2 051

CIRC ACCESSION NO--A0107154

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PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STABILITY WAS STUDIED OF .  
 MULTILAYERED COATINGS AGAINST GAMMA IRRADN. AT DOSES OF SMALLER THAN OR  
 EQUAL TO 100 MEGARADS APPLIED AT 10 PRIMES R-HR. THE COATINGS WERE  
 COMPOSED OF GF-020, FL-03K, OR AG-10S UNDERCOATINGS AND 1-2 COATS OF THE  
 FOLLOWING ENAMELS: PF-220 (POLYPHTHALATES) WITH ML-25 (MELAMINE ALKYD  
 RESIN), 2062F GLYPTAL RESIN, NKO-6 (NITRATED GLYPTAL RESIN), EP-74T  
 (EPOXY-MELAMINE RESIN), OR KHSE-23(CHLORINATED POLY(VINYL CHLORIDE)  
 RESIN). NONE OF THESE COATINGS WITHSTOOD 100 MEGARAD DOSES. THE MOST  
 RESISTANT, AS DETD. BY MEASURING HARDNESS, ELASTICITY, AND IMPACT  
 STRENGTH BEFORE AND AFTER THE IRRADN., WERE GLYPTAL RESINS AND PF 220.

UNCLASSIFIED

1/2 017  
TITLE--METHOD OF ALLCYING STEEL -U-

UNCLASSIFIED

PROCESSING DATE--20NOV70

AUTHOR-(05)-SHUSHLEBIN, B.A., KOZLOV, N.P., ALYMOV, A.A., MALCHENKO, T.V.,  
KNYAZEV, V.N.  
COUNTRY OF INFO--LSSR

SOURCE--U.S.S.R. 263,634  
REFERENCE--OTKRYTIYA, (ZOBKET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, CRYOLITE, FLUORITE, ALLOY STEEL, ZIRCONIUM  
STEEL, STEEL MANUFACTURE PROCESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/1822

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

CIRC ACCESSION NO--AA0132087

UNCLASSIFIED

2/2 .017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132087

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL IS ALLOYED ZR BY INTRODUCING  
A ZR CONTG. ALLOY WITH PARTICLE DIMENSIONS SMALLER THAN OR EQUAL TO 20  
MM SMALLER THAN OR EQUAL TO 1PERCENT ON THE LIQ. STEEL WT. AND A MIXT.  
CONTG. 3 PARTS CRYOLITE TO 1 PART FLUCRITE LARGER THAN OR EQUAL TO  
0.1PERCENT ON THE LIQ. STEEL WT. INTO THE MOLD. FACILITY:  
TSENTRAL'NYI NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT CHERNOY METALLURGII IM.  
I. P. BARDINA.

UNCLASSIFIED

USSR

K

UDC 542.938:541.127.1:546.289.4'151

KNYAZEV, YE. A., and KLEBANOV, M. S., Krasnodar' Polytechnical Institute, Krasnodar, Ministry of Higher and Secondary Specialized Education RSFSR

"Kinetics of Hydrolysis of Germanium (IV) Iodide"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 1, 1970, pp 20-22

Abstract: Hydrolysis of  $\text{GeI}_4$  consists of two stages: hydrolysis proper,  $\text{GeI}_4 + 3\text{H}_2\text{O} = \text{H}_2\text{GeO}_3 + 4\text{H}^+ + 4\text{I}^-$ , and crystallization of the dioxide,  $\text{H}_2\text{GeO}_3 = \text{GeO}_2 + \text{H}_2\text{O}$ .

A study was made of the kinetic correlations of the hydrolysis reactions using the rotating disk method, which allows for the hydrodynamic characteristics of a heterogenous process. It was found that hydrolysis of  $\text{GeI}_4$  occurs in a diffusion regime. As the rate of rotation of the disk sample is increased, the rate of the process rises to  $3.7 \cdot 10^{-7}$  gram-mole/cm<sup>2</sup>·second (at 18.3 rps), then drops off. Up to 18.3 rps, the rate of hydrolysis was determined by the diffusion of the reaction products containing germanium. The apparent energy of activation in the range studied (up to 33.3 rps) is  $2.32 \pm 0.08$  kcal/mole.

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1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--STRUCTURE OF AN AQUO COMPLEX OF URANIUM IV -U-  
AUTHOR--(04)-GLEBOV, V.A., KNYAZEV, YU.D., LEKAYE, V.A., BORODINA, N.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1332-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--COMPLEX COMPOUND, URANIUM COMPOUND, TEMPERATURE DEPENDENCE,  
PROTON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
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2/2 017

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEMP. DEPENDENCE OF THE RELAXATION TIME OF PROTONS IN SOLNS. OF U (IV) WAS DETD. BY THE SPIN ECHO METHOD. THE STUDY REVEALS NONEQUIV. WATER MOLLS. IN THE AQUO COMPLEX OF U(IV); SOME OF THEM ARE BONDED STRONGER THAN OTHERS. IN THE INNER SPHERE, THE ACTIVATION ENERGY AND LIFE TIME OF THE STRONGLY BONDED WATER MOLLS. ARE 11.0 PLUS OR MINUS 1.0 KCAL-MOLE AND 0.4 SEC (20DEGREES), RESP. A STRUCTURE OF THE U(IV) AQUO COMPLEX IS PROPOSED.

UNCLASSIFIED

USSR

UDC 534.852

CHERNITSEV, V. M., PETROV, N. S., and KNYAZEV, YU. M.

"Electronic Methods of Compensation in Instruments for Fine Magnetic Recording"

Tr. Taganrog. radiotekhn. in-ta (Works of the Taganrog Radio Engineering Institute),  
1972, vyp.28, pp 22-30 (from RZh-Radiotekhnika. No 11, Nov 72, Abstract No 11 V75)

Translation: This is a survey of various methods for compensating the effect of  
recording rate variation and of nonuniformity in carrier sensitivity including  
during spectral analysis. Original article: six illustrations and 12 bibliographic  
entries. V.K.

1/1

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USSR

UDC 621.317.757

CHERNITSER, V. M., PETROV, N. S., KNYAZEV, YU. M., and SAL'NIKOY, B. A.

"Phase System for Distortion Compensation in Heterodyne Analyzers With Preliminary Time Compression"

Tr. Taganrog, radiotekhn. in-ta (Works of the Taganrog Radio-Engineering Institute), 1972, vyp.28, pp 43-50 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 A287)

Translation: The described phase system for compensation with respect to the type of closed automatic control system is designed to eliminate a series of difficulties which arise during the technical realization of this type of compensation system (readout ambiguity, the necessity of using two expensive high-stability generators for recording and producing the reference signal). The system is also designed to raise compensation stability. The basic element of the system is a pulse, phase discriminator. A trigger was used as the discriminator, terminated on a low frequency filter. The conducted experiments showed a sufficiently high effectiveness of the phase system for compensating distortions which were evoked by rate variation in the time compressors. The use of a phase system for compensation raises the permissible discrimination capacity of a spectra analyzer which is coupled to a time compressor. A.K.

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KNYAZEV, Yu. R

RML / 14.06/5.11.73 101

Ac 73

XI. PLASMA DYNAMICS

(4)

Peleenko, V. I., R. V. Milin, Yu. R. Knyazev,  
and A. V. Zvyagintsev. High-current pulsed AEC  
in hydrogen at pressures to 400 atmospheres.  
In: Fizika plazmy i problemi upravlyayemogo  
termoyadernogo sinteza. Kiyev, Izd-vo Naukova  
dumka, no. 1, 1971, 205-212.

Experiments in initiating a high pressure pulsed discharge in hydrogen to generate and investigate properties of a dense hydrogen plasma are discussed. The experimental device comprised a high-pressure discharge chamber, a thermo-compressor and condenser batteries. The discharge chamber was a thick-walled cylindrical metal vessel, designed for a maximum operating pressure of 1000 atm. The chamber had three diagnostic windows for conducting optical, photographic and other observations; chamber gas volume was about 1 liter. The thermo-compressor maintained the required system pressure, and a liquid nitrogen coolant ensured a chamber hydrogen pressure of 500 atm. The pulsed discharge was initiated using a 0.7 mm copper wire between electrodes fitted with tungsten terminals as shown in Fig. 1. The condenser



Fig. 1. Discharge configuration  
1 - tungsten inserts; 2 - tortoise cap;  
3, 5 - electrodes; 4 - plasma

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--GRAPE POLYPHENOLS -U-  
AUTHOR--(04)-BOKUCHAVA, M.A., KNYAZEVA, A.M., VALUYKO, G.G., FILIPPOV, A.M.  
COUNTRY OF INFO--USSR  
SOURCE--VINGDEL. VINOGRAD. SSSR 1970, 30(1), 7-11  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--AGRICULTURE CROP, FOOD ANALYSIS, BENZENE DERIVATIVE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0659 STEP NO--UR/0505/70/030/001/0007/0011  
CIRC ACCESSION NO--AP0117884  
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117884

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYPHENOLIC COMPLEX OF RIPE GRAPES WAS COMPOSED OF SIMPLE CATECHOLS. THE AMT. OF GALLATES WAS INSIGNIFICANT. THE PROPOSED METHOD FOR THE DETN. OF TOTAL POLYPHENOLIC SUBSTANCES IN GRAPES (TANNINS FROM SEEDS) WAS RELIABLE AND MINIMIZED THE OXIDN. OF PHENOLS. GRAPE SEEDS (150 G) WERE PULVERIZED, MIXED WITH DISTD. WATER (370 ML), AND EXTD. ON A WATER BATH AT 80DEGREES FOR 5 MIN AFTER ADDING 10PERCENT K SUB2 S SUB2 O SUB5 TO PREVENT OXIDN. TANNINS WERE THEN TAKEN UP IN ETJAC, DRIED WITH NA SUB2 SO SUB4, AND CONCD. UNDER VACUUM AT 35-40DEGREES. TO PPT. THE TANNINS, CHCL SUB3 WAS ADDED; THE PPT. WAS SEPD. ON A SINTERED GLASS FILTER AND WASHED WITH CHCL SUB3. FACILITY: INST. BIOKHM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

USSR

NAUMOV, YU. A., BAZHANOVA, L. G.; KNYAZEVA, A. P., PYATNOVA, YU. B., and  
CHUDOV, L. N.

