"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC: 621.315.592

KRAVCHENKO, A. F., MOROZOV, B. V., and SKOK, E. M., Institute of Semiconductor Physics, Novosibirsk

"Reluctance of Semiconductor Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1520-1527

Abstract: Since the reluctance of semiconductor films offers a convenient and real method of studying the structural and kinetic characteristics of the films, the authors undertake theoretical and experiment investigation of their reluctance to weak and strong magnetic fields transverse to epitaxial semiconductor layers. The heterogeneous distribution of the local film parameters over their thickness is approximated by a step function, and the behavior of the reluctance anisotropy is analyzed. A table showing the results of the latter analysis is given. The experimental work was done on GaAs specimens grown on a semi-insulating substrate. To study the anisotropy of the transverse magnetic reluctance, angular diagrams for various specimens were plotted at temperatures of 77 and 300° K in constant magnetic fields up to 30 kOe. Comparative curves for the theoretical and experimental results are plotted.

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172 018 UNCLASSIFIED

TITLE--MODERN CONCEPTS CONCERNING THE MECHANISM OF THE SYNAPTIC TRANSMISSION IN THE AUTONOMIC GANGLIA -U- PROCESSING DATE--11SEP70

AUTHOR--SKOK, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIZ ZHURNAL, 1970, VOL 16, NR 2, PP 250-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GANGLION, NEURON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0924 STEP NO--UR/0238/70/016/002/0250/0256

CIRC ACCESSION NO--AP0052338

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 018

CIRC ACCESSION NO--AP0052338 UNCLASSIFIED PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW OF NEW DATA AND CONCEPTS CONCERNING THE MECHANISM OF THE SYNAPTIC TRANSMISSION IN THE AUTONOMIC GANGLIA WAS MADE. THE FOLLOWING PROCESSES ARE DESCRIBED: EXCITATION OF PREGANGLIONIC TERMINALS; LIBERATION OF EXCITATORY SYNAPTIC TRANSMITTER FROM PREGANGLIONIC TERMINALS; THE ACTION OF THE TRANSMITTER ON THE POSTSYNAPTIC MEMBRANE; THE LONG LATENCY SYNAPTIC PROCESSES IN THE GANGLIA; THE MECHANISM OF SPIKE GENERATION IN THE GANGLION NEURONS. THESE STEPS OF THE SYNAPTIC TRANSMISSION ARE COMPARED WITH THOSE IN OTHER SYNAPSES AND THE SPECIFICITY OF GANGLIONIC SYNAPSES IS DISCUSSED.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

Acc. Nr: AP0054298

Ref. Code: UR 0660

PRIMARY SOURCE: Neyrofiziologiya, 1970, Vol 2, Nr 2, pp 216-224

PATHWAYS OF THE CAT SUPERIOR CERVICAL GANGLION

V. I. Skok and A. Ya. Ivanov

The A. A. Bogomoletz Institute of Physiology Academy of Sciences, Ukrainian SSR, Kiev

Summary

Pathways in the cat superior cervical sympathetic ganglion were studied by the recording of action potentials of ganglionic nerves evoked by the stimulation of other nerves of the ganglion. Intracellular recording was also used. Stimulation of the cervical sympathetic nerve evoked action potentials in all other ganglionic nerves; transmission in opposite direction was absent.

Stimulation of cervical sympathetic nerve evoked orthodromic responses in ganglion neurons whereas stimulation of internal carotid nerve evoked antidromic responses in these neurons. Many neurons responded to single orthodromic stimulation by several EPSPs with different latencies.

Conclusion was made that all fibres of servical sympathetic nerve terminate in the ganglion synaptically, and that preganglionic fibres with large differences in threshold and conduction velocities may converge on the same neuron.

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19831436

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC: 612.813.08

SKOK, V. I., SAVCHUK, V. S., and REMIZOV, I. N., Laboratory of Vegetative Ganglion Physiology (Headed by V. I. Skok), A. A. Bogomol'ts Institute of Physiology

"Analyzer of the Electrical Activity in the Fibers of an Intact Nerve"

Leningrad, Fiziologicheskiy zhurnal SSSR im. I. M. Sechenova, No 10, vol 58, 1972, pp 1638-1641

Abstract: The description is given of an instrument for analyzing the natural pulses of nerve fibers which avoids the deficiencies of earlier instruments designed for this purpose. Construction of the instrument is such as to permit selection of the pulses of particular fibers out of all the pulses of the nerve. A block diagram of the instrument together with a discussion of its operation is given, and the article is illustrated with a photograph of its external view. The front-panel devices and their functions are explained. Operation of the analyzer was checked by investigating the pulses from the erratic nerve of a cat synchronous with its respiration. A curve giving the results of that investigation is reproduced.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

UNCLASSIFIED

TITLE--FABRY PEROT ETALON AS A DEVICE FOR GASDYNAMIC STUDIES -U-

PROCESSING DATE--18SEP70

AUTHOR--SKOKOV, I.V.

