"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 030 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0144342

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CHAIN MECHANISM OF CARBON COMBUSTION IN THE PRESENCE AND ABSENCE OF TRACES OF H SUB2 O AND VARIOUS CARBON OXYGEN REACTION COMPLEXES ARE SUGGESTED EXPLAINING THE SIMULTANEOUS FORMATION OF CO AND CO SUB2.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROV, S. S.

"Linguistic Base for Application of Computers"

Mezhdunar. Kongress Matematikov v Nitstse. 1970 [International Congress of Mathematicians in Nitstse, 1970 -- Collection of Works], Moscow, Nauka Press, 1972, pp 137-144 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V634, by V. Mikheyev).

Translation: The differences between programming languages and traditional mathematical symbol systems are studied. The following main distinctions are noted: a) the algorithmic or dynamic nature of these languages; b) algorithmic languages are more descriptive; c) the presence of stricter standards of clarity and accuracy of description. The following difficulties in application are noted: 1) for specialized languages: a) their capabilities are limited and rapidly exhausted as the range of problems solved becomes more complex; b) their realizations are complex and therefore frequently cannot be completed; c) they allow only descriptions of algorithms; 2) of "universal" languages: a) they are never sufficiently universal; b) descriptions of

1/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

Lavrov, S. S., Mezhdunar. Kongress Matematikov v Nitstse. 1970, Moscow, Nauka Press, 1972, pp 137-144.

specific algorithms are too cumbersome; c) their capabilities for expansion are limited. The basic features of a new approach to the construction of a universal algorithmic language are presented. The basic peculiarities of the approach suggested are as follows: a) the language should be expandable; b) their should be no limitations on the expansion; in particular, the syntax of expansion may have nothing in common with the initial syntax; c) any expansion should be precisely defined by formal means; d) this definition may be made using an earlier expansion or expansions, but in the final analysis all expansions are defined in terms of a central core; e) this core is defined informally. More precisely, any formalism used to describe the core may facilitate only a more precise description, but should not be a means for realization of the core. The core of the suggested expandable language consists of three parts: the analyzer, base and calculator. The basic purpose of the analyzer is to describe the recognition grammar for expansions. Usually, the syntax of programming languages is fixed using a generating grammar. This makes it necessary to construct a recognition algorithm, prove the unambiguity of the language, etc. When the language is fixed by a recognition grammar, these problems do not arise. The main purpose of the base is to describe the quantities studied, give them names, describe the nature and properties of these

2/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

Lavrov, S. S., Mezhdunar. Kongress Matematikov v Nitsuse. 1970, Moscow, Nauka Press, 1972, pp 137-144.

quantities, their relationships to other quantities, the actions which can be performed with them. The calculator is a means for description of the performance of certain actions on the computers of today (and, possibly, of tomorrow). In other words, it is a sort of autocoder, not related to any specific machine. For greater effectiveness, the calculator is parametrized. This means that when the algorithm is translated to the language of a specific machine and when a compiled program is run, the actual values of parameters of the machine can be taken into consideration. It is noted that inclusion of this apparatus in the language suggested makes it possible to describe the semantics of new syntactical structures introduced in the expansion effectively (in the sense of time required to run the program).

3/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROV, S. S.

"Solution of Problems by Computer and Proof of Correctness of Programs"

Probl. Prikl. mat. i Mekh. [Problems of Applied Mathematics and Mechanics -- Collection of Works], Moscow, Nauka Press, 1971, pp 98-102, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V504 by the author).

Translation: Problems of the necessity and possibility of proving the correctness of programs for solution of problems by computer are studied. It is demonstrated that formal proof of the correctness of programs is possible in comparatively rare cases. The desirability of the combination of formal proof with more traditional methods of testing the correctness of programs is noted.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC: 518.5:681.3.06

KHOKHLOV, V. A., LAVROV, V. A.

"Approximating a Function of Two Variables by a Power Polynomial"

V sb. Mashiny dlya inzh. raschetov (Machines for Engineering Calculations--collection of works), vyp. 4, Kiev, 1971, pp 40-46 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V972)

Translation: A program is compiled for determining the coefficients of a polynomial of n-th degree

$$F_n(XY) = \sum_{j=0}^{n} \sum_{i=0}^{j} X^{j-i} Y^i B_{j-i,i},$$

which approximates a function of two variables $f(x,y)$ given by a table of values. In the case of analytical representation of the function, the program must be supplemented in the initial part by a subprogram for determining the necessary group of values of the function.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC: 528.526.6

LAVROV, V. N., ZHITOMIRSKIY, I. B., LUKOVATYY, Yu. S., YAKOVLEVA, N. P., VASIL'YEV, Yu. F., All-Union Scientific Research Institute of Mining Geomechanics and Surveying

"A Miniaturized Surveyor's Gyrocompass"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazcy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331253, Division G, filed 21 Jul 67, published 7 Mar 72, p 117

Translation: This Author's Certificate introduces a miniaturized surveyor's gyrocompass which contains a theodolite with autocollimation system, a trigger and a gyro attachment with pendulum sensing element on a torsion suspension and strip current feed. As a distinguishing feature of the patent, the design provides for compensation of the torque of the torsion suspension and the current feed. The current feed is made in the form of strips bent in the vertical or horizontal plane with their ends fastened to the sensing element at a distance r from its axis of rotation, where r is defined by the formula

$$r = aD\left(\frac{\sqrt{DK}}{IE} + b - c\right),$$

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROV, V. N. et al., USSR Author's Certificate No 331253

where D is the distance between the fixed ends of the current feed strips, K is the stiffness of the torsion suspension, a, b and c are numerical coefficients which depend on the shape of the bend in the strips, and IE is the rigidity of the current feed strips.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC: 621.317.41

GUTOVSKIY, I. G., ZHITSKOVA, Z. A., LAVROV, V. P., PEVZNER, G. S., SAVVIN, A. N., KELEBNIKOV, S. P.

"A Device for Determining the Magnetization Curve and Hysteresis Loops of Magnetic Materials"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329486, Division G, filed 8 Apr 68, published 9 Feb 72, p 182

Translation: This Author's Certificate introduces a device for determining the magnetization curve and hysteresis loops of magnetic materials. The device contains a measurement and a magnetizing coil for the specimen to be studied, a fluxmeter (in the form of an integrating amplifier), an adder, an integrating amplifier for the magnetization circuit, a power amplifier, a calibrated resistor, and a registration instrument. As a distinguishing feature of the patent, the device is designed for increased precision and speed, and for automation and programming of the measurement process. For this purpose it is equipped with a program input controller of the change in magnetic flux in the form of a time-variable voltage controller. The

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR -

GUTOVSKIY, I. G. et al., USSR Author's Certificate No 339486

device also includes a switch. One input of the adder is connected to the voltage controller, and the other adder input is connected to the output of the magnetic fluxmeter. The output of the adder is connected to the integrating amplifier of the magnetization circuit through the switch. The controlling input of the switch is connected to the output of the adder and to the controlling input of the voltage controller through a logic circuit of the "exclusive OR" or "equivalence" type.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Nuclear Physics

UDC 537.533.331

USSR

ZASHKVARA, V. V., KORSUNSKIY, M. I., RED'KIN, V. S., and LAVROV, V. P.,
Institute of Nuclear Physics of the Academy of Sciences Kazakh SSR, Alma-Ata

"Ion-Optical Properties of an Electrostatic Energy Analyzer for Beams of Charged Particles With Focusing of the Ring-Axis Type"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, No 12, Dec 70, pp 2591-2592

Abstract: A calculation of the ion-optical characteristics of a cylindrical analyzer providing ring-axis focusing for various angles of entry of the beam into the region of the field is presented. The property of cylindrical analyzer to depict a thin ring source placed on the surface of the inner cylinder at a point on the axis of symmetry is denoted by the term "focusing of the ring-axis type." Formulas are given for the relative focus distance, the coefficient of relative linear dispersion with respect to energy, the quadratic angular aberration coefficient, and the cubic angular aberration coefficient. Graphs of these functions are given. They show that focusing of the ring-axis type of the first order with respect to angular divergence of the beam in an electrostatic analyzer with a cylindrical field can be achieved over a wide range of angles of entry of the beam of charged particles.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

ZASHKVARA, V. V., et al, Zhurnal Tekhnicheskoy Fiziki, No 12, Dec 70, pp 2591-2592

The angle of entry of 39° is of particular interest, since under these conditions the quadratic angular aberration is equal to zero and close to the minimum value of the cubic angular aberration.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC 546.814-31:548.55

UGAY, YA. A., LAVROV, V. V., ANOKHIN, V. Z., and AVERBAKH, YE. M., Voronezh State University, Voronezh, Ministry of Higher and Secondary Specialized Education, RSFSR

"Growth of SnO_2 Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 750-752

Abstract: A method is suggested for the growth of SnO_2 crystals which is more convenient than known methods for the growth of SnO_2 crystals from the gas phase. The transporting agent is water in the vapor state, continuously fed to the "evaporation" zone. A cylindrical specimen of pressed and annealed stannic oxide (diameter 22 mm) is placed in a high-temperature zone (t = 1570° C) created by carborundum heaters inside a high-alumina ceramic tube (diameter 22 mm). A stream of water vapor from a quartz boiler is continuously fed into the furnace. The rate of water vapor feed into the SnO_2 evaporation zone does not exceed 4 mol/hr. Intensive growth of SnO_2 crystals is ob-

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UGAY, YA. A., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 750-752

served in the furnace zone with a temperature ~ 1450-1520° C. The color and faceting of the freely growing crystals vary greatly according to the temperature of the crystallization zone. The article considers the growth mechanism and the attendant chemical interactions.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

JPRS 57208
6-73

3

II-14. STUDY OF THE CRYSTALLIZATION CONDITIONS OF TIN DIOXIDE

[Article by V. V. Lavrov, Ya. A. Ugay, V. I. Anokhin, Voronezh; Novosibirsk, III Simpozium po Protsessam Rosta i Sintezu Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 26]

A study was made of the crystallization conditions and transport kinetics of tin dioxide in water vapor. It was established that the defining role is played by water dissociation. The hydrogen released in the dissociation of the water promotes reduction of the tin dioxide to elementary tin or to tin monoxide. The last-mentioned product is responsible for transport of the substance during the course of growing tin dioxide crystals.

LAVROV, V.V.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC: 532.526

LAVROV, Yu. V., FILIPPOV, V. M.

"Experimental Investigation of the Transition From a Laminar to a Turbulent Boundary Layer on the Walls of the Working Section of a Wind Tunnel"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of Central Aerohydrodynamics Institute), 1972, 3, No 2, pp 60-68 (from RZh-Mekhanika, No 9, Abstract No 9B861)

Translation: Experimental studies are done on the transition from a laminar to a turbulent boundary layer on the side walls of the working section of a low-turbulence wind tunnel. Relations are found for the main statistical characteristics of the transition region (intermittence coefficient and intermittence number) as functions of the oncoming flow velocity and the coordinate of the given cross section, which are described by a normal law of distribution of random quantities. The studies are done with the aid of inductive pressure pickups, which almost completely eliminated the distrubing influence of the measuring instrumentation on the flow. Bibliography of 9 titles. Resumé.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 629.78.018.1

LAVROV, YU. V. and FILIPPOV, V. M.