"Synthetic Methods for  $\alpha$ -Naphthyl N-Methylcarbamate"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protective Agents --  
collection of works), No 2, Moscow, 1972, pp 36-40 (from RZh-Khimiya, No 19,  
Oct 73, Abstract No 19N482)

Translation: A review is given of the synthetic methods for  $\alpha$ -naphthyl-N-  
methylcarbamate. The method for the synthesis of naphthylcarbamate based on  
methylisocyanate was considered to be the best one and chosen for detailed  
technological development and expansion to the production level.

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USSR

UDC 632.95

NAUMOV, Yu. A., and KNYAZEVA, A. P.

"Synthesis of N,N-Diethyl Amides of Aromatic Acids"

USSR Author's Certificate No 295426, filed 25 Sep 69, published 6 Mar 72  
(from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, (I, L-S), No 1(II), 1973,  
Abstract No IN460P by T. A. Belyayeva)

Translation: Substances with a general formula  $RCONR_2$  (I) (R = substituted phenyl) are used as repellents for insects. They are prepared by reaction of  $Et_2NCOCl$  (II) with aromatic hydrocarbon in the presence of catalysts  $SnCl_4$ ,  $ZnCl_2$ ,  $SbCl_5$ ,  $TiCl_4$  at temperature above  $100^\circ C$ . Example. To 4.6 g PhMe and 6.8 g II 13 g  $SnCl_4$  is added under cold conditions. The reaction mixture is heated at  $120^\circ C$  for 3 hr (evolved HCl is absorbed by water), cooled, diluted with  $C_6H_6$ , washed with water to neutral reaction, concentrated by evaporation, and distilled. The yield of I is 8.4 g (R =  $MeC_6H_4$ ), b.p.  $110-112^\circ C/1$ . According to gas-liquid chromatography of the obtained product contained 74% para-isomer and 26% ortho-isomer. Recrystallization from alcohol yielded p- $MeC_6H_4CONEt_2$ , m.p.  $54-55^\circ C$ . Other compounds I were synthesized similarly and they were characterized by (R (basic isomer), yield %, b.p. in  $^\circ C$ ,  $n^{20D}$  in that order: Ph, 6.2,  $108-110/1$ , 1.5119;  
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USSR

NAUMOV, Yu. A., and KNYAZEVA, A. P., USSR Author's Certificate No 295426, filed 25 Sep 69, published 6 Mar 72

4-EtC<sub>6</sub>H<sub>4</sub>, 92.8, 100-110/1, 1,5195; 4-iso-PrC<sub>6</sub>H<sub>4</sub>, 82.3, 118-125/1, 1,5165;  
4-BuC<sub>6</sub>H<sub>4</sub>, 82.4, 135-138/1, 1,5130; 4-sec-BuC<sub>6</sub>H<sub>4</sub>, 80, 135-138/1, 1,5125;  
4-tert-BuC<sub>6</sub>H<sub>4</sub>, 75.2, 150-155/2, 1,5160; 4-iso-C<sub>5</sub>H<sub>11</sub>C<sub>6</sub>H<sub>4</sub>, 69.2, 135-140/1,  
1,5090; 2,5-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 86.8, 108-115/1, 1,5170; 3,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 75.2, 119-121/1;  
1,5258; 2,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 87.3, 109-110/1, 1,5192; 2-Me-5-iso-PrC<sub>6</sub>H<sub>3</sub>, 82.4,  
122-130/1, 1,5100; 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, 90.4, 104-108/1, 1,5110; 2,4,5-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>,  
95.4, 128-138/1, 1,5210; 2,3,5,6-Me<sub>4</sub>C<sub>6</sub>H, 90.1, 134-144/1, 1,5250; 4-MeOC<sub>6</sub>H<sub>4</sub>,  
78.7, 122-126/1, 1,5342.

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USSR

UDC 616.981.42-07:616.15-097.5-074

CHERNYSHEVA, M. I., KNYAZEVA, E. N., DUYSENOV, K. D., and SHCHERBAK, Yu. F.,  
Institute of Epidemiology and Microbiology imeni Gamaleya and Central  
Institute for the Advanced Training of Physicians

"Use of the Cysteine Test to Detect 7S(IgG) Antibodies in Acute, Chronic,  
and Residual Brucellosis Patients"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,  
pp 102-105

Abstract: The indirect hemagglutination test revealed the presence of the  
microglobulin 7S(IgG) in the cysteine-treated serums of all 35 patients with  
acute or subacute brucellosis and in 64 of 160 patients (40%) with chronic  
brucellosis (especially during exacerbation of the disease). The antibody  
was not found in those with residual brucellosis. The presence of this  
antibody is thus an indicator of the activity and severity of the course  
of the infection.

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Immunology

USSR

UDC 616.981.42-036.12-078.7

CHERNYSHEVA, M. I., KNYAZEVA, E. N., and SHCHERBAK, Yu. F., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Brucellosis Laboratory Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Scientific Research Group, Academy of Medical Sciences USSR

"A Comparative Study of the Diagnostic Usefulness of Serological Reactions in Chronic and Residual Brucellosis"

Moscow, Sovetskaya Meditsina, No 12, 1971, pp 82-86

Abstract: The common medical tests for chronic or residual brucellosis, the agglutination reaction, the Huddleson test, and the allergic skin test of Burnet were considered not sensitive enough to detect brucellosis antibodies in blood serum. Three new serological tests have been developed recently (the indirect hemagglutination reaction, immunofluorescence reaction, and Coombs test), and their diagnostic effectiveness has been clinically evaluated. The experimental group consisted of 164 hospitalized brucellosis patients -- men, women, young, and old, chronic cases, mild, moderate, and severe forms, and residual cases. Brucellosis was diagnosed in these patients by means of clinical observation, epidemiological anamnesis, and 1/2



USSR

CHERNYSHEVA, M. I., et al., Sovetskaya Meditsina, No 12, 1971, pp 82-86

positive results from laboratory tests. The allergic skin test of Burnet gave a positive reaction with 59% of these subjects. Positive serological reactions were obtained in 84% of all patients, chronic and residual, when the Coombs test was tried. The immunofluorescence method identified 61%, with indirect hemagglutination next in effectiveness at 53%. The agglutination reaction was the least sensitive (35%). When analyzed according to the various states of brucellosis, chronic mild, chronic moderate and severe, and residual, the Coombs test was most sensitive in detecting incomplete antibodies. The immunofluorescence reaction and the indirect hemagglutination reaction were also effective in detecting brucellosis. The agglutination reaction usually gave less than 50% positive reactions. All tests had the least number of positives in residual brucellosis. The Coombs test and immunofluorescence were able to detect brucellosis antibodies no matter how the antigen entered the patient (vaccine therapy, preventive inoculation, original infection, or repeat infection). Actually, serological reactivity even increased after vaccine therapy.

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USSR

UDC 616.981.42-092.9-07:616.15-097.5

VERSHILOVA, P. A., CHERNYSHEVA, M. I., KNYAZEVA, E. N., and DRANOVSKAYA, Ye. A.,  
Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical  
Sciences USSR, Moscow

"A Study of the Preventive and Opsonic Activity of IgM- and IgG-Antibodies in  
Experimental Brucellosis Infection"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973,  
pp 37-40

Abstract: The preventive activity of IgM- and IgG-antibodies obtained from  
guinea pigs 15 days to 18 months after infection by Br. melitensis was assessed  
by injecting whole serum and separate immunoglobulin fractions into white mice  
and subsequently infecting them with Br. melitensis. Opsonic activity was  
determined by the degree to which serum and immunoglobulin fractions activated  
neutrophils. Preventive activity of the immunoglobulin fractions followed the  
pattern of the quantity of antibodies, chiefly hemagglutinins, contained within  
them. Antibody quantity and preventive activity of the IgM fraction increased  
from the 15th day, peaked at 1-2 months and then dropped for the remaining  
period of observation, while those of the IgG fraction arose 20 days later  
than in the IgM fraction and persisted throughout the remaining period.