COUNTRY OF INFO--USSR

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SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12 JAN. 1970, PP 177-184

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS DYNAMICS, GAS FLOW, SUPERSONIC FLOW, FLOW DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/1607

STEP NO--UR/0368/70/012/000/0177/0184

CIRC ACCESSION NO--AP0047929

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 035

UNCLASSIFIED

CIRC ACCESSION NO--AP0047929 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE APPLICATION OF A FABRY PEROT ETALON IN STUDYING THE PARAMETERS OF GASEOUS MEDIA, THOSE OF LOW DENSITY SUPERSONIC GAS FLOWS PAST BODIES, IN PARTICULAR. BODIES OF VARIOUS CONFIGURATIONS WERE POSITIONED INSIDE A FABRY PEROT ETALON IN AN EXPERIMENTAL SETUP, AND A SUPERSONIC GAS FLOW WAS EJECTED FROM A NOZZLE INTO THE INTERSPACE BETWEEN THE MIRRORS OF THE ETALON AND PAST THE BODIES. A LIGHT BEAM FROM A MONOCHROMATIC SOURCE WAS USED FOR OBTAINING INTERFERENTIAL PATTERNS DURING EXPERIMENTS. THE PARAMETERS OF A GAS FLOW PAST A SPHERE AT A PRESSURE OF ABOUT 0.05 TORR ARE OBTAINED BY THIS TECHNIQUE. ALSO DETERMINED ARE THE FLOW DENSITY FIELD IN FRONT OF A DISK AND A SPHERE. PROCEDURES FOR INTERFEROGRAM PROCESSING ARE OUTLINES.

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USSR

UDC 539.4

BELYAYEV, V. I., ZINKEVICH, V. I., KOVALEVSKIY, V. N., SKOKOV, P. I.

"Behavior of Certain Metal Materials Under Dynamic Tension"

V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 54-56 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1460)

Translation: Results of tests for strain of cylindrical samples of diameter 6 mm made of AD1 and D16 aluminum alloys, 1Kh18N9T stainless steel, OT4 titanium alloy, and 40Kh, 40KhNMA and 20KhNZA alloyed structural steels are presented. The strain tests were conducted in the velocity range from 10^{-4} to 650 m/sec. The velocity range in which the highest plasticity properties and also the velocity range with a zero value of the plasticity characteristics were determined. Authors abstract.

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SO: JPRS 59000
14 MAY 1973

UDC: 547.1

SOME PROBLEMS OF THE CHEMISTRY OF SYNTHETIC DRUGS

[Article by Candidate of Chemical Sciences A. P. Skoldinov; Moscow, Vestnik Akademii Nauk SSSR, Russian, No 3, March 1973, pp 25-30]

The synthesis of biologically active substances for the needs of medicine is one of the most important and complex areas of fine organic synthesis, one closely and directly connected with the pharmaceutical industry. The paramount national economic importance of work in that area is determined by the fact that as a result of it the public health service ought to be provided with drugs for the prevention and treatment of various diseases.

In the last 40 years the chemistry of drugs has made a gigantic step forward: numerous preparations with new types of effect have entered medical practice, drugs used successfully for the treatment of diseases not amenable to medicinal therapy previously, and theoretical concepts have been proposed and developed on the general principles of effect of drugs and the paths of directed search for such substances. It is thought that more than 95% of all the work done in the entire history of medicine on the creation of new drugs was done in that period.

The introduction of Aminazin (Chlorpromazine) into medical practice (1952) and following that many other psychotropic preparations -- neuroleptics, tranquillizers and antidepressants -- opened up a new era in many other areas of theoretical and practical medicine. For example, the combined application of a highly active neuroleptic and an analgesic causes a state of neuroleptoanalgesia during which surgical operations can be performed without narcosis. The obtaining of highly active analgesics, local anesthetics and means of narcosis led to the emergence of a new and important area of practical medicine -- anesthesiology. Numerous effective neurotropic preparations have

SKOLDINOV A.P.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

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UDC 615.216.5:547.581.2/.036.8.07

KHARKEVICH, D. A., SKOLDINOV, A. P., and IBADOVA, D. N., Laboratory of the Pharmacology of the Nervous System and Laboratory of Organic Synthesis, Institute of Pharmacology, Academy of Medical Sciences USSR; Chair of Pharmacology of the Therapeutic and Sanitary Hygiene Faculties of the First Moscow Medical Institute imeni I. M. Sechenov, Moscow

"The Myoparalytic Activity of Mono-Quaternary Ammonium Derivatives of Benzoic Acid Esters"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 1, Jan/Feb 73, pp 44-48

Abstract: Animal experiments showed that mono-quaternary ammonium derivatives of benzoic acid esters of the type $PhCOO(CH_2)_n\overset{+}{N}Me_3 \cdot \bar{I}$ had a pronounced curariform activity. The optimum effect was produced at n = 4. The activity was enhanced by introducing suitable substituents into the phenyl ring. The substituents that produced the optimum effect in this respect were SO_2NMe_2 and NO_2 in the para-position. Introduction of MeO or Cl into the ring produced the activity. The compounds in question produced a short-lived depolarizing effect. Proserine generally did not reduce the action of these compounds, but in many cases enhanced it. Replacement with NH of the O atom in the CO group reduced the myoparalytic activity. Replacement with an adamantyl radical of

