

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--TREATMENT OF MALLEABLE CAST IRON WITH CARBON DIOXIDE -U-  
AUTHOR--(02)-KANTENIK, S.K., YEMELYANDV, S.YE.  
COUNTRY OF INFO--USSR  
SOURCE--LITEINOE PROIZVOD. 1970, (1), 42  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--CAST IRON, CARBON DIOXIDE, NONMETALLIC INCLUSION,  
GRAPHITIZATION, MECHANICAL PROPERTY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1388 STEP NO--UR/0128/70/000/001/0042/0042  
CIRC ACCESSION NO--AP0116837  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116837

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CO SUB2 WAS INJECTED INTO MALLEABLE CAST IRON (C 2.45-2.50, SI 1.18-1.24, MN 0.43-0.45, S 0.09-0.12, P 0.06, AND CR 0.07 WT.PERCENT) AT 1500DEGREES WHILE IN A 1.5-KG MGD CRUCIBLE. PRODUCED INGOTS WERE SUBJECTED TO 2 STAGE GRAPHITIZING ANNEALING FOR 12-15 HR. THIS TREATMENT RESULTED IN A DECREASE OF O AND H CONC. TO ONE HALF AND THAT OF N TO TWO FIFTHS, WHILE THE D. OF CAST IRON INCREASED 7.30-7.40 G-CM PRIME3. ALSO, THE AMT. OF NONMETALLIC INCLUSIONS WAS REDUCED, AND COMPONENTS WERE MORE EVENLY DISTRIBUTED. ALL MECH. PROPERTIES BECAME SIGNIFICANTLY BETTER, AND THE STRUCTURE CHANGED FROM COARSELY GRAINED PEARLITIC WITH FLOCCULAR GRAPHITE INCLUSIONS INTO FINELY DISPERSED FERRITIC WITH COMPACT GRAPHITE INCLUSIONS. THE GRAPHITIZATION ANNEALING CYCLE WAS SHORTENED FROM 28-30 TO 12-15 HR.

UNCLASSIFIED

USSR

UDC 621.378.001

YEMEL'YANOV, V.I.

"Phase Fluctuations Of An Optical Parametric Oscillator Situated Inside A Laser Resonator"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 6(12), 1972, pp 35-45

Abstract: The paper considers the phase fluctuations in an internal optical parametric oscillator (IOPO) consisting of a laser medium, a nonlinear crystal, a laser resonator, and the resonator of the optical parametric oscillator. It is shown that in the IOPO exponential instability of the phase fluctuations is possible. The condition of their instability is determined. The minimum possible line width of radiation of the IOPO defined by phase fluctuations is calculated for the stability region. It is shown that optimization of the output power of the IOPO leads to a strong broadening of the emission line. The author thanks A. S. Chirkin for discussion of a number of problems pertaining to the present work. 3 ill. 4 ref. Received by editors, 14 Sept 1971.

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JPRS 58034

28 April 1972

# YEMEL'YANOV, V. I.

## CHEMICAL WEAPONS AND DEFENSE AGAINST THEM

Translation of Russian-language brochure by R. N. Storlid, V. I. Yemel'yanov, V. I. Zimin, Khimicheskoye Ooruzhiye i Zashchita ot Nego, 1971, signed to press 4 March 1971, Moscow, 61 pages.

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USSR

UDC 632.95

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SUVOROV, B. V., KAGARLITSKIY, A. D., KAN, I. I., YEMEL'YANOV, V. I., KUTZCHANOV, R. T., and PAVLOV, YE. A.

"A Means of Obtaining 3-Cyanopyridine"

USSR Author's Certificate No 311914, filed 28 Jan 70, published 11 Oct 71  
(from Referativnyy Zhurnal -- Khimiya, No 10 (II), 1972, Abstract No 10N604P  
by T. A. Belyayeva)

Translation: 3-CNC<sub>5</sub>H<sub>4</sub>N (I) is obtained by oxidative ammoxidation of 2-R-5-R'  
C<sub>5</sub>H<sub>3</sub>N (II) (where R' = alkyl, alkenyl) over a transition-metal catalyst.  
A mixture of steam and air (300-500 and 100-300 mole, respectively, to each  
mole of (II) is used as an oxidizing agent. Through a reaction tube (1100X22mm)  
filled with granulated catalyst (V<sub>2</sub>O<sub>5</sub> and TiO<sub>2</sub> in a 1:16 molar ratios) are  
passed II (R=Me. R'=CH=CH<sub>2</sub>), water, air, and NH<sub>3</sub> at a rate of 23 g, 950 g, 3000 l,  
and 75 g respectively for each liter of catalyst every hour at a temperature  
of 370° for 10 hours (time of contact: 0.4 seconds). The catalyst is washed  
with petroleum ether, extracted with CHCl<sub>3</sub> and dried over Na<sub>2</sub>SO<sub>4</sub>. I is  
separated by rectification. The yield is 83.2%, boiling point 100-4°/24,  
melting point 50.4°. I is used as a plant-growth stimulant in agriculture,  
and for the production of nicotinamide. 1/1

YEMEL'YANOV, Vasilii Semenovich

(b. 30 Jan (12 Feb) 1901, Khvalynsk, now Saratovskaya Oblast), Soviet metallurgical specialist, corresponding member of AS USSR (1953), Hero of Socialist Labor (1954). Member CPSU 1919. Graduated in 1928 from Moscow Mining Acad. The technological ferromanganese production process developed by him became the basis for the plan of the Zaporozhe Ferroalloy Plant. From 1935-37 tech director of the Chelyabinsk Ferroalloy Plant. From 1937-40, while working in the People's Commissariat of the Defense Industry, he devoted his energies to the organization of armored steel production. In 1940 he was appointed dep chmn of the Committee of Standards under SNK [Sovet Narodnykh Komissarov; Council of People's Commissars] USSR and in 1942 chmn of this committee. During the Great Patriotic War 1941-45 he participated in the organization of production of tank bodies and cast metal turrets. From 1945-46 he was in supervisory work in the atomic energy industry. Dept head at the Moscow Engr-Physics Inst (1946), chmn of the Commission for Scientific Problems of Disarmament, AS USSR (1966). From 1955-65 a member of the Scientific Advisory Committee of the U.N. and from 1957-65 one of the

[Continued on card 2: see YEMEL'YANOV, Vasilii Semenovich]

Moscow, BSE, 1972, Vol 9, p 82

YEMEL'YANOV, Vasilii Semenovich

[Continued from card 1: see YEMEL'YANOV, Vasilii Semenovich]

administrators of the Internat Agency for Atomic Energy under the U.N. (in Vienna). USSR state prize (1942, 1951). Foreign member of the American Acad of Sci and Arts. Awarded four Orders of Lenin, Order of the Oct Revolution, five other orders, and medals.

Works: "The Metallurgy of Nuclear Fuel," Second Edition, Moscow, 1968; "O Vremeni, o Tovarishchakh, o Sebe," Moscow, 1968; "Na Poroge Voyny," Moscow, 1971.

Moscow, BSE, 1972, Vol 9, p 82

Pulse Technique

USSR

UDC 621.376.56

YEMEL'YANOV, V. V., GORDEYEVA, F. A.

"PCM-FM-Signal Shaping System with a Train Phase of 0 and  $\pi$ "

Radiotekhnika. Resp. razhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), No 19, 1971, pp 63-66 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D493)

Translation: A system is described for shaping signals with pulse-code phase manipulation (PCM-FM) having a train phase of 0 and  $\pi$ . The value of the given phase of 0 and  $\pi$  is insured by using an automatic phase control system on the signal and rigid synchronization of the leading edge of the manipulating pulse with the time of passage of the master oscillator voltage in the control grid of the manipulator tube through zero. Synchronization is insured by obtaining the manipulating pulses by means of a shaping circuit from the master oscillator voltage. At the output of the shaping circuit, a train of square pulses is created with a repetition rate equal to the oscillation frequency of the master oscillator. The leading edge of these pulses coincides with the time of passage of the sinusoidal voltage of the master oscillator through zero. In order to eliminate deviation of the train phase from 0 and  $\pi$  as a result of different time of passage of the signal and the manipulating pulses to the manipulator, a system for automatic phase control of the signal is used. There are 3 illustrations.

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USSR

UDC: 621.376.56

ABRAMYAN, A. A., YEMEL'YANOV, V. V., GORDEYEVA, F. A.

"On the Problem of Shaping PCM-FM Oscillations in the Centimeter Wave Band"

V sb. Materialy Nauchno-tekhn. konferentsii prof.-prepodavat. sostava Khar'kov. in-ta radioelektron. (Materials of the Scientific and Technical Conference of the Professional and Teaching Staff of the Khar'kov Institute of Radio Electronics), Khar'kov, Khar'kov University, 1969, pp 50-52 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D470)

[No abstract]

1/1

USSR

4 UDC 621.375.126:621.375.143:621.375.421:621.396

KRUT'KO, A. P., VORONIN, A. A., YEMEL'YANOV, V. V.

"Selective Logarithmic Amplifier with Cathode Detection with a Summator made of Transformers"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1969, vyp. 8, pp 71-74 (from RZh-Radiotekhnika, No 1, Jan 70, Abstract No 1D20, Resume)

Translation: A schematic is described for a tube logarithmic intermediate frequency amplifier which differs from those described earlier in that the repeater cascades are replaced by pulse transformers as a result of which high stability of the amplifier is achieved with respect to feed voltages. In order to decrease the measurement errors caused by frequency drift of the generator, band filters are used as the resonance circuits. The bibliography has two entries.

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USSR

UDC 539.12

TAKIBAYEV, Zh. S., and YEMEL'YANOV, Yu. A.

"Experiment in the Superhigh-Energy Range With a Target of Dense Material"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, No 2, 1973, pp 16-20

Abstract: An experiment in the superhigh-energy range with a dense target is described. The target is placed at a height of several tens of meters above the X-ray camera. The target thickness is no more than one-half the nuclear path so that the secondary interactions will not distort the picture of the first interaction. A thin target (on the order of 1/10 of the path) is also inadmissible. The solution is to use a laminated target. The total thickness of the target can be on the order of 1/3 of the interaction half, but the individual layers must be at some distance from each other. The proposed experiment with a fixed target has the following advantages: 1) there is a reliable criterion for visual selection of the target interactions (the area of the "limiting" circle for the target interactions in the range  $E_0 = 10^{14}-10^{15}$  electron volts is several square centimeters), and therefore there is no necessity for processing background spots; 2) for the target events, the height of the interaction point is known with an accuracy of 3-5 percent, significantly improving the reliability of the results; 3) 1/2

USSR

TAKIBAYEV, Zh. S., and YEMEL'YANOV, Yu. A., *Izvestiya Akademii Nauk Kazakhskoy SSR*, No 2, 1973, pp 16-20

exact knowledge of the point of interaction permits combination of families of gamma-quanta into the corresponding interaction (if several meson clusters are generated in the interaction) and determination of the transverse pulses with respect to the direction of the primary particles; 4) this analysis offers the possibility of discovering the true angular and energy distributions of the secondary particles in the individual acts of the interaction.