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USSR

VERSHILOVA, P. A., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 37-40

Neutrophil activity of serum rose from 8-16% in the first 15 days to 26-40% after 2-6 months, and then dropped for the remaining period. While the IgM fraction displayed no opsonic activity, the activity of the IgG fraction followed the pattern of activity displayed by serum. Thus it is shown that IgG-antibodies dominate in protecting guinea pigs from brucellosis infection.

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USSR

UDC 616.981.42-085.37-097

CHERNYSHEVA, M. I., KNYAZEVA, E. N., and DRANOVSKAYA, Ye. A., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Comparative Characteristics of Immunoglobulins Arising in Response to Immunization by Various Brucella Antigens"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 90-93

Abstract: Guinea pigs were immunized with live Br. abortus 19-EA vaccine, killed corpuscular vaccine, and Brucella wall antigens to reveal the nature of immunoglobulins produced in response. Serum from immunized animals was subjected to the agglutination reaction, the passive hemagglutination reaction, and cysteine sensitivity tests to detect antibodies and determine whether they are IgM or IgG. With live vaccine IgM-antibodies predominated within the 1st month and then disappeared, while IgG-antibodies were low in quantity during the 1st month but predominated thereafter (to 8 months). A single injection of killed virus produced IgM-antibodies only. A second injection 10 days later caused no changes in antibody production. A third injection caused short-term synthesis of IgG-antibodies. Finally, antigens isolated  
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USSR

CHERNYSHEVA, M. I., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 90-93

from Brucella cell wall were only capable of inducing insignificant synthesis of IgM-antibodies. IgG-antibodies were detected in insignificant quantities only on the 17th-30th days. Of 4 methods for obtaining wall antigens, ether-water extraction produced the strongest antigens. Thus production of specific antibodies of different types depends on the properties of the Brucella antigen and the multiplicity of infection.

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USSR

*K* UDC 616.981.42-07:616.153.962.4-097-01

VERSHILOVA, P. A., CHERNYSHEVA, M. I., and KNYAZEVA, E. N., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Characteristics of Immune Globulins in Brucellosis and After Vaccination"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1970, pp 100-105

Abstract: Studies on the dynamics of microglobulin and macroglobulin production in guinea pigs vaccinated and infected with Brucella were conducted. Antibodies were determined by the agglutination and indirect hemagglutination reactions at various intervals until 12 months after the start of the experiment. Sera were treated with cysteine to detect the antibodies. Macroglobulins (19S, IgM,  $\gamma$ M) appeared after about two weeks in both vaccinated and infected animals. Microglobulins (7S, I $\gamma$ G,  $\gamma$ G) appeared in the third week, against a background of maximum antibody production. Antibody titers did not exceed 1:160 in vaccinated animals, but reached 1:1280-1:2560 in infected animals. The infectious process was characterized by high microglobulin titers throughout the observation period (12 months). The indirect hemagglutination reaction was more sensitive than the agglutination reaction in detecting microglobulins in cysteine-treated sera.

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1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--EFFECT OF NEROBOLIL ON THE DEVELOPMENT OF REPARATIVE PROCESSES IN  
THE MYOCARDIUM OF RABBITS DURING EXPERIMENTAL MYOCARDIAL INFARCTION -U-  
AUTHOR-(03)-KNYAZEVA, G.D., MYAZDRIKOVA, A.A., MIROZENKO, A.I.  
COUNTRY OF INFO--USSR  
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 182-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ANDROGEN, HEART DISEASE, ELECTROCARDIOGRAPHY, TISSUE  
REGENERATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0181 STEP NO--UR/0390/70/031/002/0182/0187  
CIRC ACCESSION NO--AP0119177

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEROBOLIL ADMINISTERED I.M. AT 10 MG-KG TO RABBITS WITH EXPTL. MYOCARDIAL INFARCTION NORMALIZED THE SERUM ALBUMIN TO GLOBULINS AND THE BETA LIPOPROTEINS TO ALPHA LIPOPROTEINS RATIOS, RESTORED THE DECREASED LECITHIN TO CHOLESTEROL RATIO, AND IMPROVED THE ELECTROLYTE BALANCE AND ELECTROCARDIOGRAM. NEROBIL FASTENED REGENERATIVE PROCESSES BY STIMULATING FORMATION OF GRANULATION TISSUE DURING RESORPTION OF NECROSIS, AND ACCELERATED DIFFERENTIATION OF THE CELLULAR ELEMENTS. SCAR TISSUE FORMED MORE RAPIDLY AND AS A RESULT COVERED LESS AREA. FACILITY: I. MOSK. MED. INST. IM. SECHENOVA, MOSCOW, USSR.

UNCLASSIFIED



## Epidemiology

USSR

UDC 616.988.75-06:616.988.5]-053.8-036

ALEKSEYEVA, A. A., KETILADZE, Ye. S., KNYAZEVA, L. D., KRYLOV, V. F., GRUSHINSKAYA, I. A., ZHILINA, N. N., and STAKHANOVA, V. M., Clinical Department, Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR on the base of Clinical Infectious Disease Hospital No 82, Moscow

"The Course of Mixed Influenza-Adenoviral Infection in Adults"

Moscow, Klinicheskaya Meditsina, No 1, 1973, pp 101-105

Abstract: Of 1055 patients, age 16 to 78 admitted to the authors' hospital with respiratory symptoms during the 1969 and 1970 influenza A2-Hongkong epidemics, 158 (15%) were diagnosed after physical examination and laboratory tests as having a mixed influenza-adenoviral infection. About one-third of these had the clinical symptoms of adenoviral infection (toxicosis, headache, head cold, pain in the throat, cough, pharyngitis) along with the usual symptoms of influenza. In the other two-thirds, the disease proceeded asymptotically in the form of a virus carrier state or subclinically. The average duration of the above symptoms was much longer than in those suffering from influenza or adenoviral infection alone; pharyngitis persisted the longest. Systematic follow-up (2 years) of the patients with chronic adenoviral infection exacerbated by influenza confirmed the continued presence of adenoviruses even though the individuals felt well and exhibited no signs of inflammation of the respiratory tract.

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UDC 616.988.75(A2)

USSR

KETILADZE, YE. S., KNYAZEVA, L. D., KRYLOV, V. F., ALEKSEYEVA, A. A.,  
POLYAKOVA, T. G., TSAREVA, R. G., LITVIN, L. L., and SHUL'ZHENKO, T. V.,  
Clinical Department, Institute of Virology imeni D. I. Ivanovskiy, Academy  
of Medical Sciences, USSR; and Municipal Infectious Disease Hospital No 82

"Clinical Picture and Some Aspects of the Pathogenesis of Influenza Caused  
by Virus A2 (Hong-Kong)"

Moscow, Sovetskaya Meditsina, No 7, 71, pp 115-120

Abstract: The article reports findings of a study of 402 influenza patients  
between 17 and 84 years of age, observed during the Moscow influenza epidemic  
of January and February 1969. The subjects included both those observed in  
the clinic and others in military units. The disease showed all the classical  
traits of influenza infection: acute beginning; rapid rise in temperature  
(39°C and higher in 86% of the civilian and 26% of the military cases); and  
swiftly increasing signs of toxicosis. Almost all patients showed headache,  
prostration, pains in the limbs, chill, dizziness, and vomiting. More severe  
cases showed changes in the vascular and central nervous systems: delirium,  
brief loss of consciousness, syncope, convulsions, and meningeal symptoms.  
Cyanosis of the lips and oral mucous membranes, microscopic hemorrhages of the  
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USSR:

KETILADZE, YE. S., et al., Sovetskaya Meditsina, No 7, 71, pp 115-120

soft palate, and nosebleeds were observed in relatively small percentages of cases. A table shows the relative frequency of various symptoms in successive influenza epidemics from 1959 through 1969. However, these figures show no consistent pattern. As is clear from the data presented, the clinical picture of A2 (Hong-Kong) influenza does not differ in the character of individual symptoms from the A2 influenza of previous years. However, in the degree of manifestation of toxicosis and the number of severe cases among patients hospitalized in the clinic, the influenza in 1969 was more severe than in 1967, but less so than in 1959. Patients in military units generally showed a less severe course. Older patients, especially those with chronic respiratory disorders, showed intensification of these conditions.