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KHARKEVICH, D. A., et al., Farmakologiya i Toksikologiya, Vol 36, No 1, Jan/Feb 73, pp 44-48

one of the Me groups at the quaternary N changed the mechanism of action to one of the non-depolarizing type and also reduced the myoparalytic activity. The adamantyl derivatives reduced or prevented entirely the stimulating effect of acetylcholine and carbacholine on the muscle. In experiments on cats prose-rine acted as an antagonist of these derivatives.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 615.216.5:547.629.2

ARENDARUK, A. P., SKOLDINOV, A. P., KHARKEVICH, D. A., and CHERNYKH, N. A., Scientific Research Institute of Pharmacology, Academy of Medical Sciences USSR, Moscow

"Studies in the Cyclobutanedicarboxylic Acid Series. VII. Synthesis and Curareform Activity of Bioquaternary Salts of Alkamine Esters of p,p'-Substituted α-Truxillic Acids"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 9, Sep 72, pp 5-9

Abstract: The article describes the synthesis and testing (in the form of dimethiodides) of analogs of anatruxonium containing in the phenyl nuclei substituents differing in their electronic nature, viz. p,p'-dinitro, p,p'-dimethoxy and p,p'-dihydroxy groups. Pharmacological tests of the resultant compounds showed that they all possess pronounced curareform activity. The most effective curareform agent is anatruxonium. Replacement by the nitro, methoxy or dioxy group reduces the myoparalytic activity.

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Pharmacology and Toxicology

USSR

UDC 541.69+547.689+547.235+612.814+615.785.3

KHARKEVICH, D. A.; SKOLDINOV, A. P.; Institute of Pharmacology, Academy of Medical Sciences USSR, and First Moscow Medical Institute imeni I. M. Sechenov

"The Effect of Lipophilic Radicals in the Molecule of Curariform Substances on Their Mechanism of Action"

Moscow, Doklady Akademii Nauk SSSR, Vol 198, No 4, 1971, pp 985-988

Abstract: The possibility of altering the mechanism of action of muscle relaxants and other cholinergic compounds by using the lipophilic adamantyl radical to screen the quaternary nitrogen atoms was studied. The following groups of compounds were tested: (a) monoquaternary ammonium derivatives of cinnamic acid, (b) decamethonium and succinylcholine analogs, and (c) acetylcholine and tetramethylammonium analogs. All the compounds displayed a similar behavior, i.e., substitution of the adamantyl radical for the N-methyl group converted them from depolarizing (cholinomimetic) to nondepolarizing (cholinolytic) agents. This change is attributed to enlarging of the radicals screening the nitrogen atoms.

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UDC 615.216.5:[547.586+547.581.2

ARENDARUK, A. P., SKOLDINOV, A. P., SMIRNOVA, N. V., KHARKEVICH, D. A., TSVETKOVA, G. I., and SHMARYAN, M. I., Scientific Research Institute of Pharmacology, Acad. Med. Sc. USSR, Moscow, I Moscow Medical Institute Imeni I. M. Sechenov

"Curareform Activity of the Monoquaternary Salts Containing the Adamantyl Radical at the Nitrogen Atom"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 4, Apr 72, pp 8-13

Abstract: A series of methiodides of alkylaminoesters of benzoic and cinnamic acids has been synthesized in an attempt to lower the depolarizing neuromuscular blocking activity of the parent compound. Replacing a methyl group at the nitrogen atom with an i-adamantyl group did indeed change the depolarizing blocking of parent compounds to nondepolarizing activity; at the same time the curareform activity dropped 200-300 fold. Changes in the length of the alkyl radical between the acid group and nitrogen atom as well as substituents on the aryl ring showed no effect on this activity. The modification due to the adamantyl radical appeared to be general in nature. It is proposed that this specificity is due to the high lypophilic property of the adamantyl radical rather than to its bulk alone.

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UDC 615.12+616.89

BARKOV, N. K., Candidate of Medical Sciences, RAYEVSKIY, G. S., Candidate of Medical Sciences and SKOLDINOV, A. P., Candidate of Chemical Sciences

"Psychopharmacollgical Substances"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyeva, Vol 15, No 2, 1970, pp 156-164

Abstract: WHO recommends that the group of psychopharmacological substances include only those products which effect the psychic functions and the experinece of life. The group includes innumerable neuropsychiatiric drugs. Neuroleptics, acting on the autonomic nervous system, defres the autonomic functions in schizophrenia and maniacal states by disturbing the extraphyramidal system, they may induce lack of muscular coordination. Derivatives of phenothiazine, thioxanthene, reserpine and benzoquinoline are representative of this group. Tranquilizers, the anti-anxiety drugs, include anticonvulsants, barbiturates, meprofan, some phenothiazines, and hundreds of allied products. Antidepressants, used in manic-depressive reactions include hydrazine and some inhibitors.