"Experimental Investigation of Laminar-to-Turbulent Boundary Layer Transition on the Walls of Wind Tunnel"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta (Scientific Writings of the Central Aerohydrodynamics Institute), Vol 3, No 2, 1972, pp 60-68 (from Referativnyy Zhurnal--Raketostroyeniye, No 8, 1972, Abstract No 8.41.97)

Abstract: Experimental studies of the transition from a laminar-to-turbulent boundary layer on the side walls of the working part of a low turbulence wind tunnel have been conducted. Relationships of the basic statistical characteristics in the transition region (coefficient and number of intermittence) to the velocity of inflow and coordinates of the investigated cross section were obtained which are described by the normal law of random value distribution. The investigations were carried out with the aid of inductive sensors of pressure that to almost fully remove the disturbing effect of the measuring equipment on the flow. Author's view, 6 figures, 9 bibliographical references.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 669.872.411(083.8)

TSIMENGAKL, V. A., LAVROVA, G. V., and KONDRUK, YE. I., Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR

"Method for Refining Indium"

USSR Author's Certificate No 263369, filed 6 Jul 67, published 2 Jun 70 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G178 P)

Translation: A method is proposed for refining In which involves fine diffusion of molten metal and separation of metallic In by electrolysis. To improve work conditions prior to fine diffusion, In is subjected to fusion with Bi and with alloys of Bi with Pb and Sn.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--CHANGES OF THE BLOOD COAGULATION MECHANISM IN HENS DURING VITAMIN K DEFICIENCY -U-

AUTHOR-(02)-ANDREYENKO, G.V., LAVROVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--SEL'SKOKHOZ BIOL 5(1): 79-84. ILLUS. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD COAGULATION, BIRD, VITAMIN DEFICIENCY, HEMOSTASIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0296 STEP NO--UR/9062/70/005/001/0079/0084

CIRC ACCESSION NO--AP0135791

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135791

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO SERIES OF EXPERIMENTS WERE PERFORMED ON 270 WHITE PLYMOUTHROCK BROILERS TO STUDY THE EFFECT OF VITAMIN K DEFICIENCY ON THE MECHANISM OF BLOOD COAGULATION. IT IS FOUND THAT THE CONDITION OF K-HYPOVITAMINOSIS AND AVITAMINOSIS IN THE BROILERS IS CONNECTED WITH HEMORRHAGIC DIATHESIS WHICH RESULTS FROM THE DISTURBANCE OF HEMOSTASIS, THE INSUFFICIENT SYNTHESIS OF PROTHROMBIN AND THE DISTURBANCE OF THE PHASE OF THROMBOPLAST FORMATION. THE INCREASE OF THE FIBRINOLYTIC ACTIVITY OF BLOOD STIMULATES BLEEDING. THE ABSENCE OF VITAMIN K IN BROILERS' FEEDING RATIONS IS PROBABLY ONE OF THE CONDITIONS OF THE DEVELOPMENT OF CANNIBALISM. FACILITY: M. V. LOMONOSOV MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 616-036.21:91(049.3)

LAVROVA, M. Ya., Reviewer

Geografiya prirodnoochagovykh bolezney cheloveka v svyazi s zadachami ikh profilaktiki (The Geography of Human Diseases with Natural Foci's With Respect to Problems of Their Prophylaxis, by Corresponding Members of the Academy of Medical Sciences USSR, Professor P. A. Petrischeva and Professor N. G. Olsuf'yev, Corresponding Member, Academy of Medical Sciences, USSR, Editor, "Meditsina" Moscow 1969, 310 pp

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 3, May/Jun 70, pp 368-370

Abstract: The book reviews books and works on geographic or endemic conditions for various parasitic diseases, particularly those transmitted by insects, rodents and other animals. The book may further the study of infections with natural foci and medical geography.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 029 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--METABOLIC BREAKDOWN OF BENZO(A)PYRENE BY CELLS OF DIFFERENT MAMMALS IN VITRO AND THE TOXIC EFFECT OF POLYCYCLIC HYDROCARBONS ON THESE CELLS

AUTHOR-(05)-BELITSKIY, G.A., VASILYEV, YU.M., IVANOVA, O.YU., LAVRUVA, N.A., PRIGOZHINA, YE.L.

COUNTRY OF INFO--USSR

SOURCE--VOP. ONKOL. 1970, 16(2), 53-8

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDROCARBON, METABOLISM, TOXICOLOGY, CAT, CELL PHYSIOLOGY, EMBRYOLOGY, LEUKOCYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1689 STEP NO--UR/0506/70/016/002/0053/0058

CIRC ACCESSION NO--AP0103455

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 029 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAT CELLS SENSITIVE TO THE TOXIC ACTION OF HYDROCARBONS ACTIVELY METABOLIZED BENZO(A)PYRENE (I). METABOLISM WAS SLOWER IN PIG AND CAT CELLS WHICH WERE MORE RESISTANT TO THE TOXIC ACTION OF I AND 7,12,DIMETHYLBENZ(A)ANTHRACENE. NORMAL EMBRYONIC FIBROBLASTS CELLS IN VITRO AND LEUKOCYTES FROM THE PERIPHERAL BLOOD OF HEALTHY HUMANS WERE ALMOST INSENSITIVE TO THE TOXIC ACTION OF THESE HYDROCARBONS AND METABOLISM OF I DEVELOPED MORE SLOWLY. THE SENSITIVITY OF CELLS TO THE TOXIC ACTION OF THE HYDROCARBONS SEEMS TO DEFINITELY CORRELATE WITH THEIR ABILITY TO METABOLIZE THESE COMPDS.

FACILITY: INST. EXP. CLIN. ONCOL., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC 576.858.25.097.2.077.3

GAYDAMOVICH, S. Ya., OBUKHOVA, V. R., MEL'NIKOVA, Ye. E., MOLOKHOVA, N. A., KIRYUSHCHENKO, T. V., KLISENKO, G. A., KRASNOBAYEVA, E. N., LAVROVA, N. A., SHARIPOVA, Sh. A., and SHANOYAN, N. K., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Use of Ultrasound to Increase Arbovirus Antigen Activity in Serological Tests in Vitro"

Moscow, Voprosy Virusologii, No 3, May/Jun 1973, pp 356-360

Abstract: An ultrasonic technique to increase antigen activity was tested on five groups of arbovirus antigens. Antigens prepared from suckling mouse brain by the sucrose-acetone and freon methods, or in chick fibroblasts without preliminary processing, were subjected to 30-40 sec of 20,000-25,000 Hz ultrasonic treatment. Titers determined before and after treatment by hemagglutination inhibition (HAI), complement fixation (CF), and agar gel diffuse precipitation (AGDP) were compared. For group A and B arboviruses CF and HAI titers increase 4-8 times after treatment, while AGDP titers remained unchanged. In the Kemerovo-Bunyamvera-California group, the CF titers increased by 2-4 times, and no change was observed in HAI titers. CF titers increased 2-8 times for all but Neapolitan arbovirus of the Phlebotomus group. 1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

6

USSR

GAYDAMOVICH, S. Ya., et al., Voprosy Virusologii, No 3, May/Jun 1973, pp 356-360

The only HAI response in this group was by Bujaru arbovirus, and only after treatment the AGDP titers increased in a few cases. Ultrasonic treatment had an especially favorable effect on CF and AGDP titers in the Uukuniemi group, while changes in HAI titers were less pronounced. Thus ultrasonic treatment normally facilitates antigen activity in CF and HAI reactions and has a variable effect on the AGDP reaction. Treated antigens did not lose specificity. It is concluded that ultrasonic treatment can be used not only to increase titers but also to reveal titers of relatively inactive antigens.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.396.69:621.319.4

LAVROVA, N. N., KHOVANTSEVA, D. A., CHERNYKH, M. A., SHATALOV, A. Ya.

"Anodizing Aluminum Foil in Citrate Electrolytes"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1 (15), pp 35-41 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V349)

Translation: The authors give the results of a study of the principles governing formation of pure aluminum foil in citrate electrolytes. The rate of aluminum oxidation in aqueous solutions of citric acid is independent of the concentration of acid (0.03-2%) and the pH of the solution (3.5-6.0). An increase in electrolyte temperature reduces the rate of oxidation. The current efficiency at 20°C is 95%, and decreases to 85% at 90°C as a consequence of chemical dissolution of the film during oxidation. Citric acid of 0.2% concentration with the addition of ammonia (25%) to a pH value in the range of 4-6 can be recommended for anodizing aluminum at average voltages of up to 300 V and current densities of 5-10 mA/cm^2 (for smooth foil) and 20 mA/cm^2 (for etched foil). Bibliography of 8 titles.
Ye. M.
1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC 621.357:1:669.218:1

BEK, R. YU., MASLIY, A. I., and LAVROVA, T. A.

"The Rate of Electrolytic Separation of Gold from Thiourea Solutions"

Izvestiya Sibirskogo Otdeleniya AN SSSR, Seriya Khimicheskikh Nauk, Vyp 1, No 2, 1972, pp 25-31 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, Abstract No 23L244 by E. Z. Napukh)

Translation: The effect of electrolysis conditions on the electrodeposition rate of Au from thiourea solutions was studied in laboratory and industrial pilot plant. A dependence of the mass transfer coefficient on cathode potential, temperature, evolution rate of H_2, and the electrolyte flow rate was established. A rapid flow of electrolyte secured the maximal Au deposition rate. Formulas are given for the calculation of the mass transfer coefficient and the removal of gold from eluate with respect to time.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 636:612

SERGEYEVA, S. P., TETERINA, A. V., and LAVROVA, T. S., All-Union Scientific Research Institute of Veterinary Virology and Microbiology, Pokrov, Vladimirskaya Oblast

"Oxidative Metabolism in Cell Cultures During Replication of Viruses"

Moscow, Sel'skokhozyaystvennaya Biologiya, Vol 6, No 4, 1971, pp 597-603

Abstract: Some parameters of the oxidative metabolism of single layer cultures of chick embryo cells and fetal pig kidney cells infected with the viruses of Newcastle disease, foot-and-mouth disease, and hog cholera were determined. It was revealed that in chick embryo cells and fetal pig kidney cells infected with viruses a prolonged and stable depression of respiration occurs and an activation of glycolysis with stimulated accumulation of lactate. To determine the dependence of viral replication on the respiratory and glycolytic activity of cells, various inhibitors of oxidative metabolism were used, none of which produced any degenerative changes in the cell culture. Glycolysis inhibitors markedly hindered the formation of lactate, did not affect cell respiration, and inhibited very significantly viral replication. It was demonstrated that glycolysis plays an important part in viral replication, but that the normal functioning of all stages of oxidative metabolism of glucose is also necessary.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2

USSR

UDC 621.357.1:669.715.72

DEMIN, A. V., POPOV, V. L., SVOBODA, R. V., LAVROVA, T. V., KOZHEVNIKOVA, N. A., SHIPKOV, N. N.