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USSR

UDC 616.921.5-039

KNYAZEVA, L. D., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR. Moscow

"Para Influenza"

Moscow, Meditsinskaya Sestra, No 6, 1971, p 8-11

Abstract: Para-influenza occurs almost everywhere in the Soviet Union and at all times of the year, with peaks in October, November, and April. Between epidemics it is one of the commonest of acute respiratory diseases striking children as well as adults (with equal frequency). While the course of the disease is much milder than influenza (fever is low and general symptoms are not pronounced), it runs considerably longer. It is rarely fatal but complications, e.g., pneumonia, may be serious. Otitis often develops in children, while sore throat, sinusitis, and exacerbation of such chronic diseases as cholecystitis, arthritis, dermatitis, and pyelitis are frequent complications in adults. The most useful and specific diagnostic method is the fluorescent antibody method. Para-influenza is treated mostly symptomatically because there are no specific agents. Isolation of the patient and daily wet cleaning and ventilation of the sick room are the best means of preventing spread of the disease.

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USSR

UDC 621.317.743.7:621.396.677.861.5

KNYAZEVA, L. V.

"Calculating the Phase Errors Appearing During Scanning of the Beam in Two-Reflector Antennas"

Moscow, Antenny, No 12, 1971, pp 47-64

Abstract: This article analyzes the phase errors and maximum beamwidth direction as the feed and small reflector are displaced from their design positions in symmetrical and asymmetrical Cassegrain and Schwarzschild [completely aplanatic] type antennas. The phase front in the antenna aperture is determined by the wavefront transformation method, which establishes the relations among an incident wavefront, reflector, and reflector wavefront in a vector notation. Assuming that a horn is used as the radiator, the amplitude distribution of a wavefront reflected from the paraboloidal main reflector is calculated. The direction of the radiation pattern maximum and the phase errors in the aperture are found in terms of the perpendicular distance from the phase front to a certain plane called a linear component which is removed from the phase front by a minimal (least squares) displacement. The case is illustrated in which a  $3^\circ$  beam deflection requires a  $20^\circ$  rotation of the small reflector, and other properties of symmetrical and asymmetrical Cassegrain and Schwarzschild antennas are plotted. The amplitude distribution in the aperture has very

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USSR

KNYAZEVA, L. V., Antenny, No 12, 1971, pp 47-64

little effect on the linear phase front component in space. The nature of the dependences of the phase errors and deflection angle of the maximum beamwidth pattern depend greatly on the antenna geometry. The scanning sharpness characteristic obtained by rotating the small reflector has little relation to the axis of rotation, but the phase errors in a system having a deep hyperbolic reflector diminish as the rotation axis is moved closer to the reflector edges. Certain of the derived relations will be employed to calculate the Q of an antenna, and they can be used to find the installation tolerances for antenna elements.

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1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--LOW FREQUENCY VIBRATIONS OF RHODIUM FORMATE AND ACETATE -U-  
AUTHOR--(03)-KHARITONOV, YU.YA., MAZO, G.YA., KNYAZEVA, N.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1440-1  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--RHODIUM COMPOUND, FORMIC ACID, ACETATE, IR SPECTRUM, RAMAN  
SPECTRUM, VIBRATION FREQUENCY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3008/0953 STEP NO--UR/0078/70/015/005/1440/1441  
CIRC ACCESSION NO--AP0137981  
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137981

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LOW FREQUENCY IR ABSORPTION MAX. OF RH SUB2 (HCO SUB2) SUB4 .2H SUB2 O, RH(DCO SUB2) SUB4 .2H SUB2 O, RH SUB2 (HCO SUB2) SUB4 .2D SUB2 O, RH(ACO) SUB4 .2H SUB2 O, AND RH SUB2 (CO SUB3 CO SUB2) SUB4 .2H SUB2 O ARE GIVEN. RAMAN VIBRATIONAL FREQUENCIES OF RH-RH BONDS, NOT PRESENT IN IR SPECTRA, ARE AT 168 AND 155 CM PRIME NEGATIVE1. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED



1/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ANALYSIS OF VALENCE VIBRATION FREQUENCIES OF THE URANYL GROUP IN UO  
SUB2 X SUB5 AND UO SUB2 X SUB6 TYPE COMPLEXES -U-

AUTHOR--(02)--KHARITONOV, YU.YA., KNYAZEVA, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 577-81

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--URANIUM COMPOUND, COMPLEX COMPOUND, VIBRATION FREQUENCY

CENTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1619

STEP NO--UR/0076/70/044/003/0577/0581

CIRC ACCESSION NO--AP0125241

UNCLASSIFIED

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2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF DIFFERENT PARAMETERS, E.G. MASS OF LIGAND AND BOND LENGTH OF THE U, LIGAND BOND ON VIBRATIONAL FREQUENCIES OF THE UO SUB2 PRIME2 POSITIVE GROUP WAS STUDIED. FOR THESE COMPLEXES, AS FOR THE UO SUB2 H SUB4 TYPE, WHERE X EQUALS LIGAND, THE FORCE CONST. OF THE UL SUB2 PRIME2 POSITIVE GROUP CAN BE CALCD. APPROX. BY CONSIDERING THE ISOLATED UO SUB2 PRIME2 POSITIVE GROUP. IF V SUBS (UO SUB2) IS UNKNOWN, THEN THE V SUBAS (UO SUB2) FREQUENCY FOR UO SUB2 PRIME2 POSITIVE COMPLEXES, N EQUALS 5 OR 6, CAN BE USED FOR COMPARATIVE EXAMN. OF THE U,O BOND. FACILITY: INST. OSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

Epidemiology

USSR

UDC 616.988.75-036.22(477.74)"1969"

PETROVA, M. S., KNYAZEVA, N. I., and NEMETS, Z. M., Odessa Oblast Sanitary Epidemiological Station

"Epidemiological and Virological Characteristics of the 1969 Influenza Outbreak in Odessa and Odessa Oblast"

Moscow, Terapevticheskiy Arkhiv, Vol 43, No 2, Feb 71, pp 105-107

Translation: An outbreak of influenza epidemic in Odessa and Odessa Oblast was recorded in January-March 1969. It began with the last week in January and continued for sixty days. In late March the number of influenza cases was the same as the initial number of cases at the time of the outbreak of the disease, and by April 10th morbidity returned to the level of the inter-epidemic period.

In January, 1969, the number of influenza cases was double that in December, and triple that in January, 1968. A comparison of the morbidity rate during January of the epidemic years 1969 and 1967 shows that the incidence of influenza and acute respiratory diseases during January of 1969 was 20% higher than that in the same month of 1967. This can be explained by the earlier outbreak of the influenza epidemic (beginning with 13 January) in 1967.

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

The 1969 outbreak of the disease began on 20 January, seven days later. On that day 2405 cases of influenza, a number equal to 40-50% of the cases in a decade of the interepidemic period, were recorded in Odessa. The maximum increase in the number of cases occurred in February 1969 (a 4.8% increase as compared with February 1968). The morbidity of the disease was 10% higher than that in February 1967, and was to equal 33.8% of the number of influenza cases during the entire year as against 31.4% in 1967. In 1969, as in 1967, the peak of the epidemic was reached during early February. The intensity of influenza and morbidity of acute respiratory diseases in the oblast per 100,000 of the population equaled 20357.3 in 1969 and 19161.7 in 1967.

Of the total number of the year's influenza cases in 1969, 52.2% occurred in the period (first quarter) of outbreak of the disease, as against 62.3% in 1967. The morbidity of the disease was considerably lower in rural areas: 22.7% of the total number of cases in 1969 and 24.5% in 1967.

In 1969, 11.6% of the oblast population was stricken with the disease; in 1967 -- 11%. The intensity index per 100.00 of the population equalled 11642.5 in 1969 and 19163.4 in 1967.

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

A considerable number of cases (80.7) occurred among the adult population. Of the total number of cases in 1969, 18.1% occurred among children up to 14 years of age; in 1967 -- 25%. The intensity index of morbidity in 1969 per 100,000 children under 14 equalled 16320.5; in 1967 -- 20907. The largest number of cases, 75.5% of the year's total, in 1969 occurred in Odessa. In 1967 this percentage equalled 75.5%. In 1969, as in 1967, the clinical course of influenza was characterized by the predominance of light and moderate forms of the disease. Severe cases of the disease and complications were mainly noted in older persons, and children under one year of age. Post-influenza pneumonia was the most frequent complication. Hospitalizations in 1969 reached 1.2% of all who were stricken with the disease.

The mortality rate in 1969 throughout the oblast was higher than that in 1967 (respectively 0.050 -- 3.6 and 0.0066 -- 1.2 per 100,000). Lethality was highest among children of under one year of age and people 60 and over (30-35%).

The influenza epidemic in 1969, as in 1967, was characterized by a rapid rise and a gradual decline in morbidity. The curve of the 1969 epidemic repeated the curve of 1967. However, on the basis of an analysis which

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

was conducted, it may be concluded that the 1969 influenza epidemic was characterized by higher indexes of morbidity and lethality. Influenza morbidity was recorded in the form of sporadic outbreaks in all of the organized collectives; local outbreaks in the oblast were not recorded.