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USSR

BARKOV, N. K., et al., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva, imeni D. I. Mendeleyeva, Vol 51, No 2, 1970, pp 156-164

Psychostimulants such as coffee, theophylline and theobromine stimulate body and mind, but the ephedrine and amphetamine analogues act on the CNS as psychic stimulants. Psychotomimetics are without therapeutic value. But with all these drugs, side effect, allergic reactions and many untoward paradoxical syndromes are likely to occur.

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TITLE--PSYCHOPHARMACOLOGICAL AGENTS -U- UNCLASSIFIED PROCESSING DATE--27NOV70

AUTHOR-(03)-BARKOV, N.K., RAYEVSKIY, K.S., SKOLDINOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(2), 156-64

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TRANQUILIZER, HALLUCINOGEN, PHARMACOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0146

STEP NO--UR/0063/70/015/002/0156/0164

CIRC ACCESSION NO--AP0139011

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UNCLASSIFIED

015

CIRC ACCESSION NO--AP0139011 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS GIVEN ON THE STRUCTURE OF NEUROLEPTICS, TRANQUILIZERS, ANTIDEPRESSANTS, PSYCHOSTIMULANTS, AND HALLUCINOGENS.

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UNCLASSIFIED

TITLE--COMPLEX SALTS OF ALLYL ALPHA CHLORO ETHERS WITH ANTIMONY PENTACHLORIDE -U-

PROCESSING DATE--30OCT70

AUTHOR-(03)-POPOVA, R.YA., PROTOPOPOVA, T.V., SKOLDINOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 879-80

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHER, ORGANIC COMPLEX COMPOUND, ORGANIC SALT, CHLORINATED ORGANIC COMPOUND, ORGANOANTIMONY COMPOUND, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2176

STEP NO--UR/0366/70/006/004/0879/0880

CIRC ACCESSION NO--AP0125756

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AP0125756 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF SBCL SUB5 IN THE COLD WITH CLCH:CRCHCLOR PRIME1 GAVE INSOL. SALTS: (CL...CH...CR...CH...OR PRIME1) PRIME POSITIVE SBCL SUB6 PRIME NEGATIVE (I) (R AND R PRIME1 GIVEN): H, ME; ME, ET; AND ET, ET. THE ACTION OF ETONA ON I (R EQUALS ME) GAVE CLCH:CMECH(OET) SUB2. ETOH DECOMPD. I (R EQUALS ME) TO A MIXT. OF (ETO) SUB2 CHCHMECH(OET) SUB2 AND ETOCH:CMECHO.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

Acc. Nr: AP0053442 Abstracting Service: CHEMICAL ABST. Ref. Code: UR0366

110720d Synthesis of the hemialdehyde of succinic acid and its functional derivatives from 2-acetoxyfuran. Tsybina, N. M.; Protopopova, T. V.; Skoldinov, A. P. (Inst. Farmakol., Moscow, USSR). *Zh. Org. Khim.* 1970, 6(2), 260-74 (Russ). Pyrolysis of 2,5-diacetoxy-2,5-dihydrofuran gave 2-acetoxyfuran which, without isolation, was converted to γ-acetoxy-α,β-dehydrobutyrolactone (I). Catalytic hydrogenation of I gave γ-acetoxybutyrolactone (II), which was hydrolyzed under mild conditions to $OCHCH_2CH_2CO_2H$ (III). Under more vigorous conditions instead of III its trimer [1,3,5-tris(β-carboxyethyl)-*s*-trioxane (IV)] was obtained. Pyrolysis of IV gave III. Alcoholysis of II in the presence of HCl gave $(EtO)_2CHCH_2CH_2CO_2Et$ (V). Alk. hydrolysis of V gave $(EtO)_2CHCH_2CH_2CO_2H$, which was pyrolyzed to γ-ethoxybutyrolactone. The residue of I distn. contained a small amt. bis(2-oxotetrahydrofuryl) ether, formed by the dehydration of the III isomer γ-hydroxybutyrolactone.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

Acc. Nr. AP0041504

Abstracting Service: CHEMICAL ABST.

Ref. Code UR0366

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89722u N-Alkoxycarbonyl-derivatives of aminals and enamines. Stavrovskaya, A. V.; Protopopova, T. V.; Skoldinov, A. P. (USSR). *Zh. Org. Khim.* 1970, 6(1), 19–24 (Russ). In the reaction of $RCH(OEt)_2$ (I) with 1/3 equiv. $R^1O_2CNH_2$ in the presence of acid catalysts, the main reaction products are $RCH(OEt)NHCO_2R^1$ (II) and only small amts. of $RCH(NHCO_2R^1)_2$ (III) are formed. When 1 equiv. I reacts with 2 equivs. $R^1O_2CNH_2$, III only are obtained. Heating II (R is Me, Et, or Pr, R^1 is Et) at 150–200°/150–200 mm gives $R^2CH{:}CHNHCO_2Et$ (IV) (R^2 is H, Me, Et); II without H on the α C gives $RCH{:}NCO_2R^1$ (V) (R is Ph, R^1 is Me or Et). In the presence of strong acids, II are equilibrated to I–III mixts. The reaction of IV with $R^1O_2CNH_2$ gives III. Conversely, heating III gives IV. The reaction of V with EtOH in the presence of weak acids gives a mixt. of I and III.