"Manufacture of Annealed Anodes for Aluminum Electrolyzers by Combined Pressing and Annealing"

Konstrukts. Materialy na Osnove Grapfita [Graphite-Based Structural Materials -- Collection of Works], Moscow, Metallurgiya Press, No 6, 1971, pp 10-13 (Translated from Referativnyy Zhurnal, Khimiya, No 2, 1972, Abstract No 2 L309 from the Resume).

Translation: The possibility is demonstrated of using the method of combined pressing and sintering for the preparation of prismatic specimens of sintered anodes based on various raw materials: type KNPE petroleum coke mixed with pitch, shale, and also individually of non-roasted pitch coke. The properties of the anodes produced are compared with those of anodes type DBZ, anodes from companies in the GDR, FRG and Switzerland, tested under similar conditions. The results indicate that manufacture of anodes by combined pressing and sintering produces anodes with lower oxidizability, subject to considerably less damage upon interaction with CO_2, with compact structure.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2

USSR

UDC 669.71:472:621.035

DEMIN, A. V., POPOV, V. L., SVOBODA, R. V., LAVROVA, T. V., KOZHEVNIKOVA, N. A., and SHIPKOV, N. N.

"Manufacture of Roasted Anodes for Aluminum Electrolyzers by the Method of Combined Pressing and Roasting"

V sb. Konstrukts. materialy na osnove grafita (Graphite-Base Construction Materials -- Collection of Works), No 6, Moscow, "Metallurgiya" (Metallurgy), 1971, pp 10-13 (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G131 by G. Svodtseva)

Translation of Abstract: The results of tests with experimental specimens showed that the method of combined pressing and roasting makes it possible to obtain roasted anodes with elevated physicomechanical and operational characteristics from various raw materials.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Space Physiology

LAVROVA, Ye. A.

COLEEN

SU: JPRS 53801

13 AUG 71

UDC 615-005.92-07:616.432-074

~~TRANSLATION BETWEEN RENAL EXCRETION OF DIVERSENT CATIONS UNDER~~
CONDITIONS OF AN IMPAIRED MINERAL BALANCE

[Article by ~~I. S. Baldzhorzhiy, O. A. Vitovets, E. E. Kissler, O. P. Gusev, Ye. A. Lavrova and Yu. V. Natochin; Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 5, No 3, 1971, pp 74-77, submitted 6 April 1970~~]

The problem of maintaining water-mineral equilibrium is of great importance for medical support of space flights. It has been demonstrated that weight loss by cosmonauts is caused by excess elimination of water and minerals during flight (Yu. V. Natochin, et al.; Ye. I. Tomilovskiy, et al.; S. A. Gorulov, N. I. Frolov). In the modeling of physiological conditions prevailing during weightlessness, in some cases men lose water and ions, especially sodium and calcium (David; Bowers, et al.; Cockett, et al.). The renal elimination of minerals can be caused by volume regulation as a result of blood redistribution (G. Gauer, J. Henry) and intensified calcium secretion setting in during hypodynamia (W. Hausan, S. A. Gorulov and N. I. Frolov). It is known that in some physiological states there is a parallelism in sodium and calcium excretion by the kidneys; this has given basis for some researchers to postulate that the transport of these cations is closely linked (Giordano, et al.; Walser; Wesson).

In order to make a more thorough analysis of changes in the electrolyte balance during spaceflight it was of interest in investigations with human subjects to clarify the interrelationship between renal elimination of sodium and calcium in a broad range of changes in the state of water-mineral metabolism caused by prolonged exposure to a high temperature and restricted mobility.

Method

The investigation was made on 11 healthy males in the age group 21-25 years. The subjects at all times were in a chamber at a temperature of 40° for 10 days. Four experiments were carried out, in each of which three men were simultaneously in the same chamber. In such a heat regime

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr.: AP0042377

Ref. Code: UR0203

JPRS 5016 2

Ionospheric Effect of Low-Energy Solar Plasma

(Abstract: "Ionospheric Effect of Low-Energy Solar Plasma Ejected During Proton Flares," by Ye. Ye. Goncharova, R. A. Zevakina, Ye. V. Lavrova and L. A. Yudovich, Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation; Moscow, Geomagnetizm i Aeronomiya, Vol X, No 1, 1970, pp 67-72)

A comparison was made of ionospheric disturbances in the F region caused by low-energy solar plasma from proton and nonproton flares. Three ionospheric-magnetic disturbances were considered: 7 July, 28 August and 2 September 1966, associated with proton flares, and one associated with a large nonproton flare, 16 September 1966. (Information on these flares and magnetic-ionospheric disturbances are given in a table. Low-energy solar plasma causes the most substantial changes in the F region and therefore a study was made of the change in critical frequencies and heights (h_p and h') of the F region for a number of ionospheric stations and the parameters of N(h) profiles for Moscow. The disturbances following proton flares began after 22-26 hours and 57 hours after the nonproton flare. This lag corresponds to velocities of the corpuscular stream of 1,700-2,000 km/sec and 700 km/sec respectively. The considered disturbances differ from

1/2

Reel/Frame
19760335

12

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

one another only in activity. During disturbances associated with proton flares there are the same changes in the F region as during other disturbances. This indicates that the low-energy solar plasma ejected during proton flares is not significantly different from the plasma of other corpuscular streams except that it is propagated at a greater velocity and possibly has a stronger magnetic field because it causes disturbances of greater activity.

19760336

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/3 031 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--CHANGE IN N,H, PROFILES DURING POSITIVE IONOSPHERIC DISTURBANCES DURING YEARS OF MAXIMUM AND MINIMUM SOLAR ACTIVITY -U-

AUTHOR-(04)-GONCHAROVA, YE.YE., ZEVAKINA, R.A., LAVROVA, YE.V., YUDOVICH, L.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 547-549

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--IONOSPHERIC DISTURBANCE, F LAYER, IONIZATION, AURORA, SOLAR ACTIVITY, GEOMAGNETIC STORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0526 STEP NO--UR/0203/70/010/003/0547/0549

CIRC ACCESSION NO--AP0132725

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/3 031 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF CHANGE IN N(H) PROFILES IN THE LATITUDE RANGE 80DEGREESN-12DEGREESS DURING TWO POSITIVE DISTURBANCES OBSERVED DURING THE PERIOD OF THE MAXIMUM OF SOLAR ACTIVITY 24-28 FEBRUARY 1958 AND DURING THE PERIOD OF THE MINIMUM 14-15 JANUARY 1964. BOTH DISTURBANCES WERE OBSERVED BEFORE SMALL MAGNETIC STORMS. SIMULTANEOUSLY WITH AN INCREASE IN IONIZATION IN THE F REGION THERE WAS INCREASED ABSORPTION IN THE AURORAL ZONES. THE STUDY WAS MADE USING HOURLY N(H) PROFILES FOR WASHINGTON, TALARA, HUANCAYO, IBADAN, AND SINGAPORE, SUPPLEMENTED BY DATA FOR ALERT, BAKER LAKE, CHURCHILL, SP-6, KHEYS ISLAND, DIKSON, MURMANSK, MOSCOW, AND ALMA ATA. COMPARISON OF N(H) PROFILES FOR DISTURBED AND QUIET PERIODS INDICATED THAT DURING POSITIVE DISTURBANCES THE ELECTRON CONCENTRATION INCREASES AT ALL ALTITUDES IN THE F REGION AND TO THE GREATEST DEGREE NEAR THE IONIZATION MAXIMUM. DURING THE NIGHTTIME AND MORNING HOURS THE GREATEST IONIZATION INCREASE OCCURS IN THE HIGH LATITUDES, WHEREAS DURING THE DAYTIME IT IS IN THE EQUATORIAL LATITUDES. N SUBMAX AND N FOR THE MOST PART HAVE SIMILAR CHANGES. AN INCREASE IN IONIZATION OCCURS IN THE FORM OF BURSTS WITH AN AVERAGE DURATION OF THREE OR FOUR HOURS. WITH A CONSIDERABLE INCREASE IN N SUBMAX AND N (UP TO 80PERCENT) THE GEOMETRIC PARAMETERS H SUBM, H SUB05 AND T CHANGE FOR THE MOST PART IN NORMAL LIMITS (PLUS OR MINUS 20PERCENT) AT ALL LATITUDES. THESE PARAMETERS EXHIBIT AN APPRECIABLE INCREASE ONLY WITH AN INCREASE IN MAGNETIC ACTIVITY.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

3/3 031 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--AN INCREASE IN IONIZATION BELOW N SUBMAX DOES NOT OCCUR AS A RESULT OF VERTICAL REDISTRIBUTION OF IONIZATION, BUT DUE TO ADDITIONAL IONIZATION OF THE F REGION, PROPAGATING TO GREAT ALTITUDES. THIS INCREASE IN IONIZATION CAN OCCUR OVER A GREAT PART OF THE EARTH OR IN LIMITED REGIONS, PRIMARILY IN THE HIGH LATITUDES. ON QUIET DAYS THE HIGHEST N VALUES WERE OBSERVED IN THE EQUATORIAL LATITUDES AND IN THE AURORAL ZONE, WHEREAS DURING A POSITIVE DISTURBANCE THEY WERE OBSERVED IN THE POLAR REGION. THE MAXIMUM INCREASE IN IONIZATION IN THE POLAR REGION INDICATES A CORPUSCULAR NATURE OF POSITIVE DISTURBANCES. THIS CORPUSCULAR RADIATION, LIKE THE PROTONS RESPONSIBLE FOR PCA, PRODUCES AN INCREASE IN THE ELECTRON CONCENTRATION IN THE IONOSPHERE WITHOUT A SUBSTANTIAL CHANGE IN THE GEOMAGNETIC FIELD AND IONOSPHERIC HEATING. THESE STREAMS POSSIBLY CONSIST OF LOW ENERGY PROTONS AND ELECTRONS.

FACILITY: INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--AROMATIC POLYIMIDES WITH PHENYL AND CYCLOHEXYL SIDE GROUPS -U-

AUTHOR-(04)-KHARKOV, S.N., LAVROVA, Z.N., CHEGOLYA, A.S., KRASNOV, YE.P.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 349-53.