The 1969 influenza outbreak was conditioned by the absence of a population stratum immune to the Hong Kong type of A2 virus. The epidemic was studied virologically. Tests of the blood serum of healthy people were conducted during the years 1968 and 1969. A total of 3,117 people were examined. The results of the investigations established that two months prior to the epidemic, an increase in the incidence of influenza A2 cases, an increase in the average antibody level against the agent of the approaching epidemic (that is virus A2), was discovered in a practically healthy segment of the population. The dynamics of anti-influenza antibody titers attested to the intensified circulation of influenza A2 virus, despite the normal seasonal level of the number of cases recorded.

Serological studies of 750 paired serum samples conducted in the first quarter of 1969 revealed a fourfold and greater increase in antibodies against A2 virus in 37.1% of the sera. During the epidemic, 84 strains of

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

of A2 virus were isolated from nasopharyngeal smears obtained from influenza and acute respiratory disease patients. When typed, all of the strain were identical to Hong Kong virus A2 1/68.

Dried mouse ascitic fluid immune to Hong Kong influenza virus A2 1/68 and standard influenza diagnostic sera A, A1, A2, and B were used in the typing. Study of 57 paired blood sera from influenza and acute respiratory disease patients with influenza diagnosticum Hong Kong A2 1/68 (experimental series) together with the use of standard diagnosticum A2 revealed a four-fold and greater increase of anti-influenza antibodies to virus Hong Kong A2 1/68 in 29 patients and to virus A2 (standard diagnosticum) in 36 cases. Investigation of 24 paired sera taken from influenza patients with the isolated Hong Kong A2 1/68 virus revealed an increase in antibodies to the isolated virus, which was typed as virus Hong Kong A2 1/68 virus 4-8-16-32 times in 19 paired sera.

During the 1968-1969 pre-epidemic period, considerable work was done in the organized collectives on mass influenza immunization. In all 317,128 people in the oblast were inoculated.

Conclusions: 1. As a result of the mass immunization against influenza

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conducted in the period of the 1969 epidemic, no local outbreaks of influenza in the organized collectives were recorded.

2. The possibility of forecasting an outbreak of influenza in a pre-epidemic period -- two months before the actual epidemic increase in the incidence of influenza cases -- by the increase in the average level of antibodies against the agent of the upcoming epidemic (virus A2) in practically healthy people has been established.

3. As a result of the virological studies which were conducted, the etiological role of influenza virus Hong Kong A2 1/68 in the 1969 outbreak of the disease was proved.

4. On the basis of the analysis of influenza morbidity during the years of 1967 and 1969, it may be concluded that the 1969 outbreak of the disease was characterized by higher indexes than that of 1967.

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1/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--MORPHOFUNCTIONAL SPECIALIZATION OF THE NEURONES OF THE IIND TYPE IN  
LOCUSTA MIGRATORIA -U-

AUTHOR--~~KNYAZEVA, N. I.~~

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, 1970, VOL 6, NR 1,  
PP 81-87

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HISTOLCGY, NEURON, LOCUST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0378

STEP NO--UR/0385/70/006/001/0081/0087

CIRC ACCESSION NO--AP0132607

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 015

CIRC ACCESSION NO--AP0132607

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

ABSTRACT. HISTOLOGICAL STUDIES HAVE BEEN MADE ON ONE OF THE GROUPS OF PROPRIOCEPTORS, I.E. THE NEURONES OF THE IIND TYPE. CERTAIN TENDENCY IN THEIR MORPHOLOGICAL EVOLUTION MAY BE DISTINGUISHED WHICH INCLUDES THE INCREASE IN THE SIZE OF THE RECEPTORS, THE DECREASE IN THEIR NUMBER, CONCENTRATION IN CERTAIN REGIONS OF LOCOMOTION AND DIFFERENTIATION INTO SPECIAL ORGANS OF CONTROL OF MUSCLE ACTIVITY. ON THE BASIS OF THESE MORPHOLOGICAL OBSERVATION, SOME TRENDS IN THE EVOLUTION OF FUNCTION OF THESE NEURONES FROM SMALL STATIC RECEPTORS TO LARGE DYNAMIC ONES ARE DISCUSSED. FACILITY: INSTITUTE OF EVGLUTICHARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--REACTION OF THE PRODUCT OF RHODIUM CARBONYLATION BY  
DIMETHYLFORMAMIDE WITH 8 HYDROXYQUINOLINE AND 8 MERCAPTOQUINOLINE -U-  
AUTHOR--(05)-VARSHAVSKIY, YU.S., ~~KNYAZEVA~~, N.N., CHERKASOVA, T.G.,  
IVANNIKOVA, N.V., IONINA, T.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 715-22  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--RHODIUM COMPOUND, COMPLEX COMPOUND, CARBONYL RADICAL, FORMIC  
ACID, AMIDE, QUINOLINE, HYDROXYL RADICAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1469 STEP NO--UR/0078/70/015/003/0715/0722  
CIRC ACCESSION NO--AP0116906  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 007

CIRC ACCESSION NO--AP0116906

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BROWN VIOLET (RHL(CO) SUB2), BROWNISH (RHL PRIME (CO) SUB2), AND ORANGE (RHL PRIME H(L PRIME)), FORM IN HCONME SUB2 SOLNS. FO KHCL SUB3 WITH SALTS OF 8-HYDROXYQUINOLINE (LH) OR 8-MERCAPTOQUINOLINE (L PRIME H), RESP. THEIR STRUCTURE IS ANALOGOUS TO THAT OF DICARBONYL COMPLEXES OF IR(II) AND RH(II) AND SCHIFF BASES. L PRIME H EASILY REPLACES CO GROUPS IN THE INNER COORDINATION SPHERE: SOME (RH(L PRIME H)L) SEPD. EVEN AT 1:1 L PRIME H:RH RATIO. THIS AND THE EASE OF THE REPLACEMENT OF CO GROUPS FROM (RHL PRIME (CO) SUB2) BY L POINT TO A STRONG TRANS EFFECT OF L PRIME LIGANDS.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--GAS DISCHARGE PHENOMENA STUDIED DURING THE CONTINUOUS MAKING AND  
BREAKING OF A CONTACT BETWEEN SOLID SURFACES -U-  
AUTHOR--(02)--MAMBETOV, D.M., KNYAZEVA, N.P.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAU. SSSR 1970, 191(2), 326-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS  
TOPIC TAGS--GAS DISCHARGE, POLYMER, PLASTIC FILM, FLUOROCARBON RESIN,  
GLASS, FLUORESCENCE/(U)FTHOROPLAST FLUOROCARBON RESIN  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/1082 STEP NO--UR/0020/70/191/002/0326/0329  
CIRC ACCESSION NO--AT0124739

UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AT0124739

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAS DISCHARGE EFFECTS OBSD. BETWEEN POLYMER FILMS (E.G., RUBBER-ROBIN-ZNO COMPN. (I), PHOTOSENSITIVE GELATIN, AND FTEROPLAST (II)) IN CONTACT WITH A ROTATING GLASS (A FRICTION PAIR) WERE STUDIED IN A SPECIAL TESTING APP. FLUORESCENCE WAS OBSD. IN THE SPACE FORMED BETWEEN THE I-GLASS (MARKEDLY ADHESIVE) AND II-GLASS SURFACES (NO ADHESION); HOWEVER, THE FLUORESCENCE INTENSITY OF THE LATTER PAIR WAS 1-10 THAT OF THE FORMER. FACILITY: INST. FIZ. MAT., FRUNZE, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--PREPARATION AND THERMAL DECOMPOSITION OF STRONTIUM  
TETRAHYDROORTHOTELLURATE -U-  
AUTHOR--(02)-KNYAZEVA, R.N., KALUGINA, Z.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 155-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL DECOMPOSITION, TELLURIUM COMPOUND, STRONTIUM COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3005/0844 STEP NO--UR/0153/70/013/002/0155/0157  
CIRC ACCESSION NO--AT0132934  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132934

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SRH SUB4 TEO SUB6 WAS PREPD. BY CALCINING A TRITURATED MIXT. OF 5 G TE AND 31 G SR(NQ SUB3) SUB2 FOR 1 HR AT 700DEGREES, GRINDING AND AGAIN HEATING 1 HR AT 700DEGREES, AND TREATING THE FUSED MASS WITH 1 L. 5PERCENT NH SUB4 CL FOR 5-6 HR. THE INSOL. RESIDUE IS FILTERED, WASHED, AND DRIED TO YIELD SRH SUB4 TEO SUB6. UPON HEATING SRH SUB4 TEO SUB6, 1.5 MOLES H SUB2 O ARE LOST IN THE RANGE 220-440DEGREES BY AN ENDOTHERMAL EFFECT WHICH IS ASSUMED TO PRODUCE EITHER 2SRTEO SUB4 .H SUB2 O OR SR(OH) SUB2 SRTE SUB2 O SUB7 (PROBABLY THE LATTER), AND ADDNL. H SUB2 O IS LOST AS HEATING IS CONTINUED TO 750DEGREES TO YIELD SRTEO SUB4. WITH FURTHER HEATING TO 900DEGREES, O IS EVOLVED ENDOTHERMALLY TO YIELD SRTEO SUB3.  
FACILITY: URAL. GOS. UNIV. IM. GOR'KOGO, SVERDLOVSK, USSR.