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USSR

UDC: 539.12

YENEL'YANOV, Yu. A., YEREMENKO, Yu. A., and TAKIBAYEV, Zh. S.,  
Academician of the Kazakh Academy of Sciences

"Possible Redistribution of Energy Among Generated Particles  
in the Range of Several Hundred KEV"

Moscow, Doklady Akademii Nauk SSSR, vol. 204, No 4, 1972, pp 814-  
816

Abstract: In earlier work, the authors proposed study of the behavior of various angular and energy characteristics as functions of the energy given to all generated particles, since they felt that such an approach helps in the direct study of the process of generating secondary particles and may give additional information on meson bunchings or fireballs. The present paper is devoted to investigating the distribution of the energy given to all secondary particles, among charged and neutral mesons. For the analysis, the data obtained from earlier experimental papers was used (M. I. Alibekov, et al, Reprint IYAF AN KazSSR, Alma-Ata, 1969; N. L. Grigorov, et al, Reprint NIIYAF MGU, Moscow, 1969). Curves are plotted for the energy of charged and neutral ions as a function of the total generated particle energy and for the complete and partial inelasticity coefficients as functions of the primary  $1/2$

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UDC: 539.12

YEMEL'YANOV, Yu. A., et al, Doklady Akademii Nauk SSSR, vol 204,  
No 4, 1972, pp 814-816

particle energy. The authors are associated with the Institute of  
High-Energy Physics, Kazakh Academy of Sciences, Alma-Ata.

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USSR

ASHURLY, Z. I., BABAYAN, V. G., YEMEL'YANOV, Yu. M., MOROZOVA, H. P.,  
FEDOTOVA, T. A.

"Effect of the Frequency on the Ignition Voltage in an Ozonizer"

Moscow, Khimiya i Fizika Nizkotemperaturnoy Plazmy, Moscow University  
Press, 1971, pp 121-125

Abstract: The authors investigate the ignition voltage as a function of frequency in an ozonizer with a 3 mm discharge gap at frequencies of 50, 500, 1000, 2000, and 3000 Hz. The reactor was a flat ozonizer of special design which fed the gas into the discharge zone of the ozonizer. The dielectric barriers were glass plates ground on both sides 1 mm thick and 100 mm in diameter with plexiglass rings glued to the edges to prevent breakdown on the glass surface. Ground aluminum electrodes 70 mm in diameter were applied to the glass plates. It was found that the ignition voltage decreases from 6900 to 5300 volts when the frequency increases from 50 to 3000 Hz. The experimental results agree satisfactorily with theoretical calculations. Two figures, one table, bibliography of ten titles.

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USSR

UDC: 621.375.142

YEMEL'YANOV, Yu. M.

"On Analyzing Nonlinear Effects in a Resonance Amplifier"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of the Moscow Electrical Engineering Institute of Communications), 1970, vyp., pp 69-74 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D24)

Translation: In order to account for effects in the first stages of a transistorized receiver when frequency interference signals differ considerably from the resonance tuning of the amplifier, the amplitude response with respect to the second harmonic is introduced in addition to the amplitude response with respect to the fundamental frequency. The graphs which are plotted show that blocking of the weak signal increases monotonically with a rise in the amplitude of the interfering signal. The depth of cross modulation increases to the value of the interference modulation, and then decreases somewhat. The effect of cross modulation is always present in combination with suppression of a weak signal. The products of mutual modulation reach a maximum at 50-70 mV, and then drop somewhat. Bibliography of four titles. N. S.

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PROCESSING DATE--20NOV70

UNCLASSIFIED

1/2 C10  
TITLE--PREPARATION OF BLACK PORTLAND CEMENT -U-

AUTHOR--(05)--KMITRIYEVA, V.A., KRAVCHENKO, I.V., ALESHINA, O.K.,  
CHISTYAKOV, G.I., YEMELYANOVA, D.YA.  
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,431  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PATENT, CEMENT, PIGMENT, CARBON BLACK, HIGH TEMPERATURE HEAT  
TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1410

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

CIRC ACCESSION NO--AA0128809  
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0128809

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BLACK PORTLAND CEMENT WAS PREPD. BY INTRODUCING A PIGMENT ADDITIVE, SUCH AS CARBON BLACK, INTO THE CLINKER WHICH WAS REMOVED FROM THE FURNACE AT GREATER THAN OR EQUAL TO 1200DEGREES AND WAS COOLED IN A REFRIGERATING APP. IN A NATURAL GAS MEDIUM TO 600DEGREES. FACILITY: STATE SCIENTIFIC RESEARCH INSTITUTE OF THE CEMENT INDUSTRY.

UNCLASSIFIED

*YE MEL'YANOVA, G. F.*

ADVANCED TRAINING FOR ADMINISTRATIVE PERSONNEL IN PUBLIC HEALTH  
UDC: 614.2.084.2:659.189.3

Article by Professor G. F. Mel'yanova, Docent V. P. Barilchak, Chair of Social Hygiene and Public Health Organization, Dnepropetrovsk Medical Institute, Moscow, Sovetskoye Zlatovokhannaya, Russia, No. 9, 1972, submitted 11 April 1972, pp 56-57.

In accordance with an order of the Ukrainian Minister of Health, dated 22 June 1971, courses were organized under the chair of social hygiene and public health organization of Dnepropetrovsk Medical Institute for advanced training of chief physicians of municipal hospitals and NSU [medical and sanitary units] in the republic. In accordance with the recommendations of the republic's methodological council on organizing advanced training of public health-organizers, a curriculum was prepared as well as a rigid schedule providing for 6-hour daily classes (two hours of lectures and four hours of practical work). The course of lectures deals with problems in social hygiene and public health organization in the light of the decisions of the 24th Congress of the CPSU, social problems in medicine (prevention of cardiovascular and oncological diseases), Ukrainian law pertaining to public health, scientific organization of labor. [NOTE: economic problems in public health, planning, social insurance, medical specialties of disability, deontology, organization of preparation of medical and hygienic information.]

A professor and docent deliver the lecture course. "Development of public health in the ninth five-year period" and "Results of the All-Union conference of public health activists," are topics presented in each cycle by the head of the obstetrical department, A.Ye. Kozmenchuk, candidate of medical sciences.

Practical studies are prominent in the teaching of health activities: here the chief physicians perform independent assignments dealing with standardization, evaluation of reliability of statistical data, determination of parameters of mean values, proper use of intensive and extensive indices. For this purpose, special individual assignments are prepared and printed. When presenting theoretical issues in statistics, its methodological bases are described, the priority of quality, the importance of

*JHS 57351  
27 Oct 70*

1/3 '011

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--PERRHENATES OF ANTIPYRINE AND ITS DERIVATIVES. GRAVIMETRIC AND  
TITRIMETRIC DETERMINATION OF RHENIUM BY MEANS OF

AUTHOR--(05)-AKIMOV, V.K., BUSEV, A.I., ZAYTSEV, B.YE., VEMELYANOVA, I.A.,  
GELFER, S.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 518-25

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--RHENIUM, MINERAL, METAL CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0161

STEP NO--UR/0075/70/025/003/0518/0525

CIRC ACCESSION NO--AT0132442

UNCLASSIFIED

2/3 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132442

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PERRHENATES OF ANTIPYRINE (I), DIANTIPYRYLMETHANE (II), DIANTIPYRYLMETHYLMETHANE (III), DIANTIPYRYLPROPYLMETHANE (IV), AND DIANTIPYRYLPHENYLMETHANE (V) WERE OBTAINED BY ADDN. OF 2PERCENT 1:1 PYRYLMETHANES, ACOH TO AN ACID (0.1-0.5N H SUB2 SO SUB4) SOLN. OF KREO SUB4. ALL THE PERRHENATES ARE DIFFICULTLY SOL. IN H SUB2 O WITH THE EXCEPTION OF THAT WITH I. THEIR COMPN. AND STRUCTURE WERE STUDIED. THE PERRHENATE OF I IS A WHITE POWDER SOL. IN H SUB2 O AND IN MOST OF THE ORG. SOLVENTS AND DECOMPS. ON MELTING. THE PERRHENATE OF II DISSOLVES IN MINERAL ACIDS AND ORG. SOLVENTS, DECOMPS. ON MELTING AT 190DEGREES; THE PERRHENATE OF III BEHAVES ANALOGOUSLY TO THAT OF II, M. 116DEGREES; THE PERRHENATE OF IV MELTS AT 198DEGREES AND THAT OF V AT 202DEGREES. PERRHENATES BEHAVE IN NONAQ. MEDIA AS MONOBASIC ACIDS AND CAN BE TITRATED BY ALKALIS. THE TITRN. CURVE HAS 1 JUMP, REPRESENTING THE NEUTRALIZATION OF THE CATION. THE PERRHENATE OF I IS THE MOST ACID, THOSE OF IV AND V THE WEAKEST ACIDS. THE SOLY. OF THE PERRHENATES DECREASES IN THE ORDER I GREATER THAN II GREATER THAN III GREATER THAN IV GREATER THAN V. THE BEST PRECIPITANT HOWEVER IS IV. THE SOLY. OF THE PERRHENATE OF IV INCREASES SOMEWHAT AFTER INCREASING THE ACIDITY OF SOLNS. A GRAVIMETRIC AND A TITRIMETRIC METHOD WAS DEVELOPED FOR RE DETN. BY USING IV AS PRECIPITANT. ALKALI AND ALK. EARTH METALS, ZN(II), AL(III), CO(II), FE(II), CU(II), CL PRIME NEGATIVE AND SO SUB4 PRIME NEGATIVE NEGATIVE DO NOT INTERFERE; MO(VI), W(VI), NO SUB3 PRIME NEGATIVE DO.

UNCLASSIFIED

3/3 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132442

ABSTRACT/EXTRACT--THE GRAVIMETRIC METHOD PERMITS THE DETN. OF 15-60 MG RE  
AS IC SUB26 H SUB30 N SUB4 O SUB2 .HIREO SUB4 WITH A MAX. ERROR OF  
0.52PERCENT RELATIVE. IN THE TITRN. METHOD, THE PPT. OF THE PERRHENATE  
OF IV FROM THE GRAVIMETRIC METHOD IS DISSOLVED IN 50-60 ML ME SUB2 CO  
AND TITRATED POTENTIOMETRICALLY WITH 0.1N NAOH OR ET SUB4 NOH IN A 3:1 C  
SUB6 H SUB6 DOUBLE BOND MEOH MIXT. BY USING A GLASS AND A CALOMEL  
ELECTRODE. THE METHOD ALLOWS THE DETN. OF 24-25 MG RE WITH A PLUS OR  
MINUS 3.1PERCENT ERROR. FACILITY: SCI.-RES. INST. ORG.  
INTERMED. DYES, MOSCOW, USSR.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--ACID BASE PROPERTIES OF COMPLEXES OF METALS WITH ANTIPYRINE AND ITS  
DERIVATIVES IN NONAQUEOUS MEDIA -U-  
AUTHOR--(03)-AKIMOV, Y.K., BUSEV, A.I., YEMEL'YANOVA, I.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 40-4  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--METAL COMPLEX COMPOUND, HETERO CYCLIC NITROGEN COMPOUND, ACID  
BASE COMPLEX, CADMIUM COMPLEX, BISMUTH COMPOUND, PLATINUM COMPLEX  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2046 STEP NO--UR/0075/70/025/001/0040/0044  
CIRC ACCESSION NO--AP0125653  
UNCLASSIFIED

272 006

UNCLASSIFIED

PROCESSING DATE---30OCT70

CIRC ACCESSION NO--AP0125653

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEX COMPS. OF METALS WITH ANTIPYRINE AND ITS DERIVS. OF THE M(R) SUBN X SUGM AND (R.H) SUBN-M (ME PRIME X SUBN)TYPE, WHERE R IS THE LIGAND AND X IS EITHER CL PRIME NEGATIVE, BR PRIME NEGATIVE, I PRIME NEGATIVE, SCN PRIME NEGATIVE, BEHAVE BOTH AS ACID AND BASE IN NONAQ. MEDIA. THEIR ACID PROPERTIES DEPEND ON THE COMPLEX FORMING METAL AND THEIR BASIC PROPERTIES ON THE NATURE OF THE LIGAND. COMPLEX COMPS. OF ZN, CD, HG, CO, AND MN WITH 1-2 MOLS. OF THE LIGAND IN M SUB2 CO BEHAVE AS BASES. COMPS. OF THE M(R) SUBN X SUBM TYPE ARE AMPHOLYTES. COMPLEX COMPS. OF BI, PT, OS, ZN, AND SB WITH ANTIPYRINE AND IS DERIVS. OF THE 2ND TYPE BEHAVE AS ACIDS IN ME SUB2 CO. FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED



USSR

UDC: 669.14:621.785.545

SHEPELYAKOVSKIY, K. Z., YEMEL'YANOVA, L. G., ALEKSAKHIN, G. F.