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYIMIDE RESIN, CYCLOHEXANE, HEAT RESISTANT PLASTIC, POLYCONDENSATION, PYROMELLITIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0957 STEP NO--UR/0460/70/012/005/0349/0353

CIRC ACCESSION NO--AP0136387

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AROMATIC HEAT RESISTANT POLYIMIDES WERE PREPD. IN 74-90PERCENT YIELDS BY LOW TEMP. POLYCONDENSATION OF 1,1,BIS(4,AMINOPHENYL)CYCLOHEXANE, 4,4 PRIME DIAMINOTRIPHENYLMETHANE, PYROMELLITIC ANHYDRIDE, AND 3,3 PRIME, R,R PRIME TETRACARBOXYDIPHENYL OXIDE DIANHYDRIDE IN ACNME SUB2, FOLLOWED BY CYCLODEHYDRATION OF THE RESULTING POLYAMIC ACIDS AT 200-300DEGREES, OR BY HIGH TEMP. POLYCONDENSATION OF THE SAME MONOMERS IN PHNO SUB2.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 616.927-085.371:576.851.49]-039.71-032:611.3]-036.8

MESHALOVA, A. N., KURLOVA, V. I., TELESHEVSKAYA, E. A., BABINA, V. P., GOKHSHTEYN, S. E., LIROVA, B. M., LAVROVSKAYA, V. M., TAMARIN, Yu. A., and NEGINA, Yu. I., Moscow Institute of Vaccines and Sera imeni Mechnikov, Gor'kiy Institute of Epidemiology and Microbiology, and Moscow Municipal and Kuntsevo Sanitary Epidemiological Stations

"Peroral Immunization of Humans with Typhoid Vaccines in a Strictly Controlled Experiment"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 71-77

Abstract: Following a successful trial of enteral immunization of children with heated typhoid vaccine, larger doses of the same vaccine - heated and chemical - contained in sugar-coated tablets were given in a double-blind test to 1225 children age 3 to 15 and 274 adults in 2 equal doses 15 to 30 days apart. The reactions to the vaccine were mild and they generally occurred after ingestion of the first tablet: in 13.60% and 9.31% those who took the heated and chemical vaccines, respectively (in 5.88% of those who received placebo). Both vaccines produced high antibody titers against the O, Vi, and H antigens in the sera of the children as well as the adults. The authors recommend a major epidemiological trial of the vaccines in regions with a high incidence of typhoid.
1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 911.3.616.981.452(574)

LAVROVSKIY, A. A., KUCHEROV, P. M., OPTYAKOVA, A. F., ROZHKOV, A. A., DEREVYANCHENKO, K. I., MATSUGA, V. G., BAKHTIGOZIN, I. A., ROZHKOV, A. A., CHIKRIZOV, F. D., KARUSHIN, P. A., and DUBYAGIN, P. S.

"Survival of Plague Bacteria During Interepizootic Years in the Sands Focus Area Between the Volga and Ural River"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works) Vyp. 4 (14). Saratov, 1970, pp 94-104 (from RZh-Meditsinskaya Geografiya, Separate Issue, No 4, Abstract No 4.36.93)

Translation: A list is presented of reasons for the abrupt decrease in epizootic activity in the sands plague focus between the Volga and Ural Rivers. Plague bacteria, however, did not disappear from the biocenotic focus system, as evidenced by the epizootics of 1962-1963 and 1966 and the isolated cases of isolation of bacterial cultures from gerbils during depressed phases of focus life. It becomes more and more evident that the phenomenon of microfocality is an indispensible attribute of existence of plague bacteria in the biocenosis. Materials on landscape adjustment of particularly stable plague epizootics facilitate the definition, in the

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROVSKIY, A. A., et al., Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of Works) Vyp. 4 (14). Saratov, 1970, pp 94-104 (from RZh-Meditsinskaya Geografiya, Separate Issue, No 4, Abstract No 4.36.93)

Volga-Ural sands area, of several more significant regions where the plague pathogen apparently survives even during depressed phases of focus activity.

1/1

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROVSKIY, B. L.

"Methods of Ordering Branches in the Matrix of an Interbranch Balance"

Probl. Optimiz. Ekon. Resheniy [Problems of Optimization of Economic Decisions -- Collection of Works], Novosibirsk, 1971, pp 99-128, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V610 from the Introduction).

Translation: Ordering of branches means their placement (method of numbering) so that the interbranch balance matrix is reduced to a certain canonical form: triangular, block-triangular, block-diagonal.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UDC 51:330.115

USSR

LAVROVSKIY, B. L., MASAKOV, V. M.

"Model of Interbranch Balance of Production Capacities with Optimization"

Probl. Narodnokhoz. Optimuma [Problems of the National Economic Optimum -- Collection of Works], No 3, Part 1, Novosibirsk, 1970, pp 196-210, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V545).

NO ABSTRACT.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

UDC 531.1

LAVROVSKIY, E. K., Moscow

"Optimal Braking and Acceleration of the Rotational Motion of a Symmetric Flying Object With an Arbitrary Functional"

Moscow, Mekhanika tverdogo tela, No. 3, May/Jun 71, pp 20-25

Abstract: The problem of bringing a symmetric flying object from one angular velocity state to another in an optimal fashion is considered. The time of the maneuver is not predetermined. The problem is solved for a large class of perturbing moments and nonnegative functionals which are functions of the controlling actions. To solve the problem a transition is made to the space of the integrals of the unperturbed motion and the minimizing sequence is found directly in this space. Examples and practical applications are discussed.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DETERMINATION OF THE ORIENTATION OF THE ARTIFICIAL EARTH SATELLITES ELEKTRON 2 AND ELEKTRON 4 -U-

AUTHOR-(02)-LAVROVSKIY, E.K., TRUSHIN, S.I.

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKIE ISSLEDOVANIIA, VOL. 8, MAR.-APR. 1970, P. 229-242

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--SATELLITE ORIENTATION, SATELLITE SENSOR SYSTEM/(U)ELEKTRON 2 SATELLITE, (U)ELEKTRON 4 SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1754 STEP NO--UR/0293/70/008/000/0229/0242

CIRC ACCESSION NO--AP0115583

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0115583

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF CALCULATIONS DETERMINING THE ORIENTATIONS OF TWO HIGH ALTITUDE SATELLITES, ELEKTRON 2 AND ELEKTRON 4, ON THE BASIS OF DATA OBTAINED FROM ONBOARD SOLAR AND MAGNETIC SENSORS. BOTH SATELLITES HAD FINE AND ROUGH SOLAR SENSORS WITH 20 AND 70 DEG VIEW ANGLES, RESPECTIVELY. THE MAGNETOMETERS MEASURED THREE COMPONENTS OF THE GEOMAGNETIC FIELD VECTOR. THE ORIENTATION OF BOTH SATELLITES IS SOUGHT IN A COORDINATE SYSTEM TIED TO THE DIRECTION FROM THE SUN TO THE SATELLITE CENTER OF MASS. BOTH SATELLITES REPRESENT DYNAMICALLY SYMMETRICAL OBJECTS, AND BY STUDYING THEIR INERTIAL MOTION OVER A SHORT INTERVAL OF TIME, A REGULAR PRECESSION IS OBTAINED. FIVE PARAMETERS OF THIS PRECESSION ARE DETERMINED ON THE BASIS OF SOLAR MEASUREMENTS, AND THE SIXTH IS OBTAINED FROM MAGNETIC DATA.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 045 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--METHODS OF DETERMINING THE ORIENTATION OF AN ARTIFICIAL EARTH SATELLITE ON THE BASIS OF TELEMETRIC MEASUREMENTS -U-

AUTHOR-(02)-LAVROVSKIY, E.K., TRUSHIN, S.I.

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKIE ISSLEDOVANIIA, VOL. 8, MAR.-APR. 1970, P. 218-228

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SATELLITE ORIENTATION, TELEMETERING DATA, MEASUREMENT, SATELLITE SENSOR SYSTEM, SATELLITE MOTION, MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1755 STEP NO--UR/0293/70/008/000/0218/0228

CIRC ACCESSION NO--AP0115584

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 045

CIRC ACCESSION NO--AP0115584

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF PROCEDURES FOR DETERMINING THE ORIENTATION OF DYNAMICALLY ALMOST SYMMETRICAL SATELLITES ON THE BASIS OF DATA FROM ONBOARD SENSORS. THE PROBLEM IS REDUCED TO THE DETERMINATION OF THE DYNAMICS OF THE SATELLITE'S ROTATIONAL MOTION USING STATISTICAL DATA PROCESSING TECHNIQUES. A SIMPLIFIED ANALYTICAL MODEL OF SATELLITE MOTION AROUND ITS CENTER OF MASS IS CONSTRUCTED, AND THE ORIENTATION IS DETERMINED USING SIMPLE FORMULAS WITHOUT CONSUMING MUCH TIME IN COMPUTER CALCULATIONS. DATA PROCESSING IS PERFORMED WITH THE LEAST SQUARES METHOD, AND QUASI REGULAR PRECESSION IS ASSUMED IN THE MODEL FOR THE SATELLITE MOTION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SOLID PHASE FORMATION DURING THE THERMAL DECOMPOSITION OF METHANE IN A HYDROGEN ATMOSPHERE -U-

AUTHOR-(03)-GORDON, M.D., LAVROVSKIY, K.P., RUMYANTSEV, A.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1289-91 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, METHANE, HYDROGEN, PYROLYSIS, CHEMICAL REACTOR, PARTICAL SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1206 STEP NO--UR/0020/70/191/006/1289/1291

CIRC ACCESSION NO--AT0134880

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 014

CIRC ACCESSION NO--AT0134880

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECTS OF INPUT RATE AND TUBE DIAM. ON C FORMATION IN THE PYROLYSIS OF CH SUB4NEGATIVE H AT 1400-8000EGREES IN AL SUB2 O SUB3 FLOW REACTORS WERE STUDIED. AS THE INPUT RATE WAS REDUCED THE RATES OF C DEPOSITION AND C SUB2 H SUB2, MEC TRIPLE BOND CH, AND CH TRIPLE BOND CC TRIPLE BOND CH FORMATION ROSE SHARPLY, REACHING AT 15-30 M-SEC FLAT MAX, REFLECTING EQUIL. BETWEEN RATES OF FORMATION AND GROWTH OF PARTICLES IN THE GASEOUS PHASE AND THEIR DIFFUSION TO THE WALLS. AS THE TUBE DIAM. WAS INCREASED FROM 1.1 TO 2.7 MM AND, AT LOW CH SUB4 CONCNS., TO 5.0 MM, THE RATE OF C DEPOSITION REMAINED UNCHANGED, BUT AT GREATER THAN OR EQUAL TO 16-18PERCENT CH SUB4 CONCNS. IN 5 MM TUBES IT ROSE APPRECIABLY, DUE TO FORMATION OF C PARTICLES NOT ONLY ON THE WALLS IN THE GASEOUS PHASE WHERE, WITH THE INCREASING SUPERSATN., THE CRIT. PARTICLE SIZE AND ASSOCD. FREE ENERGY CHANGE WERE REDUCED AND THE PROBABILITY OF FORMATION OF PARTICLES OF THE CRIT. SIZE WAS INCREASED. FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 020

TITLE--HIGH TEMPERATURE RADIOLYSIS OF M,TERPHENYL AND ITS HYDROGENATED DERIVATIVES -U-

AUTHOR-(03)-LAVROVSKIY, K.P., PROTSIDIM, P.S., TITOV, V.B.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(5), 1066-9 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOLYSIS, HIGH TEMPERATURE EFFECT, BENZENE DERIVATIVE, HYDROGENATION, WATER MODERATED REACTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1217 STEP NO--UR/0020/70/191/005/1066/1069

CIRC ACCESSION NO--AT0134691

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134891

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RADIOLYSIS AT 37DEGREES IN A NUCLEAR, WATER MODERATED REACTOR IS DESCRIBED FOR M,TERCYCLOHEXYL, M,TERPHENYL, AND 30-60PERCENT HYDROGENATION PRODUCTS OF THE LATTER. THE RADIATION YIELDS OF PRODUCTS INCLUDING C SUB12 H SUB10, C SUB12 H SUB22, C SUB7 H SUB11, C SUB6 H USH6, C SUB6 H SUB12, AND THE TOTAL GASES ARE TABULATED. THE GAS YIELD WAS LINEAR WITH THE DOSE OF RADIATION. FORMATION OF THE C SUB1-5 PRODUCTS SHOWED THAT RADIOLYSIS OF HYDROGENATED TERPHENYLS RESULTS IN CONSIDERABLE INTRAMOL. CLEAVAGE OF C-C BONDS IN THE HEXAMETHYLENE RINGS AND INTER RING BRIDGES. THE COMPLETELY HYDROGENATED MATERIAL GAVE THE GREATEST YIELD (23PERCENT) OF HIGHER BOILING PRODUCTS, RELATIVE TO THE STARTING MATERIALS, BUT AS RADIATION DOSE INCREASED, THE DIFFERENCES BETWEEN VARIOUS SUBSTRATES BECAME SMALLER. FACILITY: INST. NEFTEXHIM. SIM. I.I. TOPCHIEVA, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 533.9:538.566

LAVROVSKIY, V. A., CHEREVATSKIY, N. YA., and KHARCHENKO, I. F.