UNCLASSIFIED



1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--THERMAL TRANSFORMATIONS DURING THE INTERACTION OF GROC WITH  
ORTHOPHOSPHORIC ACID -U-  
AUTHOR--(03)-ZAMYATIN, S.R., MAMYKIN, P.S., KNYAZEVA, T.P.  
COUNTRY OF INFO--USSR  
SOURCE--OGNEUPORY 1970, 35(2), 39-43  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--PHOSPHORIC ACID, CERAMIC MATERIAL, THERMAL EFFECT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0891 STEP NO--UR/0131/70/035/002/0039/0043  
CIRC ACCESSION NO--AP0118060  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118060

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FINELY POWD. GROG, CONSISTING OF MULLITE, QUARTZ, AND CRISTOBALITE, WAS MIXED WITH 95PERCENT H SUB3 PO SUB4 IN A MOLAR RATIO AL SUB2 O SUB3:P SUB2 O SUB5 EQUALS 1.1. THE MIXT. WAS HEATED TO 400DEGREES FOR 1 HR AND MILLED. FROM THE POWDER TABLETS WERE PRESSED WHICH WERE HEATED AT 500, 600, 800, 1000, 1200, AND 1400DEGREES FOR 2 HR. THE PHASE COMPN. OF THE HEATED SAMPLES WAS DETD. BY X RAY ANAL. BELOW 300DEGREES, GROG AND H SUB3 PO SUB4 DO NOT INTERACT. BEGINNING AT 300DEGREES THE LOW TEMP. FORM OF SIO SUB2. P SUB2 O SUB5 IS FORMED, BY INTERACTION OF THE ACID WITH THE GLASSY PHASE OF THE GROG, WHILE ITS OTHER COMPONENTS, QUARTZ AND CRISTOBALITE, REMAIN UNALTERED. AT 300-800DEGREES A CRYSTN. OF PHOSPHOSILICATES OF THE TYPE SIO SUB2. P SUB2 O SUB5 TAKES PLACE. AT TEMP. GREATER THAN 800DEGREES THE PHOSPHOSILICATES DISSOLVE AND AT 1030DEGREES THEY TRANSFORM INTO THE HIGH TEMP. FORM THAT GREATER THAN 1200DEGREES TRANSFERS INTO THE MELT. AT 700-1000DEGREES THE LARGE AMT. OF FLUID PHASE, CAUSED BY DISSOLN. OF CRYST. SIO SUB2. P SUB2 O SUB5 AND MULLITE IN THE GLASSY PHASE, LOWERS THE TEMP. OF BEGINNING DEFORMATION UNDER A LOAD AND INCREASES THE SHRINKAGE. AT 1000DEGREES THE DEFORMATION IS STOPPED BY FORMATION OF THE NEW CRYST. PHASE AIPO SUB4. AT 1200DEGREES AIPO SUB4 CRYSTALLIZES IN THE CRISTOBALITE FORM. AFTER HEATING AT 1400DEGREES THE MIXT. CONTAINS AIPO SUB4, CRISTOBALITE, MULLITE, AND QUARTZ. THE MIXT. CAN BE USED AS MORTAR, THAT CAN BE SINTERED AT LOW TEMP. FACILITY: KUZNETSK. MET. KOMB., KUZNETSK, USSR.

UNCLASSIFIED

Acc. Nr

AAO 036072

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UK 0000

69605e Production of sponge iron in a shaft furnace without fusion. Kononov, M. I.; Krashennikov, E. A.; Kuvazev, V. E.; Vasil'ev, E. N.; Nasonov, P. Ya.; Timochev, E. P. (Bardin, I. P., Central Scientific-Research Institute of Ferrous Metallurgy) Brit. 1,176,740 (Cl. C 21b), 07 Jan 1970, Appl. 07 Mar 1968; 6 pp. Finely crushed oxide such as Fe ore is rapidly reduced with crushed solid reducing agent above 1000° without fusion, sticking to the sides of the shaft, or excessive contamination of the sponge iron by the reducing agent ashes, in a shaft, the upper part of which is heated to ~1100° by hot gases passing through flues extending horizontally around the side walls, with the reducing agent fed at the top through a funnel with a 2nd funnel inside it, to form a tubular mass of the agent descending around the circumference of the shaft. Near the base of the shaft, a H<sub>2</sub>O cooler surrounds the shaft and below it an annular bottom plate stops the downward flow of the reducing-agent residue or ashes, which are scraped out laterally by rotary rakes to keep fresh agent descending. At the shaft axis, a column of fine granular oxide or ore descends from a central feed-funnel at the top, as a column in contact with the reducing agent through the heated and cooled shaft zones, and through the central hole in the bottom plate where the reduced and sintered sponge product is cleaned by rotary brushes, drawn downward and compressed by cogging rolls, and sheared or sawed into billets of

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convenient length. The shaft can alternatively be provided with 3 concentric feed funnels, so that the descending ore is reduced to sponge as a tubular shape, or as 2 rectangular billets, by both exterior and interior contacts with reducing agent. The designs and arrangements of the app. are clearly described and illustrated with little detail. The ore being reduced can be mixed with a carbonaceous agent of low ash content to hasten redn., and with lime or similar agent for desulfurizing; and since it does not touch the sides of the shaft, it cannot stick to them.

George F. Comstock

3/2

19720827

Concrete

USSR

KNYAZEVA, V. P.

K

"The Effect of the Cooling Process on the Microporous Structure of Keramzit"  
Moscow, Stroitel'nyye Materialy, No 5, May 70, p 33

Abstract: The general effectiveness of wall materials depends largely upon their microporosity. In this connection the Ukhta Gravel-Processing Plant has devoted serious attention to selecting the proper temperature controls for the cooling of keramzit, a porous clay filler for concrete.

It has been found that the danger of microdefects increases in direct proportion to the cooling rate and granule size, but is inversely proportional to the volumetric mass. A formula is derived for the "degree of defectiveness" of the granular structure; this involves the optical density of the working dye solution, and the optical density of the solution following insertion of a sample of the tested material and establishment of the adsorption equilibrium.

It is recommended that plant laboratories make frequent determinations of the correlation between the adsorption characteristic and the physico-technical properties of keramzit.

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1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--COMPLEXING IN A TITANIUM(IV), 2,4, DIHYDROXYBENZOIC ACID SYSTEM -U-  
AUTHOR--(04)--ASTAKHOV, A.I., KNYAZEVA, YE.N., BLEYKHER, YA.I., SHVAYDERMAN,  
S.YA.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 347-52  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, HYDROXIDE, BENZENE DERIVATIVE,  
CHEMICAL STABILITY, ORGANOTITANIUM COMPOUND, ORGANIC COMPLEX COMPOUND,  
METAL COMPLEX COMPOUND, TITANIUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0200 STEP NO--UR/0079/70/040/002/0347/0352  
CIRC ACCESSION NO--AP0113139  
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC DATA ARE PRESENTED FOR THE SYSTEM OF Tl(IV) WITH 2,4-DIHYDROXYBENZOIC ACID (H SUB3 R). THE COLORED COMPLEX FORMS BEST AT PH 3-6, THE PRODUCT HAVING A STRONG ABSORPTION BAND AT 355 M MU. THIS APPEARS TO BE THE MA SUB2 TYPE OF COMPLEX. AT PH SMALLER THAN 3.3, THE REACTION IS: TlO PRIME2 PLUS 2H SUB3 R IN EQUILIBRIUM TlO(H SUB2 R) SUB2 PLUS 2H PRIME POSITIVE, WHILE AT PH 3.3-6.5 IT IS: TlO PRIME2 POSITIVE PLUS 2H SUB2 R PRIME NEGATIVE IN EQUILIBRIUM TlO(H SUB2 R) SUB2. THE MEAN VALUE OF THE INSTABILITY CONST. OF THE COMPLEX WAS CALCD. AS 5.93 TIMES 10 PRIME NEGATIVE7.

UNCLASSIFIED

Optics & Spectroscopy

USSR

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KHYZZHANSKIY, M. I., STRYUKOV, M. B.

"Determination of Dipole Moments of Organic Molecules in the Triplet Excited State"

Leningrad, Optika i Spektroskopiya, September 1970, pp 469-72

ABSTRACT: A method is proposed for evaluating the dipole moments of organic molecules in excited triplet states by the use of data on triplet-triplet energy transfer in liquid solutions. This method significantly increases the number of objects which can be studied.

The article includes two tables and two figures. There are 6 references.

