

USSR

UDC 547.26.118

MURATOVA, A. A., YARKOVA, E. G., PLEKHOV, V. P., MUSINA, A. A.,  
PUDOVIK, A. N., Kazan' State University imeni V. I. Ulyanov-Lenin,  
Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Study of the Complexes of Tin Halides With Incomplete Esters of  
Ethylphosphonous and Dialkylphosphinous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,  
pp 1978-1982

Abstract: Complexes of tin tetrachloride, tetrabromide, and tetra-  
iodide with methyl, ethyl, n-propyl, isopropyl, and n-butyl esters  
of ethylphosphonous acid and of tin tetrachloride with di-n-butyl,  
di-n-hexyl and di-n-octylphosphonous acids were synthesized and  
studied by IR spectroscopy. Comparison of the IR spectra of  
phosphonous and phosphinous acids and their complexes with tin  
tetrahalides in the range of 400-4000  $\text{cm}^{-1}$  shows that the type of  
changes observed is analogous to spectral changes of the dialkyl-  
phosphorous acids and their complexes. Consequently, all of them  
participate in these complexes in their pentavalent state. It was  
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MURATOVA, A. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 9,  
Sep 70, pp 1978-1982

shown that the coordination bond is through the oxygen of the phosphoryl group. The P-H bond was found to be sensitive both to the changes in the structure of the addendum and towards the ability of tin halides to act as electron acceptors.

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P Organometallic Compounds

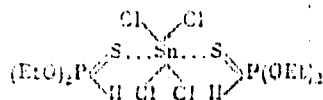
UDC 547.26'118

MURATOVA, A. A., PLEKHOV, V. P., and PUDOVNIK, A. M., Kazan' State University imeni V. I. Ulyanov-Lenin, Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Interaction of Diethyl Thiophosphite With Mercuric Chloride and Stannic Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1168-1169

Abstract: The reaction of mercuric chloride with diethyl thiophosphite, in which phosphorus is in the tetracoordinate state, gives diethyl chlorophosphite with a trivalent phosphorus atom. The interaction of diethyl thiophosphite with stannic chloride at room temperature gives a complex mixture of products with the structure



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USSR

P UDC 616-001.28+616.12-073.97

CHAWLYTKA, A. A., SIDARENKA, YA. R., RABTSEVICH, T. S., LUCHNIKOW,  
YA. F., LYSTSOVA, G. V., PLENINA, G. M.

"Cardiac Function During the Various Periods of Acute Radiation  
Sickness in Dogs"

Minsk. Vesti Akademiyi Nauk BSSR Seryya Biyalagicheskikh Nauk,  
No 1m 1970, pp 76-84

Abstract: A complete study of 92 dogs was made including behavior, weight, temperature, hemocytology, serum chemistry - including all its fractional components, A/G ratio, pulse respiration, EKG studies, etc., before irradiation with a single dose of 600 r and during the various phases of radiation sickness. A total of 41 controls and 50 dogs treated 7-9 days after irradiation were studied. As the animals died, autopsies were performed, and complete gross, histological and pathomorphological studies were correlated with other findings. Disorganization of cardiac function in the dead and surviving animals, together with electrocardiographic studies, were recorded concurrently with other clinical, laboratory, and  
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CHAWLYTKA, A. A., et al., Minsk, Vesti Akademiyi Nauk BSSR, No 1, 1970, pp 76-84

physiological changes. Histological studies in treated animals show the reversability of myocardial shifts with only minor sequelae.

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USSR

UDC 621.385.623.5

ELENKIN, V.YA., POSPELOVA, N.P.

"Study Of Short-Lived Frequency Instability Of Millimeter Wave Band Klystrons"

Tr. Mosk. aviats. in-ta (Works Of Moscow Aviation Institute), 1971, Issue 207, pp 239-244 (from RZh--Elektronika i yeye primeneniye, No 12, Dec 1971, Abstract No 12A258)

Translation: The paper describes the technique and the arrangement for measuring a short-lived frequency instability of millimeter wave band klystrons. The results are presented of an experimental measurement of the short-lived frequency instability at time segments of 0.1--16 microsecond. 3 ref. Summary.

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USSR

UDC 681.325.3(088.8)(47)

MYASNOV, V. I., PLESHAKOV, A. A., and GASUMYAN, K. A.

"A Converter Which Converts an Interval of Time Into Digital Code"

USSR Author's Certificate, No 292173, Filed 8 Sep 69, Published 26 Feb 71  
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya  
Tekhnika, No 8, 1971, Abstract No 8B373 P)

Translation: A converter which contains generators of standard-frequency pulses, a pulse counter, and gates is suggested. In order to reduce errors in quantization that is performed  $n$  times and to reduce the possibility of using the counting elements with the least limiting frequency of switching, the lower positions of the pulse counter contain  $n$  counting cells, and to the inputs of these cells the corresponding codes of the  $n$ -step standard-frequency pulse generator are connected via the gates. The one and zero outputs of the counting cells of the lower positions are connected to the corresponding inputs of the AND logic circuits, the outputs of which are connected via an OR circuit with the counting input of the higher positions of the counter. 1 illustration.

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USSR

UDC: 681.325

MYASNOV, V. I., PLESHAKOV, A. A., GASUMYAN, K. A.

"A Converter Which Changes a Time Interval to Digital Code"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsey, tovarnyye znaki,  
No 4, Feb 71, Author's Certificate No 292173, Division G, filed 28 Mar 69,  
published 6 Jan 71, p 135

Translation: This Author's Certificate introduces a converter for changing a time interval to digital code. The unit contains a standard frequency pulse oscillator, a pulse counter and diodes. As a distinguishing feature of the patent, the unit is designed for reducing the error of quantization by a factor of  $n$ , and provision is made for using counting elements with a lower maximum switching frequency. The least significant digits of the pulse counter contain counting cells with the outputs of the  $n$ -cycle standard frequency pulse oscillator connected to their corresponding inputs through diodes. The one-output and zero-output terminals of the counting cells of the least significant digits are connected to the inputs of AND logic circuits whose outputs are connected through an OR circuit to the counting input of the most significant digits in the counter.

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USSR

UDC: 8.74

INOYATOV, A. I., KANTSEL', A. V., PLESHAKOV, M. D.

"An Adaptive Recognition Algorithm Utilizing Statistical Resolving Rules"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works),  
vyp. 45, Tashkent, 1971, pp 78-81 (from RZh-Kibernetika, No 5, May 72,  
Abstract No 5V572)

[No abstract]

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USSR

UDC 629.7.036.54-66:536.46

IVANOV, B. I., IZMAYLOV, M. M., NAKHUMSKIY, S. YE., NIKONOV, A. P., and  
PLESHAKOV, V. F.

"Limit Conditions for the Propagation of Combustion Along Metal Specimens in  
Gaseous Oxygen"

Moscow, Goreniye i Vzyv -- Sbornik (Combustion and Explosion -- Collection of  
Works), Moskva, 1972, pp 149-152 (from Referativnyi Zhurnal -- Aviatcionnyye i  
Raketnyye Drigateli, No 2, 1973, Abstract No 2.34. 148. Russian)

Translation: Measurements are made of the propagation rate of combustion and  
the minimum oxygen pressure at which the propagation of combustion takes place,  
for cylindrical specimens of steels Kh18Ni9Ti and 3Kh13, copper-containing iron,  
and low-carbon steel. The oxygen pressure was varied from 1 to 400 technical  
atmospheres, the velocity of the external stream of oxygen was varied from 0 to  
100 m/sec, the diameter of the specimen varied between 1.2 and 6.0 mm. The  
experimental data are in good agreement with a model in which combustion on the  
surface of a liquid drop or metal is controlled by the diffusion of oxygen  
through a gas, and confirms the assumption of independence of the limit (minimum)

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IVANOV, B. I., et al., Gorennye i Vzryv -- Sbornik, Nauka, 1972, pp 148-152  
(from Referativnyy Zhurnal -- Aviatsionnyye i Raketnyye Dvigateli, No 2, 1973,  
Abstract No 2.34. 148. Resume)

density of the heat flux required for the maintenance of combustion from the  
pressure, the specimen diameter, and the velocity of the gas stream. 4 figures.  
6 references.

2/2

Nitrogen Compounds

USSR

UDC 547.821.824.07:542.953

PROSTAKOV, N. S., Kholdarova, T., Pleshakov, V. G., Govor, S. Ys., and Shalimov, V. P., University of People's Friendship Imenl Patrice Lumumba, Moscow

"Condensation of 1,2,5-trimethylpiperidone-4 With Ethyl- and Naphtyl-acetylenes and Synthesis of Substituted Pyridines"

Riga, Khimiya Geterotsiklicheskikh Soyedinenii, No 3, Mar 73, pp 349-352

Abstract: 1,2,5-Trimethylpiperidone-4 condensed under conditions of Favorskii reaction with 1-butyne,  $\alpha$ - and  $\beta$ -naphthylacetylene yields 4-(1-butynyl)- and 4-naphthylethynyl-1,2,5-trimethylpiperidols-4, which after hydrogenation over Raney nickel gave 4-n-butyl-, 4-(2 $\alpha$ -naphthylethyl)- and 4-(2 $\beta$ -naphthylethyl)-piperidols-4. These piperidols can be converted to pyridine bases by dehydration, catalytic dehydrogenation and N-demethylation. In this fashion 2,5-dimethyl-4-phenylpyridine was obtained from 1,2,5-trimethyl-4-phenylpiperidience. Condensation of 2,5-dimethyl-4-phenylpyridine with formaldehyde yields 5-methyl-2-( $\beta$ -hydroxyethyl)-4-phenylpyridine and 2-(5-methyl-4-phenylpyridyl-2)-propanediol-1,3. The first product was converted to the urethane N-phenyl- $\beta$ -(5-methyl-4-phenylpyridyl-2)ethylcarbamate and dehydrated to 5-methyl-2-vinyl-4-phenylpyridine. 2,5-Dimethyl-4-n-butylpyridine

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PROSTAKOV, N. S., et al., Khimiya Geterotsiklicheskikh Soedinenii, No 3, Mar 73, pp 349-352

condensed with formaldehyde gave 5-methyl-2-( $\beta$ -hydroxyethyl)-4-n-butylpyridine which was dehydrated to 5-methyl-2-vinyl-4-n-butylpyridine. Two derivatives of this  $\beta$ -hydroxyethyl compound were prepared: N-phenyl- $\beta$ -(5-methyl-4-n-butylpyridyl-2)ethylcarbamate and 5-methyl-2-( $\beta$ -benzoyloxyethyl)-4-n-butylpyridine.

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Acc. Nr:

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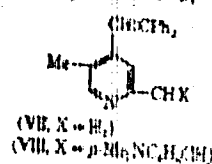
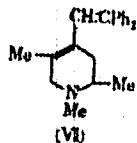
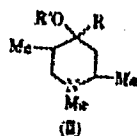
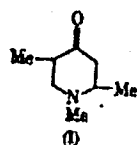
Abstracting Service:

CHEMICAL ABST.