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REEL/FRAME 19751372

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 615.217.32:547.333.
4.015.11

KHARKEVICH, D. A., SKOLDINOV, A. P., and IBADOVA, D. N., Laboratory of Nervous System Pharmacology and the Laboratory of Organic Synthesis, Institute of Pharmacology, Academy of Medical Sciences USSR, and the Department of Pharmacology, Faculties of Medicine and Public Health, 1st Moscow Medical Institute imeni I. M. Sechenova, Moscow

"The Effects of Adamantyl Radicals on the Mechanism of Cholinergic Action of Mono-Quaternary Ammonium Compounds"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 2, 1973, pp 201-205

Abstract: It has been demonstrated that adamantyl radical may alter the properties of curariform drugs, when substituted on the quaternary nitrogen atom. Present studies were performed to test the universality of this phenomenon by preparation of 1-adamantyl analogs of tetramethyl ammonium, choline, and acetylcholine, and testing them biologically. The studies were conducted on pigeons and chicks that had been intravenously injected with the appropriate compound and the nature of resultant paralysis was noted, on the rectus abdominis muscles of frogs to determine contractility, and on cats under anesthesia (intravenous chloralose, 60 mg/kg, and urethane, 400 mg/kg) to determine transmission across the myoneural junction of impulses from the sciatic nerve to the gastrocnemius muscle. The substituted compounds were

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

KHARKEVICH, D. A., et al., Farmakologiya i Toksikologiya, Vol 36, No 2, 1973, pp 201-205

found to induce flaccid rather than spastic paralysis in the chicks and pigeons, did not cause contraction of the rectus abdominis muscles, or fasciculation of the gastrocnemius. Similar results were obtained with 1-adamantyl esters of acetic, benzoic, and cinnamic acids. The data were taken to indicate that introduction of 1-adamantyl not only changes the respective compounds from depolarizing to nondepolarizing compounds, but also through its lipophilic property affects the attachment of the compounds on the subsynaptic membrane and subsequent hydrophobic interaction with the choline receptors.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

172 013

UNCLASSIFIED

TITLE--CATALYTIC ACTIVITY OF PLATINUM METALS AND REACTIVITY OF SURFACE CARBONYLS -U-

PROCESSING DATE--13NOV70

AUTHOR-(02)-KAVTARADZE, N.N., SKOLOVA, N.P.

COUNTRY OF INFO--USSR

SOURCE--ZHUR. FIZ. KHIM. JA. 1970, 44, (1), 171-176

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL CATALYST, CATALYST ACTIVITY, PLATINUM, HYDROGEN, CARBON MONOXIDE, ETHYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0246

STEP NO--UR/0076/70/044/001/0171/0176

CIRC ACCESSION NO--AP0124008

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 013

UNCLASSIFIED

CIRC ACCESSION NO--AP0124008 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATION BETWEEN THE ADSORPTION CHARACTERISTICS OF PT GROUP METALS WITH RESPECT TO H, CO, C SUB2 H SUB4, AND SIMILAR GASES, AND THE CATALYTIC ACTIVITY IN RELATION TO PROCESSES OF ISOMERIZATION, HYDROGENATION, AND DEHYDROGENATION WERE STUDIED. CATALYTIC ACTIVITY WAS ONLY EVIDENT WHEN CHEMISORPTION OF THE GASES TOOK PLACE ON THE SURFACE OF THE METAL. THE CATALYTIC ACTIVITY AND CHEMISORPTION CAPACITY OF THE METALS WERE DIRECTLY RELATED TO THEIR POSITIONS IN THE PERIODIC TABLE.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC:621.791.052:669.14.018.8:620.17

GURDZINSKIY, B. V., STEPANOV, G. A., YATSKOV, A. P., SKOL'TSOV, V. I.

"Influence of Pore Penetration on Strength of Welded Joints of Kh18N10T Steel at Cryogenic Temperatures"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 73, pp 31-33

Abstract: Failure of welding heat to penetrate the depth of a seam produces a stress concentrator on the cold side of the seam which can be very effective. Specimens of Kh18N10T sheet steel were tested at -196° C to determine the influence of stress concentration on the properties of this metal at this temperature. The reduced ductility of the welded seam at this temperature significantly increases the influence of penetration failures on the strength of a seam. Strength drops by 10-15%. Local failures serve as centers of formation and development of fatigue cracks.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 911.3.616.9.-036.21(571.61)

SKOLUBOVICH, G. V.