"Selection of Optimal Modes of Induction Heating for Hardening as a Function of Initial Structure"

Sb. Tr. Mosk. Vech. Metallurg. In-t [Collected Works of Moscow Permanent Institute for Metallurgy], 1972, No 12, pp 424-429 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8I866, by the authors).

Translation: Modes of induction heating are studied for the initial structures of steels with various degrees of differentiation, characterized quantitatively. It is demonstrated how the heating mode must be changed to produce optimal structure and properties. 2 figures, 2 tables, 3 biblio. refs.

1/1

USSR

UDC 669.285.018,8:620.186:669-977

YEMEL'YANOVA, L. I., DUSHIN, YU. A., SOLOMKO, YU. V.

"Variation of the Structure of MT Alloy in the Case of High-Temperature Holding in an Inert Gas Stream"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 194-199 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I760)

Translation: The structure of MT alloy was studied after operation in an argon stream at 1,700° and holding from 10 minutes to 20 hours. Complex redistribution of the alloy components under the effect of a mixture of O<sub>2</sub> in argon was detected. The experimental results agree with thermodynamic and diffusion estimates. There are 4 illustrations, 1 table, and an 8-entry bibliography.

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USSR

UIE 621.762.002.5(088.8)

MEL'NIKOV, V. N., TRET'YAKOV, V. I., YEMEL'YANOVA, M. D., MUKHAMEDZHANOV, A. K., KAMENSKAYA, D. S., MORGUN, G. N., CHAVRIKOV, M. G., and GRACHEV, Yu. S.

"Rotating Electrical Furnace for Production of Metallic Powders"

USSR Author's Certificate No 267823, Filed 23/06/66, Published 23/07/70  
(Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G477 P)

Translation: The furnace includes a hopper, loading and unloading chambers with worms, a body, rotating tube, and a device for removal of the layer of powder accumulating on the surface of the tube. In order to increase productivity of the process and improve working conditions, the device for removal of the powder layer from the surface of the tube is firmly fastened in the working space of the tube so that its leading edge is located parallel to its axis and its working face is at an angle to the radius. The device is attached to parts of the loading and unloading chambers.

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USSR

UDC 616.981.452-034.47

AGAFONOV, V. I., BABKIN, Ye. I., VDOVIN, D. G., VOROBEYCHIKOV, V. M.,  
VOROB'YEV, A. A., GANLESHKO, Kh. P., GAPOCHKO, K. G., GEFEN, N. Ye., YEVSTIGNEEV,  
V. I., YEMEL'YANOVA, O. V., ZEMSKOV, Ye. M., IMAMALIYEV, O. G., KAMALOV, I. I.,  
KVIRIKADZE, V. V., KUTYREV, P. A., MISNIKOV, O. P., PUSHKAREV, V. P., and  
ROZDESTVENSKIY, D. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"A Comparative Efficiency Characteristic of Different Immunization Methods  
Against Plague Infection"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 11, 1972,  
pp 106-112

Abstract: Analysis of the available literature data led to the conclusion  
that oral, aerogenic, and jet immunization methods are the most efficient  
compared with subcutaneous and skin methods. The average number of patients  
inoculated against plague infection was 517, 817 (419), and 237 per hr for jet  
injectors, aerogenic method liquid and dry vaccine, and oral method (tablets),  
respectively, compared with only 43 and 28 for the subcutaneous and skin  
methods, respectively.

1/1

USSR

UDC 669.14.018.8

SHUSTOVA, Z. F., SINYAVINA, R. A., YEMEL'YANOVA, V. A., ROZENTEL'D, I. L.,  
KUZNETSOV, G. G., RAYMOND, E. D., and NEFEDOV, V. P.

"Inclination toward Stress Corrosion Cracking of 1Kh16M4B (EP-56) High-Strength  
Stainless Steel"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 696-700

Abstract: This article contains the results of a study of the effect of heat treatment conditions on the inclination of welded joints of 1Kh16M4B steel to stress corrosion cracking. This steel is a high-strength steel of the martensitic class heat-treated by quenching from 950-1,050° and annealing at 300 or 600°. The stress-rupture strength of the steel is  $\geq 120$  kg/mm<sup>2</sup> in the former case and  $\geq 100$  kg/mm<sup>2</sup> in the latter case. It was established earlier that neither the basic metal nor the welded joints of this steel in the fully heat-treated state were inclined to stress corrosion cracking. In the present investigation the inclination toward stress corrosion cracking was evaluated by the time of occurrence of cracks in the welded joint in a saline mist at room temperature.

From the tabulated data it is noted that unannealed samples and samples annealed at 300° exhibit an inclination toward stress corrosion cracking.

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USSR

SHUSTOVA, Z. F., et al., Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 696-700

Welded joints annealed at 600° are not inclined to such cracking. Pictures are presented showing the microstructure of a welded joint made of 1Kh16N4B steel and the hardness distribution in the welded joint. Comparison of metallographic and corrosion studies shows that the section near the weld subjected to heating in the temperature range of 475-550° is distinguished by lower corrosion resistance. It is possible to decrease the tendency toward corrosion cracking of 1Kh16N4B steel joints not only by high temperature annealing (600°) but also by high temperature quenching of the steel before welding. The tendency of the welded joints toward corrosion cracking was found to depend on the structural state of the basic metal before welding. A table is presented showing the effect of slow cooling and induced heating on the stress corrosion cracking of 1Kh16N4B thick sheet steel in a saline mist atmosphere.

It is concluded that welded joints of 1Kh16N4B steel made of material with a strength of 100 kg/mm<sup>2</sup> and annealed at 300 and 600° are not inclined to stress corrosion. Slow cooling of the steel during quenching increases the tendency of the unannealed and low-temperature (300°) annealed welded joints to stress corrosion cracking. Heating 1Kh16N4B steel subjected to high tempera-

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USSR

SHUSTOVA, Z. F., et al., Zashchita Metallov, Vol 6, No 5, Nov-Dec 70, pp 696-700

ture annealing in the 475-550° range can cause a tendency toward corrosion under stress. When quenching with slow cooling the inclination toward cracking is exhibited after a short delay (5 minutes) at 475-550°. In the case of air quenching this inclination is exhibited after a longer period (2 hours).

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Graphite

USSR

UDC 621.893

VASIL'YEV, YU. N., Candidate of Chemical Sciences, and YEMEL'YANOVA, V. M.,  
and FUGOL', V. A., Candidates of Technical Sciences

"Antifriction Graphite Material"

Moscow, Mashinostroitel', No 2, Feb 74, p 42

Abstract: A new antifriction graphite material ATG, being produced in experimental batches, has been designated for use in friction assemblies operating at temperatures up to 650° C. It contains special compounds that increase its wear resistance at room temperature by approximately 10 times and insure a good lubricating capability at temperatures up to 650° C. Seals made of ATG, 1000-mm diameter, worked for more than 500 hours at 600° C, 4-kgf/cm<sup>2</sup> load, and 1-m/sec slip rate, and preserved their efficiency. The same was true for ATG piston rings after 100 hours at 600-650° C and a pressure of 3-5 kgf.cm<sup>2</sup>.

1/1



1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--EFFECT OF PHOSPHORUS COMPOUNDS ON THE OXIDATION RATE AND RATE OF  
WEAR OF SYNTHETIC GRAPHITE -U-  
AUTHOR-(02)-VASILYEV, YU.N., YEMELYANOVA, V.M.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 201-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--GRAPHITE, PHOSPHORUS COMPOUND, WEAR RESISTANCE, OXIDATION  
RATE, OXIDATION INHIBITION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0704 STEP NO--UR/0363/70/006/002/0201/0206  
CIRC ACCESSION NO--AP0113568  
UNCLASSIFIED

272 037  
CIRC ACCESSION NO--AP0113568  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. THE EFFECT OF P COMPS. ON OXIDN. KINETICS OF GRAPHITE WAS INVESTIGATED. THE MECHANISM OF INCUBATION WAS ALSO STUDIED WITH THE PURPOSE OF SELECTING MORE EFFECTIVE INCUBATORS. THE FOLLOWING PHOSPHATE CONTG. INCUBATORS WERE USED: H SUB3 PO SUB4, P SUB2 O SUB5, H SUB3 PO SUB4-H SUB3 BO SUB3, KH SUB3 PO SUB4, AND CR(H SUB2 PO SUB4) SUB3. P COMPS. DECREASE THE RATE OF WEAR OF GRAPHITE. AN INHIBITION MECHANISM IS PROPOSED.

UNCLASSIFIED

USSR

UDC: 666.896

VASIL'YEV, YU. N., and YEMEL'YANOVA, V. M.

"Effects of Phosphorus Compounds on the Oxidation Rate and Wear Intensity of Synthetic Graphite"

Moscow, Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 201-206

Abstract: Self-lubricating graphite materials are used in friction joints which are suitable for service at high ( $>1000$ -- $1500^{\circ}\text{C}$ ) temperatures in a reducing or a neutral medium. In open air, graphite materials oxidize at an appreciable rate. To reduce the oxidation rate, it is advisable to impregnate the material with phosphorus compounds. This study concerns the effect of various phosphorus compounds on the oxidation rate as well as of the mechanism of inhibition in order to select more effective inhibitors. AG-1500 antifriction graphite was used as the experimental material. The inhibitors were aluminum phosphate, zinc diethyl-orthophosphate, aluminum diethyl-orthophosphate, polymethylphenylsiloxane with a phosphorus-containing hardening agent, phosphoric acid, phosphorus pentoxide, and others. The graphite was pressure-impregnated with inhibitor solutions in an autoclave. The friction tests were conducted on a laboratory friction machine

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USSR

VASIL'YEV, YU. N., and YEMEL'YANOVA, V. M., Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 201-206

simulating end-type seals. Tables in the original article show graphite oxidation rate as a function of the partial pressure of oxygen, effect of oxidation time of graphite impregnated with aluminum phosphate on oxidation rate, wear intensity as a function of temperature, and rate constants for both inhibited and untreated graphite. It was found that phosphorus compounds reduce the wear intensity of graphite. Various suggestions are made regarding the mechanism of inhibition.

2/2

USSR

UDC 542.942.6:546.562

SOKOL'SKIY, D. V., DORFMAN, Ya. A., and YEMEL'YANOVA, V. S.

"Phosphine Reduction of Cupric Thiocyanates in Solutions"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1918-1921

Abstract: The kinetics and mechanism of the phosphine reduction of cupric thiocyanates in solution are discussed. The mechanism of the reaction is rather complex and comprises a number of elementary stages in which the reaction rate appears to depend on the activity of the system's components. According to the given scheme, the reduction is of a catalytic nature with  $\text{CNS}^-$  ions being responsible for the catalysis. The kinetics of the reaction was studied on a circulation unit. Use was made of a gas mixture containing nitrogen, phosphine and acetylene, the phosphine concentration being 0.08-0.008% by volume. The phosphine concentration after the reaction  $\rho_{\text{PH}_3}$  was 0.005% by volume. The  $\text{CuCl}_2$ - $\text{KCNS}$  aqueous solution

potential was measured with a platinum electrode relative to the  $\text{Hg}/\text{Hg}_2\text{Cl}_2$ - $\text{HCl}$  system and then recalculated on a hydrogen scale. Kinetic and potentiometric curves are given for the phosphine reduction of copper II thiocyanates obtained for various  $\text{PH}_3$  concentrations (% by vol.). A diagram shows  
1/2

USSR

SOKOL'SKIY, D. V., et al., Zhurnal. Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1918-1921

semilogarithmic anamorphoses obtained for various  $C_{\text{CNS}^-}$  and  $P_{\text{PH}_3}$ . The innersphere decay rate constant of  $\text{Cu}(\text{CNS})_3^-$  (aq) is  $1.7 \cdot 10^{-1}$  while the stability constant of  $\text{Cu}(\text{CNS})_3^-$  is  $3.6 \cdot 10^{-2}$ .