Ref. Code:

1/N 0409

111243n Esters of (1,2,5-trimethyl-4-hydroxy-4-piperidyl)- and phenyl(1,2,5-trimethyl-4-hydroxy-4-piperidyl)acetic acids. Prostakov, N. S.; Pleshakov, V. G.; Dorogov, V. V.; Zayolkin, V. P. (Univ. Dzhuzhby, Sar. im. Lomonosov, Moscow USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 60-4 (Russ). To Me<sub>3</sub>CHMgCl (from 33 g Mg and 146 g Me<sub>3</sub>CHCl in 550 ml Et<sub>2</sub>O) was added 91.2 g PhCH<sub>2</sub>CO<sub>2</sub>H in 300 ml C<sub>6</sub>H<sub>6</sub>, and to this 63 g 1,2,5-trimethyl-4-piperidone (I) in 200 ml C<sub>6</sub>H<sub>6</sub> to give 145.9 g hygroscopic product, which was heated with 500 ml MeOH and 45 ml concd. H<sub>2</sub>SO<sub>4</sub> to give 52 g II [R = CHPhCO<sub>2</sub>Me, R' = H], m. 117-17.5° (petroleum ether); methiodide m. 194° (EtOH). II (R = CH<sub>2</sub>CO<sub>2</sub>Et, R' = H) (III) (6.87 g) 15 ml C<sub>6</sub>H<sub>6</sub>, and 5 ml pyridine with 8.5 g BzCl gave 1.5 g II.HCl (R = CH<sub>2</sub>CO<sub>2</sub>Et, R' = Bz) (IV), m. 195-7° (2:1 MeOH-Et<sub>2</sub>O). Also prepd. were II (R = CH<sub>2</sub>CPH<sub>2</sub>OH, R' = H) (V), m. 148-9.5° [V.MeI, m. 188-91° (EtOH)]; V picrate, m. 165-8° (EtOH), and VII, b<sub>p</sub> 169-87°, also obtained in 70% yield by dehydration of V.



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19841736

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VI (30.3 g) in 200 ml  $C_6H_6$  was passed during 8 hr through a tube filled with 100 ml catalyst K-16 at  $420-30^\circ$  to give 4200 ml gas ( $23^\circ$ , 754 mm), and 16.3 g of a fraction, b.p.  $160-91^\circ$ , from which 10 g rose VII, m.  $97-100^\circ$  was obtained; VII.MeI m.  $108-200.8^\circ$  (EtOH); VII picrate m.  $164-6^\circ$  (EtOH); VII perchlorate m.  $161^\circ$  (EtOH). VII.MeI (1 g), 0.4 g  $p-Me_2NC_6H_4CHO$ , 0.3 ml piperidine, and 25 ml EtOH gave 0.4 g VIII.MeI, m.  $284-8^\circ$  (EtOH), bright-red. II and V have 6-membered chelate rings through intramol. H-bonding.

S. K. Banerjee

19841737

Hematology

USSR

UDC 617-001.36-07:616.151.5-07

PLESHAKOV, V. T., TSYBULYAK, G. N., KOTSYUBINSKIY, N. N., and TABATADZE, K. G.,  
Clinic of Military Field Surgery, Hospital Surgical Clinic, and Faculty  
Therapeutic Clinic, Military Medical Academy imeni S. M. Kirov, Leningrad

"The Coagulation and Fibrinolytic Systems of the Blood in Traumatic Shock"

Leningrad, Vestnik Khirurgii imeni I. I. Grekova, Vol 106, No 6, Jun 71,  
pp 94-98

Abstract: Observations on 28 patients with shock of the 13 degree due to severe trauma showed that the concentration of fibrinogen in the blood decreased, while the fibrinolytic activity increased markedly and the time of coagulation increased to some extent. Experiments were conducted on dogs in which changes in coagulation and fibrinolysis upon acute blood loss, as a result of pain trauma combined with blood loss, and under the effect of blood loss or trauma and blood loss followed by reverse transfusion of the lost blood were studied. Blood loss as such reduced fibrinolysis in the initial stage. In a later stage, the concentration of fibrinogen decreased because of partial intravascular coagulation. The time of coagulation decreased. As a result of trauma combined with blood loss, hypofibrinogenemia developed because of increased fibrinolysis-intravascular coagulation did not contribute to this  
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PLESHAKOV, V. T., et al., Vestnik Khirurgii imeni I. I. Grekova, Vol 106, No 6, Jun 71, pp 94-98

effect. Blood transfusion accelerated fibrinolysis and increased the coagulation time, with these effects becoming more pronounced as the rate of blood transfusion was increased. The experimental results on the effects of trauma combined with blood loss did not explain the increase in the coagulation time observed on patients; the coagulation time regularly decreased in the experiments (the latter is characteristic for trauma and is due to release into the blood stream of products of tissue degradation as well as to a reflex reaction to pain). The acceleration of fibrinolysis in patients also did not correspond to the results of experiments on the effects of a blood loss in which the fibrinolytic activity was inhibited. Evidently, the increase in the coagulation time and the acceleration of fibrinolysis that were observed on patients were due to blood transfusion.

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USSR

UDC 621.362:538.4

PLESHANOV, A. S.

"On Mixed Type Converters"

Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 71, pp 53 -62

Abstract : It is analytically demonstrated that quasi-univariate equations of motion and energy of a conducting continuous medium in outer fields and by accounting for a surplus charge, in non-viscous and non heat conducting approximation, can be reduced to the ordinary type used in magnetohydrodynamics by proper determination of the effective magnetic field. The specific capacity of such magnetohydrodynamic converter ( MHDC ) with surplus charge of working substance, a mixed type converter, can be high in comparison with a normal MHDC by essential deviation of the medium from quasi-neutrality. A local condition of optimum sectionalizing of a mixed type converter is derived. Like an ordinary MHDC, an increase of the magnetic field intensity increases the effectiveness of the mixed type converter. One illustr., 25 formulas, one biblio. ref.

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USSR

UDC: 533.94

PLESHANOV, A. S.

"Magnetohydrodynamic Characteristics of a Non-Quasineutral Plasma"

V sb. Vopr. fiz. nizkoteraturn. plazmy (Problems in the Physics of Low-Temperature Plasma--collection of works), Minsk, "Nauka i tekhn.", 1970, pp 413-416

Translation: The author considers a system of multiliquid hydrodynamic equations for an inviscid non-quasineutral plasma. Ohm's law in such a plasma may be found by two methods: in the so-called equal acceleration approximation, or from equations of motion with regard to the expression for the rate of development of entropy (see Pleshanov, A. S., Magnitn. gidrodinamika, 1968, No 4, pp 93-97 -- RZh-Mekh, 1969, 8B95). It is shown that in spite of the appreciably divergent external form of the resultant equations, both methods are equivalent and give identical results. It is noted that the method of equal acceleration leads to more compact expressions, whereas the second method can be used to derive a number of general inequalities for longitudinal and transverse conductivity. V. M. Dubner.

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USSR

UDC 621.373.826:550.3

PLESHANOV, Yu. V.

"Apparatus and Method for the Experimental Investigation of the Passage of Laser Radiation Through a Perturbed Atmosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 206-210 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D368)

Translation: The proposed method permits obtaining statistical data on the received signal level as well as on the deviation of the radiation directions for any condition of the atmosphere. The method is based on the indication of the radiation current passing through the distorting atmospheric filter and reflected from a diffuse scattering screen that must have dispersive characteristics approaching the Lambert law. A description of the measuring device is given. A. K.

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USSR

UDC 621.039.524.034.3

NESTERENKO, V. B., TVERKOVKIN, B. YE., SHINKEVICH, O. S., PLESCHCHENKOV, G. A.

"Calculating the Parameters of a Chemically Reacting Flow in a Heated Channel"

Dissotsiiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V. sb.  
(Dissociating Gases as Heat Transfer Agents and the Working Medium of Power  
Plants -- Collection of Works), Minsk, Nauka i tekhn. Press, 1970, pp 236-252  
(from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U192)

Translation: A one-dimensional procedure for calculating the parameters of a chemically reacting stationary flow in a heated channel is proposed. The results of numerical calculation are presented, and the effect of the kinetics of chemical reactions on the average parameters of the chemically reacting flow is analyzed in the example of the dissociating system  $H_2O_4 + 2NO_2 \rightleftharpoons 2H_2O + O_2$ . There are 4 illustrations, 1 table and a 6-entry bibliography.

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USSR

PLESHCHEYEV, D. A., Master of Sports USSR, Voronezh Technological Institute

"Training of the Kinesthetic Analyser for Accurate Time Perception"

Moscow, Teoriya i Praktika Fizicheskoy Kul'tury, Vol 34, No 8, 1971, pp 13-14

Abstract: The object of the experiments was to determine the possibility of elevating the accuracy of time perception by the motor analyser by means of specially organized exercises, including basketball. The players were allowed 15 seconds to guide the ball to the last player who at the command of throw, threw the ball through the basket. This exercise was repeated three times, with the time differential between the beginning of the game and its end determined each time. In the other exercises students not regularly engaged in sports and physical activities, and student athletes were prescribed physical activities consisting of running in place with high elevation of the hips for 10 seconds repeated three times with 30-second rest periods; walking a distance of 30 meters in a prescribed time, repeating the exercise 4-5 times; throwing a ball from the chest with both hands as many times as possible in a 15-second period, repeating the exercise several times; rope skipping in one spot repeated six times; passing a ball in a circle of three-five people, first from right to left and then from left to right; and finally, dribbling

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PLESHCHHEYEV, D. A., Teoriya i Praktika Fizicheskoy Kul'tury, Vol 34, No 8, 1971, pp 13-14

a basketball for 15 seconds before its throw into the basket. The experiments established that special and regularly conducted exercises considerably improve time perception by the motor analyzer, and also the superiority of performance and timing by experienced over inexperienced groups.

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USSR

UDC 621.039.534:539.219.1(088.8)

ARNOL'DOV, M. N., IVANOVSKIY, M. N., PLESHIVTSEV, A. D.

"Method for Determining Admixtures in Liquid Metal"

Sposob opredeleniya primesey v zhidkom metalle (cf. English above), Authors  
Certificate USSR, Class G 01 n 33/20, No. 335607, Announced 12 Oct 70,  
Published 12 May 72 (from RZh-50. Yadernyye reaktory, No 11, Nov 72,  
Abstract No 11.50.135 P)

Translation: The invention concerns methods for controlling the content of admixtures in liquid metals used as coolants in nuclear reactors. The method is distinguished by the fact that the coolant in the indicator is cooled monotonically by the cooler. When the coolant temperature becomes equal to the temperature of saturation by its admixture, the latter is crystallized into a residue which is caught in openings of the indicator. In the proposed method the rate of clogging of the indicator and the temperature of the beginning of clogging are measured. The rate of clogging depends on the form of the admixture going into precipitate, other conditions being equal.

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USSR

UDC 576.858.75(Ao).073.3

PLESHIVTSEVA, V. V., GAVRILOV, V. I., and MIKHAYLOVA, G. R., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Further Study of Cultures of Human Embryonic Skin and Muscle Cells Infected With Influenza Ao (PR8) Virus"

Moscow, Voprosy Virusologii, No 5, 1971, pp 579-586

Abstract: A line of human embryonic skin and muscle epithelial cells (HESM<sub>ep</sub>) and the biological properties of a variant of the influenza Ao (PR8) influenza virus isolated from HESM-PR8 cultures in the degeneration phase (32nd passage, day 210) were studied. (This virus is designated Ao (PR8)<sub>hesm</sub>). Attempts to detect influenza virus in transformed HESM<sub>ep</sub> cultures using a variety of methods (inoculation of chick embryos with culture fluid, intact cells, or cell homogenates followed by blind passages in chick embryos, use of parabiologic cultures of normal and chronically infected cells with a medium containing DEAE-dextran and semicarbazide hydrochloride) were futile. Antibodies to Ao virus could not be found in sera obtained by immunizing white rats with a suspension of HESM<sub>ep</sub> cells. Cultures of HESM<sub>ep</sub> cells were sensitive to reinfection with Ao (PR8) and to attenuated strains of poliomyelitis virus types 1, 2, and 3. The

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PLESHIVTSEVA, V. V., et al., Voprosy Virusologii, No 5, 1971, pp 579-586

Ao (PR8) variant isolated from cultures of HESM-PR8 cells in the phase of marked degeneration differed from the original virus in: (i) lack of pathogenicity for white mice, (ii) the ability to cause productive infection of chick embryo fibroblast cultures and to form plaques on these cultures under the agar overlay, and (iii) greater cytopathogenic activity against human diploid cell cultures. There was no reversion to pathogenicity for mice after a series of intranasal passages in these animals.