"Unresolved Problems in Medical Geography of Human Diseases with Natural Foci in Amurskaya Oblast

Zap. Amur. Obl. muzeya kraeved. (Reports of the Amurskaya Oblast Museum of Regional Studies, 6, No 1, 1970, pp 119-126 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.81 by Yu. Dubrovskiy)

Translation: By 1967, eleven diseases with natural foci were identified in Amurskaya Oblast. Hemorrhagic fever with a renal syndrome has long been known, although its official registration was only begun in 1956. In eleven years there have been 588 patients (from 26-112 yearly) in 15 rayons and 3 cities. There are three types of natural foci -- steppe and forest type; they are chiefly located on the Zeysko-Bureinskaya plain -- in the valley of the Amur and its middle and upper reaches, and the valleys of its tributaries. The first goal in the study of this disease is to establish the north and west boundaries of its distribution. In eleven years, 353 people were ill with leptospirosis. The population centers for these patients have been tabulated. A total of 12 leptospirosis serotypes have been determined.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKOLUBOVICH, G. V., Zap. Amur. Obl. muzeya kraeved. (Reports of the Amurskaya Oblast Museum of Regional Studies, 6, No 1, 1970, pp 119-126 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.81)

There are two types of foci: natural and anthropurgic. Foci of tickborne encephalitis have been recorded in nine rayons of the taiga. Tickborne scrub fever has been recorded for three cities in nine rayons. Q fever was first registered in 1965; Q fever patients and patients with antibodies were recorded in Belogorsk, Blagoveshchensk, and Raychikhinsk. Erysipelas is known in Blagoveshchensk (human patients) and in the surrounding area (diseased rodents). Listeriosis is currently known only as a disease in pigs. Toxoplasmosis is apparently widely distributed in the oblast. Ornithosis, salmonellosis, and scarlet-fever like disease have been known to occur in the area. Tularemia has not yet been observed, but its existence is quite probable.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 616.61-002.151-07-035.7

FIGURNOV, V. A., and SKOLUBOVICH, G. V., Blagoveshchenskiy Medical Institute

"Errors in the Diagnosis of Hemorrhagic Fever With a Renal Syndrome"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunologii, No 9, Sep 70, pp 99-102

Abstract: A study was carried out to determine the incidence of and causes for errors in the diagnosis of hemorrhagic fever with a renal syndrome, as well as ways to eliminate these errors. A total of 252 case histories of patients suffering from this disease were analyzed. Various infectious, somatic, surgical, and neuropsychic diseases were incorrectly diagnosed in these cases. The number of diagnostic errors was particularly high (67.6%) when the patients were first examined in polyclinics. The number of erroneous diagnoses dropped to 32.4% when the initial examination was conducted in regional and district hospitals. Both objective and subjective causes were noted for the erroneous diagnoses (32.2% and 67.8% respectively). To eliminate erroneous diagnoses, it is suggested that the clinical picture be studied more exhaustively, that laboratory diagnosis and epidemiological studies of the disease be carried out, that modern diagnostic methods be studied at conferences and seminars, and that appropriate instructions be prepared and distributed to medical personnel.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

GLAZUNOVA, N. T., SKOMAKHA, N. D.

UDC 539.3.01

"On the Plane Problem for a Wedge and a Rectangle. (Concerning the Question of the Sen-Venan Principle)"

Tr. Novocherkas. politekhn. in-ta (Works of Novocherkassk Polytechnical Institute), 1972, No. 253, pp 97-105 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V53)

Translation: A solution is proposed for wedge-shaped and trapezoidal plates bearing a longitudinal self-balancing load on one of the edges. The solution is used to evaluate the applicability of the Sen-Venan principle for a wedge-shaped region. It is shown that stresses in the wedge-shaped region are dampened extremely rapidly and consequently the Sen-Venan principle for triangular regions remains in force. 8 ref. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SOLID PHASE REACTIONS IN HOLMIUM OXIDE FERRIC OXIDE AND PRASEODYMIUM OXIDE FERRIC OXIDE SYSTEMS -U-

AUTHOR-(03)-KNIGA, M.V., VASILYEVA, L.I., SKOMOROKHOVA, A.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1394-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLID STATE, CHEMICAL REACTION, FERRIC OXIDE, METAL OXIDE, HOLMIUM COMPOUND, PRASEODYMIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1403 STEP NO--UR/0078/70/015/005/1394/1397

CIRC ACCESSION NO--AP0135077

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0135077 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRFEO SUB3 AND HOFEO SUB3 (I), HAVING PEROVSKITE STRUCTURE, FORM IN THE TITLE SYSTEMS AT 1:1 MOLE RATIO OF THEIR COMPONENTS AND AT 800-1200DEGREES. THE HO SUB2 O SUB3 SYSTEM FORMS GARNET, HO SUB3 FE SUB5 O SUB12 (II), AT THE 3:5 COMPONENT RATIO. FORMATION OF I PRECEDES THE FORMATION OF II.

FACILITY: BELORUSS. GOS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC: 624.131.43+539.21.084-492.3

SKOMOROVSKIY, Ya. Z., AYNBINDER, A. B.