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1/2 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--IMIDAZO(4,5 F) QUINOLINE. II. UV ABSORPTION AND LUMINESCENCE OF  
IMIDAZO(4,5 F) QUINOLINE AND ITS QUATERNARY SALTS -U-  
AUTHOR--(05)-KHRISTICH, B.I., KNYAZHANSKIY, M.I., OSIPOV, O.A., ASHAYEV,  
O.T., SIMONOV, A.M.  
COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 234-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, ABSORPTION SPECTRUM, LUMINESCENCE, IMIDAZOLE,  
QUINOLINE, QUATERNARY SALT, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1987/1109

STEP NO--UR/0409/70/000/002/0234/0237

CIRC ACCESSION NO--AP0104507

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104507

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE UV ABSORPTION SPECTRUM OF THE TITLE COMPD. IS VERY SIMILAR TO THAT OF NAPHTHO(1,2-D)IMIDAZOLE AND INDICATES THAT PROTONATION OCCURS ON THE QUINOLINE N ATOM. LUMINESCENCE SPECTRA WAS STUDIED IN THE 17,000-24,000 CM PRIME NEGATIVE REGION AND A MAX. WAS FOUND AT 458-96 NM. A POLAR MEDIUM FACILITATES THE TRANSITION OF THE EXCITED MOLS. IN THE POLAR FORM WITH HIGHER PROTON ACCEPTOR PROPERTIES. THE EXCITATION ENERGY FOR THE IMIDAZO-QUINOLINIUM SALT IS REDUCED DUE TO THE POSITIVELY CHARGED N ATOM WHICH SHIFTS THE ELECTRON CHARGE IN THE SAME SENSE AS THE ABSORPTION OF A PHOTON DOES. THE IRRADN. OF THE QUATERNARY SALT DOES NOT INVOLVE ENERGY ABSORPTION CONNECTED WITH THE CHANGE OF N HETEROATOM HYBRIDIZATION.

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Acc. Nr. AP0053774

Abstracting Service:  
CHEMICAL ABST.

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Ref. Code  
UR0366

110953g Benzenoid-quinonoid tautomerism of azomethines and their structural analogs. III. Synthesis, structure, and thermochromism of N-substituted o-mercaptobenzaldimines. Minkin, V. I.; Olekhovich, L. P.; Nivorozhkin, L. E.; Zhdanov, Yu. A.; Knyazhanskiy, M. I. (Rostov-na-Donu Univ., Rostov-on-Don, USSR). Zh. Org. Khim. 1970, (11), 348-54 (Russ). The reaction of 2-NCSC<sub>6</sub>H<sub>4</sub>CHO with Na<sub>2</sub>S gave 2-HSC<sub>6</sub>H<sub>4</sub>CHO which was condensed with amines to give 2-HS-C<sub>6</sub>H<sub>4</sub>CH:NR (I). R is Ph, 4-C<sub>6</sub>H<sub>4</sub>OMe, 4-C<sub>6</sub>H<sub>4</sub>NMe<sub>2</sub>, 2-C<sub>6</sub>H<sub>4</sub>OH, or Bu. Similarly, the condensation of 2-MeSC<sub>6</sub>H<sub>4</sub>CHO with amines gave 2-MeSC<sub>6</sub>H<sub>4</sub>CH:NR (II). The comparison of uv and ir spectra of I and II showed that I exist in their tautomeric



colored quinonoid forms (Ia) due to H bonding. The equil. between I and Ia depends on the polarity of the R group. Less nucleophilic R groups shift the equil. towards Ia. CPJR

REEL/FRAME  
19830837

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USSR

UDC 666.113.621'B2'46'28,535.34-15

VARSHAL, B. G., YUSIN, L. M., and KNYAZHER, G. B., State Institute of Glass

"Effect of Heat Treatment on the Optical Properties of Titanium-Containing Aluminosilicate Glasses"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2202-2205

Abstract: The addition of traces of  $TiO_2$  to the system  $SiO_2-Al_2O_3-CaO-MgO$  in the form of a glass causes the absorption edge to shift nonlinearly with the  $TiO_2$  concentration. The glasses may be divided into three groups based on the %  $TiO_2$ : 1) a homogeneous group, 0 - 3%  $TiO_2$ ; 2) a heterogeneous group distinctly opalescent and having a coarse structure, 4 - 8%; and 3) a heterogeneous fine-grained group which darkens on low temperature heat treatment, 9 - 20%  $TiO_2$ . The spectra in the range 300-1500 millimicrons are shown for members of the 2<sup>o</sup> and 3<sup>o</sup> groups for heat treatment at temperatures of 650 to 950°C. In general, the absorption increases with increasing temperature of treatment and %  $TiO_2$ . Group 3 exhibited the greatest influence; group 2 less; and group 1 was essentially not changed. The maximum absorption, dependent on the selective absorption of chromatophoric centers, is related to the liquefaction of the glass structure. 1/1

USSR

UDC: 8.74

AVAKYAN, A. A., KNYAZHEV, I. I., REUTOV, O. N.

"On the Problem of Determining Optimum Periods for Preventative Maintenance of Systems With Recovery"

V sb. Osnovn. vopr. teorii i praktiki nadezhnosti (Basic Problems in the Theory and Practice of Reliability--collection of works), Moscow, "Sov. radio", 1971, pp 412-424 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V958)

Translation: Two methods of predicting failures in electronic devices are considered: on the basis of a priori and a posteriori processes of variation in the parameters of these devices. Systems of equations are proposed which relate the reliability of the devices, cost of preventative maintenance and labor expenditures to characteristics of the process of variation in parameters of the devices. Consideration is given to an algorithm for solving systems of these equations to determine optimum periods for carrying out preventative maintenance. Authors' abstract.

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USSR

UDC 620.197.5

LETSKIKH, YE. S., KOMORNIKOVA, A. G., KNYAZHEVA, V. M., KOLOTYRKIN, YA. M.  
"Anodic Protection of Titanium in Solutions of Chromic Chloride Containing  
Chromous Chloride"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 635-639

Abstract: The possibility of anodic protection of titanium as applied to the technological process conditions of obtaining chromic chloride based on the solution of its hydroxide in hydrochloric acid is discussed. It is shown that anodic protection permits a significant increase in the corrosion resistance of titanium in solutions of chromic chloride containing a reducing agent -- chromous chloride. The losses of chromous chloride resulting from anodic oxidation do not exceed the process requirements.

The experimental procedure and results are described in detail. It was found that introduction of chromous chloride into a solution of chromic chloride greatly reduces the corrosion resistance of titanium as a result of shifting the stationary potential from the passive region to the transient region.

The titanium solution rate is defined as a function of the potential in the chromic chloride solution containing chromous chloride. When using anodic protection of the titanium the corrosion resistance of the titanium can be

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USSR

LETSKIKH, YE. S., et al., Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 635-639

increased by 30 times. It is established that the basic anodic process in titanium in the passive region is oxidation of  $Cr^{2+}$ , the rate of which is approximately two orders higher than the titanium solution rate. However, the expenditures on electric power are low in the case of anodic protection. They do not go beyond the technological process requirements on the losses of  $Cr^{2+}$  as a result of anodic oxidation. A significant increase in the titanium solution rate was also detected in the passive region in the presence of the reducing agent ( $Cr^{2+}$ ).

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USSR

UDC 621.373.826:550.3

3

GERMAN, A. I., SHULYAKOVSKIY, G. Ye., CHAYANOVA, E. A., GULYAYEV, G. A., ZHURAVLEV, V. F., ZAKATOVA, T. M., and ~~KNYAZ'KIN, V. V.~~

"Investigating the Effect of the Atmosphere on the Propagation of Coherent Radiation With the Wavelength of  $\lambda = 10.6$  Microns"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 179-183 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D381)

Translation: Results are given of experiments on the determination of the coefficient of attenuation in coherent measurements (wave of 10.6 microns) as it passes over the uniform ground surface in a range of about 8 km. The radiation source was a stabilized laser on an OKG-15 base, operating in single mode with an output power of 1.2-1.5 W. The radiation was modulated with a 1080 Hz frequency. A diagram of the relative angular distribution of the radiation was given, which permitted the divergence angle of the radiation and the zone of maximum signal level to be determined. All

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USSR

GERMAN, A. I., et al., V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl., "Nauka," 1972, pp 179-183

further measurements were made in this zone. The value of the attenuation factor is within the limits of  $0.05-0.08 \text{ km}^{-1}$  for clear weather, in the interval of  $0.08-0.2 \text{ km}^{-1}$  for light fog and drizzles, and in the range of  $0.5-0.6 \text{ km}^{-1}$  for heavy downpours. The proposed method for relative measurements of the attenuation factor gives a measurement error one-half that obtained in the absolute method.

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USSR

FEDOTKIN, M. A., KNYAZHITSKIY, B. Ya.

"Study and Optimization of Traffic Flow at Intersections Using a Special Physical Model"

Izv. Vyssh. Ucheb. Zavedeniy. Radiofizika [News of Higher Educational Institutions. Radio Physics], 1972, Vol 15, No 7, pp 1085-1095 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V657, by the authors).

Translation: The method of statistical testing on a specialized physical model is used to study the operation of an automaton with fixed switching rhythm, regulating Poisson streams, with continuous flow of vehicles through an intersection with constant saturation flow intensity. The statistical characteristics of the stable mode are determined. The automaton solves the problem of construction of an optimal switching automaton, using the condition of minimum mean time spent in crossing the intersection by an arbitrary flow or the condition of minimum mean number of stops and starts of all vehicles over a certain period of time.