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Acc. Nr: **AP0047246**

Ref. Code: **VR0504**

PRIMARY SOURCE: **Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1**,  
**pp 92-94**

**BIOCHEMICAL DIAGNOSIS OF THE ACTIVITY  
OF THE INFLAMMATORY PROCESS IN CHRONIC  
NONSPECIFIC PNEUMONIA**

**Yu. I. Baybakov, A. M. Pleshkov**

**Summary**

The article is devoted to biochemical diagnosis of the activity of the inflammatory process in chronic pneumonia. The authors studied the dynamics of the level of proteins, protein fractions, sialic acid in the blood of patients with chronic nonspecific pneumonia. The results obtained make it possible to draw a conclusion that diagnosis of exacerbation of chronic nonspecific pneumonia should be based on the complex methods of investigation including investigations of the total protein content, its fractions and glycoproteids.

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REEL/FRAME

**19790753**

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USSR

UDC 621.357.7

VERCHENKO, P. A., PLESKACH, V. M., and TRESKUNOV, B. A., Zaporozh'ye  
Institute of Machine Construction

"Mechanical Properties of Metallic Coatings on Aluminum Alloys"

Moscow, Zashchita metallov, Vol 8, No 1, Jan-Feb 72, pp 99-102

Abstract: The study concerns determinations of microhardness, elastic modulus and residual stresses of chromium (galvanic) and nickel (chemical) coatings on VD-17 alloys as a function of application technology and heat treatment. The microhardness was determined under 50-g loads. The decrease in the hardness of chromium coatings on heating up to 170°C is not due to recrystallization (which occurs at 900°C) but rather to a complex of phenomena related to hydrogen liberation, stress relaxation, etc. The determination of the elastic modulus was based on changes in the value of loads required to cause relative deformation of the specimen before and after application of coatings. The elastic modulus is practically independent of heat treatment and depends only on coating application conditions. Use was made of the flexible cathode method to determine residual

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USSR

AVERCHENKO, P. A., et al, Zashchita metallov, Vol 8, No 1, Jan-Feb 72,  
pp 99-102

stresses. The results are shown in curves reflecting deformation and distribution of residual stresses over the thickness of chromium and nickel coatings on VD17 and AMg6 alloys following application as well as after heat treatment. (1 illustration, 1 table, 9 bibliographic references).

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AA0046268

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,  
Derwent, J-70

243413

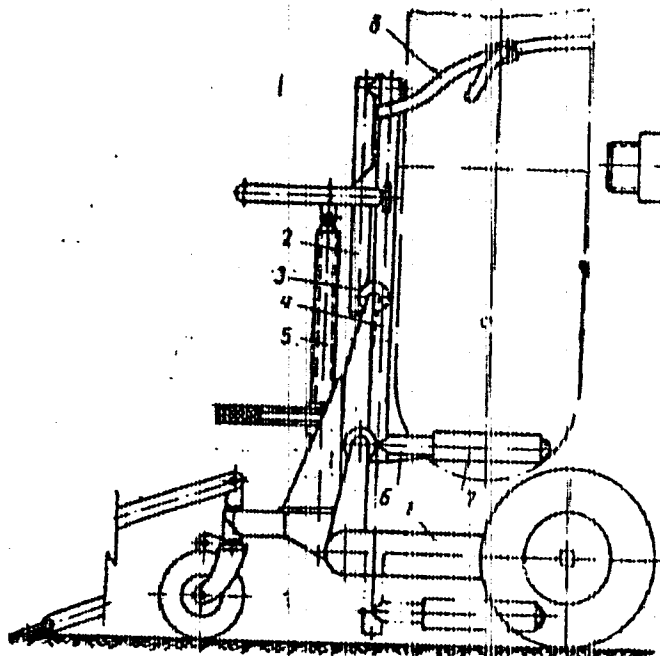
AIRCRAFT WHEEL ASSEMBLING AND DISMANTLING DEVICE comprising a beam on a trolley with a vertical carriage and power drive,

differing in having fork grips at the bottom of the carriage with bushes turning about their longitudinal axis. This simplifies dealing with different sized wheels. On the three-wheeled trolley 1 with a free-steering front wheel, is mounted the beam 2 with rollers 3, on which the carriage 4 moves vertically, driven by screw pair 5. At the bottom of the carriage are two rod fork grips 6 with bushes 7 turning about their longitudinal axes. At the top of the carriage is fixing strap 8. The device with lowered grips grips the wheel which is attached to the trolley by strap 8. Then by raising the carriage the wheel is set at the height required for assembly. During assembly the wheel may be turned about its axis on the bushes of the grips. Dismantling is in reverse order.

20.5.67 as 1158253/40-23 PLESKACHEN'KO, (15.9.69)  
Bul. 16/5.5.69. Class 62c, Int. Cl. B 64f.

19781394

AA0046268



19781395

1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ANOMALOUS ANGULAR DISTRIBUTION OF FRAGMENTS FROM THE FISSION OF  
RADIUM BY 14-16 MEV NEUTRONS -U-  
AUTHOR--(05)-BABENKO, YU.A., NEILOV, YU.A., PLESKACHEVSKIY, L.A.,  
SELITSKIY, YU.A., FUNSHTEYN, V.B.  
COUNTRY OF INFO--USSR  
SOURCE--YAD. FIZ. 1970, 11(5), 1006-11  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY  
TOPIC TAGS--ANGULAR DISTRIBUTION, NUCLEAR FISSION, RADIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0577

STEP NO--UR/0367/70/011/005/1006/1011

CIRC ACCESSION NO--AP0137662

UNCLASSIFIED

2/2 013

CIRC ACCESSION NO--AP0137662  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. FRAGMENT ANGULAR DISTRIBUTIONS FOR THE FISSION OF PRIME226 RA BY N WITH ENERGIES 12.6-19.5 MEV WERE MEASURED. AS THE SOURCE OF N, THE REACTIONS (D,D,N) PRIME3 HE AND T(D,N) PRIME4 HE WERE USED. THE ANOMALOUS SHAPE OF THE DISTRIBUTION, MANIFESTING ITSELF AS A FRAGMENT YIELD AT AN ANGLE OF SIMILAR TO 60 DEGREES AT E SUBN EQUALS 14.6-15.6 MEV, IS EXPLAINED AS DUE TO THE "CHANNEL" STRUCTURE OF THE FISSION BARRIER OF THE PRIME226 RA NUCLEI PRODUCED FROM PRIME 227 RA AFTER EVAPG. 2 N. THE FISSION BARRIER OF PRIME226 RA IS 7.0 PLUS OR MINUS 0.5 MEV. THE TOTAL CROSS SECTION VARIES SLIGHTLY FROM 21 TO 33 MB IN THE ENERGY INTERVAL E SUBN EQUALS 15.6-19 MEV. EXPTS. PERFORMED ON PRIME233 U GAVE A NEG. ANSWER TO THE QUESTION OF THE EXISTENCE OF ANOMALOUS ANGULAR DISTRIBUTIONS FOR FISSION OF OTHER NUCLEI.

UNCLASSIFIED

USSR

UDC 619:576.851.55:576.809.33

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URGUYEV, K. R., KIRILLOV, L. V., LYUBICH, F. D., LAVCHENKO, Ye. G., PANFILOV, I. D.  
and PLESKIKH, A. S.

"Toxin Formation by *Cl. perfringens* in a Casein-Pancreatic Nutrient Medium"

Moscow, Veterinariya, No 2, Feb 73, pp 39-40

Abstract: A study was made of the cultivation on a casein-pancreatic medium of *Cl. perfringens*, type D, that causes infectious enterotoxemia of sheep and is used as a component part in the preparation of a concentrated polyvalent vaccine used against braxy, infectious enterotoxemia, and malignant dropsy of sheep as well as dysentery of lambs. On enzymatic hydrolysis of the casein at 42°C for 20-30 min, the medium, which contained 25% yeast water and 1% millet, had a high content of all peptide fractions, which form the principal source of N in toxin synthesis. The accumulation of epsilon-toxin was 4-6 times greater than in other media (e.g., Hottinger's medium). The formation of toxin was related to the content in the medium of albumoses with a high and medium molecular weight and depended on the amine coefficient of the medium (the ratio of non-protein N to the total amine N). The highest toxigenicity (20,000-24,000 Dlm/ml) was obtained at an amine coefficient in the 0.72-0.75 range.

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URGUYEV, K. R, et al., Veterinariya, No 2, Feb 73, pp 39-40

At increasing values of the coefficient to 0.91 and higher, the toxin content dropped sharply (to 4,000-6,000 Dlm/ml). The higher the content of free amino acids and the lower that of peptide fractions, the lower was the concentration of the toxin formed.

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020

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--SOLUBLE AND MITOCHONDRIAL FORMS OF PENTOSE CYCLE DEHYDROGENASES IN  
RABBIT SKELETAL MUSCLES -U-  
AUTHOR--(03)-RAZUMOVSKAYA, N.I., PLESKOV, V.M., PEROVA, T.L.

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 196-201

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MITOCHONDRION, DEHYDROGENASE, MUSCLE PHYSIOLOGY,  
HISTOCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/0647

CIRC ACCESSION NO--AP0117873

STEP NO--UR/0218/70/035/001/0196/0201

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117873

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MITOCHONDRIAL AND SOL. FORMS OF GLUCOSE,6,PHOSPHATE DEHYDROGENASE (I) AND 6,PHOSPHOGLUCONATE DEHYDROGENASE (II) WERE DETECTED IN SKELETAL MUSCLES OF ADULT RABBITS AND THEIR 25-6-DAY EMBRYOS. I PREVAILED IN MITOCHONDRIA AND II IN THE SOL. FRACTION OF THE CELL. ACTIVITIES OF SOL. I AND II WERE 4-5 TIMES AS HIGH IN DENERVATED AND EMBRYONIC AS IN INTACT MUSCLES AND THE ACTIVITIES OF MITOCHONDRIAL DEHYDROGENASES WERE 2-2.5 TIMES HIGHER. THE ACTIVITIES INCREASED CONSIDERABLY LESS IN TENDONCTOMIZED MUSCLES. DEHYDROGENASES IN DENERVATED AND EMBRYONIC MUSCLES WERE MORE SENSITIVE TO PH CHANGES (MAX. ACTIVITY AT PH SIMILAR TO 7.5 AND MIN. AT PH 8.0-8.5) THAN BOTH DEHYDROGENASES IN INTACT MUSCLES, WHICH INDICATED THAT THERE WERE PROBABLY CHANGES IN THEIR ISOZYME PATTERNS. HISTOCHEM. TECHNIQUES GAVE EVIDENCE THAT THE INCREASE OF BOTH DEHYDROGENASES DUE TO DENERVATION WAS NOT CAUSED BY THE REPLACEMENT OF MUSCULAR FIBRILS BY CONNECTIVE TISSUE BUT BY ABSENCE OF NERVE IMPULSES TO THE MUSCLES.

FACILITY: DIV. BIOCHEM., INST. EXP. MED., LENINGRAD, USSR.