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55

USSR

YEMEL'YANOVA, Z. M., PAVLOV, B. M.

"Calculation of Supersonic Viscous Flow around Blunted Conical Bodies"

Sb. Rabot Vychisl. Tsentra Mosk. Un-ta [Collected Works of Moscow University Computer Center], 1972, Vol 19, pp 3-12 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5B245, by I. N. Murzinov).

Translation: This is a continuation of the study (see Pavlov, B. M., Izv. AN SSSR. Mekh. Zhidkosti i Gaza, 1968, No 3, pp 128-133, RZhMekh, 1968, 11B355) of the flow of a supersonic stream around blunted bodies by means of numerical solution of the Navier-Stokes equations. The problem of the flow of a moderately rarefied gas around sphere-cone (cylinder) type bodies is also solved in the same statement. Results are presented from calculation of five versions of distribution of pressure, friction, thermal streams and fields of gas dynamic quantities in a number of cross sections. In the versions studied, the Mach number of the incident stream varied from 3 to 20, the Reynolds number -- from 200 to 500. The results of the calculations performed showed that there is practically no influence of the inclination of the generatrix of the side surface of the body on the flow near the blunt

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USSR

YEMEL'YANOVA, Z. M., PAVLOV, B. M., Sb. Rabot Vychisl. Tsentra Mosk. Un-ta, 1972, Vol 19, pp 3-12.

spherical end, although a narrow, nonclosed area of subsonic flow extends along the body. A significant increase (up to 90%) in pressure on the side surface in comparison to non viscous flow is also noted.

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- 23 -



USSR

UDC 629,13.014.69-506.4

KARAKASHEV, V. A. and YEMEL'YANTSEV, G. I., Leningrad Institute of Precise Mechanics and Optics

"On the Analysis of Errors in a Coupled Inertial Navigation System"

Leningrad, Priborostroyeniye, Vol 16, No 5, 1973, pp 75-80

Abstract: The system receives information from absolute angular velocity sensors for the continuous calculation of a matrix of direction cosines which determine the orientation of the axes of the object in which the system is mounted. Errors occur due to inaccuracy of the original settings, variation in the sensitive elements, computational errors, simplifications in the algorithm, etc. All the processing errors can be reduced to equivalent inaccuracies in the primary information. The errors are analyzed for a vehicle moving in level horizontal flight over a spherical earth surface. It is shown that the system has the same sort of errors as an inertial navigation system in which the gyro-stabilized platform carrying the accelerometers simulates some moving coordinate system. A peculiarity of the coupled system is the presence of additional errors due to vehicle roll and inaccuracies in the computer.

1/1

YEMEL'YANTSEV, G.I.

Inertial Navigation Systems

CHRO

JPRS 59688  
2 August 1973

UDC 629.13.014.69-506.4  
ANALYSIS OF THE ERRORS OF GIMBALLESS INERTIAL NAVIGATION SYSTEM

Article by V. A. Karakashov and G. I. Yemel'yansev, Leningrad, Institute of Precision Mechanics and Optics, Leningrad. Izvestiya vuzov, Priborostroy-Instrumenty and Devices, signed to press 5 December 1971, pp. 75-80.

In this article an analysis is given of a connected (gimballess) inertial navigation system with the use of kinematic equations of errors. Analytical expressions are derived for the errors of the system under consideration in the generation of navigational information.

We will consider a gimballess inertial navigation system (INS), using information from pickups of absolute angular velocity for continuous calculation of the matrix of the guiding cosine  $B = \|b_{ij}\|$ ,  $(i, j = 1, 2, 3)$ , determining the orientation of the axis  $X, Y, Z$ , rigidly connected with an object relative to a horizontal system of coordinates with the geographical orientation  $\xi, \eta$  (drawing).

The algorithm for generation of the navigational information in the INS under consideration, intended for an object moving on a horizontal plane along the surface of a spherical Earth, may be presented in the following form:

\* The idea of a gimballess INS and one of the algorithms of its functioning was proposed by L. L. Tkachev in 1943 IV.

[1 - USSR - GJ]

YEMETS, A.K.

RMJ / 12-140 / 5-21-73 89  
B.C. 1/2

(3)

the molecular strength; accordingly, destruction was noted along the bonds well before molecular destruction. Molecular destruction can be caused by both heat and light. The wavelength of laser radiation is such that at low intensities unstressed polymer molecules do not absorb the waves; but internal destruction does take place and cracks are observed. The aggregate structure of the substance plays an important role; e.g. the less the aggregate size, the greater the amount of cracks in polymers. The investigations show that organic glass and other amorphous polymers contain hyper-molecular structures. Figure 1 shows the micro-structure of a plastic glass.

Geguzin, Ya. Ye., A. K. Yemets, and Yu. I. Boyko.

Lowered optical strength of transparent solids with macroscopic defects. FTI, no. 5, 1972, 1565-1566.

An experiment is briefly described which attempted to correlate the degree of porosity in glass with its optical strength  $\sigma$  in laser applications. The case considered assumes that the characteristic linear dimension of the pore is greater than laser wavelength  $\lambda$ ; in such cases for glass or ionic crystals, as much as 70% of light incident on the pore may be reflected, resulting in interference with the transmitted beam and generation of thermal damage centers. Tests to show this effect were done with a silicate glass containing a dispersed powder, sintered to form a porous medium with pore size ca 5 microns and a mean pore spacing of 30 microns.

YEMETS, A.K.

RAN/ R.760/S.M.V. 93  
Dec 72 19

Nikiforov, Yu. N., V. A. Yanushkevich,  
and A. V. Sandulova. Change in electrical  
properties of p-Si crystal whiskers from  
the action of giant laser pulses, Pribor,  
no. 3, 1972, 132-134.

Laser-induced change in the resistivity  $\rho$  of p-Si whiskers is described. The whiskers were grown along the [111] axis, had a hexagonal cross section, and ranged in length from 3 to 7 mm. Specimens were exposed to 50 msec giant pulses from a ruby laser, with the laser beam normal to the crystal axis. Impact densities were varied over several tens of joules/cm<sup>2</sup>, up to the damage threshold which was in the range of 35 - 45 j/cm<sup>2</sup>. The data are presented as resistivity variation  $\Delta R/R_0$  in etched specimens as functions of whisker geometry, ambient temperature and initial  $\rho$ . Typical results at an exposure of 22 j/cm<sup>2</sup> show a sharp rise in R by about 12-15%, followed by an exponential decay back to about the initial value, at a time constant 220 milliseconds. Of the possible mechanisms considered for the alteration effect (photoeffect, crystal heating, photoeffect, defect formation) it is shown that point defect formation is the most probable factor. Defect levels, estimated to reach  $10^{17}/\text{cm}^3$ , were effectively annealed out in all cases in 30 milliseconds or less.

Doyko, Yu. I., and A. K. Yemets. Study  
of laser self-focusing in alkali-halide single  
crystals, according to data on shift of the  
damage center. DAN, v. 206, no. 2, 1972,  
319-322.

Experimental results are described of laser damage phenomena in KCl and KBr crystals, with the object of determining the

USSR

VOL'F, L. A., YEMETS, L. V., KONEV, Yu. Ye., KOTETSKIY, V. V., MEOS, A. I.,  
and KHOKHLOVA, B. A., Leningrad Institute of Textile and Light Industry imeni  
S. M. Kirov; Leningrad Scientific Research Institute of Antibiotics

"Preparation of Physiologically Active Fibers With Ion-Fixed Preparations"

Riga, Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva,  
"Zinatne," 1971, pp 159-165

Abstract: Sorption of colimycin, novocainamide, and brilliant green by modified polyvinyl alcohol (PVA) fibers containing sulfo and carboxyl functional groups was studied, with the aim of preparing physiologically active materials with antimicrobial, anti-inflammatory, and anesthetic properties. The best sorption of brilliant green and novocainamide took place on fibers with -COOH group in the salt (Na) form. The carboxyl group in H-form dissociated very little in acid solutions, but the same group in the salt (Na) form was ionized in a wide pH range. Similar results were obtained with colimycin. The sulfo group dissociated equally well in all media. Therefore, there were no significant differences in sorption of the above preparations on sulfoexchangers either in acid or salt form. Excess of preparations (1-1.5 fold) in solution and larger absorbing surface of fibers were of importance. A difference in  
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USSR

VOL'F, L. A., et al., Fiziologicheskii i Opticheskii Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 159-163

the sorption rate of the above preparations by fibers with carboxyl groups in H- or salt (Na) form is attributed to a greater swelling of the salt exchanger (Na especially) in comparison with H-form. In experiments with animals it was shown that presence of an ionic bond between fibers and medicinal preparations makes the textile material more stable toward bacteria, as opposed to ordinary impregnation of fibers with antibiotics. Catgut and natural silk treated with colimycin preserved their antimicrobial properties 8 days after their presence in soft tissues of rabbits. This is attributed to the formation of electrovalent and hydrogen bonds between antibiotics and peptides.

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YEMETS, Yu. P.

TPRS 60654  
31 NOVEMBER 1978  
①

ELECTRIC FIELDS IN MEDIA WITH ANISOTROPIC AND NONUNIFORM CONDUCTIVITY  
(Abstract of a Paper by Yu. P. Yemets Given at the Magnetohydrodynamic Conference, p 226)

For anisotropy of the conductivity caused by the Hall effect, the current distribution is sensitive to the presence of nonuniformities of the parameters of the medium. In a strong magnetic field, even weak variations in the characteristics of the medium change the structure of the electric field noticeably. In the examples of exact solutions of the problems of current distribution a study was made of the characteristic features of the electric fields in media with anisotropic and nonuniform conductivity.

A laminar plasma is investigated; the parameters of which assume different values in successively alternating cells. For a two-phase model of the nonuniformities, the electric field has a periodic structure, and it is defined by the mutual relation of the local properties of the electric field in the cells and the cell configuration. The calculation of the electric field reduces to a Cauchy problem of the Riemann boundary problem for an even hyperbolic function. The effective values of the conductivity and the Hall parameter establishing the anisotropic properties of the medium in a strong magnetic field were calculated.

A study was made of problems with continuous variation of the conductivity. For integration of the investigated equations, the theory of continuous transform groups is used.

10,845  
CSO: 8044/0653-4

USSR

UDC 577.4

YEMIN, S. V.

"On the Problem of Constructing Tests for Combination Logic Circuits"

Vychisl. tekhn. v mashinostr. Nauch.-tekhn. sb. (Computer Technology in Machine Building. Scientific and Technical Collection), 1971, June, pp 193-200 (from RZh-Matematika, No 1, Jan 73, abstract No 1V635 by Kh. Madatyan)

Translation: Preceding papers by this author have described an algorithm for constructing verifying tests for combination logic circuits without branchings. In this paper the algorithm is generalized for extension to circuits with branchings. It is assumed that the circuit is comprised of AND, OR, NAND, and NOR elements. A test is synthesized for a circuit with a single input; for circuits with several outputs, the proposed algorithm enables construction of a test for the entire circuit simultaneously. As the author points out, the given algorithm is readily programmable and can be applied to large circuits (several dozen inputs and several hundred elements).