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USSR

UDC: 621.378.325:535.411.13

KNYAZ'KOV, B. N. and YANOVSKIY, M. S.

"Single-Band Modulation in a Quasi-Optical Strip"

Moscow, Radiotekhnika, No 9, 1972, pp 7-11

Abstract: This article is based on an Author's Certificate, No. 251034, credited to the two authors mentioned above, in which a polarization phase shifter with reflecting phase sections in the form of wire grids was proposed for a quasi-optical transmission line. The present paper considers the application of this phase shifter to single-band modulation. A cross section drawing of the device is given together with an explanation of its operation. An expression is given for the phase shift in terms of the phase shifter's parameters, and it is noted that this expression is more complex than the waveguide type of polarization phase shifter. An expression is also obtained for its output spectrum, and a table of the amplitudes for the useful signal components in the spectrum is presented. The results of measurements of the phase shift on a Michelson interferometer are given together with an explanation of how these measurement were made. It is noted that the device does not set up a back reflection in the transmission line.

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UDC: 537.533.31:621.396.624

USSR

YANOVSKIY, M. S. and KNYAZ'KOV, B. N.

"Quasi-Optical Polarization Phase-Shifter"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 10, PP 1199-1204

Abstract: This article expands the subject of a patent taken out by the authors (Author's Certificate No. 251034, Byulleten' izobreteniy, 1970, No. 13) proposing the use of reflecting phase sections in the form of wire grids in front of plane metallic mirrors in the polarization phase-shifter. A discussion of this system and between the phase of the wave at the output of the device and the angle of rotation of the half-wave section causing the shift. Curves of the phase shift as a function of the rotational angle of the phase section for various angles of incidence of the beam on that section are plotted. A description is given of experiments performed with a phase-shifter of this type using a hollow dielectric beam guide with an internal diameter of 20 mm and phase sections made of tungsten wires 0.01 mm in diameter spaced in steps of 0.06 mm. A quasi-optical Michelson interferometer compared the phase shift of the device with that of a standard reflector consisting of a movable, calibrated mirror. The comparison was made in a wavelength range of 1.1-1.52 mm.

UDC 621.385.032.26.001.5

USSR

GAAL', L.N., KEL'MAN, V.M., KNYAZ'KOV, L.G., SHERSHEVSKIY, A.M. [Spets. konstrukt. byuro analit. priborov--AN--SSR--Special Design Bureau For Analytical Instrument Manufacture, AS, USSR]

"Electron-Optical Prism"

USSR Author's Certificate No 263057, filed 14 Nov 66, published 28 May 70 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A15P)

Translation: An electron-optical prism is proposed which contains a magnet with a uniform field and parallel boundaries. With the object of increasing the angular dispersion without disturbance of the telescopicity of the prism, cylindrical electron lenses are mounted on the two sides of the magnet, the focuses of which match the focuses of the lenses which are formed by the boundary fringing fields of the magnet. For a decrease of the size and weight of the magnet, the focal length of the electron lenses is larger than the focal lengths of the lenses which are formed by the boundary fringing fields of the magnet. The electron-optical prism can be used as a dispersing element during determination of the energies of electrons, protons, positrons, measurement of ion masses, and also during separation of isotopes.

1/1

UDC 541.1

USSR

KNYAZ'KOVA, T. V., and KUL'SKIY, L. A., Institute of Colloidal Chemistry  
and Chemistry of Water, Academy of Sciences, Ukrainian SSR

"Selectivity of Triethylamine in Softening of Salt Water"

Kiev, Ukrainskiy Khimicheskii Zhurnal, Vol 37, No 6, Jun 71, pp 620-622

Abstract: Studies were carried out on the effect of water concentration in organic phase and on the initial concentration of the salt in water on the selectivity of triethylamine in respect to the chlorides during extraction of water; it has been shown that this selectivity depends on both of these factors. An empirical formula has been developed for the calculation of the coefficient of selectivity of triethylamine as a function of above parameters.

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USSR

UDC 621.371:551.510.535

KISELEVA, M. V., KIYANOVSKIY, M. P., ~~KIYAZYUK, V. S.~~, LYAKEOVA, L. N., YUDOVICH, L. A.

"Forecasting the Critical Frequencies of the F2 Region"

V sb. Ionosfer. vozmushcheniya i ikh vliyaniye na radiosvyaz' (Ionospheric Disturbances and Their Effect on Radio Communications -- collection of works), Moscow, Nauka Press, 1971, pp 74-99 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1A333)

Translation: A study was made of the time and space correlations between the deviations of the critical frequencies of the F2 region from the normal values ( $\Delta f_{F2}$ ) with respect to ionospheric data for the year of the maximum (1958) and minimum (1964) solar activity. The results with respect to the time correlation are reduced to the following: 1) for middle latitudes, the time stability is greater on days with negative disturbances and least of all on days with positive disturbances; in the equatorial latitudes, on the contrary, the time stability is greatest on days of positive disturbances; 2) in the summer the stability is greater than in the winter; 3) during the day the stability is somewhat higher than at night; 4) during the year of the maximum the stability is higher on the average than during the year of the minimum. The stability  
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USSR

KISELEVA, M. V., et al., Ionosfer. vozmushcheniya i ikh vliyaniye na radiosvyaz', Moscow, Nauka Press, 1971, pp 74-99

interval (the time period when the correlation coefficient  $\rho > 0.5$ ) is highest at latitudes of 40-60°. It drops at latitudes of 10-30° and again increases at the equatorial stations but appreciably less. The time correlation offers the possibility of extrapolation with respect to time in the middle latitudes, especially under conditions of negative disturbance. For the most favorable cases, the correlation equations are compiled for this purpose. A study of the spatial correlation confirmed a strong decrease in the correlation coefficient  $\rho$  with distance with respect to longitude and especially with respect to latitude. The spatial correlation is somewhat higher during negative disturbances during the years of maximum solar activity; during the day it is greater than at night. There are 6 illustrations, 8 tables and an 18-entry bibliography.

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1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--CHANGE IN TOMATO QUALITY DURING ACCELERATED RIPENING IN AN ETHYLENE  
ATMOSPHERE -U-  
AUTHOR--(02)--KNYSH, A.N., LARGSKIY, YU.N.  
COUNTRY OF INFO--USSR  
SOURCE--AGROKHIMIYA 1970, (1), 73-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--AGRICULTURE  
TOPIC TAGS--AGRICULTURE CROP, ETHYLENE, ASCORBIC ACID  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/0188 STEP NO--UR/0485/70/000/001/0073/0075  
CIRC ACCESSION NO--AP0123957  
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--300C170

CIRC ACCESSION NO--AP0123957

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY OF THE COMPN. AND TASTE QUALITIES OF TOMATOES (8 VARIETIES) ACCELERATED IN RIPENING IN AN C SUB2 H SUB4 ATM. SHOWED THAT AS COMPARED WITH NORMALLY RIPENED FRUITS THE ACCELERATED TOMATOES HAD ALMOST HALF THE TOTAL ACIDITY, SOMEWHAT LESS ASCORBIC ACID, AND IN MOST CASES PRACTICALLY THE SAME CONTENTS OF DRY MATTER AND TOTAL SUGARS. THE TASTE OF ACCELERATED TOMATOES WAS BETTER THAN THAT OF NORMALLY RIPENED FRUITS, WHICH SUGGESTED THE POSSIBLE USE OF C SUB2 H SUB4 FOR PRODUCTION OF EARLY TOMATOES. FACILITY: OVOSHCHЕ-BAKHCHЕVAYA OPYT. STA., DNEPROPETROVSK, USSR.

UNCLASSIFIED

4

USSR

UDC 616.9-036.21]:681.3(476)

KARDASH, I. B., KLIVENKO, Ye. P., DROSDOVA-TIKHOMIROVA, A. A., POLIVODA, Z. M.,  
RUBANOVA, F. G., LEPESHINSKAYA, I. V., RYTIK, P. G., and KNYSH, I. N., Ministry  
of Health Belorussian SSR, Central Institute of Epidemiology of the Ministry  
of Health USSR, Belorussian Institute of Epidemiology and Microbiology, and  
Belorussian Republic Sanitary Epidemiological Station

"Experience Gained in the Belorussian SSR During Introduction of a New Epidemio-  
logical Investigation Card Adapted for Processing on IBM Computer Minsk-22"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972,  
pp 124-128

Abstract: A new IBM card with a detachable statistical stub, developed for  
epidemiological investigations at the Central Institute of Epidemiology, was  
tested in 1968-1970 in a feasibility study conducted throughout the Belorussian  
Republic. The project was a success not only because the IBM card is useful  
and convenient but also because the personnel at district and municipal  
epidemiological stations had received through advance training in how to fill  
in the cards and code the stubs. A control staff routinely examined the cards  
and corrected errors detected in a total of 3.1% of the stubs. Procedural  
improvements were introduced throughout the 3 year period as dictated by  
expediency. After each quarter-year, the stubs were checked at the local  
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