UNCLASSIFIED



1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--DEPENDENCE OF PHOTODIFFUSION CURRENT IN SOLUTIONS ON THE  
CONCENTRATION OF ELECTRON ACCEPTORS -U-  
AUTHOR-(04)-LAKONOV, V.I., YELETSKIY, V.V., ROTENBERG, Z.A., PLESKOV,  
YU.V.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKTRKHIMIYA 1970, 6(3), 415-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--PHOTOCHEMISTRY, ELECTRODE POTENTIAL, PHOTOELECTRON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1994/1940 STEP NO--UR/0364/70/004/003/0415/0417  
CIRC ACCESSION NO--AP0115748  
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115748

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ONE OF THE FUNDAMENTAL STAGES OF THE CONVERSION OF ELECTRONS EMITTED, AFTER IRRADN., FROM METAL INTO THE SOLN. APPEARS TO BE THE SOLVATION (OR HYDRATION) IN THE SOLN. CERTAIN INFORMATION ABOUT THE PROCESS OF HYDRATION OF PHOTOELECTRONS MAY BE ACHIEVED ON THE BASIS OF THE EXPTL. OBSERVED DEPENDENCE OF PHOTODIFFUSION ON THE CONC. OF HYDRATED ELECTRON ACCEPTORS. AS ELECTRON ACCEPTORS H PRIME POSITIVE AND NO SUB3 PRIME NEGATIVE IONS WERE SELECTED. THE ACTIVITY OF H SUS3 PRIME O POSITIVE VARIED FROM 10 PRIME NEGATIVE3 TO 0.8M AND WAS CHECKED AGAINST THE H ELECTRODE POTENTIAL IN THE SAME SOLN. THE DEPENDENCE OF PHOTOCURRENT, J, TO THE 0.4 POWER ON THE POTENTIAL ALPHA AT VARIOUS H PRIME POSITIVE ACTIVITIES WAS ESTABLISHED. IF ACCEPTOR CONC. WAS CHANGED, THE CHARACTER OF THE DEPENDENCE OF THE PHOTOCURRENT ON THE POTENTIAL WAS CHANGED, AND HENCE EXTRAPOLATION OF ALL CURVES CONSTRUCTED IN THE SAME COORDINATE SYSTEM MUST RESULT IN DIFFERENT VALUES OF THE THRESHOLD POTENTIAL. A LINEAR RELATION BETWEEN J AND A SUBH30 POSITIVE PRIME ONE HALF AT LOW A SUBH30 POSITIVE WAS OBSERVED. ABOVE A SUBH30 POSITIVE EQUALS 0.2M THE SATN. PHOTOCURRENT BEGINS. THE MEAN DISTANCE MEAN VALUE OF  $x_p$  AT WHICH ELECTRONS ARE PREFERABLY SOLVATED, WAS FOUND FROM THE PHOTOCURRENT CONC. AND WAS 80-100 ANGSTROM. FACILITY: INST. ELEKTROKIM., MOSCOW, USSR.

UNCLASSIFIED

172 026 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--EFFECT OF THE ADSORPTION OF IONS AND MOLECULES ON THE PHOTOEMISSION  
OF ELECTRONS AT THE METAL ELECTROLYTE INTERFACE -U-  
AUTHOR-(02)-ROTENBERG, Z.A., PLESKOV, YU.V.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 418-20

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTE, ADSORPTION, MERCURY, IODINE, METAL ELECTRODE,  
PHOTOCHEMISTRY, ELECTRON EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1994/1941

STEP NO--UR/0364/TQ/006/003/0418/0420

CIRC ACCESSION NO--AP0115749

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

272 026  
CIRC ACCESSION NO--AP0115749

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF THE ADSORPTION OF I IONS AND LONG CHAIN ORG. MOLES. ON THE PHOTOEMISSION FROM HG INTO THE ELECTROLYTE SOLN. IS STUDIED. IODINE, BEING ADSORBED ON THE HG ELECTRODE, SHIFTS THE PSI SUB1 POTENTIAL TOWARDS THE NEG. SIDE. THE POTENTIAL SHIFT IN THE DIFFUSION PART OF THE DOUBLE LAYER HAS A CONSIDERABLE EFFECT ON THE PHOTOCURRENT, PROVIDED ITS THICKNESS IS GREATER THAN THE ELECTRON WAVELENGTH. FOR 0.3-1 EV ELECTRONS, WHICH ARE PRODUCED CN IRRADN. WITH LIGHT OF 365 NM OVER THE POTENTIAL RANGE MINUS 0.6 TO MINUS 1.3 V, THE ELECTRON WAVELENGTH CHANGES FROM 12 TO 24 ANGSTROM. FOR THE DISTORTION OF THE THRESHOLD APPROXN. IT WAS NECESSARY THAT THE EXPTS. WERE CARRIED OUT IN A DIL. ELECTROLYTE SOLN. THE 0.01M KF AND KI SOLNS. WITH N SUB2 O (ACCEPTOR OF EMITTED ELECTRONS) ARE USED IN THE EXPT. DECREASE OF PHOTOCURRENT IN THE KI SOLN. AT MINUS 0.6 TO MINUS 0.9 V APPEARS TO BE THE RESULT OF THE STRUCTURE CHANGE OF THE ELEC. DOUBLE LAYER. ADSORPTION OF I IS ACCOMPANIED BY AN INCREASE IN THE NEG. VALUE OF PSI SUB1 AND LEADS TO A DECREASE OF PHOTOCURRENT. THE EFFECT OF LARGE ORG. MOLES. SUCH AS CETYL ALC. AND PALMITIC AND MYRISTIC ACIDS AS WELL AS DIMETHYLDODECYLAMMONIUM ION ON THE PHOTOEMISSION OF ELECTRONS AT THE HG SOLN. INTERFACE MAY BE EXPLAINED BY ASSUMING THAT A NEW PHASE IS PRODUCED. FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--HYDROGEN IMPURITY IN A MOLTEN EUTECTIC ALLOY OF SODIUM AND  
POTASSIUM -U-  
AUTHOR-(104)-ARNOLDY, M.N., IVANOVSKY, M.N., MOROZOV, V.A., PLETENETS,  
S.S.  
COUNTRY OF INFO--USSR  
SOURCE--TEPLOFIZIKA VYSOKIKH TEMPERATUR, JAN.-FEB. 1970, 1, (1), 88-92  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--SODIUM ALLOY, POTASSIUM ALLOY, HYDROGEN, EUTECTIC MIXTURE,  
OXYGEN, CHEMICAL BONDING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/0203 STEP NO--UR/0294/70/001/001/0088/0092  
CIRC ACCESSION NO--AP0123972  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123972

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POSSIBLE FORMS IN WHICH H IMPURITY MAY OCCUR IN THE DISSOLVED STATE IN MOLTEN EUTECTIC NA, K ALLOYS ARE DISCUSSED THEORETICALLY AND COMPARED WITH EXPERIMENT. THE EQUILIBRIUM PRESSURE OF H OVER SUCH ALLOYS MAY BE MATERIALLY AFFECTED BY OTHER CHEMICALLY ACTIVE IMPURITIES SUCH AS O AND LI. IN ALL CASES OBSERVED EXPERIMENTALLY, HOWEVER, THE H APPEARED TO OCCUR IN SOLUTION MAINLY IN THE ATOMIC FORM, ALTHOUGH THERE WAS ALSO A TENDENCY FOR SOME OF THE H ATOMS TO BECOME ATTACHED TO O OR LI ATOMS.

UNCLASSIFIED

USSR

UDC 621.039.534.6

ARNOL'DOV, M. N., IVANOVSKIY, M. N., MOROZOV, V. A., PLETENETS, S. S.,  
and SUBBOTIN, V. I.

"Solubility of Gases in Eutectic Sodium-Potassium Alloy"

Moscow, Atomnaya Energiya, Vol 23, No 1, Jan 70, pp 18-22

Abstract: The article describes results of the measurement of the solubility of gases in the eutectic sodium-potassium alloy at various temperatures. The apparatus used by the authors, in contrast to the device used by E. COMPERE and J. SAVOLAINEN, permits study of the equilibrium between gas and alloy in direct contact with each other. This made it possible to measure the solubility not only of hydrogen, but also of such gases as nitrogen, argon, and helium. In addition, information could be obtained on the kinetics of the interaction of the gases with the alloy. The hot volume method was used to study the solubility of the gases in the alloy.

The first series of experiments yielded the dependence of the hydrogen pressure on the amount of hydrogen absorbed by the alloy

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ARNOL'DOV, M. N., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 18-22

at 380° C. The dependence of activity coefficient,  $\gamma$ , of hydrogen in the alloy on the hydrogen concentration was calculated. In the second series of experiments, undertaken following removal of hydrogen from the alloy by evacuation, the temperature dependence of the saturation concentration of hydrogen in the alloy was calculated, as well as the temperature dependence of the dissociation pressure of the saturated hydrogen solution.

Some results are described of the kinetic study of the interaction of gases with alloy. The process of hydrogen evolution, as well as the process of absorption, is described by a first-order reaction equation. The solubility of the inert gases was determined for the alloy at 300° C. The absorption rate of the inert gases is much slower than hydrogen absorption.

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1/2 043 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--SOLUBILITY OF GASES IN A SODIUM AND POTASSIUM EUTECTIC ALLOY -U-

AUTHOR--(05)--ARNOLDOV, M.N., IVANOVSKIY, M.N., MOROZOV, V.A., PLETENETS,  
S.S. SUBBOTIN, V.I.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(1), 18-22

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--SODIUM ALLOY, POTASSIUM ALLOY, EUTECTIC, ALKALI METAL,  
HYDROGEN, ARGON, SOLUBILITY, GAS PROPERTY, LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1321

STEP NO--UR/0089770/028/001/00187/0022

CIRC ACCESSION NO--AP0116781

UNCLASSIFIED

2/2 043

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115781

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. USED TO MEASURE THE SOLY. C OF GASES IN MOLTEN ALKALI METALS IS DESCRIBED. THE C OF H SUB2 IN A 78.2 WT.PERCENT K-21.8 WT.PERCENT NA ALLOY IS DESCRIBED BY THE EQUATION  $\log(C \text{ TIMES } 10 \text{ PRIME}^4) \text{ EQUALS } 6.43 \text{ MINUS } (2670 - T)$ , WHERE C IS IN WT.PERCENT AND T IS THE TEMP., (DEGREESK); THIS EQUATION IS VALID FOR H SUB2 CONCN. BELOW THE SATN. POINT, I.E., WHEN THE RELATION BETWEEN THE H SUB2 CONCN. AND (P) PRIME<sup>0.5</sup> (WHERE P IS THE H SUB2 PRESSURE OVER THE ALLOY) IS LINEAR. AT 300DEGREES, LOG C FOR N SUB2, NE, AND AR IN THE ABOVE ALLOY (WHERE C IS ATOM FRACTION-KG-CM PRIME<sup>2</sup>) UNDER 1 ATM IS MINUS 4.3, MINUS 4.9, AND MINUS 5.1, RESP.