"Controlling the Characteristics of Oscillations in a Plasma-Beam Discharge"

Minsk, Kolebaniya i Volny v Plazme. (Oscillations and Waves in a Plasma), "Nauka i Tekhnika," 1971, pp 85-87

Abstract: The properties of a plasma and its behavior under various conditions are determined to a large degree by the processes of different types of instabilities developing. It is therefore quite important that these processes be investigated. Here the authors study the effect on a plasma-beam discharge of regular electromagnetic waves propagating along the axis of the discharge. They find and clarify the relationship that exists between the discharge parameters and the frequency of the extrinsic signal which effectively influences the character of the oscillations. They determine the values of the powers necessary for effective control of the oscillations. A figure shows the influence of the control signal on the level of the oscillations, and another figure shows spectral variation near the control signal. The authors find that the propagation of a monochromatic electromagnetic wave along the plasma-beam system will result in the suppression of instability in a wide frequency range and the simultaneous excitation of the process of

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVROVSKIY, V. A., et al., Oscillations and Waves in a Plasma, "Nauka i Tekhniak," 1971, pp 85-87

developing instability at the frequencies of the extrinsic signal and its harmonics. The article contains 2 illustrations and 4 bibliographic entries.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr: AP0040971 Ref. Code: UR 0422

PRIMARY SOURCE: Standarty i Kachestvo, 1970, Nr 1, pp 32-33

Standardization of Piezoceramic Materials.

Rudakov, B. V.; Lavrovskiy, Ye. V.

The current state of standardization in piezoceramic materials is discussed. An analysis is given of the now valid specifications for these materials, and the requirements are presented of the new standard Materials, piezoceramic. Types and Makes. Specification. The Soviet-made materials are compared with the foreign ones. Prospects for further standardization of piezoceramics are briefly outlined.

REEL/FRAME 19750710

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UNCLASSIFIED PROCESSING DATE--16OCT70

1/2 008

TITLE--PREPARATION OF CELLULAR MATERIALS -U-

AUTHOR-(02)-PLISOV, A.K., LAVROVSKIY, YU.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,883
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(4)
DATE PUBLISHED--06JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOCYANATE, THIOCYANATE, SILICATE, ALKALI METAL COMPOUND, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0979 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0119848

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0119848

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULAR MATERIALS WERE PREPD. BY COMBINING ISOCYANATES OR ISOTHIOCYANATES, WATER, AND OTHER ADDITIVES, SUCH AS ALKALI METAL SILICATES.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.382.233

MALYSHEV, V. A., BULATOV, R. I., and LAVRUK, I. T., Taganrog Radio Engineering Institute

"Effect of Low Magnetic Field on Drift Motion of Charged Particles"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 5, 1972, pp 69-72

Abstract: An earlier article by V. A. MALYSHEV obtained a differential equation of averaged drift motion and considered various particular cases of its solution. The present article gives a generalization of results obtained in the earlier article for the case in which there is a low, constant magnetic field with induction B situated at an arbitrary angle θ to the direction of electric field E, along which the drift motion is studied. The smallness criterion of field B is determined by mathematical simplifications which are made and reduces to smallness of cyclotron frequency as compared with collision frequency.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC: 51.6

LAVRUKHIN, D. I.

"Statistical Experiment Studies of the Quality of Solution of the Problem of Synthesizing Combination Circuits With the Minimax Approach"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railway Transportation Engineers), 1971, vyp. 391, pp 173-179 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V659)

[No abstract]

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UDC 621.762:669.018.95(088.8

USSR

LAVRUKHIN, G. M., Central Motor Vehicle and Automotive Scientific Research Institute

"P/M Friction Material"

USSR Authors' Certificate No 273434, Cl. 40 b, 9/02; 40 b, 1/04, 40 b, 9/08, (C 22c 1/04, C 22c 9/02, C22c 9/08), filed 6 Sep 66, published 21 Sep 70 (from Metallurgiya, No 3, Mar 71, Abstract No 3G444P)

Translation: A copper-base P/M friction material containing tin, lead, and graphite is suggested. In order to increase heat and wear resistance and stability of the coefficient and moment of friction, talc is put into it, and components are taken in the following ratio (in %): Sn 3-9, Pb 6-7, graphite 6-7, talc 7-8, Cu the rest.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UDC 533.6.011

USSR

LAVRUKHIN, G. N.

"Bottom Pressure Beyond Rectangular Projections with Different Ratios of Height to Width of the Projection"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerodynamics Institute), 1970, Vol 1, No 2, pp 104-106 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B278)

Translation: This article contains the results of an experimental investigation of the distribution and mean value of the bottom pressure beyond a body with a rectangular middle cross section. The ratio of the height of the triangle h to its length was varied within the limits of $0.143 \leq h/b \leq 1$. With respect to shape the body around which flow takes place was a parallelepiped with a wedge in the forward section the apex half-angle of which $\theta = 17°$. The relative length of the model was varied within the limits of $l/b = 3.43-5.15$. The experiments were performed for Mach numbers of the oncoming flow of $0.84 \leq M_\infty \leq 2.76$ and Reynolds numbers of $4.5 \cdot 10^6 < R < 1.4 \cdot 10^7$ (the length of the model was taken as the characteristic dimension). The model was attached to side

1/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVRUKHIN, G. N., Uch. zap. Tsentr. aerogidrodinam. in-ta, 1970, Vol 1, No 2, pp 104-106

pylons. The measurements showed that on the side surface of the body near the bottom cut the pressure was in all cases close to static. The mean bottom pressure for the body with a square base (h/b = 1) coincided in practice with the bottom pressure beyond an axisymmetric body (a cone with an apex half-angle $\theta = 170°$ a cylinder). With a decrease in h/b the mean bottom pressure decreases and approaches its value after flat bodies. The results of the measurements are presented in graphs. An empirical relation is presented which approximates the experimental results well.

* * *

See also: "Unstressed Near-Sonic Profiles," 10 B288; "Effect of Blunting the Forward Section, the Angle of Attack and the Oscillation Amplitude on the Hypersonic Nonstationary Aerodynamics of Thin Cones," 10 B308; "Approximate Method of Calculating the Pressure Distribution on Blunt Bodies at an Angle of Attack," 10 B309;

2/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVRUKHIN, G. N., Uch. zap. Tsentr. aerogidrodinam. in-ta, 1970, Vol 1, No 2, pp 104-106

"Numerical Calculation of the Integral of Near Sonic Wave Drag," 10 B310; "Measurements of Aerodynamic Characteristics of a Cone with a Half-Angle of 10° During Hypersonic Flow Around the Cone and Periodic Input of a Gas Mass," 10 B311; "Study of the Possibilities of Improving the Aerodynamic Quality of Conical Bodies," 10 B312; "Effect of a Jet from an Engine on the Bottom Drag," 10 B314; "Analysis of Flow Around High-Speed Missiles in Tubes," 10 B315.

3/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 531.43

KOSTETSKIY, B. I., SAGACH, M. F., LAVRUK, V. I., and PETROV, I. F., Kiev

"Contactless (Thermovisual) Method of Measuring the Temperature on a Sliding Contact at External Friction"

Moscow, Mashinovedeniye, No 4, Jul-Aug 73, pp 116-119

Abstract: The method and the installation for the contactless (thermovisual) measuring of actual temperatures (from 10-200°C), originating on friction surfaces, are described. The results of experimental works in measuring temperatures of different pairs of metals under conditions of dry and boundary friction are reported. The dependence of the temperature change of the friction surface on the duration of the experiment and the influence of various lubrication media on the temperature of friction surfaces are discussed by reference to diagrams. The advantages of the thermovisual method, in comparison with other known methods, are indicated. Operation characteristics of the thermovisual installation and of a thermopair (Chromel-Copel) with galvanometer are presented. Six figures, one table, five bibliographic references.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UDC 523.51

USSR

VINOGRADOV, A. P., LAVRUKHINA, A. K., GANIYEV, A. G., SIL'VANOVICH, Yu. A., and RAKHIMOV, Kh. R., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Acad. Sc. USSR, Moscow, and the Institute of Nuclear Physics Acad. Sc. UzbSSR, Tashkent

"Distribution of Platinoids and Gold Between Various Phases of the Meteoritic Matter. Communication 2"

Moscow, Geokhimiya, No 7, Jul 73, pp 963-974

Abstract: The relationship of platinoid and gold content in chondrites of various petrological types to the Ni content in the Fe-Ni phase and to the composition of the latter are considered. The observed regularities may be accounted for by the differences in partial pressure of oxygen in the zones of protoplanetic cloud in which the chondrites had been formed. Chondrites of the L-group formed at a higher P_{O_2} value while the H-group chondrites formed at a lower one. It has been assumed that chondrites in the H-group containing in excess of 8% of the Fe-Ni phase are representatives of the least altered primary matter of solar composition which had not been subject to substantial oxidation in the protoplanetic cloud.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 035 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--INVESTIGATION OF COSMIC RAY INDUCED TRACKS IN METEORITIC MINERALS
-U-

AUTHOR-(05)-KASHKAROV, L.L., GENAEVA, L.I., MALISHEV, V.V., SATAROVA, L.M., LAVRUKHINA, A.K.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--METEORITE, MINERAL, COSMIC RAY, NUCLEUS, PROTON, TRACK ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/005061/803 STEP NO--HU/2506/70/029/000/0449/0452

CIRC ACCESSION NO--AT0144425

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

UNCLASSIFIED PROCESSING DATE--11DEC70

2/2 035

CIRC ACCESSION NO--AT0144425

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO BASIC COSMIC RAY TRACK SOURCES ARE CONSIDERED: HEAVY PRIMARIES (Z GREATER THAN 22) AND SECONDARY SPALLATION AND FISSION PRODUCTS BY HIGH ENERGY PROTON INTERACTIONS IN METEORITIC CONSTITUENTS. WE PRESENT HERE EXPERIMENTAL DATA ON CALIBRATION OF TRACK LENGTHS IN METEORITIC SILICATE MINERALS. THE INVESTIGATED MINERALS WERE IRRADIATED IN THE HEAVY ION AND HIGH ENERGY PROTON ACCELERATORS IN DUBNA. FINALLY WE REPORT THE RESULTS OF MEASURING FOSSIL TRACK DENSITIES AND LENGTH DISTRIBUTION IN OLIVINE CRYSTALS SAMPLED FROM SEVERAL REGIONS OF THE PALLASITE LIMAES. THE RELATION VVH-VH COSMIC RAY NUCLEI APPROXIMATELY 2 TIMES 0.0001 WAS OBTAINED. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT GEOKHIMII I ANALITICHESKOI KHIMII, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 539.125.5

LAVRUKHINA, A. K., USTINOVA, G. K., MALYSHEV, V. V., and SATAROVA, L. M.