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--THERMODYNAMICS OF THE REDUCTION OF CHROMIUM OXIDE BY SILICON -U-  
AUTHOR--(03)-GASIK, M.I., YEMLIN, B.I., KHITRIK, S.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970: 13(3), 59-62  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--THERMODYNAMICS, SILICON, CHROMIUM OXIDE, SLAG  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1648 STEP NO--UR/0148/70/013/003/0059/0062  
CIRC ACCESSION NO--AT0123486  
UNCLASSIFIED

PROCESSING DATE--13NOV70

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2/2 019

CIRC ACCESSION NO--AT0123486

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

ABSTRACT. METALLIC PHASE CONTG. CR 62.7PERCENT, SI 6.13PERCENT, AND FE 21.2PERCENT WAS EQUILIBRATED AT 1600-1880DEGREES WITH SLAGS CONTG. 24.5-66.2PERCENT CRO AND 33.8-75.5PERCENT SIO SUB2. FOR 3 SLAG COMPS. THE EQUIL. CONST. AND THERMODYNAMIC PARAMETERS OF THE REACTION 2 CRO PLUS SI YIELDS 2 CR PLUS SIO SUB2 WERE EVALUATED. SDEGREES FOR CRO AT 1600-1880DEGREES WAS 49.19 KCAL-MOLE-DEGREE, AND THE EQUIL. TEMP. OF THE 3 CRO YIELDS CR SUB2 O SUB3 PLUS CR REACTION IS SIMILAR TO 1490DEGREES. THE DECOMP. REACTION 3 CR SUB3 O SUB4 YIELDS 4 CR SUB2 O SUB3 PLUS CR SUGGESTED BY KOCH WAS CRITICIZED AND SHOWN AS NOT REAL FROM THE VIEWPOINT OF THE PRESENT THERMODYNAMIC DATA. THE PLOT OF LOG P SUBO (P SUBO EQUALS PRESSURE OF O) VS. TEMP. CALCD. FOR THE CR-O SYSTEM; THE EXISTENCE REGIONS OF CRO AND CR SUB2 O SUB3 ARE SHOWN. BELOW 1760DEGREES CRO IS UNSTABLE AND CR SUB2 O SUB3 IS REDUCED DIRECTLY TO CR WHEREAS ABOVE THIS TEMP. STEPWISE REDN. THROUGH CRO OCCURS.

FACILITY: DNEPROPETROVSK. MET. INST., DNEPROPETROVSK, USSR.

UNCLASSIFIED

USSR

UDC 669.71.053.24(088.8)

KHITRIK, S. I., GASIK, M. I., VUKOLOV, YE. A., KLISKOVIKH, N. A.,  
PORADA, A. N., LAGUNOV, YU. V., POLONSKIY, S. M., IORDANOVA,  
Z. A., MALYSHEV, V. I., YENLIN, B. I., KASHKUL', V. V., MASHKOV,  
V. P., TSEYMAKH, N. L., YEM, A. P., CHERNYSH, F. I., and KOLNOGU-  
ZENKO, V. A., Dnepropetrovsk Metallurgical Institute

"Method of Smelting Abrasive Electrolytically Produced Corundum"

USSR Author's Certificate No 263635, filed 15 Oct 65, published  
10 Jun 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11  
G101 P)

Translation: A method is proposed for smelting abrasive elec-  
trolytically produced corundum in a thermal furnace which involves  
deep fusion of alumina-containing charge with reducing agents.  
To increase the abrasive properties of corundum and to obtain  
in it a Ti oxide content of  $\leq 1\%$ , smelting is carried out on  
kaolin presintered with Fe-ore additive or scale in the amount  
of 20-30 wt % of the charge.

1/1

USSR

UDC 669.712.4

GASIK, M. I., ~~YEMLIN, B. I.~~, KLIMKOVICH, N. S., and KHITRIK, S. I.

Electric Smelting of Aluminosilicates (Elektroplavka alyumosilikatov),  
Moscow, "Metallurgiya" Press, 1971, 304 pages, 62 illustrations, 92 tables,  
329 bibliographic references

Translation of Annotation: The book is an attempt to correlate the results of new theoretical and experimental (both laboratory and production-scale) studies performed by the authors on methods for processing aluminosilicates to electrolytic corundum, technical-grade alumina, aluminum alloys, ferro-silicon, refractories, and other materials. A critical comparative analysis of related works (and their results) by other researchers in aluminosilicate applications is presented. The book is intended for the engineering, technical and scientific personnel of nonferrous and ferrous metallurgy, and the chemical and abrasives industries engaged in electrothermics. It may also be useful to students of higher and secondary educational institutions specializing in the field of electrothermics of inorganic materials.

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USSR

GASIK, M. I., et al., Electric Smelting of Aluminosilicates (Elektroplavka alyumosilikatov), Moscow, "Metallurgiya" Press, 1971, 304 pages, 62 illustrations, 92 tables, 329 bibliographic references

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USSR

UDC 669.71.053.24(02)

GASIK, M. I., YEMLIN, B. I., KLIMKOVICH, N. S., and KHITRIK, S. I.

"Electrosmelting of Aluminosilicates"

Elektroplavka alyumosilikatov (cf. English above), Moscow, "Metallurgiya" (Metallurgy), 1971, 304 pp, ill, 1 r. 5 k. (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G114K from summary)

Translation of Abstract: The book summarizes the authors' original theoretical and experimental laboratory and industrial experiments in aluminosilicate processing according to a scheme devised for the purpose of obtaining synthetic corundum, commercial  $Al_2O_3$ , Al alloys, Fe-Si, refractories, and other products. A critical comparative analysis is presented of the published results of the investigations of other authors in the field of aluminosilicate utilization. Sixty-two illustrations. Ninety-two tables. Bibliography with 329 titles.

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USSR

UDC 532.543

YEMTSEV, B. T., DO-TKHAN'-KUA

"Method of Calculating the Bank on a Chute"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1971, No. 85, pp 15-23 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B943)

Translation: The problem of the application of an approximation method previously proposed by the authors for the hydraulic calculation of curved transition segments of open water collectors to a calculation of the bank on a chute is discussed (Tr. koordinats. soveshchaniy po gidrotekhn. (Works of the Coordination Conference on Hydraulic Engineering), 1969, No. 52, pp 65-74 -- RZhMekh, 1970, Abstract No 5B683). The method was used to calculate and test at the laboratory two hydraulic models of banks with angles of turn in plan of  $\epsilon_0 = 23^\circ$  and  $40^\circ$  on flumes of shutes with longitudinal inclinations of the bottom of  $i_0 = 0.1$  and  $0.2$ . Velocity distribution curves (in plan) and transverse profiles of water levels measured at various ranges of both models are given and they provide some basis for stating that this method of calculation is applicable at  $\theta_0 \leq 25^\circ$  and  $i_0 \leq 0.1$ . V. B. Dul'nev.

1/1



USSR

UDC 664.8/.9

YEMTSEV, V. T., and NIKOLAYEVA, S. A., Moscow Agricultural Academy imeni K. A. Timiryazev

"Some Biological Properties of Clostridium Isolated From Foodstuffs During Canning"

Moscow, Biologicheskiye Nauki, No 12, 1971, pp 92-99

Abstract: Comparative studies of the morphological, cultural and physiological properties of *Cl. perfringens* with ten other *Clostridium* species isolated from foodstuffs were conducted. Some of the characteristic properties of *Cl. perfringens* which distinguish it from other butyric acid bacteria include immobility and reaction to litmus milk at a temperature of 46°C, intensive growth, ability to accumulate nitrites in a medium, rapid growth in the Wilson and Blair medium, specific growth in the Willis and Hobbs medium, and liquefaction of gelatin. In addition, none of the strains of *Cl. perfringens* fermented mannite or dulcitate. Based on these properties, *Clostridium perfringens* can be isolated from other butyric acid bacteria during microbiological inspection of food products.

1/1

Coatings

USSR

UDC: 546.831+546.821.824

YEMYASHEV, A. V., KILIN, V. S., MARTYNOV, S. Z., and SHAROVA, A. V.

"Pyrolytic Nitrides of Titanium and Zirconium and Areas of Their Application"

Moscow, Tsvetnyye Metally, No. 12, Dec 70, pp 30-32

Abstract: Data on the deposition of titanium and zirconium nitrides from the gas phase are discussed. Use was made of commercial zirconium and titanium tetrachloride, hydrogen, and nitrogen. The process of deposition of zirconium pyronitride takes place at 1400--2000°C, with the deposition rates sufficiently high to obtain coatings of appropriate thickness. The most favorable conditions for depositing zirconium pyronitride are attained at a molar ratio of initial components of  $ZrCl_4:N_2:H_2=1:3:2$ . The temperature may be varied within 1700--2000°C. A table in the original article indicates the same processing relationships and specifications for titanium

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USSR

YEMYASHEV, A. V., et al, Tsvetnyye Metally, no. 12, Dec 70, pp 30-32

pyronitride. The maximum deposition rate, however, was observed at 1600-1700°C. The decrease in the deposition rate with an increase in temperature is related to the fact that the titanium pyronitride deposition rate becomes commensurable with the vaporization rate. It was also found that the deposition rate of pyronitrides is directly proportional to the effective cross section of the vapor-gas mixture in the reaction zone. The high electroconductivity of titanium and zirconium nitrides permits their use in special areas of electrical engineering and electronics. The superconductivity of zirconium nitride makes it a potential material for subzero-temperature technology. High melting temperatures and good refractory properties make these materials suitable for use as strengthening components. The method of deposition from the gas phase may be used for applying refractory coatings to parts of intricate configuration.

2/2

USSR

UDC 616.936.3-036.87

PERSHIN, Ye. Ya., and YEMYASHEVA, L. I., Uzbek Scientific Research Institute of Experimental Medical Parasitology and Helminthology and Samarkand Oblast Sanitary Epidemiological Station

"Late Recurrences of Quartan Malaria"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyy Bolezni, Vol 39, No 6, 1970, pp 738-739

Translation: Quartan malaria has never been very prevalent in Samarkand Oblast, Uzbek SSR. The incidence of this form of malaria did not exceed 0.6% in 1943-1944. Most of the cases were recorded in the Narpayskiy group of rayons. Only sporadic cases have been recorded in the oblast since 1953, and during the period of virtual eradication of the disease (since 1960) only three cases each were detected in 1960 and 1962. After a 5-year break two cases were recorded in 1968. Both patients became sick in Narpayskiy rayon. Here are the case histories.

Patient Yu., 30 years of age, living in the village of Altykush (Uzbekistan kolkhoz), was hospitalized on 18 April 1968 in the department of contagious

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USSR

PERSHIN, Ye. Ya., and YEMYASHEVA, L. I., *Meditinskaya Parazitologiya i Parazitarnyy Bolezni*, Vol 39, No 6, 1970, pp 738-739

disease (headed by Farmanova) of the rayon hospital with a diagnosis of epidemic cerebrospinal meningitis. The diagnosis was confirmed after a spinal tap and the symptoms were characteristic of the disease.

Upon admission, the patient's temperature was 39°C and remained elevated for several days. After treatment with antibiotics and sulfanilamides, the temperature returned to normal. The temperature again rose on the following days: to 37.8°C on 26 April, to 37.5°C on 5 May, to 37.2°C on 11 May, to 37.8°C on 14 May. Examination of a drop of blood taken on 14 May revealed schizonts of the agent of quartan malaria (confirmed by Z. S. Shishlyayeva-Matova at the Uzbek Scientific Research Institute of Medical Parasitology). The patient was treated with acrichine plus plasmocid and then with quinocid. She was discharged on 3 June in good condition.

The patient said she had not been sick during the past 10 to 15 years or received any blood transfusions, nor did she travel out of the area during this time. According to the records of the district feldsher, she did not

USSR

PERSHIN, Ye. Ya., and YEMYASHEVA, L. I., Meditsinskaya Parazitologiya i Parazitarnyy Bolezni, Vol 39, No. 6, 1970, pp. 738-739

receive outpatient treatment during the same period of time. Relatives said that 15 years ago everyone in the village, including patient Yu., developed febrile diseases.