UNCLASSIFIED

Table 1  
Parameters of the Microclimate Under the Suit and Functional Shifts in the Organism Conditioned by It

| (1)<br>Microclimatic conditions and functional states of the organism | (2) Climate       |                    |                    |                    | (3) Work          |                     |                     |                     | (4) Rest           |                     |                     |                     |
|-----------------------------------------------------------------------|-------------------|--------------------|--------------------|--------------------|-------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
|                                                                       | (5) Temp. air, °C | (6) Temp. suit, °C | (7) Temp. body, °C | (8) Temp. head, °C | (9) Temp. air, °C | (10) Temp. suit, °C | (11) Temp. body, °C | (12) Temp. head, °C | (13) Temp. air, °C | (14) Temp. suit, °C | (15) Temp. body, °C | (16) Temp. head, °C |
| (9) Optimal                                                           | 17.4-17.6         | 17.4-17.6          | 36.8-37.4          | 36.8-37.4          | 17.4-17.6         | 17.4-17.6           | 36.8-37.4           | 36.8-37.4           | 17.4-17.6          | 17.4-17.6           | 36.8-37.4           | 36.8-37.4           |
| (10) Permissible                                                      | 15.5-15.9         | 15.5-15.9          | 35.5-36.0          | 35.5-36.0          | 15.5-15.9         | 15.5-15.9           | 35.5-36.0           | 35.5-36.0           | 15.5-15.9          | 15.5-15.9           | 35.5-36.0           | 35.5-36.0           |
| (11) Tolerable                                                        | 13.0-13.5         | 13.0-13.5          | 34.0-34.5          | 34.0-34.5          | 13.0-13.5         | 13.0-13.5           | 34.0-34.5           | 34.0-34.5           | 13.0-13.5          | 13.0-13.5           | 34.0-34.5           | 34.0-34.5           |
| (12) Heavy work                                                       | 13.0-13.5         | 13.0-13.5          | 34.0-34.5          | 34.0-34.5          | 13.0-13.5         | 13.0-13.5           | 34.0-34.5           | 34.0-34.5           | 13.0-13.5          | 13.0-13.5           | 34.0-34.5           | 34.0-34.5           |
| (13) Average intensity                                                | 14.0-14.5         | 14.0-14.5          | 35.0-35.5          | 35.0-35.5          | 14.0-14.5         | 14.0-14.5           | 35.0-35.5           | 35.0-35.5           | 14.0-14.5          | 14.0-14.5           | 35.0-35.5           | 35.0-35.5           |
| (14) Light work                                                       | 15.0-15.5         | 15.0-15.5          | 36.0-36.5          | 36.0-36.5          | 15.0-15.5         | 15.0-15.5           | 36.0-36.5           | 36.0-36.5           | 15.0-15.5          | 15.0-15.5           | 36.0-36.5           | 36.0-36.5           |
| (15) Rest                                                             | 17.4-17.6         | 17.4-17.6          | 36.8-37.4          | 36.8-37.4          | 17.4-17.6         | 17.4-17.6           | 36.8-37.4           | 36.8-37.4           | 17.4-17.6          | 17.4-17.6           | 36.8-37.4           | 36.8-37.4           |

- Keys:
1. Microclimatic conditions and functional states of the organism
  2. Optimal
  3. Permissible
  4. Tolerable
  5. Heavy work
  6. Work of average intensity
  7. Light work
  8. Rest
  9. Rectal temperature (in degrees)
  10. Average body temperature (in degrees)
  11. Head content (in kcal/kg)
  12. Rate of heart contractions (beats per minute)
  13. Generation of moisture (grams/hour)
  14. Temperature of air under suit with humidity off
  15. Up to

Note: Generation of heat in the performance of heavy work is 600 kcal/hour, work of average intensity is 300 kcal/hour, light work is 200 kcal/hour, and the rate of heat loss is 100 kcal/hour.

factor, an increase in development depends on the nature and character of work, the production situation and so on. Maintenance of an optimal microclimate in individual production systems, as a rule, requires the elimination of heat with the aid of artificial heat regulation systems. One use of liquid cooling coils depends on the most effective from a technological, hygienic and hygrothermal point of view, with regard to practical construction, elements and equipment for controlling and regulating the elimination of heat particularly in the conduction method. That is why when they are used the basic bodies subject to installation consist of the elements of the heat carrier (fluid) space, tubes to conduct with the body of the coils. Inasmuch as with the conduction method of heat removal there is an intensive cooling of the body "shell", constant thermal state of the organism is ensured with a higher temperature of the "trunk" (Table 2). Low temperature of the surface of the body prevents a decrease in the tissue temperature, in view of the predominance of heat transfer in conduction or convection. Therefore, it is possible to do not only at an optimal microclimate of the space around the coils, but also at atmospheric conditions with which not all of the heat removed by the body is eliminated. In this case, as well, however, it is necessary to ensure a thermally stable state of the of the regulated body with its higher thermal content.

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| Case No. | Age | Sex | Height | Weight | Temp. | Pulse | Respiration | Pressure | Diagnosis                       | Remarks              |
|----------|-----|-----|--------|--------|-------|-------|-------------|----------|---------------------------------|----------------------|
| 111      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 112      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 113      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 114      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 115      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 116      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 117      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 118      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 119      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |
| 120      | 20  | M   | 1.70   | 65     | 38.5  | 90    | 18          | 120/80   | Acute inflammation of the lungs | Admission 10/10/1918 |

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1. Incident light intensity
2. Wavelength
3. Size of sample
4. Light source
5. Cell
6. Optical characteristics (in differentials)
7. Average composition of the salt (in differentials)
8. Heat content of solution
9. Concentration of molecules (mole/liter)
10. Rate of heat conduction (mole per meter per second)
11. Temperature of coolant at the input of the liquid
12. Temperature of salt (in differentials)
13. Temperature around 100 (microhours)

Unfavorable conditions ensuring a thermally stable state of the organotin compounds, the rate of their decomposition is not exceeding 1.5 kcal/day are considered satisfactory by us (see Table 1). At the same time there is observed a

USSR

UDC 617-001.16-092.9-085.832.9-032.611.2

BAVRO, G. V., and PLETENSKIY, YU. G. (Moscow)

"The Effect of Cold Air Inhalation on the Autonomic Function and State of the Central Nervous System of a Rabbit Under Hyperthermia"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 72, No 9, Sep 71, pp 32-35

Abstract: Experiments performed on rabbits subjected to overheating demonstrated that marked hyperthermia produces a sharp acceleration of the respiration and heart rates, with decreased bioelectrical activity and stimulation and reactivity of the cerebral cortex. Inhalation of cold air during hyperthermia produced a rapid restoration of the respiration rate and cerebral cortex reaction to light stimulation, with a gradual return and the EEG amplitude to its initial value. Thus, inhalation of cold air simultaneously with the effect of high environmental temperature prevents the development of disturbances in the body caused by overheating. A change back to inhalation of warm air caused an immediate increase in the respiration rate, drop in blood pressure, and so forth, revealing the special role of afferent signalization from the heat receivers in the development of disturbances of the regular function of the central nervous system under hyperthermia. During inhalation of cold air, signals from the cold receivers of the respiratory tract promote the normalization of body function. 1/1

USSR

UDC: 518.5:681.3.06

PLETNEV, A. A.

"Finding the Weight Functions of a Linear System From Recordings of Input and Output Data (the Case of a Different 'Memory' With Respect to Each of the Inputs)"

Tr. VNI gidrogeol. i inzh. geol. (Works of the All-Union Scientific Research Institute of Hydrogeology and Engineering Geology), 1970, vyp. 34, pp 45-57 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V605)

Translation: An algorithm is proposed as well as a corresponding digital computer program which is outstanding for a minimum of necessary calculations. Author's abstract.

P  
USSR

UDC: 621.396.69:621.372.54(086.8)

KALYAYEVA, A. N., PLETNEV, D. V., YAKHIMOVICH, I. Z.

"A High-Frequency Electromechanical Chain Filter"

USSR Author's Certificate No 255424, Filed 20 Jan 68, Published 9 Mar 70 (from  
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V387 P)

Translation: The proposed high-frequency electromechanical chain filter is made in the form of hollow cylindrical resonators which vibrate in the torsional mode and are interconnected by wire restraints. As a distinguishing feature of the patent, the overall dimensions of the filter are reduced by making one or more resonators with a longitudinal slot and a radial slot in the central section of the resonator.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--PRODUCTS OF THE HYDROLYTIC PRECIPITATION OF V PRIMES POSITIVE  
CONTAINING SODIUM -U-  
AUTHOR-(03)-PLETNEV, R.N., ZOLOTAVIN, V.L., TOLSTOV, L.K.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 427-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHEMICAL PRECIPITATION, METAL ION, VANADIUM, VANADATE, NITRIC  
ACID, MOLECULAR STRUCTURE, VANADIUM PENTOXIDE, SOLUTION ACIDITY, IR  
SPECTRUM, NMR SPECTRUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1987/0851 STEP NO--UR/0080/70/043/002/0427/0427  
CIRC ACCESSION NO--AP0104287  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--020CT79

2/2 027

GIRC ACCESSION NO--AP0104267

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDRATED PPTS. OF V PRIMES POSITIVE OBTAINED BY ACIDIFICATION OF NA METAVANADATE WITH HNO SUB3 UNDER DIFFERENT CONDITIONS WERE EXAMD. 2 YEARS AFTER PREPN., AND FRESH PPTS. SHW QUITE DIFFERENT PROPERTIES. NMR AT 77DEGREESK AND ROOM TEMP. AND IR SPECTRA WERE STUDIED. STARTING CONCNS. OF V PRIMES POSITIVE WERE 0.2175, 0.0435, AND 0.0184M AND DEGREE OF ACIDIFICATION (RATIO (H PRIME POSITIVE)-(VO SUB3 PRIME NEGATIVE)) WAS CHANGED IN THE REGION 0.7-2.1 FOR EACH. CONC. TWO TYPES OF PPT. WERE FOUND. THE PRIMARY PRODUCT HAS A STRUCTURE SIMILAR TO THAT OF V SUB2 O SUB5 IN WHICH THE EXISTENCE OF VO SUB2 PRIME POSITIVE IS POSSIBLE. THE SECOND TYPE OF PRODUCT, FORMED ONLY AT 0.2175 AND PH 4.25, SHOWS THE SAME STRUCTURE AS HEXAVANADATE. PMR AND IR SPECTRA VALENCE OSCILLATIONS OF OH GROUPS AND DEFORMATION OSCILLATIONS OF H SUB2 O AND OH GROUPS CONFIRM THE COMPN. GIVEN PREVIOUSLY AS NA SUBX (VO SUB2) SUB5 NEGATIVEX HV SUB10 O SUB28 .NH SUB2 O, WHERE 1 IS SMALLER THAN OR EQUAL TO X. IS SMALLER THAN OR EQUAL TO 5.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--PROTOLYTIC REACTIONS AND ANALYTICAL PROPERTIES OF PHENYLANTHRANILIC  
ACID -U-  
AUTHOR--(04)--FRUMINA, N.S., PETRIKOVA, K.G., TREGUB, YE.G., PLETNEV, S.V.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 434-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ABSORPTION SPECTRUM, PROTON, AMINE, BENZOIC ACID, BENZENE  
DERIVATIVE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1127 STEP NO--UR/0075/70/025/003/0434/0439  
CIRC ACCESSION NO--AP0128554  
UNCLASSIFIED

272 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128554

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE EXISTENCE LIMITS OF MOL. AND IONIZED FORMS OF PHENYLANTHRANILIC ACID (I) WERE ESTABLISHED BY STUDYING THE ABSORPTION SPECTRA OF I. THE REDOX POTENTIAL OF I WAS MEASURED OVER A WIDE ACIDITY RANGE AND ITS CHANGE IN RELATION TO THE PROTOLYTIC REACTIONS WAS ESTABLISHED. DURING PROTONATION, THE P ELECTRONS OF THE N ATOM ARE IMMOBILIZED, RESULTING IN A CHANGE IN THE SPECTRUM. COMPARISON OF THE SPECTRA OF PH SUB2 NH AND I INDICATE THAT THE LONG WAVE BAND IN THE SPECTRUM OF THE LATTER IS LINKED TO THE PRESENCE OF AN ELECTRON ACCEPTOR SUBSTITUENT, THE CARBOXYLIC GROUP, AND THE GRADUAL DISAPPEARANCE OF THIS BAND DURING PROTOLYSIS INDICATES A CHANGE IN THE ELECTRON DISTRIBUTION IN THE MOL. AS A RESULT OF THE FORMATION OF A 2ND ELECTRON ACCEPTING GROUP (PROTONIZED N). THE SOLY. DATA AND ABSORPTION SPECTRA WERE USED TO CALC. THE ACID DISSOC. AND THE PROTONATION CONSTS. OF I: PK SUBDISSOLN. 3.99 PLUS OR MINUS 0.028 AND PK SUBPROT MINUS 1.35 PLUS OR MINUS 0.065, RESP. FACILITY: SARATOV STATE UNIV., SARATOV, USSR.