"Modelling Nuclear Reactions in an Isotropically Irradiated Thick Target"

Moscow, Atomnaya Energiya, Vol 34, No 1, Jan 73, pp 23-28

Abstract: An analytical method, previously developed by the authors, for calculating the intensity of cosmic radiation and the activity of cosmogenic isotopes at any point of an isotropically irradiated cosmic body of any size and any composition was used to simulate nuclear reactions in an isotropically irradiated thick target. In compliance with optimum dimensions for the development of nuclear cascade in iron, an iron sphere of 10 cm radius served as target. The sphere, rotating in two perpendicular planes, was irradiated by a 660-Mev proton beam. As a result of rotation, the surface of the sphere is irradiated isotropically. The activity of Na^{24} in thin aluminum plates and the activities of Mn^{52}, V^{48}, Sc^{44m}, Sc^{47}, and Ca^{47} in iron plates placed at various depths along the diameter of the sphere were measured. The experimental results are compared with curves calculated by the analytical method. It is shown that at a depth of $\sim$ 2 cm, the calculated activities are in quantitative agreement with experimental data. The depth distributions of cosmogenic isotopes in iron meteorites of various sizes are analyzed. A comparison with calculations by the Monte Carlo method is presented. Six figures, forty bibliographic references.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr. AP0036352

Abstracting Service: CHEMICAL ABST. 4-70

Ref. Code UR0007

L

69325p Rare-earth element differentiation in meteoritic matter. ~~Lavrukhina, A. K. (V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, USSR).~~ *Geokhimiya* 1970, (1), 5-21 (Russ). On the example of data of rare earth content in sep. mineral phases new ideas are reached about the rare earth distribution in meteoritic matter. Thus, hypersthenic chondrites are a mixt. of minerals which passed through the differentiation stage similar to minerals of abyssal rocks of the earth crust. Mutual compensation of effects being contrary by their direction in the general examns. of meteorites lead to an erroneous conclusion about the absence of rare earth differentiation in basaltic achondrites parallel with their enrichment of in these elements. A.P. Vinogradov's idea that the matter of all types of meteorites, excluding chondrites, has passed through the planetary stage, obviously may be extended as well on the primary matter of hyperstenic chondrites from which chondrules of these chondrites have formed. BLJR

18 di

1/1

REEL/FRAME 19721190

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MODELING OF NUCLEAR REACTIONS OF COSMIC RAY INTERACTION WITH THE MATERIAL OF STONY METEORITES -U-

AUTHOR-(05)-LAVRUKHINA, A.K., REVINA, L.D., MALYSHEV, V.V., YUKINA, L.V., SATAROVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--GEOKHIMIYA 1970, (5), 531-9

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS, PHYSICS

TOPIC TAGS--METEORITE, COSMIC RAY, NUCLEAR REACTION, ISOTOPE, BERYLLIUM ISOTOPE, IRON ISOTOPE, OXYGEN ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0911 STEP NO--UR/0007/70/000/005/0531/0539

CIRC ACCESSION NO--AP0136343

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136343

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A POSSIBLE USE OF THE SEMI EMPIRICAL EQUATIONS OF RUDSTAM (1966) AND V. SCHWARTZ-H. DESCHGER (1967) FOR CALCG. THE CROSS SECTION OF ISOTOPE FORMATION IN TARGETS OF COMPLICATED CHEM. COMPN., IRRADIATED BY PROTONS WITH E EQUALS 660 MEV AND 19.2 GEV, WAS INVESTIGATED. THE CROSS SECTIONS FOR REACTION OF THE PRIME7 BE FORMATION FROM THE PRIME16 O NUCLEI AND OF PRIME56 FE(P, PN) PRIME55 FE REACTIONS WERE EVALUATED. THE MATERIAL OF THE ZAISAN LAKE AND KUNZSHAK STONY METEORITES WAS IRRADIATED BY PROTONS WITH ENERGIES OF 660 MEV AND 19.2 GEV, RESP. THE DIFFERENT FRACTION OF ELEMENTS WERE ISOLATED RADIOCHEM. THE MEASURED RADIOACTIVITIES WERE COMPARED WITH CALCD. VALUES. SATISFACTORY AGREEMENTS WERE OBSD. FOR MOST ISOTOPES. IN GENERAL THE AGREEMENT WAS BETTER AT E EQUALS 660 MEV THAN AT 3 EQUALS 19.2 GEV. THIS WAS POSSIBLE CAUSED BY AN APPEARANCE OF THE MECHANISM OF NUCLEI SPALLATION IN THE E IS CONGRUENT TO 10 GEV REGION WHICH WAS QUAL. DIFFERENT THAN THE CASCADE MECHANISM. THE DATA OBTAINED CAN BE USED FOR MODELING OF THE DISTRIBUTION OF RATES OF RATES OF COSMOGENIC ISOTOPE FORMATION IN COSMIC BODIES WHICH IS NECESSARY FOR QUAL. INVESTIGATIONS OF THE EFFECT OF COSMIC RAYS ON THE STONY METEORITES, SURFACE LAYERS OF THE MOON, AND ASTEROIDS. FACILITY: V. I. VERNADSKII INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 029 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--HISTORY OF GALACTIC COSMIC RAYS IN THE SOLAR SYSTEM -U-

AUTHOR--LAVRUKHINA, A.K.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--MODEL, COSMIC RAY, ENERGY SPECTRUM, METEORITE, GALAXY, SOLAR SYSTEM, NUCLEAR PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605060/F09 STEP NO--HU/2506/70/029/000/0453/0455

CIRC ACCESSION NO--AT0144424

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 029 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144424

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF SOME RESULTS OF CALCULATIONS BY A NEW MODEL OF DEPTH DISTRIBUTIONS OF NUCLEAR ACTIVE PARTICLES AND NUCLEAR SPALLATION PRODUCTS IN METEORITES OF DIFFERENT CHEMCIAL COMPOSITION AND DIFFERENT SIZES. A NEW METHOD FOR DETERMINING THE SHAPES OF COSMIC RAY ENERGY SPECTRA IS SUGGESTED. THE COMPARISON OF CALCULATED AND MEASURED CONTENTS OF NA22-AL26 RATIOS IN CHONDRITES SHOWS THE CONSTANCY OF THE GALACTIC COSMIC RAY FLUX IN THE SOLAR SYSTEM FOR THE LAST 50 MILLION YEARS. IT WAS FOUND THAT THE MODULATION REGION OF GASLACTIC COSMIC RAYS LIES AT SOLAR DISTANCES RANGING FROM 2 TO 5 AU.

FACILITY: AKADEMIIA NAUK SSR, INSTITUT GEOKHIMII I ANALITICHESKOI KHIMII, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

LAVRUKHINA, A. K.; USTINOVA, G. K.; MALYSHEV, V. V.; SATAROVA, L. M.

"Modelling Nuclear Reactions in Isotropically Irradiated, Thick Targets"

Moscow, Atomnaya Energiya; January, 1973; pp 23-8

ABSTRACT: While revolving about two mutually perpendicular axes, an iron sphere, having a radius of 10 cm, is irradiated by a 660-Mev proton beam. As a result of such rotation, the surface of the sphere is irradiated isotropically. The activity of Na^{24} in thin aluminum plates and Mn^{52}, V^{48}, Sc^{44m}, Sc^{47}, and Ca^{47} in iron plates placed at various depths along the diameter of the sphere was measured. The experimental results are compared with calculated curves obtained by an analytical method used for the analysis of activity in meteorites and lunar rocks. It was shown that at a depth of ~ 2 cm below the surface the activity calculated by the analytical method agrees quantitatively with the experimental results.

The laws governing the distributions of cosmogenic isotopes in iron meteorites of various sizes are analyzed. A comparison with calculations by the Monte Carlo method is presented.

The article includes six figures. There are 40 bibliographic references.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Miscellaneous

USSR

UDC 523.51

VINOGRADOV, A. P., LAVRUKHINA, A. K., GANIYEV, A. G., SIL'VANOVICH, Yu. A., and RAKHIMOV, Kh. R., Institute of Geochemistry imeni V. I. Vernadskiy, Academy of Sciences USSR, Moscow, and Institute of Nuclear Physics, Academy of Sciences Uzbek SSR, Tashkent

"Distribution of Platinoids and Gold Between Various Phases of Meteorite Matter. I."

Moscow, Geokhimiya, No 12, Dec 72, pp 1461-1469

Abstract: The regularities of the distribution of platinoids and Au between the phases of Fe-poor chondrites of the L-group of various petrological types were studied. In the analysis of samples, neutron activation followed by the radiochemical separation of the platinoids and Au, which were identified from the gamma-emission of the radioisotopes, was applied. There was a gradual increase in the content of platinoids and Au in the Fe-Ni phase in the sequence L3 < L4 < L5 < L6. The content of Pd in the Fe-Ni phase decreased with an increasing absolute content of this element in chondrites; this relationship was not observed for the other elements. The content of platinoids and Au in the FeS of chondrites was higher as compared with that in the troilite of iron meteorites. The content of Pd, Os, Ir, Pt, and Au

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

VINOGRADOV, A. P., et al., Geokhimiya, No 12, Dec 72, pp 1461-1469

in the silicate phase of chondrites decreased in the sequence indicated. One may assume that the recrystallization of chondrites in the protoplanetary nebula resulted in a substantial redistribution of platinoids and Au between the phases of chondrites of the L-group; an enrichment in these metals of the Fe-Ni phase took place that was accompanied by a reduction of their content in the sulfide and silicate phases.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.385.632

RUDEY, A.G., LAVRUKOVICH, V.I., PIKULIK, V.G., SHAS', A.V.

"Experimental Study Of Some Methods Of Modulation Of TWT"

Vestn. Belorus. un-ta (Bulletin Of Bellorussian University), 1971, Ser.1, No 3, pp 61-66 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A154)

Translation: Problems are considered of AM and FM low-noise traveling-wave tubes. The block diagram is presented of a unit for determination of the amplitudes, phase characteristics, and the characteristics of frequency conversion. The circuit is described of a sawtooth voltage generator based on drift transistors operating in an avalanche regime. Experimental and calculated data are compared. 8 ref. Summary.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.378.329

BORISOV, N.A., DAVYDOV, A.A., LAVRUSHIN, B.M., MARKOV, YE.V.