Examination of the inhabitants of the village (210 persons) and blood taken from 20 to 22 May 1968 failed to reveal any other parasite carriers. No imaginal or larval stages of the mosquito vector were found in the houses or in bodies of water within a radius of 3 km around the village.

Patient B., 54 years of age, living in the village of Kara-Tepe (Sverdlov kolkhoz), came to the rayon hospital with complaints of elevated temperature, chills, and headache. She thought that she had been sick since early April 1968, when she was hospitalized with complaints of head cold, elevated temperature, and headache (diagnosis: acute inflammation of the upper respiratory tract). Blood was examined twice for malaria but no parasites were found. Thereafter she felt febrile twice but did not seek medical care.

3/5

USSR

PERKSHIN, Ye. Ya., and YEMYASHEVA, L. I., *Meditinskaya Parazitologiya i Parazitarnyy Bolezni*, Vol 39, No 6, 1970, pp 738-739

Examination of the liver showed it to be enlarged by 4.5 cm, with the spleen extending to the lesser pelvis, an indication of the long duration of the process. Blood was analyzed for malaria on 28 September and various stages of the causative agent of quartan malaria were found (schizonts, merozoites). The parasitological diagnosis was confirmed at the Uzbek Scientific Research Institute of Experimental Medical Parasitology and Helminthology.

The patient said she had not had any febrile diseases in recent years (the district hospital had no record of her having been there during the previous 3 years). She did not remember ever having had malaria or receiving blood transfusions. In 1968 she traveled to the settlement of Khatyrchi, but this locality has not been a focus of malaria for the past 10 years. Examination of 108 persons from the village of Kara-Tepe and their blood on 1 December 1968 failed to reveal any other person suffering from malaria or acting as a parasite carrier. *A. pulcherrimus* larvae were caught in June 1968 in bodies of water in and around the locality, however no imaginal stages were found in the dwellings throughout the season.

4/5

USSR

PERSHIN, Ye. Ya., and YEMYASHEVA, L. I., Meditsinskaya Parazitologiya i Parazitarnyy Bolezni, Vol 39, No 6, 1970, pp 738-379

It is reasonable to assume that both patients experienced late recurrences of quartan fever that was provoked by acute infection - by epidemic cerebrospinal meningitis in the first case and by an acute inflammation of the upper respiratory tract in the second. Our observations should alert clinicians and especially medical workers in regions where quartan malaria was once prevalent.

5/5



USSR

UDC: 538.574.6

YENA, A. I., LITVINENKO, L. N., and SHESTOPALOV, V. P., Khar'kov Institute of Radio-  
~~electronics~~

"Diffraction of Electromagnetic Waves by Multi-element Arrays"

Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy: Radiofizika, Vol 13, No 6, 1970,  
pp 913-924

Abstract: The authors study the diffraction of a plane electromagnetic wave by a multi-element array. The structure of the array consists of an infinite sequence of periodically spaced groups of strips, with  $n$  number of strips in each group. It is shown that these arrays have important characteristics with respect to practical application. These characteristics consist of the array's transparency to H-polarized waves in a broad range of frequencies, while being analogous to a single element array with the same period in the case of E-polarization. An approximate method is proposed for calculating array diffraction fields using equivalent boundary conditions. The results of these calculations are compared to a precise solution obtained for a case involving an array with a five element period. Original article: five figures, one table, 19 formulas, and 13 bibliographic entries.

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USSR

UDC: 621.396.677

YENA, A. I.

"Diffraction Fields in the Fresnel Zone on Gratings of Special Shape"

Radiotekhnika. Resp. mezhd. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 13, pp 122-129 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B4)

Translation: The amplitude and phase distributions of the E-field are constructed for a symmetric five-element grating, and for an asymmetric two-layer two-element grating. It is shown that the desired field configuration can be obtained in the short-range zone; the fields are analyzed for a wavelength equal to the lattice period; these fields are compared with those of single-layer gratings. Three illustrations, bibliography of four titles. Resumé.

1/1

- 17 -

172 023 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--POLYMERIZATION OF VINYL MONOMERS IN LAYER COMPOUNDS OF  
MONTMORILLONITES -U-  
AUTHOR-(04)-ZAYTSEV, YU.S., KISEL, N.G., YENALYEV, V.D., YURZHENKO, A.I.  
COUNTRY OF INFO--USSR  
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 213-217  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--POLYMERIZATION, MONOMER, VINYL COMPOUND, PEROXIDE, MINERAL,  
CHEMICAL STABILIZER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1993/0402 STEP NO--UR/0069/70/032/002/0213/0217  
CIRC ACCESSION NO--AP0113320  
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113320

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY HAS BEEN MADE OF THE POLYMERIZATION OF VINYL MONOMERS IN LAYER COMPOUNDS OF MONTMORILLONITE USED AS A STABILIZER OF MONOMER EMULSIONS. THE DEPENDENCE OF THE CHANGE IN THE INTERPLANAR SPACES IN MONTMORILLONITE DURING POLYMERIZATION OF VINYL MONOMERS BETWEEN ITS LAYERS ON THE POLARITY OF MONOMERS AND THE NATURE OF PEROXIDE INITIATORS HAS BEEN STUDIED BY X-RAY DIFFRACTION. APART FROM STABILIZING MONOMER EMULSIONS, BENTONITE CLAYS SERVE AS SITES ON WHICH POLYMERS ARE FORMED ON THE SURFACE AND BETWEEN LAYERS OF MONTMORILLONITE PARTICLES.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--FATTY ACIDS CONTENT OF BLOOD SERUM LIPIDS AT ATHEROSCLEROSIS -U-

AUTHOR--(02)-ALIMOVA, YE.K., YENDAKOVA, E.A. *Y*

COUNTRY OF INFO--USSR

SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, *Y* VOL 16, NR 3, PP 310-316

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FATTY ACID, BLOOD SERUM, LIPID, ATHEROSCLEROSIS, CHOLESTEROL,  
HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0179

STEP NO--UR/0301/70/016/003/0310/0316

CIRC ACCESSION NO--AP0120873

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120878

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AIM OF THE PRESENT WORK WAS THE STUDIES OF FATTY ACID CONTENT OF BLOOD SERUM PARENT LIPIDS AND FOLLOWING FRACTION: CHOLESTEROL ESTERS, TRIGLYCERIDES, NONESTERIFIED FATTY ACIDS BOTH IN HEALTHY MEN AND IN PATIENTS WITH ATHEROSCLEROSIS BY MEANS OF GAS LIQUID CHROMATOGRAPHY. THE STUDY WAS CONDUCTED ON 35 PATIENTS 45-49 YEARS OLD WITH INFARCTION CAUSED BY HYPERTENSION AT II-III STAGES. HYPERTENSION WAS COMPLICATED BY CORONARY ATHEROSCLEROSIS. 40 HEALTHY MEN WERE USED AS A CONTROL. IN PATIENTS WITH ATHEROSCLEROSIS THE FALL IN UNSATURATED FATTY ACIDS CONTENT OF BLOOD SERUM LIPIDS WAS DEMONSTRATED. THE CHARACTERISTIC FEATURE IN CHANGES OF ACID SATURATION IS THE SHARP DECREASE IN LINOLEIC ACID CONTENT IN SERUM LIPIDS, THE FALL IN ARACHIDONIC ACID LEVEL, AND INCREASE IN EUCOSETRIENIC ACID. THE BASIC ACIDS OF CHOLESTEROL ESTERS WERE OLEIC AND LINOLEIC ACIDS. IN PATIENTS WITH ATHEROSCLEROSIS THE CONTENT OF SATURATED AND MONOENIC ACIDS WAS INCREASED, BUT THE FALL IN LINOLEIC ACID LEVEL WAS DEMONSTRATED. TRIGLYCERIDES FRACTION OF BLOOD SERUM OF HEALTHY MEN WAS CHARACTERIZED BY THE INCREASED CONTENT OF PALMIC AND OLEIC ACIDS. THE PATIENTS WITH ATHEROSCLEROSIS WERE CHARACTERIZED BY ELEVATED LEVEL OF SATURATED AND MONOENIC ACIDS AND BY THE DECREASE IN LINOLEIC ACID CONTENT. NONESTERIFIED SERUM FATTY ACIDS MOSTLY CONTAIN PALMIC AND OLEIC ACIDS. IN PATIENTS WITH ATHEROSCLEROSIS THE CONTENT OF TRIENIC ACIDS IS INCREASED AND THAT OF MONOENIC IS DECREASED. THE MOST PRONOUNCED INCREASE WAS NOTED IN CASE OF ACIDS WITH UNEVEN CARBON ATOMS. FACILITY: CHAIR OF BIOCHEMISTRY MEDICAL INSTITUTE, VLADIVOSTOK.

UNCLASSIFIED

USSR

UDC: 53.07/.08+53.001.5

YENDOVITSKIY, V. S., KIMEL', L. R., MOKHOV, N. V.

"An Analytical Method of Calculating a Nucleon-Meson Cascade at High Energies of the Order of  $1-10^3$  GeV"

V sb. Vopr. dozimetrii i zashchity ot izluch. (Problems of Dosimetry and Radiation Shielding--collection of works), vyp. 12, Moscow, Atomizdat, 1971, pp 15-23 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A732)

Translation: A numerical method is proposed for calculating nucleon-meson cascades with regard to scattering in inelastic hadron-nucleus interactions. The method gives the function of spectral-angular distributions of particles in a cascade initiated in shielding materials by broad beams of high-energy hadrons in the small-angle approximation.

1/1

USSR

UDC 539.3

ABOVSKIY, N. P., AZARKHIN, A. M., YENDZHIVSKIY, L. V., PAS'KO, D. A.,  
SHOYEVA, Ye. T.

"On the Calculation of Convex Polyhedra With Plane and Curved Ribbed Panels"

V sb. Prostranstv. konstruktsii v Krasnoyarsk. krae (Three-Dimensional Structures in the Krasnoyarsk Region -- Collection of Works), Krasnoyarsk, 1972, pp 20-27 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V116)

Translation: Variational formulations of the problem in displacements and in mixed form using stress and bending functions are discussed for convex multi-sided surfaces considering discrete displacement of the ribs. Each ribbed panel of the system is represented as a variety of a shell of variable thickness. Authors' abstract.

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USSR

UDC 539.3

YENDZHIYEVSKIY, L. V., LARIONOV, A. A.

"Calculation of Hollow Multisided Ribbed Shells by the Finite Difference Method"

V sb. Prostranstv. konstruktsii v Krasnoyarsk. kraye (Three-Dimensional Structures in the Krasnoyarsk Region — Collection of Works), Krasnoyarsk, 1972, pp 51-59 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V118)

Translation: Structural designs of assembled plane ribbed elements having the shape of a polyhedron inscribed in a spherical or circular surface are discussed. Bending in the normal plane and longitudinal deformation is taken into account for ribs eccentrically conjugate with the plate. Difference equations were obtained from the Lagrange variation equation for the multicontact problem. The solution is given in the linear formulation in displacements. Authors' abstract.