UNCLASSIFIED

I/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--PROTECTIVE ATMOSPHERE ANNEALING ELECTRICALLY WELDED PIPING MADE OF  
STEEL 10 -U-  
AUTHOR-(03)-ESTRIN, B.M., GLADKIKH, B.S., PLETNEV, V.I.  
COUNTRY OF INFO--USSR  
SOURCE--STAL' 1970, 30(1) 65-8  
DATE PUBLISHED-----70

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

TOPIC TAGS--PIPE WELDING, ELECTROSLAG WELDING, STEEL PIPE, STEEL HEAT  
TREATMENT, INERT GAS WELDING/(U)10 STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1983/0297

STEP NO--UR/0130/70/030/001/0065/0068

CIRC ACCESSION NO--AP0053282

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053282

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE USE OF FLAME CURTAINS AT BOTH ENDS OF A CONTINUOUS FURNACE WORKING WITH A PROTECTIVE ATM. PERMITS A CONVENIENT MAINTENANCE WITHIN IT OF 0.5 TORR PRESSURE NEEDED FOR FLUSHING AIR FROM THE INSIDE OF ENTERING PIPES TO KEEP O<sub>2</sub> BELOW 0.004PERCENT IN THE FURNACE; THIS PROCEDURE REDUCES THE TOTAL CONSUMPTION OF THE REDUCING ATM. ESCAPING FROM BOTH ENDS OF THE PIPES. THE AMTS. INVOLVED ARE SHOWN BY CALCNS. AND BY DATA OBTAINED ON A PRODUCTION FURNACE. A SKETCH ILLUSTRATES BURNERS TO BE USED FOR FLAME CURTAIN.

UNCLASSIFIED

USSR

UDC 616.986.7-08

PLETNEY, V. M., MITCHENKO, I. K., and SLOBODYANYUK, M. I., Chair of Infectious Diseases, Kiev Institute of Advanced Training of Physicians

"Treatment of Different Forms of Leptospirosis"

Kiev, Vrachebnoye Delo, No 10, 1971, pp 149-152

Abstract: Leptospirosis can be divided into the febrile, cardiovascular, and hepatorenal forms on the basis of the main symptoms and treatment should be differentiated accordingly. Antibiotics and vitamins are fairly effective in the febrile form, but the cardiovascular forms require in addition coagulase, glucose, and in some cases cardiac stimulants. Hormones should be prescribed with great caution. Patients with the hepatorenal form are given antibiotics, hormones (prednisolone, hydrocortisone, etc.) theophylline ethylenediamine (Diaphylline) in addition to antihemorrhagic agents. In severe cases where coma is present or threatens, vigorous efforts should be made to relieve acidosis, normalize water-mineral metabolism, and correct hypokalemia.

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USSR:

UDC 616.986.7-07

MITCHENKO, I. K., PLETNEV, Y. M., and SLOBODYANYUK, M. I., Chair of Infectious Diseases, Kiev Institute for the Advanced Training of Physicians, Kiev

"Some Clinical Characteristics of Leptospirosis"

Kiev, Vrachebnoye Delo, No 6, Jun 71, pp 138-142

Abstract: A study was conducted of cases of leptospirosis treated in recent years at the Clinic of Infectious Diseases of the authors' institute. The majority of patients were infected by contact with water during swimming or fishing, some of them worked at animal husbandry farms, and one of them (the only one who was infected in the winter) worked at a meat combine. In the 18 cases studied, leptospirosis was confirmed by isolation of *Leptospira* or by the agglutinationlysis reaction with various *Leptospira* strains, *L. pomona*, *V. bataviae*, *L. canicola*, and *L. icterohaemorrhagiae* in 3, 4, 3, and 4 cases respectively). The clinical manifestations of leptospirosis were manifold. An ictero-nephritic syndrome was present in the majority of cases (17 of 18). The feverish, cardiovascular, and hepatorenal forms of the disease were observed in 9, 4, and 5 patients, respectively. The neuromuscular apparatus of patients was affected with the result that myocarditis developed in some cases, so that observation for prolonged periods of time after the end of 1/2.

USSR:

MITCHENKO, I. K., et al., Vrachebnoye Delo, No 6, Jun 71, pp 138-142

hospitalization was necessary. The worker at the meat combine died on the ninth day of the disease after myocarditis and azotemic uremia had developed. Pathological anatomical investigation confirmed that myocarditis, necrotic nephritis, and anuria were present.

2/2

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USSR

UDC: 53.07/.08+53.001.5

BARANOV, V. F., PLETNEV, V. V., SMIRNOV, V. V.

"Modeling the Process of Electrons Passing Through Matter"

V sb. Vopr. dozimetrii i zashchity ot izluch. (Problems of Dosimetry and Radiation Shielding--collection of works), vyp. 12, Moscow, Atomizdat, 1971, pp 62-67 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A726)

Translation: The authors calculate the spectral-angular distributions of scattered electron radiation behind flat carbon barriers ( $\rho = 1.8 \text{ g/cc}$ ) in the case of normal incidence of 10 MeV and 20 MeV electrons against the barrier. To evaluate the influence which various effects of interaction have on the nature of spectral distribution of electron radiation behind the barrier, four versions of calculation were done: a) calculation in accordance with the idea of continuous moderation; b) calculation using Blunk-Westphal distribution; c) calculation as in b) with inclusion of large radiation losses; d) calculation as in c) with regard to the formation of delta electrons. A comparison of the calculations with experimental data shows that calculation with the inclusion of energy fluctuations, large radiation losses, and the formation of delta electrons agrees best with the experimentally measured spectrum. M. L.

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1/2 009

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--ATROPINE SULFATE -U-

AUTHOR--(U4)-SHOSTENKO, YU.V., SEMEN, I.S., SUBINA, T.H., PLETNEVA, I.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 229, 530

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZHAKI 1970,  
DATE PUBLISHED--CIAPR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--ATROPINE, CHEMICAL PURIFICATION, DRUG INDUSTRY, CHEMICAL  
PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1007

STEP NO--08/0482/10/00070007/000070 31

CLASSIFICATION--UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE: 11/17/01  
CIRC ACCESSIO. 10--0015011  
ABSTRACT/EXTRACT--(U) 10--11- ABSTRACT. ATROPINE SULFATE (1) WAS OBTAINED  
FROM TECH. HYOSCYAMINE BY CACONIZATION IN 15% BOOH AND TREATING THE  
RESULTING ATROPINE BASE WITH TARTARIC ACID. FACILITY: A. G. RYKO  
SCIENTIFIC-RESEARCH CHEMICAL-PHARMACEUTICAL INSTITUTE.

Alkaloids

USSR

UDC 615.322:547.944.31.074

SIMON, I. S., PLETNEVA, T. A., GUBINA, T. N., and SHOSTENKO, YU. V., Khar'kov Scientific Research Institute of Pharmaceutical Chemistry

"Methods for Controlling the Production of Atropine Sulfate. III. Determination of the Total Tropane Alkaloids in Scopolia Roots and Intermediates of the Production of Hyoscyamine by the Method of Nonaqueous Titration"

Moscow. Khimiko-Farmatsevticheskiy Zhurnal, Vol. 4, No 9, Sep 70, pp 58-60

Abstract: The production of commercial hyoscyamine from the roots of Caucasian Scopolia requires stage-by-stage control and determination of the yields in the extraction, sorption and desorption stages. Since the sum total of the alkaloids are adsorbed from the aqueous extract during sorption, and the desorption process likewise ends with elution of the total alkaloids

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USSR

SIMON, I. S., et al., *Khimiko-Farmatsevticheskiy Zhurnal*, Vol 4, No 9, Sep 70, pp 58-60

from the cation exchanger, such control can be based on a determination of the total alkaloids without the isolation of hyoscyamine and atropine. The authors suggest the following scheme for the analysis of acid aqueous extracts from *Sopolia* roots: 1) extraction of alkaloids from an alkalized aqueous solution with ether; 2) drying of the ether solution; 3) distilling off of the ether under vacuum; 4) dissolution of the residue in chloroform; 5) drying of the chloroform solution; 6) titration of the chloroform alkaloid solution with 0.1 N. perchloric acid solution. A solution of pure hyoscyamine in an 0.25 percent sulfuric acid solution was analyzed to estimate the accuracy of this scheme. The analysis results, interpreted by the method of statistical statistics, indicate a rather high accuracy for the scheme.

In an analysis of the extracts obtained from *Sopolia* roots and the filtrates after sorption, stable, indivisible emulsions occur in the conversion of the sum total of the alkaloids from the alkalized aqueous phase to an organic solvent. Pre-precipitation of the extracts and filtrates from the emulsant substances was therefore necessary. The authors used ethyl alcohol.

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USSR

SIMON, I. S., et al., *Khimiko-Farmatsevticheskii Zhurnal*, Vol 4, No 9, Sep 70, pp 58-60

added to the extract in a 4:1 ratio, for this purpose. Since the analysis scheme now also included precipitation of the ballast substances, it was necessary to check the effect on the quantitative results. A series of experiments was performed, using additions of an alcoholic solution of pure hyoscyamine directly to the extract, which was preliminarily analyzed by the method of nonaqueous titration. Although the agreement between parallel determinations was satisfactory, the introduction of the ballast substance precipitation stage reduced the accuracy of the analysis due to the appearance of slight but systematic losses. The scheme used for analysis of the extract is also used for quantitative determination of the total alkaloids in the eluate, but without pre-precipitation of ballast substances.

Satisfactory agreement is found between the analysis results obtained by the authors' method and those obtained by the GOST [All-Union State Standard] method, while root analysis time under the authors' scheme is half that of the GOST method.

3/3

USSR

UDC: 517.944.3

KONDRAT'YEV, V. A., EYDEL'MAN, S. D., and ~~PLEMENOVA, T. G.~~

"Positive Solutions of Partial Differential Equations in the Neighborhood of a Smooth, Noncharacteristic Hypersurface"

Moscow, Doklady Akademii Nauk SSSR, vol 204, No 2, 1972, pp 279-282

Abstract: This paper considers weak positive solutions of an arbitrary equation of the form

$$Pu \equiv \sum_{|k| \leq m} (-1)^k D_x^k (a_k(x) u(x)) = f(x)$$

and, as a primary result, establishes the fact of their summability for the summability of  $f(x)$  in any subregion  $G$  of region  $\Omega$  contiguous with the smooth, noncharacteristic surface  $\phi(x) = 0$ . For homogeneous elliptical equations, in particular, the summability of weak positive solutions is derived from an arbitrary boundary of a region with smooth limits.

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Acc. Nr: **AP0044038**

Ref. Code: UR 0240

PRIMARY SOURCE: *Gigiyena i Sanitariya*, 1970, Nr 2, pp 14-19

BIOLOGICAL ACTION AND THE NON-INJURIOUSNESS  
LEVEL OF SELENIUM WHEN IT ENTERS THE ORGANISM  
TOGETHER WITH DRINKING WATER

*I.N. Plekhova*

An elevated selenium content was disclosed in water sources of some regions of the USSR. Hygienic standards for selenium now in force appear to be insufficiently grounded. Fundamental investigations effected by using a number of physiological, biochemical and histological methods employed at present-date stage of scientific development give grounds for revising the existing standard towards its reduction. The maximum permissible concentration of selenium may be recommended to be set at 0.001 mg/l. Sanitary-toxicological considerations are to be taken as a factor limiting the obnoxiousness of selenium.

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19770484

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PLETNITSKIY, Ye. A.

STRESS IN FLIGHT

JPRS 55306  
29 February 1972

Translation of Russian-language book by Ye. A. Pletnitskiy, K. K. Piskunov, and Ye. A. Pletnitskiy: Napryazhennost' v Polete. 1967. Signed to press 2 August 1969. Military Publishing House, Moscow. 6,000 copies. 116 pages.