"On The Effect Of Cavity Mechanical Treatment On The Parameters Of A Cadmium Sulphide Laser With Electron Excitation"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 6(18), 1972, pp 21-[illegible]

Abstract: The paper studies the laser parameters of bulk single crystals of cadmium sulphide grown by the static sublimation method. The results obtained in the work show that to a considerable degree the low laser parameters realized heretofore with bulk crystals of CdS are caused by mechanical processing of the surface bombarded by electrons. In the case of excitation through the cleaved surface, the values obtained of the laser threshold of penetration and efficiency are close to the best results obtained with plate crystals of CdS. 6 ref. Received by editors, 22 May 1972.

1/1

- 72 -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC: 621.378.329

BOGDANKEVICH, O. V., BORISOV, N. A., LAVRUSHIN, B. M., LEBEDEV, V. V., NEGODOV, A. G., STREL'CHENKO, S. S.

"Waveguide Structure of the Cavity in a Semiconductor Laser With Electron-Beam Pumping"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 61-68

Abstract: A method is described for creating a cavity with waveguide structure in a semiconductor laser with electron-beam pumping. It is shown that waveguide modes are stimulated in such a cavity, with the result that the emission threshold is independent of the energy of the electrons, and the radiation pattern has a structure which is more complex than in a uniform cavity. This type of cavity reduces the emission threshold to 0.3 A/cm^2 (in the 15-20 keV electron energy region), which is 1-2 orders of magnitude lower than in a cavity of homogeneous structure. Five illustrations, four tables, bibliography of nine titles.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.375.82

BOGDANKEVICH, O. V., BORISOV, N. A., LAVRUSHIN, B. M., LEBEDEV, V. V., NEGODOV, A. G., STREL'CHENKO, S. S.

"Waveguide Structure of a Resonator in a Semiconductor Laser With Electron Beam Pumping"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 2, Moscow, "Sov. radio", 1972, pp 61-68 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D999)

Translation: A method is described for developing a waveguide structure of a resonator in a semiconductor laser with electron beam pumping. It is shown that modes of a waveguide type are excited in such a resonator, as a result of which the oscillation threshold is independent of the electron energy and the directional diagram has a more complex structure than in a homogeneous resonator. Use of the resonator makes possible a reduction in the oscillation threshold to 0.3 a/cm^2 (in the electron energy range of 15-20 kev), which is less than in a laser with a homogeneous resonator by a factor of 1-2. 9 ref. Authors abstract.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 621.378

BORISEVICH, N. A., KALOSHA, I. I., LAVRUSHIN, V. F., MASLENNIKOVA, V. P., TOLKACHEV, V. A.

"Generation Capacity of Isomer 1,4-Dipyrazolenylbenzenes"

Minsk, Zhurnal Prikladnoy Spektroskopii, No. 1, Jan 72, pp 45-48

Abstract: A large group of the 1,4-dipyrazolenylbenzenes of the structure 1,4-di(n'-$R_{n'}$-m'-m'-$R_{m'}$-$\Delta^{2'}$-pyrazolenyl-k') benzene was investigated; where n denotes 1 or 3 positions; m is 3, 5; k is 1, 3, or 5; and $R_{n'}$ and $R_{m'}$ are aryl or methyl substitutes in the position n' and m'. The fluorescence and desorption spectra and the relative quantum yield of this class have been thoroughly investigated. Three groups of compounds were studied under excitation of the second harmonic of a ruby laser: 1,4-di(1'-aryl-3'-aryl-$\Delta^{2'}$-pyrazolenyl-5') benzenes (16 substances) and 1,4-di(1'-methyl-3'-phenylpyrazolenyl-5') benzenes (A); 1,4-di(1'-aryl-5'-aryl-$\Delta^{2'}$-pyrazolenyl-3') benzenes (12 substances) and 1,4-di(1'-methyl-5'-phenylpyrazolenyl-3')-benzene (B); and 1,4-di(5'-aryl--3'-aryl-$\Delta^{2'}$-pyrazolenyl-1') benzenes (8 substances) (C). Only compounds of group (B) are generated. Generation on two wavelengths corresponding to the

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

BORISEVICH, N. A., et al, Zhurnal Prikladnoy Spektroskopii, No. 1, Jan 72, pp 45-48

oscillatory maxima of the fluorescence spectra was observed in the majority of (B) compounds. The generation wavelength is in the range 425-500 nm. The relationship between the generation capacity and the structural chain of the compound is analyzed.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ASSOCIATION CONSTANTS OF PHENOL WITH CHALCONES AND THEIR ANALOGS -U-

AUTHOR-(03)-TSUKERMAN, S.V., SUROV, YU.N., LAVRUSHIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 874-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, KETONE, IR SPECTRUM, CHEMICAL SUBSTITUENT, ORGANIC SULFUR COMPOUND, ORGANOSELENIUM COMPOUND FURAN, EQUILIBRIUM CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1498 STEP NO--UR/0079/70/040/004/0874/0879

CIRC ACCESSION NO--AP0139159

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM IR SPECTRA THE EQUIL. CONSTS. WERE CALCD. FOR SYSTEMS OF 23 KETONES OF TYPE P RC SUB6 H SUB4 COCH:CHC SUB6 H SUB4 R PRIME1 P, WHERE R AND R PRIME1 WERE SELECTED FROM H; ME, MEO, NME SUB2, PH, CL, BR; OR OF TYPE RCOCH:CHR PRIME1, WHERE R WAS SELECTED FROM PH, 2,THIENYL,2,SELENIENYL 2,FURYL, STYRYL AND 2,(2,THIENYL)VINYL GROUPS AND R PRIME1 FROM 2,THIENYL,2,SELENIENYL, PH, 2,FURYL, OR STYRYL GROUPS. THE DATA AT 20, 35 AND 50DEGREES WERE TABULATED FOR SYSTEMS OF THESE KETONES WITH PHOH IN CCL SUB4. THE EQUIL. CONSTS. WERE READILY CORRELATED WITH HAMMETT SUBSTITUENT CONSTS. OF THE KETONES AND REPLACEMENT OF PY BY A HETEROCYCLIC GROUP INCREASED THE PROTON ACCEPTOR CAPABILITY OF THE KETONG IN INCREASING ORDER: 2,THIENYL, 2,SELENIENYL, 2 FURYL. THESE ASSOCN. CONSTS. ARE SOMEWHAT MORE SATISFACTORY CRITERIA FOR BASICITY OF THE CARBONYL GROUPS THAN ARE THE FREQUENCY SHIFTS OF THE HO GROUP OF THE PROTON DONORS.

FACILITY: KHAR'KOV. GOS. UNIV. IM. GOR'KOGO, KHARKOV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 547.732+535.34+546.18

LAVRUSHIN, V. F., and POGONINA, R. I., Kharkov State University

"Reaction of Unsaturated Ketones with Phosphorus Pentachloride"

Kiev, Dopovidi Akademii Nauk Ukrains'koi RSR, No 2, Feb 71, pp 140-143

Abstract: A series of α, β-unsaturated ketones with a thiophene nucleus was synthesized. Most of these ketones formed two types of colored compounds when reacted with PCl_5 in various solvents: an orange-red one and a bluish-green one. On the basis of the similarity of the spectra of orange-red solutions in acetonitrile and in sulfuric acid, it is proposed that a chloro-carbonium ion is formed in the process. In the case of the bluish-green compound, the spectra taken in benzene were similar to those taken in trichloroacetic acid anhydride containing trichloroacetic acid; an assumption was made that acyloxycarbonium ions must have formed in both cases and that when the solution color changed from bluish-green to orange-red (as in the case of benzene solution) first the ion $:C^+-OPCl_4$ must have formed, which then converted to the $:C^+-Cl$ ion. A direct relationship between the absorption maxima and the number of vinyl groups was noted for all the studied thiophene analogues of chalcone and its vinylogs.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr. AP0041532 Abstracting Service: CHEMICAL ABST. 4/70 Ref. Code UR0366

89964z Unsaturated dioxo derivatives of biphenyl and p-terphenyl. Tsukerman, S. V.; Poiyakov, V. K.; Nikitchenko, V. M.; Lavrushin, V. F. (Khar'kov. Gos. Univ. im. Gor'kogo, Kharkov, USSR). *Zh. Org. Khim.* 1970, 6(1), 135-8 (Russ). The crotonic condensation of aldehydes with 4-OHCC$_6$H$_4$C$_6$H$_4$-CHO-4' (I) or 1,4-(4-OHCC$_6$H$_4$)$_2$C$_6$H$_4$ (II) gave, resp., 4-RCH:CHCOC$_6$H$_4$C$_6$H$_4$COCH:CHR-4' (Ia) or 1,4-(4-RCH:CHCOCOC$_6$H$_4$)$_2$C$_6$H$_4$ (IIa). The reactions of I proceeded in iso-PrOH contg. KOH below, or at room temp. giving 32-53% Ia (R is Ph, 4-MeC$_6$H$_4$, 4-MeOC$_6$H$_4$, 2,4,6-Me$_3$C$_6$H$_2$, 4-Me$_2$NC$_6$H$_4$, 4-ClC$_6$H$_4$, 4-BrC$_6$H$_4$, 4-O$_2$NC$_6$H$_4$, or 4-PhC$_6$H$_4$). The reactions of II required refluxing at ≤200° in HOCH$_2$CH$_2$OH and gave 27-90% IIa (R is Ph, 4-MeC$_6$H$_4$, 4-MeOC$_6$H$_4$, 4-Me$_2$NC$_6$H$_4$, 4-ClC$_6$H$_4$, 4-BrC$_6$H$_4$, or 4-O$_2$NC$_6$H$_4$). Ia (R is 2,4,6-Me$_3$C$_6$H$_2$ or 4-Me$_2$NC$_6$H$_4$) and IIa (R is Me$_2$NC$_6$H$_4$) are luminescent. Correlations were obtained between Hammett σ consts. of R and ir spectra of Ia. CPJR

REEL/FRAME
19751400

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr. AP0049755 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code UR 0365

1055809 Electron spectra of isomeric p-dichalcones and some of their analogs. Tsukerman, S. V.; Maslennikova, V. P.; Nikitchenko, V. M.; Lavrushin, V. F. (USSR). Zh. Prikl. Spektrosk. 1970, 12(1), 61-5 (Russ). The electron absorption and luminescence spectra of 18 p-dichalcones RCH:CHC(O)C_6H_4C(O)CH:CHR (A) and the analogous p-isodichalcones RC(O)CH:CHC_6H_4CH:CHC(O)R (B), where R is substituted Ph rings, β-naphthyl, 9-anthryl, and heterocyclic groups, were measured in chloroform and dioxane solns. In comparison with chalcone with the absorption max. at 310 or 305 nm, the dichalcone band is shifted 11-15 nm, the isodichalcone band 45 nm to longer wavelengths; in addn., a new band appears at 270-5 nm for the compds. A as well as B. Donor groups cause a bathochromic shift in A, whereas in B the effect is considerably smaller. The shift in the former case, expressed in wavenos., can be correlated with the Hammett σ-consts. of the substituents in R. Electron acceptor groups have a negligible effect on the spectra. In the series R = biphenyl, naphthyl, anthryl in A, a bathochromic shift as well as a hyperchromic effect occurs and the naphthalene or anthracene vibrational structure appears.