1/1

USSR

UDC 632.954:631.17

YENENKO, I. I., Yershovskaya Experimental Station of Irrigated Agriculture,  
Scientific Research Institute for Southeastern Agriculture

"Destruction of Weeds on Irrigated Corn Plantings in the Transvolga Region"

Moscow, Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 43-45

Abstract: Tests were made over 4 years at the station to determine the effectiveness of agricultural techniques in combination with the herbicides 2,4-D (amine salt) and 2M-4CM (sodium salt) for controlling weeds in corn. The soil was dark chestnut clay loam, pH 8.2, containing 4.1% humus. The herbicide was applied at the 4-5 and 6-7 leaf stages of the corn, when it would not suppress corn growth. Shoot-producing weeds were greatly retarded by the herbicides in the stem forming stage, when the herbicides killed 80% and more. The amaranthus weed was most effected by 2,4-D, with about 80% kill, but it soon became resistant so that only around 50% or less kill was achieved. Optimum dosages of 2M-4CM proved to be 2 and 3 kg/ha in the 4-5 and 6-7 leaf stage of the corn, and of 2,4-D, 1.5 and 2 kg/ha in the respective corn stages. The dicotyledonous weeds were most sensitive to the herbicides in the stemming phase, while the amaranthus weed was best controlled in the 3-4 leaf phase of growth. On irrigated plantings the most  
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USSR

YENENKO, I. I., Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 43-45

effective and economically profitable technique proved to be twice repeated cultivation in combination with thorough spraying of the plantings with a solution of 2M-4CM after the first cultivation, using 3 kg/ha.

2/2

- 53 -

Acc. Nr.: AN0104560

Ref. Code: UR 9015

AUTHOR-- YENEVICH, BORIS, CORRESPONDENT

TITLE-- MYSTERIES OF THE "WEATHER KITCHEN"

NEWSPAPER-- RABOCHAYA GAZETA, JUNE 11, 1970, P 4, COLS 2-6

ABSTRACT-- THE "AKADEMIK VERNADSKIY", A RESEARCH SHIP OF THE SOVIET ACADEMY OF SCIENCES, HAS LEFT THE SEVASTOPOL FOR THE TROPICAL AREA OF THE ATLANTIC WHERE SHE WILL JOIN THE "DMITRIY MENDELEEV" AND THE "AKADEMIK KURCHATOV", RESEARCH VESSELS OF THE OCEANOLOGICAL INSTITUTE. THE EXPEDITION IS HEADED BY CANDIDATE OF GEOGRAPHICAL SCIENCES PAVEL PAVLOVICH GANSON AND HIS DEPUTY, CANDIDATE OF GEOGRAPHIC SCIENCES YUVENALIY GEORGIYEVICH RYZHKOV. THE MISSION OF THE EXPEDITION IS TO EXPLORE THE PRINCIPAL METEOROLOGICAL PROCESSES WHICH ARE RESPONSIBLE FOR CLIMATIC CONDITIONS OF THE WESTERN ASIATIC AND NORTHERN EUROPEAN PARTS OF THE SOVIET UNION.

THE "SERGEY VAVILOV" AND THE "PETR LEBEDEV", SHIPS OF THE ACOUSTICAL INSTITUTE, THE "PROFESSOR VIZE" AND THE "PROFESSOR ZUBOV", WEATHER SHIPS OF THE HYDROMETEOROLOGICAL SERVICE, AND THE "HUSSON" AND THE "PASSAT" WILL PARTICIPATE IN THE EXPEDITIONARY WORK.

REEL/FRAME

19871194

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12

2. 022 UNCLASSIFIED PROCESSING DATE--0200170  
TITLE--THERMODYNAMIC FUNCTIONS OF SIX SUB3 YZ TYPE HALOSILANES -U-

AUTHOR--(05)-MASLOV, P.G., OSVYATSEVA, T.R., BOYKO, V.G., KARENIKOVA,  
M.I., YENGALYCHEV, YU.S.  
COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 825

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--THERMODYNAMIC FUNCTION, SILANE, SILICON COMPOUND, GAS STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
COPY REEL/FRAME--1993/0276

STEP NO--UR/0076/70/044/003/0825/0825

ARC ACCESSION NO--AP0113206

UNCLASSIFIED

72 022

UNCLASSIFIED

PROCESSING DATE--02OCT70

RC ACCESSION NO--AP0113206

STRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMULAS ARE DERIVED FOR THE  
 CALCN. OF THERMODYNAMIC PROPERTIES OF 12 GASEOUS HALOSILANES SIX SUB2  
 YZ (X, Y, Z EQUAL F, Cl, BR, I) AS FUNCTION OF TEMP. AND PRESSURE. THEY  
 WERE OBTAINED BY THE METHOD REPORTED EARLIER (CA 64: 16715F). FORMULAS  
 ARE VALID FOR C SUBRHODEGREES AND ENTHALPY (H TAUDEGREES MINUS H  
 SUBODEGREES) AT 250-1000DEGREEK (ACCURACY 0.2-3PERCENT); AS WELL AS FOR  
 ENTROPY AT 250-1500-2000DEGREEK (ACCURACY 0.2-1.5DEGREES). VALUES OF  
 COEFFS. IN THESE FORMULAS, ARE GIVEN. FACILITY: Leningrad, Gos.  
 PEDAGOG. INST. IM. GERTSENA, Leningrad, USSR.

UNCLASSIFIED

USSR

UDC 639.311:663.632.8

YENGASHEV, V. G., Candidate of Veterinary Sciences, Central Laboratory of the Ichthyopathological Service, Ministry of Fish Economy RSFSR, KOZLOV, Ye, I., Candidate of Technical Sciences, VNIISKhSPGA All Union Scientific Research Institute of Agricultural and Special Use of Civil Aviation, and AFANAS' YEV, V. I., Candidate of Veterinary Sciences, Krasnodarskiy Scientific Research Institute of Pond Fishery, Ministry of Fish Economy RSFSR

"Disinfection of Fish Ponds From Airplanes"

Moscow, Rybnoye Khozyaystvo, No 3, Mar 71, pp 29-30

Abstract: In 1967, fisheries in the Moscow region began to use agricultural AN-2 airplanes for disinfecting ponds with lime. In 1969, fisheries in Krasnodarskiy Kray equipped an AN-2 plane with a different spray mechanism and obtained much better results. The rate of spray reached 42 kg of lime per second (previously, 18-20 kg/sec), and the strip covered per run was also considerably wider: 8-10 meters at an altitude of 4 m; 12-13 m from an altitude of 10m; and 15-16 m from an altitude of 15 m. For most purposes, an altitude of 10-15 m is recommended; it should be lowered to 5 m on windy days or when it is desirable to deliver a larger amount of the disinfectant per unit surface area. The spray mechanism was designed by the VNIISKhSPGA, and it can be easily installed in the AN-2 plane.

1/1

USSR

UDC 523.035.2

YENGBARYAN, N. B. and NIKOGOSYAN, A. G., Institute of Mathematics, and  
Byurakan Astrophysical Observatory (both under the Armenian Academy of  
Sciences)

"Diffuse Reflection of Resonance Radiation From a Semi-Infinite Medium"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, LIV, No 2, 1972, pp 91-95

Abstract: Because of its complexity, the problem of radiation transfer in spectral line frequencies has usually been attacked with the simplifying assumption of total frequency redistribution; but this assumption contradicts both the dependence of redistribution on scattering angle, and the presence of correlation between frequencies of absorbed and reradiated quanta.

A mathematical basis for future development of an effective solution of the problem of diffuse light reflection from a homogeneous semi-infinite medium is worked out, using V. A. Ambartsumyan's invariance principle. Due allowance is made for noncongruence and anisotropy of an elementary act of scattering. The study is an extension of the authors' earlier work, in which a strict examination of noncongruent scattering was undertaken, along with consideration of the redistribution-scattering angle relationship.

1/1



1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--ON ONE PROBLEM OF THE RADIATION TRANSFER IN CONTINUUM -U-  
AUTHOR-(02)-VARDANYAN, R.S., YENGIBARYAN, N.B.  
COUNTRY OF INFO--USSR  
SOURCE--SOBESHCHENIYA BYURAKANSKOY OBSERVATORII AKADEMIYA NAUK ARMYANSKOY  
SSR, 1970, NR 41, PP 91-98  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--PHYSICS, ATMOSPHERIC SCIENCES  
TOPIC TAGS--ATOM, IONIZATION, ATMOSPHERIC RADIATION  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1994/0063 STEP NO--UR/2620/70/000/041/0091/0098  
CIRC ACCESSION NO--AP0114459  
UNCLASSIFIED

PROCESSING DATE--09OCT70

UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0114459

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NON LINEAR PROBLEM OF THE RADIATION TRANSFER IN THE PLANE PARALLEL LAYERS, WHEN THE LAYERS CONSIST OF ATOMS WITH TWO ENERGETIC LEVELS, BASIC AND IONISATION, IS CONSIDERED. FOR SOLUTION OF THE PROBLEM AMBARZUMIAN'S METHOD OF SELF COORDINATED OPTICAL DEPTHS IS APPLICATED.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

1/2 010

TITLE--DIENE SYNTHESIS WITH THE PARTICIPATION OF 1,4-DICHLORO,  
1,3-BUTADIENE -U-

AUTHOR--(GZ)-YENGIBARYAN, R.N., BABAYAN, V.O.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 675-7 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, BUTADIENE, ORGANIC SYNTHESIS,  
CYCLOHEXENE, CONDENSATION REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/2045

STEP NO--UR/0366/70/006/004/0675/0677

CIRC ACCESSION NO--AP0125633

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125633

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

ABSTRACT. THE CONDENSATION OF CLCH:CHCH:CHCL (1) WITH H SUB2 C:CHCO SUB2 ME IN THE PRESENCE OF ALCL SUB3 AND HYDROQUINONE GAVE 40PERCENT ME 2,5,DICHLOROCYCLOHEXENE, 3,CARBOXYLATE, WHICH ON REFLUXING IN KOH-MEON GAVE BZOH. SIMILARLY, I WAS CONDENSED WITH H SUB2 C:CMCO SUB2 ME OR ACCH:CH SUB2 TO GIVE, RESP., ME 2,5,DICHLORO,1,METHYLCYCLOHEXENE,3,CARBOXYLATE OR 2,5,DICHLORO,1,ACETYL,3,CYCLOHEXENE.

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDRODYNAMIC STUDIES OF DISPERSED GAS LIQ. (AIR WATER, AIR SATD. CUSO SUB4 SOLN., 3PERCENT CO SUB2 IN AIR 1.8N NAOH) AND GAS LIQ. SOLID (AIR SATD. CUSO SUB4 SOLN. CUSO SUB4 CRYSTALS) SYSTEMS WERE CONDUCTED IN A PLANAR (2-DIMENSIONAL) FOAMING APP. MODEL AT GAS VELOCITIES SMALLER THAN OR EQUAL TO 2.5 M-SEC. CHANGES IN THE SURFACES OF THE CONTACTING PHASES AND CHANGES IN STRUCTURE WERE FOLLOWED CINEMATographically. THREE DISTINCT HYDRODYNAMIC REGIMES WERE IDENTIFIED WHICH VARIED WITH THE GAS VELOCITY W; AT LOW W, THE GAS WAS DISPERSED IN THE LIQ.; AT INTERMEDIATE W, AN INVERSION OF PHASES OCCURRED AND CLUSTERS OF LIQ. DROPLETS AND GAS BUBBLES (VOIDS) WERE PRESENT; AND AT HIGH W, THE LIQ. WAS FULLY DISPERSED IN THE GAS. CHANGES IN THE GAS VOL. FRACTION, SP. CONTACTING SURFACE OF THE CLUSTER, AND PRESSURE DROP CHANGES IN THE LAYERS DETD. AS A FUNCTION OF TIME ARE DISCUSSED; TWO MODES OF GAS FILLING OF THE LIQ. CLUSTERS AND OF THE VOIDS WERE OBSD. AND ARE DISCUSSED.  
FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSovETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 008  
UNCLASSIFIED  
PROCESSING DATE--23OCT70  
TITLE--REVERSIBLE ELECTROCHEMICAL REDUCTION OF BETA CAROTENE AND RELATED  
COMPOUNDS -U-  
AUTHOR--(03)-MAYRONOVSKIY, V.G., YENGOVATOV, A.A., SAMOKHVALOV, G.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(3), 632-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--BIOLOGIC PIGMENT, UNSATURATED HYDROCARBON, ELECTROLYTIC  
REDUCTION, ELECTRODE POTENTIAL, PHOTOSYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/2029 STEP NO--UR/0366/70/006/003/0632/0633  
CIRC ACCESSION NO--AP0120672  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A SUPPORTING ELECTROLYTE OF 0.027 M ET SUB4 NI SOLN. IN 2:1 HCONME SUB2-C SUB5 H SUB6, B CAROTENE, 15,15 PRIME CIS-BETA-CAROTENE, AND 15,15 PRIME DEHYDRO-BETA-CAROTENE HAVE HALF WAVE POTENTIALS OF MINUS 1.2179, MINUS 1.2147, AND MINUS 1.2323 V (VS. THE ELECTRODE AG(ET SUB4 NI (SATD.); HCONME SUB2 MAGNITUDE OF) RESP., CORRESPONDING TO REVERSIBLE ELECTRON TRANSFER AND THE FORMATION OF IONS. THE ABILITY OF THESE CAROTENES TO ADD ELECTRONS REVERSIBLY IS RELATED TO THE HYPOTHESIS OF THEIR PARTICIPATION IN PHOTOSYNTHESIS (J. PLATT, 1955). FACILITY: VSES, NAUCH.-ISSLED VITAM. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 617-001.28-092.9-07: [616.155.3:576.858.095.383]-078

KAMALYAN, L. A., YENGOYAN, M. N., and VARTEVANYAN, Zh. Ts.