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Immunology

USSR

UDC 576.809.7

PLETSITYY, D. F., and STRUKOVA, L. G., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Morphological Changes in the Central Nervous System of Animals Vaccinated With Purified Toxoids"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1211-1214

Abstract: The study was performed on 50 rabbits which had received 0.7 ml of purified, adsorbed toxoids or of the adsorbent solution (aluminum hydroxide) intramuscularly. The animals were sacrificed 1, 4, 10, and 30 days after vaccination, and their spinal ganglia and spinal cords at T1-T5 and L6-S1 were investigated for structural changes by Nissl's method. In the first group, which had received DPT vaccine, pathological changes typical of "primary stimulation": (redistribution of Nissl's bodies, perinuclear chromatolysis, peripheral location of nuclei, and vascular and glial reactions) were observed in spinal ganglia and in the dorsal and lateral horns of the spinal cord but not in the ventral horn. These changes became more pronounced on the 4th day (pyknosis of neurons, hyperchromia, pericapsular edema, spotty chromatolysis, vacuolization, amoeboid degeneration of glial cells, and hemorrhagic spots), remained unchanged on the 10th day, and almost disappeared  
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USSR

PLETSITYY, D. F., and STRUKOVA, L. G., Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1211-1214

on the 30th day. In the second group, which had received adsorbed tetanus toxoid and in the third group, which had received adsorbed toxoid, the pathology was essentially the same as above. In the fourth group, which had received the adsorbent solution and thus served as the control, no pathological changes developed. These findings fully agree with the neurophysiological disorders observed in animals shortly after vaccination with toxoids.

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USSR

UDC 576.809.7

PLETSITY, D. F., and STRUKOVA, L. G., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Morphological Changes in the Central Nervous System in Animals Immunized With Purified Toxoids"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1,211-1,214

Abstract: Changes in the spinal cord ganglia and the spinal cord of rabbits in the regions of the thoracic (D<sub>1</sub> - D<sub>5</sub>) and lumbosacral sections (L<sub>6</sub> - S<sub>1</sub>) were studied upon immunization of animals by intramuscular administration of 0.7 ml of adsorbed pertussis-diphtheria-tetanus vaccine or either of two components of this vaccine, adsorbed tetanus toxoid or adsorbed diphtheria toxoid. Control rabbits were given an injection of Al(OH)<sub>3</sub> in an amount equal to that contained in the combined vaccine. The purified toxoids, used extensively in practical medicine, produced a complex of morphological changes in the spinal ganglia and spinal cord, that could be described as typical of changes produced by a pathogen. The pathomorphological changes affected neurons in the ganglia, glia elements, blood vessels, the cornua of the spinal cord, and persisted for at least 2 weeks after immunization, 1/2

USSR

PLETSITYY, D. F., and STRUKOVA, L. G., Doklady Akademii Nauk SSSR, Vol 200, No 5, 1971, pp 1,211-1,214

disappearing approximately on the 30th day following administration of the toxoids. The findings were in agreement with earlier observations made by Pletsityy of disturbances in the physiological functions of animals treated with toxoids.  $\text{Al(OH)}_3$  did not produce any pathological changes.

2/2

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USSR

UDC 615.371/372.015.4:[612.124:612.118.223

PLETSITYY, D. F., and AMIANTOVA, L. D., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Immunogenesis and Nonspecific Factors of Natural Resistance. Report IV. Shifts in Properdin Content in Animal Serum During Immunization With Various Vaccines

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, No 9, Sep 70, pp 17-21

Abstract: Shifts in properdin content in the serum of rabbits immunized with AKDC-vaccine and its individual components and smallpox, rabies, and measles vaccines were studied. Properdin was determined by the Fillemer zymase method as modified by Mashkov-Mikhaylova. In some cases accumulation of antibodies was also determined. Eight series of experiments were conducted. A considerable decrease in properdin content, lasting up to three weeks after the administration of the immunizing agents, was noted. The mechanism of the reduction of the properdin level in blood serum is apparently associated with the antigenic properties of the vaccines and, in particular, with the production of specific antibodies.

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USSR

UDC 539.12

PLETYUKHOV, V. A., and FEDOROV, F. I., Institute of Physics, Academy of Sciences-Belorussian SSR, and Brest State Pedagogic Institute imeni A. S. Pushkin

"On First- and Second-Order Relativistic Wave Equations"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Matematicheskikh Nauk, No 6, 1972, pp 59-64

Abstract: The article considers the question of the nonuniqueness of the transition from second-order relativistic wave equations of the type

$$\gamma_{\mu\nu}^{\alpha\beta} \partial_{\mu} \partial_{\nu} \psi + \gamma_{\mu\nu}^{\alpha\beta} \partial_{\mu} \psi \partial_{\nu} \psi + \gamma_{\mu\nu}^{\alpha\beta} \psi \partial_{\mu} \partial_{\nu} \psi = 0$$

( $\alpha, \beta, k, l, \dots = 1, 2, 3, 4$ ;  $\mu, \nu, \lambda, \dots = 1, 2, \dots, S$ ),

to first-order equations. Methods are found for converting to simplest first-order systems; i.e., those with the minimum possible number of equations and wave function components. Proca equations are given as an example.

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P Higher Algebra and Geometry & Topology

USSR

UDC 539.12

FEDOROV, F. I., PLETYUKHOV, V. A., Belorussian State University imeni V. I. Lenin

"Wave Equations With Multiple Lorentz Group Representations. Half-Integral Spin"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Matematicheskikh Nauk, No 3, 1970, pp 78-83

Abstract: The structure of the matrices of relativistic wave equations of the first order describing particles with half-integral spin is considered. The equations are constructed using repeating or multiple Lorentz group representations. Conditions are given under which certain links in the wave equation reduce to zero. If these conditions do not occur, the wave equation found does not break down and describes a particle with a new set of mass and spin states.

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USSR

UDC 537.311.3:546.26'28

GEYTSI, I.I., GORIN, S.I., NEBYTCHOV, A.A., PLETYUSHIN, A.A.

"On The Nature Of The 'Red' Band Of Cathodoluminescence Of Irradiated  $\beta$ -SiC"

V sb. Radiats. fiz. nemet. Kristallov (Radiation Physics Of Nonmetallic Crystals-Collection Of Works), Vol 5, Part 2, Kiev, "Nauk.dumka," 1971, pp 97-105 (From RZh--Elektronika i yeye primeneniye, No 10, October 1971, abstract No 10833)

Translation: The effect was studied of fast electrons on the spectra of cathodoluminescence (CL) of  $\beta$ -SiC. Crystals of  $\beta$ -SiC (n-type;  $\rho \sim 0.1 - 1.0 \text{ ohm.cm}$ ) were irradiated by 1.5 Mev fast electrons, with doses from  $10^{12}$  to  $10^{17} \text{ cm}^{-2}$  at room temperature. After irradiation by doses of  $\sim 10^{15} - 10^{16} \text{ cm}^{-2}$ , in the red region of the spectrum (2 -- 1.5 ev), an intensive band of CL appears with good development of the thin structure, which is connected with recombinations of the localized excitons at the ionized acceptors. I.I.

1/1

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Acc. Nr: **AP0038030**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy  
Fiziki, 1970, Vol 58, Nr 1, pp **80-84**

**MAGNETIC PROPERTIES OF URANIUM AND THORIUM COMPOUNDS  
CONTAINING IRON, NICKEL OR COBALT**

Chechernikov, V. I.; Pletyushkin, V. A.; Shavishvili, T. M.;  
Slovyanskikh, V. K.

The magnetic susceptibility has been measured for the following actinoid compounds with 3d-metals:  $UFe_2$ ,  $UCo_2$ ,  $UNi_2$ ,  $ThNi$ ,  $ThNi_2$ ,  $ThCo_2$ . Compounds which are isomorphic with respect to their crystal structure are found to possess different magnetic properties. Thus  $UFe_2$  and  $ThCo_2$  are ferromagnetic substances whereas  $UCo_2$  and  $ThNi_2$  are temperature-independent paramagnetic substances. The rigid band model is employed for interpreting the results obtained.

REEL/FRAME

19711071

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--CHANGES IN CATALYTIC AND ADSORPTION PROPERTIES OF A RHODIUM  
CATALYST UPON THERMAL TREATMENT IN AN OXYGEN ATMOSPHERE -U-  
AUTHOR-(04)-KAZLAUSKIYENE, L., PLETYUSHKINA, A.I., KHOKHLOVA, M.N.,  
VOVCHENKO, G.D.  
COUNTRY OF INFO--USSR  
SOURCE--VESTN. MOSK. UNIV., KHIM, 1970, 11(1), 67-9  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--RHODIUM, CATALYST ACTIVITY, OXYGEN, CATALYTIC REDUCTION,  
MALEIC ACID, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0599

STEP NO--UR70189770/011/001/0067/0069

CIRC ACCESSION NO--AP0119517

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119517

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION CAPACITY WITH RESPECT TO H WAS DETD. FOR A RH CATALYST AFTER THERMAL TREATMENT IN AN O ATM. AT 25, 80, 150, AND 200DEGREES. THE ACTIVITY WAS DETD. FOR THE REDN. OF MALEIC ACID IN AN EXCESS OF H. THE LENGTH OF THE H REGION FOR THE CHARGE CURVES BECOMES SHORTER AS THE TEMP. OF THE TREATMENT IS INCREASED. AT 80DEGREES, THE ADSORPTION CAPACITY DECREASES BY 27PERCENT, AT 150DEGREES BY 30PERCENT, AND AT 200DEGREES BY 32PERCENT OF THAT FOR THE STARTING SAMPLE. THE BOND ENERGY OF THE H WITH THE RH SURFACE DOES NOT CHANGE AND IS EQUAL TO 54.4 KCAL-MOLE. THE SP. ACTIVITY DECREASES SHARPLY AT 150DEGREES WHICH IS EXPLAINED BY THE RECRYSTN. OF THE SURFACE DUE TO THE ORDERING OF THE STRUCTURE. THE ACTIVATION OF THE SAMPLE WHICH WAS OBSD. AT 200DEGREES IS ATTRIBUTED TO THE POSSIBLE ORIGIN OF NEW DEFECT STRUCTURES.

REF ID: A71717

USSR

UDC 621.371.332

PLEUKHOV, A.N., SIDOROV, V.V.

"Effect Of Conditions In The Ionosphere On Meteoric Propagation Of Radio Pulses"

V sb. Meteorn. rasprostr. radiovoln (Meteoric Propagation Of Radio Waves--Collection Of Works), Issue 8, Kazan, Kazan University, 1971, pp 65-73 (from RZh-Radiotekhnika, No 9, Sept 1971, Abstract No SA193)

Translation: A computation is made of distortions of signals with oblique incidence at the ionosphere and reflection from a meteor trail. Because of absence in the atmosphere of abrupt changes of the gradient of the refractive index, the approach of geometrical optics is used during the computation. It is determined that for radio pulses with a small spectrum width, it is possible to neglect the distortions in the atmosphere; with a wide spectrum and long routes (trains), it is necessary to take them into account. 3 ill. 8 ref. N.S.

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USSR

UDC: 621.396.9:527.629.78

SIDOROV, V. V., PLEUKHOV, A. N.

"On the Problem of Determining the Time Position of Pulses Reflected From Meteor Trails"

V sb. Meteor. rasprostr. radiovoln (Meteoric Propagation of Radio Waves -- collection of works), vyp. 7, Kazan', Kazan' University, 1970, pp 116-122 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12698)

Translation: The authors note the need for using pulses with an amplitude considerably greater than the threshold amplitude in radar location of meteor trails using narrow-band receivers. The accuracy of determining the time position of pulses is analyzed. An example is given of calculation for a radar station with fixed pulse power. It is shown that high measurement accuracy can be assured with narrow passbands and correspondingly wide pulses if the delay is measured in the arrival of pulses reflected from meteor trails only for sufficiently strong reflections.