7

1/2

REEL/FRAME
19801670

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

AP0049755

A red shift is obsd. on the transition from the dioxane to the chloroform solns., on account of the H bonds between the latter solvent and the solute C:O groups. The compds. A and B show no luminiscence, in contrast to 1,4-distyrylbenzene. This is attributed to the adverse effect of the $\pi \rightarrow \pi^*$ levels. In the compds. A with strong electron donor groups or with long conjugated chains, the $\pi \rightarrow \pi^*$ level energy decreases more rapidly than the $n \rightarrow \pi^*$ energy and the compds. exhibit luminiscence.

P. Adamek

2/2

19801671

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr: AP0049137

Abstracting Service: CHEMICAL ABST. 5/70

Ref. Code: 40P0079

99703c Spectrophotometric study of the formation of complexes by substituted methoxychalcones with antimony pentachloride in benzene solutions. Yushko, V. K.; Tolmachev, V. N.; Lavrushin, V. F. (Khar'kov. Gos. Univ. im. Gor'kogo, Kharkov, USSR). Zh. Obshch. Khim. 1970, 40(1), 100-5 (Russ). Spectrophotometric data are shown graphically for the system $SbCl_5$ and p-$MeOC_6H_4CH{:}CHCOC_6H_4X$-p (I) (X = MeO, Me, Ph, H, Cl, or NO_2) and p-$MeOC_6H_4COCH{:}CHC_6H_4X$-p (II); the effect of o-substituents MeO or H in I was also examd. The system produced complexes with increasing stability (estd. stability consts. are tabulated) with 1:1 compn. as the following X were introduced: NO_2, Cl, H, Ph, Me, MeO. The value of the Hammett reaction const. was −1.44 for I and −0.83 II. Introduction of o-MeO groups had a hypsochromic effect on the spectra, esp. after introduction of the 3rd MeO group and the extinction coeffs. declined as the no. of o-MeO groups increased, indicating the importance of steric factors, and increasing noncoplanarity of the mols. I formed complexes with 2 moles $SbCl_5$/mole ketone if the substituents were NO_2 or Cl in p-position. All others gave only equimolar complexes. G. M. Kosolapoff

1/1

REEL/FRAME 19800943

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

Acc. Nr: AP0049138 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0079

99693z Absorption spectra of complexes formed during the reaction of 4-substituted chalcones and methoxychalcones with antimony pentachloride in benzene. [redacted] V. K.; Yushko, V. K.; Tolmachev, V. N. (Khar'kov, Gos. Univ. im. Gor'kogo, Kharkov, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 135-60 (Russ). Absorption spectra were reported for $SbCl_5$ complexes of 18 chalcones p-$RC_6H_4CH:CHCOC_6H_4X$-p and p-RC_6H_4-$COCH:CHC_6H_4X$-p (R = H, or MeO; X = MeO, Me, Ph, H, Cl, or NO_2). The band displacements were correlated with the substituent consts. of R and X in C_6H_4 and were directly related to basicity of the ligand used and the strength of coordination bonds. The results were readily correlated by means of Brown-Okamoto equation. G. M. Kosolapoff

1/1

REEL/FRAME
19800944

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 013 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--CONDUCTOMETRIC STUDY OF THE REACTION OF ANTIMONY PENTACHLORIDE ON SUBSTITUTED CHALCONES IN BENZENE SOLUTIONS -U-

AUTHOR-(03)-TOLMACHEV, V.N., VOLOVIK, A.M., LAVRUSHIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 275-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL EFFECT, ELECTRIC CONDUCTIVITY, ORGANIC SOLVENT, BENZENE, ANTIMONY CHLORIDE, CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0201 STEP NO--UR/0079/70/040/002/0275/0276

CIRC ACCESSION NO--AP0113140

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 013 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113140

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COND. DATA ARE PRESENTED FOR 25, 35, AND 45DEGREES OF SYSTEMS OF SBCL SUB5 AND CHALCONES WITH MEO, ME, PH, H, CL, AND NO SUB2 SUBSTITUENTS IN VARIOUS POSITIONS RELATIVE TO THE CO GROUP. THE 1:1 AND 2:1 COMPLEXES ARE FORMED IN THESE BINARY SYSTEMS OF SBCL SUB5 CHALCONE. THE CONDS. OF THESE INCREASE WITH INCREASING TEMP. AND WITH INCREASING ELECTRON DONOR ABILITY OF THE SUBSTITUENTS IN ORDER: H, PH, ME, MEO. THE MOLAR COND. DATA CAN BE CORRELATED WITH THE TAFT POLAR SUBSTITUENT CONSTANTS.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PROTON MAGNETIC RESONANCE SPECTRA OF SOME CHALCONES AND THEIR HETEROCYCLIC ANALOGS -U-

AUTHOR-(04)-TSUKERMAN, S.V., ORLOV, V.D., YATSENKO, A.I., LAVRUSHIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 67-71

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--MAGNETIC RESONANCE, KETONE, HETEROCYCLIC BASE COMPOUND, FURAN, THIOPHENE, ORGANOSELENIUM COMPOUND, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0909 STEP NO--UR/0379/70/006/001/0067/0071

CIRC ACCESSION NO--AP0137937

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137937

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA OF 18 CHALCONE DERIVS. RCOCH:CHR PRIME, WHERE ONE OF THE R AND R PRIME SUBSTITUENTS IS PH AND THE OTHER IS ME, P,MEC SUB6 H SUB4, PHCH:CH, PENTAFLUOROPHENYL, AND UNSUBSTITUTED OF 5,METHYLATED FURAN, THIOPHENE OR SELENOPHENE RING ATTACHED IN THE 2 POSITION, WERE RECORDED IN CCL SUB4 AND INTERPRETED.

FACILITY: KHAR'KOV. GOSUNIV., KHARKOV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SYNTHESIS OF UNSATURATED KETONES AND DERIVATIVES OF 2 PYRAZOLINE CONTAINING AN INDOLE RING -U-

AUTHOR-(04)-TSUKERMAN, S.V., BUGAY, A.I., NIKITCHENKO, V.M., LAVRUSHEN, V.F.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 399-403

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, PYRAZOLE, INDOLE DERIVATIVE, KETONE, ALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0226 STEP NO--UR/0409/70/000/003/0399/0403

CIRC ACCESSION NO--AP0126010

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

2/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126010

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHOD A. A SOLN. OF 0.01 MOLE APPROPRIATE ALDEHYDE AND ME KETONE IN 8-10 ML (CH SUB2 OH)SUB2 WAS TREATED WITH 1 ML 40PERCENT NAOH AND THE WHOLE WAS HEATED 20-30 MIN AT 120-35DEGREES TO YIELD RCOCH:CHR PRIMEI (I). METHOD B. APPROPRIATE ALDEHYDE AND KETONE (0.01 MOLE EACH) WAS REFLUXED 15-25 MIN IN 7-10 ML ETOH WITH 1 ML 20PERCENT NAOH. METHOD C. SIMILAR TO METHOD A, BUT WITH HEATING 40 MIN AT 180-90DEGREES. METHOD D. ALDEHYDE AND KETONE (0.01 MOLE EACH) WAS HEATED 20-30 MIN AT 170-85DEGREES IN 8-10 ML (CH SUB2 OH)SUB2 WITH1 ML PIPERIDINE. THE FOLLOWING I WERE PREPD. (R, R PRIMEI, B.P., M.P. 2,4 DINITROPHENYLHYDRAZONE, METHOD USED, AND PERCENT YIELD GIVEN): SHOWN ON MICROFICHE. FACILITY: KHAR'KOV. GOS. UNIV. IM. GOR'KOGO, KHARKOOV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 615.373.576.851.315.098.31].015.4:612.111

SOLOV'YEV, V. D., KOBRINSKIY, G. D., DOMARADSKIY, I. V., [illegible], V. S., LOBANOV, V. V., BICHUL', K. G., GAL'TSEVA, G. V., RASSUDOV, and PUSHNITSA, N. P., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Rostov-on-Don Antiplague Institute

"Effect on Erythrocytes of the Receptor-Destroying Enzyme from Filtrates of Cholera Vibrio Cultures"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 42-46

Abstract: Erythrocytes treated with filtrates of cholera vibrio cultures lose their capacity for agglutination by certain viruses. The authors studied this phenomenon of the "receptor-destroying enzyme" (neuraminidase) to determine the possibility of using it as an aid in diagnosing cholera. In in vitro experiments with guinea pig erythrocytes, filtrates of classic NAG, and El Tor vibrio cultures prevented the cells from being agglutinated by swine influenza virus, whereas filtrates of the control cultures (Commonus, Pseudomonas, and E. coli) did not do so. The same effect was observed in the case of erythrocytes from the intestinal contents of suckling rabbits infected with various cholera vibrio strains. An investigation of the intestinal contents of 279 patients

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR

SOLOV'YEV, V. D., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 42-46

suffering from gastritis, dysentery, and other gastrointestinal disorders with symptoms resembling those produced by El Tor cholera showed that the hemagglutination reaction was negative in 94% of those over 1 year of age and in 46% of the infants.

2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 546.791.6'791.4

VIDAVSKIY, L. M., LAVUT, E. G., and IPPOLITOVA, YE. A.

"Conditions for the Formation of Uranium Trioxide"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, p 789

Abstract: Oxidation of mixed uranium oxides with oxygen at atmospheric pressure was studied. The reaction was carried out in a rotating oven - a quartz tube covered with a copper mantle. The oven temperature was maintained at 590-600°C. Only after 500 hrs traces of γ-UO_3 formation were observed. After 700 hrs the γ-UO_3 formed in more significant amounts. Lower uranium oxides may be oxidized to γ-UO_3 at 860-870°K and 1 atm oxygen pressure, but the reaction rate is still very low.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4

USSR UDC 539.3

TYARNO, YU. A., LAYDRA, P. O. and LYME, YA. N.

"Experimental Investigations of Double-Curvature Slanting Shells with Supported Edge Elements"

Tallin, Tr. Tallin. politekhn, in-ta (Transactions of the Tallin Polytechnic Institute), No 333, 1972, pp 57-66 (English abstract) (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V233)

Translation: Slanting shells of positive Gaussian curvature with sides at right angles are considered. The longitudinal edge elements of the shell were supported during the experiment. The experimental investigations were conducted on a series of models (120x60cm) of a reinforced cement solution 1:25. Stress-strain curves of internal forces, transport values and schemes of crack formation are presented. The collapse of all models was a result of the formation of a plastic articulation of positive bending moments at the edge element with a load greater that 1400-1800 kg/m^2. (Author's abstract)

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201720012-4"