"Production of Leukocyte Interferon in Irradiated and Intact Dogs"

Moscow, Voprosy Virusologii, No 5, 1971, pp 552-555

Abstract: Leukocytes isolated from the peripheral blood of dogs and treated with Newcastle disease virus strain A produced interferon, whose activity varied with the dose of the interferon inducer, the number of leukocytes, and the time the leukocytes were used (freshly isolated cells were best, while refrigeration of cell suspensions for 24 and especially 48 hours markedly reduced their capacity to produce interferon). Single whole-body X-irradiation (400 r) significantly lowered interferon titers on days 2 and 7 after exposure in most of the dogs. A mild course of radiation sickness occurred in those animals in which irradiation did not impair the synthesis of leukocyte interferon. Analysis of interferon isolated from dogs before and after irradiation showed that it was identical in resistance to heating to 56°C for 30 minutes and sensitivity to trypsin.

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1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--EFFECT OF VAPOR ADSORPTION ON THE SURFACE POTENTIAL OF GERMANIUM  
-U-  
AUTHOR--(03)-YENIKEYEV, E.KH., KUZNETSOV, V.S., HSU, N.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKTROKIMIYA 1970, 6(1), 49-56  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--GAS ADSORPTION, GERMANIUM, THERMAL EFFECT, PRESSURE EFFECT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/0467 STEP NO--UR/0364/70/006/001/0049/0056  
CIRC ACCESSION NO--AP0107073  
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0107073

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OVER A FAIRLY WIDE RANGE OF PRESSURES, THE SURFACE POTENTIAL IS GOVERNED BY THE EXPRESSION  $\Phi_{SUBO} = C + D \ln P$ , WHERE D IS 0.4-0.98 FOR VARIOUS ADSORBATES. THE HIGHER THE TEMP., THE LOWER IS THE CHANGE IN  $\Phi_{SUBO}$  IN A H SUB2 O VAPOR ATM.,  $\Phi_{SUBO} \text{ PRIME} = \log \Phi_{SUB2 O}$ . THE  $\Phi_{SUBO} \text{ PRIME}$  AS A FUNCTION OF TEMP. (WITH CONST. ADSORBATE PRESSURE) CAN BE EXPRESSED IN THE FORM  $\Phi_{SUBO} \text{ PRIME} = \Phi_{SUBO} - \alpha T$ , WHERE  $\alpha$  IS SIMILAR TO  $1.08 \times 10^{-3} \text{ PRIME}^{-1} \text{ V-DEGREE}$ , WHILE  $\Phi_{SUBO}$  IS GOVERNED BY THE ADSORBATE PRESSURE. WITHIN THE RANGE OF TEMPS. AND PRESSURES INVESTIGATED, THE THEORETICAL RETARDATION ISOTHERM DOES NOT CONTRADICT THE EXPTL. DATA. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

USSR

YENIKEYEV, M. V., Candidate of Medical Sciences, Chair of Operative Surgery and Clinical Anatomy, Tashkent Institute of Advanced Training of Physicians, Tashkent

"Experimental Data on Pancreatic Secretion Upon Bilateral Vagotomy and Overheating"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 12, Dec 71, pp 18-21

Abstract: Dogs were subjected to bilateral vagotomy above the diaphragm. The pancreatic secretion of the bagotomized dogs was studied while keeping the animals at room temperature and then overheating them by exposure for 1 hour to sunlight in the summer (dry bulb temperature 33-41°C, wet bulb temperature 20-29°C, amount of solar radiation absorbed by the body surface 0.98-1.27 kcal/cm<sup>2</sup> per min). The pancreatic secretion of the vagotomized dogs kept at room temperature decreased vs. that of controls not subjected to vagotomy 89.1, 87.3, and 86.4% on the 5th, 6th, and 7th day after the operation, respectively. The composition of the pancreatic juice remained essentially unaltered. Exposure of the vagotomized dogs to sunlight for 1 hour on the 8th day after the operation did not produce any changes in the pancreatic secretion vs. that of vagotomized dogs kept at room temperature. When animals with a normal vagus innervation were exposed for 1 hour to sunlight, the pancreas secretion was inhibited considerably and remained at 1/2

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YENIKHEYEV, M. V., Meditsnskit Zhurnal Uzredistana, No 12, Dec 71, pp 18-21 -

a lowered level for the following 5 days. Inhibition under the effect of overheating in normal animals can be ascribed to reduction in the intensity of efferent impulses transmitted by fibers of the vagus that activate pancreas secretion. In vagotomized animals pancreatic secretion still took place, although to a reduced extent, because of activation by the sympathetic nerve.

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USSR

UDC 619:616.988.43:036-2:614.44

YENIKHYEV, R. Kh., Scientific-Industrial Laboratory Bashkir SSR

"Epizootiology and Measures for Eradicating Foot-and-Mouth Disease in Bashkir SSR"

Moscow, Veterinariya, No 9, 1971, pp 48-50

Abstract: An account is given of measures taken to eradicate foot-and-mouth disease (FMD) in Bashkiria, an area of frequent outbreaks of the disease in the past. A most serious outbreak of FMD in the republic began in October 1961 and lasted until July 1965. Another serious outbreak occurred in October of 1966. In both instances types O and A of the virus were the pathogens, although type A predominated in the 1966 outbreak. All types of ungulates were affected. The financial losses incurred in the period from October 1961 to October 1962 amounted to 3,862,295 rubles or 20 rubles and 10 kopeks for each diseased animal. All measures for the control and eradication of FMD in the area specified in the instructions were implemented and strictly enforced. Particular attention was given to treatment of diseased animals. Streptomycin and penicillin were administered. Observations established that about 28% of the cows at the dairy-producing farms were affected with mastitis. The application of propolis in the form of a 15%  
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USSR

YENIKEYEV, R. Kh., Veterinariya, No 9, 1971, pp 48-50

ointment to the affected nipples had an anesthetic effect permitting the milking of cows by hand. The anesthetic effect lasted two hours. Propolis has been found to have also a healing effect, with the healing process beginning 2-3 days in mild cases of mastitis, 3-5 days in moderate cases, and 5-8 days in severe cases after the application of the ointment. Among prophylactic measures used was the vaccination of the young stock with a vaccine prepared from the blood of convalescing animals. Successful vaccination saved 157.730 young animals in the course of the epidemic. No outbreaks of the disease in Bashkiria in the past three years have been reported.

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Veterinary Medicine

USSR

UDC 911.3.616.988.43(470.52)

YENIKEYEV, R. Kh.

"Seasonal Epizootics of Foot and Mouth Disease in the Bashkir ASSR (1961-1968)"

V sb. Virusn. bolezni s.-kh. zivotnykh. Ch 2. (Virus Diseases of Farm Animals -- collection of works. Part 2) Moscow, 1970, pp 192 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.75)

Translation: An increase in foot-and-mouth disease incidence in the republic occurs in the spring-summer and autumn periods. In 1961-1968, 2,048 points were recorded. Of these, 12% were noted in January-April; 54.6% in May-September, and 33.4% in October-December.

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1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--AMALGAMATION OF VERY SMALL AMOUNTS OF POLONIUM WITH MERCURY -U-  
AUTHOR--(03)-GLADYSHEV, V.P., YENIKEYEV, R.SH., NAURYZBAYEV, M.K.  
COUNTRY OF INFO--USSR  
SOURCE--RADIOKHIMIYA 1970, 12(1), 195-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--AMALGAMATION, POLONIUM, MERCURY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/0382 STEP NO--UR/0186/70/012/001/0195/0197  
CIRC ACCESSION NO--AP0118051  
UNCLASSIFIED



2/2 009

CIRC ACCESSION NO--AP0118051

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MINUTE AMTS. OF PRIME120 PO (OF THE ORDER OF 19 PRIME NEGATIVE12 MOLE-1.) WERE EXTD. QUANT. FROM 0.1-6.ON HCL OR HNO SUB3 SOLNS. BY AGITATION OF THE SOLN. FOR 5-10 MIN WITH METALLIC HG. AT 20DEGREES AND A HG:SOLN. VOL. RATIO OF 1:10; THE EXTN. FROM N HI AND HBR SOLNS. WAS ALSO NEARLY QUANT., BUT THE DEGREE OF EXTN. FROM N H SUB2 SO SUB4 OR HCLO SUB4 SOLNS. WAS SIMILAR TO 70PERCENT AND DECREASED TO SIMILAR TO 20PERCENT WHEN A SMALL AMT. (0.01 MOLE-1.) OF THE DI-NA SALT OF EDTA WAS ADDED TO THE SOLN.

UNCLASSIFIED

USSR

UDC 911.3.616.921.5(470.23)

YENIKOLOPOVA, L. S., and ZHILOVA, G. P.

"The Role of Swine in the Circulation of Influenza A<sub>2</sub> Virus in the 1969 Epidemic"

V sb. Virusn. bolezni s.-kh. zivotnykh. Ch. 2 (Virus Diseases of Farm Animals -- collection of works. Part 2), Moscow, 1970, pp 205-207 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.79)

Translation: Data was obtained confirming the participation of swine in the circulation of human influenza virus.

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1/2 026  
UNCLASSIFIED  
TITLE--THERMODYNAMICS OF REVERSIBLE COPOLYMERIZATION -U- PROCESSING DATE--04DEC70  
AUTHOR--(02)-BERLIN, A.A., YENIKOLOPYAN, N.S.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 337-40  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMODYNAMICS, COPOLYMERIZATION, MONOMER, EQUILIBRIUM  
CONSTANT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3007/0726 STEP NO--UR/0460/70/012/005/0337/0340  
CIRC ACCESSION NO--AP0136165  
UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0136165  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. THE EQUIL. CONC. OF A MONOMER IN A COPOLYMER WAS ALWAYS LOWER THAN IN A HOMOPOLYMER. AT EQUIL., THE AV. LENGTHS OF INNER BLOCKS WAS EQUAL TO THE AV. LENGTHS OF TERMINAL BLOCKS. A CERTAIN PARAMETER (DELTA EQUALS RATIO OF EQUIL. CONSTS.) WAS INTRODUCED TO EXPRESS THE RELATIVE EQUIL. CONCNS. OF COMONOMERS AS A FUNCTION OF COPOLYMER COMPN. "REAL" COPOLYMERS MAY BE TREATED IN TERMS OF DUHEM MARGULES EQUATION FOR SOLNS.

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