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1/2 008 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--SYNTHESIS AND CONVERSIONS OF 3,ALKYL(ARYL),THIAZOLIDONE,4,THIONES  
-U-  
AUTHOR--PLEVACHUK, N.YE.  
COUNTRY OF INFO--USSR  
SOURCE--FARM. Zh. (KIEV) 1970, 25(1), 28-30  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--BENZENE DERIVATIVE, ORGANIC AZOLE COMPOUND, ORGANIC SULFUR  
COMPOUND, KETONE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/0346

STEP NO--UR/0491/70/025/001/0028/0030

CIRC ACCESSION NO--AP0127927

2/2 008

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127927

ABSTRACT/EXTRACT--(U) GF-0- ABSTRACT. A GROUP OF BIOL. ACTIVE COMPOS. WAS PREPARED BY REACTION OF 3-PHENYLTHIAZOLIDINE-2,4-DIONE WITH P SUB2 & SUB5 AND BY FURTHER REACTIONS OF THE RESULTING 3-PHENYLISORHODANINES (I). THE FIRST CONDENSATION PROCESS PROCEEDS IN BOILING DIOXANE DURING 2 HR. IN GOOD YIELD. CONDENSATION OF I WITH ALDEHYDES AND PHENYLHYDRAZINE GIVES PRODUCTS OF REACTION WITH BOTH CH SUB2 AND C5 GROUPS. SYNTHESIS OF 8 NEW 3-PHENYLISORHODANINES WAS DESCRIBED IN DETAIL AS WELL AS THE PREPN. OF THE CORRESPONDING PHENYLHYDRAZONES.

FACILITY: LVOV MED. INST, LVOV, USSR.

1/2 007 UNCLASSIFIED PROCESSING DATE--195970  
TITLE--AZOLIDONES AND THEIR DERIVATIVES. III. SYNTHESIS AND SOME  
TRANSFORMATIONS OF 4,THIOXO,5,ALKYL,2,THIAZOLIDINONES -U-  
AUTHOR--(02)-PLEVACHUK, N.YE., KOMARITSA, I.O.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 159-60

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THIAZOLE, AROMATIC KETONE, HETEROCYCLIC BASE COMPOUND,  
CHEMICAL SYNTHESIS, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1094

STEP NO--01/0408/70/000/002/0157/0160

CIRC ACCESSION NO--AP0204492

UNCLASSIFIED

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007

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0204492

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. I (R PRIME1 EQUALS O) (0.04 MOLE), 0.014 MOLE P SUB2 S SUB5, AND 10 ML ABS. DIOXANE WAS REFLUXED 4 HR TO GIVE I (R PRIME1 EQUALS S) (II) (R PRIME2, PERCENT YIELD, AND M.P. (H SUB2 O) GIVEN): ME, 55, 110DEGREES; ET, 60, 104DEGREES; ISO-PR, 40, 83DEGREES. II, PHNH SUB2, OR ISONICOTINOYL HYDRAZIDE (0.01 MOLE EACH), AND 10 ML MECH WAS REFLUXED 1 HR TO GIVE 40-50PERCENT I (R PRIME1, R PRIME2, AND M.P. GIVEN): PHN, ME, 190DEGREES (DECOMPN.); PHN, ET, 174DEGREES; PHN, ISO-PR, 193DEGREES (DECOMPN.); Q, ME, 179DEGREES; Q, ET, 167DEGREES; Q, ISO-PR, 175DEGREES. SIMILARLY, I (R PRIME1 EQUALS PHNH) WERE OBTAINED AT ROOM TEMP. (R PRIME2, PERCENT YIELD, AND M.P. (MECH) GIVEN): ME, 64, 231DEGREES; ET, 74, 131DEGREES (DECOMPN.); ISO-PR, 62, 149DEGREES. II (0.01 MOLE) IN 6 ML CONCD. NH SUB3 WERE HEATED 15 MIN ON A BOILING WATER BATH TO GIVE I (R PRIME1 EQUALS NH) (R PRIME2, PERCENT YIELD, AND M.P. (DECOMPN.) (H SUB2 O) OR MECH) GIVEN): ME, 48, 194DEGREES; ET, 51, 211DEGREES; ISO-PR, 70, 236-8DEGREES. SIMILARLY, 4,IMINO,5,ALKYLIDENE,2,THIAZOLIDINONES WERE OBTAINED (ALKYLIDENE, PERCENT YIELD, AND M.P. (DECOMPN.) GIVEN): PHCH, 65, 266DEGREES (ACOH); ALPHA--NPAPHYLMETHYLENE, 70, 248DEGREES (DIOXANE); 3,4,(MECH)SUB2 C SUB6 H SUB3 CH, 50, 260DEGREES (ACOH).

UNCLASSIFIED

USSR

PLEVAKO, V. P., Khar'kov

"Toward an Elasticity Theory for Inhomogeneous Media"

Moscow, Prikladnaya matematika i mekhanika, No. 5, Sep/Oct 71, pp 853-860

Abstract: A general solution for the equations for equilibrium in displacements was obtained for homogeneous isotropic media where the elastic characteristics of the media are differentiable functions in Cartesian coordinates. It is shown that the components of the displacement vector in the three-dimensional problem of elasticity theory can always be expressed in terms of two functions satisfying linear partial differential equations of the first and fourth order. The author notes that general solutions of the equilibrium equations in displacements for the three-dimensional case and for an arbitrary change in the elastic characteristics of an inhomogeneous medium have not previously been discussed.

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UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--STABILITY OF HEAVY NUCLEI AND THE LIMIT OF THE PERIODIC SYSTEM -U-

AUTHOR--FLEROV, G.M., DRUIN, V.A., PLEVE, A.A.

COUNTRY OF INFO--USSR

SOURCE--USP. FIZ. NAUK 1970 100(1), 45-52

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--HEAVY NUCLEUS, PERIODIC SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1976/0199

STEP AC--UR/C053/70/100/001/C045/C092

CIRC ACCESSION NO--20004275

Acc. Nr:

AP0042265

Abstracting Service:  
CHEMICAL ABST.

4-70

Ref. Code:

UR0053

84949p Stability of heavy nuclei and the limit of the periodic system. Flerov, G. N.; Druin, V. A.; Plevin, A. A. (Ob'edin. Inst. Yad. Issled., Dubna, USSR). *Dokl. Akad. Nauk* 1970, 100 (1), 45-92 (Russ). A comprehensive review is given of methods for the synthesis, sepn., and identification of the transfermium elements. The theoretical possibility for synthesizing superheavy nuclei is discussed in terms of evidence for a 2nd region of stability and the properties of nuclei near "magic" no. nuclei. 148 refs. SRTT J

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REEL/FRAME  
19760199

USSR

BALOSHIN, O. N., BLAGORODOV, A. M., BOLONKIN, B. V., VIADIMIRSKIY, V. Y.,  
GORIN, YU. P., GRIGOR'YEV, V. K., GRISHIN, A. P., YEROFEYEV, I. A., KOROL'KOV,  
I. YA., LUZIN, V. N., MILLER, V. V., NIKOLAYEVSKIY, YE. S., PETRUKHIN, V. N.,  
PLIGIN, YU. S., PONOMAREV, L. A., SIROTHIN, S. M., SONGLOVSKIY, V. V., TARASOV,  
YE. K., TIKHOMIROV, G. D., TROSTINA, K. A., TURCHANOVICH, L. K., and SHKURENKO,  
YU. P., Institute of Theoretical and Experimental Physics GRI AE (State  
Committee for the Use of Atomic Energy)

"The  $K^-p \rightarrow \bar{K}^0 n$  Charge Exchange Reaction at a Pulse of 39 GeV/sec"

Moscow, Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544

Abstract: The authors present the measurement results from studying the charge exchange reaction of  $K^-$ -mesons on protons ( $K^-p \rightarrow \bar{K}^0 n$ ) at a pulse of 39 GeV/sec. The study was carried out using the ITEP 6-m magnetic track spectrometer. The working volume of the magnetic field of the spectrometer was  $1.0 \times 1.5 \times 6$  m. Twelve optical spark chambers were located inside the magnet, with each chamber having eight spark gaps (10 mm each). The chamber electrodes consisted of two layers of aluminum foil 14 microns thick. The photographs were taken through a special slit in the magnet yoke. A mirror system made it possible to obtain three stereoprojections of all of the chambers

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USSR

BALOSHIN, O. N., et al., Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544 with one camera. The reaction was studied on the negative particle beam of the IFVE accelerator. The  $K^-$ -mesons were distinguished by a differential Cerenkov counter. The beam was focused on a liquid hydrogen target 40 cm long which was set approximately three meters from the first chamber of the spectrometer. Approximately  $5 \cdot 10^7 K^-$ -mesons were passed through the equipment and 1020 photographs taken. Pairs of uniformly charged tracks were measured on the photographs. The measurement results were then processed on the Razdan-3 computer. Only 270 intersecting tracks were found. A graph is given for the differential cross section of the reaction. The results show that the cross section value of  $7.4 \pm 1.2$  microbarns obtained by the authors in comparison to data obtained for lower energies elsewhere shows the logarithmic dependence of the charge exchange cross section on the pulse, equal to  $-1.58 \pm 0.05$ . The authors thank K. G. Boreskov, A. M. Lapidus, S. T. Sukhorukov, and K. A. Ter-Martirosyan for their presentation of the computational results as the dependence of the differential cross section on pulse transfer ( $do/dt$ ). This dependence is compared with predictions of the Regge pole model.

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1/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EARLY MORPHOLOGICAL CHANGES IN THE LIVER FOLLOWING ITS COMPLETE ISOLATION FROM GENERAL CIRCULATION -U-

AUTHOR--(05)-BELINSKAYA, A.M., PLIKH, M.B., GONCHAROV, A.L., GORYACHEY, S.P., DOROKHOYA, L.P.

COUNTRY OF INFO--USSR

SOURCE--ARKH. PATOL. 1970, 32(2), 70-3

DATE PUBLISHED-----70

P

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, BLOOD CIRCULATION, INHIBITION, HISTOCHEMISTRY, GLYCOGEN, RNA, NECROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1996/0579

STEP NO--UR/9056/70/032/002/0070/0073

CIRC ACCESSION NO--AP0117807

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117807

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NO PATHOMORPHOL. AND HISTOCHEM. CHANGES WERE OBSD. IN DOG LIVERS 20 MIN SUBSEQUENT TO THEIR ISOLATION FROM GENERAL CIRCULATION. AFTER 40 MIN, THE FUNCTION OF THE ORGAN WAS DIMINISHED AND DYSTROPHIC CHANGES WERE FOUND IN PARENCHYMA. THE CONTENT OF GLYCOGEN AND RNA IN CELLS WAS REDUCED. AFTER 60 MIN, NECROBIOTIC CHANGES OF PARENCHYMA WERE OBSD. AS WELL AS DECREASE OF GLYCOGEN AND NUCLEIC ACIDS CONTENT OF HEPATOCYTES. FACILITY: KAZ. INST. KLIN. EKSP. KHIR., ALMA-ATA. USSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--SOLUTION OF UNIDIMENSIONAL PROBLEMS OF GAS DYNAMICS IN MOVING  
NETWORKS -U-  
AUTHOR-(04)-ALALYKIN, G.B., GODUNOV, S.K., KIREYEVA, I.I., PLINER, L.A.  
COUNTRY OF INFO--USSR  
SOURCE--RESHENIYE ODNOMERNYKH ZADACH GAZOVOY DINAMIKI V PODVIZHNYKH  
SETKAKH, MOSCOW, NAUKA, 1970, 110 PP  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS DYNAMICS, PLASMA SHOCK WAVE, ELECTRODE PROPERTY,  
DIFFERENCE METHOD, MONOGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0779

STEP NO--UR/0000/70/000/000/0001/0110

CIRC ACCESSION NO--AM0101153

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--160C170

2/2 037

CIRC ACCESSION NO--AM0101153

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5.  
CHAPTER I DIFFERENCE DIAGRAMS 7. II DISCONTINUITY DECOMPOSITIONS  
67. APPENDIX I CALCULATION OF FORMATION OF A SHOCK WAVE FORMING IN  
INTERSECTING CHARACTERISTICS 90. II MECHANICAL EFFECTS ON AN  
ELECTRODE IN ACCUMULATION OF PLASMA ON THE AXIS 93. APPENDIX III 99.  
BIBLIOGRAPHY 112.

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