"Longitudinal Displacements of Undergound Pipelines With Regard to Physical Nonlinearity of the Shear Resistance of the Ground"

Tr. VNII po str-vu magistral'n. truboprovodov (Works of the All-Union Scientific Research Institute on Construction of Main Pipelines), 1971, vyp. 25, pp 47-60 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9V526)

Translation: The authors consider displacement of the end of an underground pipeline which emerges onto the surface of the earth and is loaded by a longitudinal force for two cases of soil shear resistance as a function of displacement: for loose soil -- with a nonlinearly elastic section and constant resistance in the plastic stage; for coherent soils -- with an analogous pattern, but with an additional section of separation when the limiting resistance is reached. In solving the differential equations of displacements, two sections are considered lengthwise of the tube: a section nearest the end with constant soil shear resistance, and a following section with elastic resistance. Computational formulas are derived for determining the displacement of the end of the pipeline for both cases.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKOMOROVSKIY, Ya. Z., AYNBINDER, A. B., Tr. VNII po str-vu magistral'n. truboprovodov, 1971, vyp. 25, pp 47-60

It is noted that the proposed solution with regard to nonlinearity of soil shear resistance gives a more precise reflection of the actual conditions of operation of underground pipelines as compared with existing methods. Bibliography of 9 titles. V. M. Shamin.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC: 621.396.66

ZBOROVSKIY, A. A., SKOMOROVSKIY, Yu. A., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Interference Immunity of Optical Communications Lines With Radio and Optical AGC Systems"

Moscow, Radiotekhnika, Vol 27, No 8, Aug 72, pp 7-12

Abstract: The authors analyze the interference immunity of optical communications lines with different automatic gain control systems designed to eliminate multiplicative interference.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 621.373.826

ZBOROVSKIY, A. A., SKOMOROVSKIY, YU. A.

"Nonlinear Distortions when Filtering the Radiation of Semiconductor Lasers by Optical Filters"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Electrocommunications Engineering--collection of works), vyp. 9, Moscow, Svyaz', 1972, pp 9-12 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5D205)

Translation: A study was made of the nonlinear distortions occurring on filtering the radiation of a semiconductor laser by means of optical interference filters. The magnitude of the nonlinear distortions is determined as a function of the filter parameters and also the characteristics of the semiconductor laser and the signals modulating the radiation. There are 2 illustrations and a 3-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR UDC 621.373.826

ZBOROVSKIY, A. A., SKOMOROVSKIY, YU. A.

"Reception of Binary Optical Signals of Semiconductor Lasers under Turbulent Atmospheric Conditions"

V sb. Poluprovodn. priborv v tekhn. elektrosvyazi (Semiconductor Devices in Electrocommunications Engineering--collection of works), vyp. 9, Moscow, Svyaz', 1972, pp 4-8 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5D198)

Translation: A study is made of the noiseproofness of the reception of optical binary signals in OLS with semiconductor lasers under turbulent atmospheric conditions with automatic regulation of the threshold level. The total error probability at the exit from the threshold device is defined as a function of the parameters of the fluctuating medium and the background level. Results are presented from an experimental study of the noiseproofness of the reception of the optical binary signals in the OLS with a semiconductor laser for two reception schemes: with a constant and with a follow threshold. There are 2 illustrations and a 4-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--SELENOCYANATOBISMUTHATES OF SOME METALS -U-

AUTHOR-(03)-ZHUMABAYEV, A.ZH., TSINTSADZE, G.V., SKOPENKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(4), 329-32

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, SELENIUM COMPOUND, CYANATE, BISMUTH COMPOUND, IR SPECTRUM, X RAY DIFFRACTION, CYANIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0897 STEP NO--UR/0073/70/036/002/0329/0332

CIRC ACCESSION NO--AP0137925

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137925

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. COMPDS. WERE PREPD. AND THEIR IR SPECTRA AND X RAY DIFFRACTION DIAGRAMS OBTAINED. THE SPECTRAL EVIDENCE INDICATE THAT MG SUB3 (BI(SECN) SUB6) SUB2 9L AND LI SUB2 BI(SECN) SUB5 3L, WHERE L EQUALS DIOXANE. CPMTAOM BRIDGING SECN GROUPS (ABSORPTION AT 2130 CM PRIME NEGATIVE1) AND THAT THE SECN PRIME NEGATIVE IS BOUND TO THE BI VIA THE SE ATOM IN LI SUB3(BI(SECN) SUB6) 3ME SUB2 CO, NA SUB3(CI(SECN) SUB6), CA SUB3(BI(SECN) SUB6) SUB2 10L, SR SUB3(BI(SECN) SUB6) SUB2 8L, BA SUB3(BI(SECN) SUB6) SUB2 5L, MN SUB3(BI(SECN) SUB6) SUB2 10L, AND KBA(BI(SECN) SUB6) 2ME SUB2 CO.

FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 008 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SELENOCYANATE COMPLEXES OF ZINC AND CADMIUM -U-

AUTHOR-(03)-SKOPENKO, V.V., ALASANIYA, R.M., GLUSHCHENKO, L.V.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 129-33

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZINC COMPLEX, CADMIUM COMPLEX, CYANATE, SELENIUM COMPOUND, CHEMICAL STABILITY, ACETONITRILE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2123 STEP NO--UR/0073/70/036/002/0129/0133

CIRC ACCESSION NO--AP0125707

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 008

CIRC ACCESSION NO--AP0125707

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZN SELENOCYANATES DECOMP. IN EXISTANCE OF ZN (SECN)SUBN PRIME2 PRIME NEGATIVE N, N EQUALS 1-3, CAN BE DEMONSTRATED. THE FOLLOWING POTENTIOMETRICALLY DETD. STABILITY CONSTS. REPORTED (SOLVENT AND CONSTS. FOR N EQUALS 1-4, RESP., GIVEN): AS SHOWN ON MICROFICHE. THE INCREASED STABILITY OF THESE COMPLEXES IN MECN OVER THAT IN HCONME SUB2 IS ATTRIBUTED TO THE STRONGER ASSOCN. OF THE METAL CATIONS WITH THE LATTER SOLVENT. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--URANYL SELENOCYANATES -U-

AUTHOR-(02)-SKOPENKO, V.V., IVANOVA, YE.I.

S

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(1), 16-19

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SELENIUM COMPOUND, URANIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1995 STEP NO--UR/0073/70/036/001/0016/0019

CIRC ACCESSION NO--AP0118954

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118954

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING COMPLEXES HAVE BEEN ISOLATED FROM MEOH OR ME SUB2 CO SOLN.: UO SUB2 L SUB2 (NCSE) SUB2, L EQUALS DIANTIPYRYLMETHANE 2,2',BIPYRIDINE, AND 1,10,PHENANTHROLINE; UO SUB2 A SUB3 (NCSE) SUB2, A EQUALS ME SUB2 SO, ANTIPYRINE, AND PYRAMIDONE. IN EACH SERIES ASYM. VIBRATION OF THE UO SUB2 PRIME2 POSITIVE ION INCREASED IN THE ORDER GIVEN. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR S UDC: 546.791.6:547.491.5

SKOPENKO, V.V., and IVANOVA, YE.I., Kiev State University imeni T. G. Shevchenko, Kiev, Ministry of Higher and Secondary Specialized Education Ukrainian SSR

"Some Uranyl Selenocyanates"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 36, No 1, Jan 70, pp 16-19

Abstract: The authors synthesized novel salts $UO_2L_2(NCSe)_2$ and $UO_2A_3(NCSe)_2$, where L= 2,2'-dipyridyl, 1,10-phenanthroline, diantipyrylmethane, and A= antipyrine, pyramidone, dimethylsulfoxide. The compounds were obtained by mixing methanol or acetone solutions of uranylselenocyanates and respective complexing agents in a ratio of 1:2 and 1:3. The complexes were found to bind with uranium through the oxygen atom, as evidenced by the IR spectral data. The IR frequency for the bond $\nu_{as}(UO_2^{2+})$ increases in the order: diantipyrylmethane < dipyridyl < phenanthroline, and dimethylsulfoxide , antipyrine < pyramidone; the authors claim that the bond strength of uranium-organic ligand behaves analogously.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EVALUATION OF THE FUNCTIONAL STATE OF THE KIDNEYS BY ISOTOPE RENOGRAPHY IN PATIENTS WITH DIABETIC GLOMERULOSCLEROSIS -U-

AUTHOR--SKOPICHENKO, N.F.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 68-76

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY FUNCTION, DIAGNOSTIC METHODS, MEDICAL NUCLEAR APPLICATION, ISOTOPE, DIABETES MELLITUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1740 STEP NO--UR/0475/70/000/005/0068/0076

CIRC ACCESSION NO--AP0129108

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0129108 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF RENOGRAPHIC DATA IN 40 PATIENTS WITH DIABETIC GLOMERULOSCLEROSIS REVEALED A CERTAIN SEQUENCE OF RENOGRAM CHANGES IN THIS RENAL PATHOLOGY. EARLY STAGES OF GLOMERULOSCLEROSIS SHOW A MODERATE PROLONGATION OF THE PERIOD OF HALF ELIMINATION OF THE ISOTOPE FOLLOWED LATER BY PROLONGATION AND FLATTENING OF THE SECRETORY SEGMENT, THE LATEST EVENT BEING A DECREASE OF THE VASCULAR SEGMENT OF THE RENOGRAM. AT LATE STAGES OF DIABETIC GLOMERULOSCLEROSIS THE BLOOD CLEARANCE IS SIGNIFICANTLY REDUCED. THE SECRETORY AND EXCRETORY SEGMENTS OF THE RENOGRAM CHANGE DEPENDING ON THE DEGREE OF INVOLVEMENT OF THE TUBULAR REGION OF THE NEPHRONE AND THE MORE STABLE VASCULAR SEGMENT REDUCES ONLY IN SCLEROSIS OF THE MAJORITY OF RENAL GLOMERULI. FACILITY: KIYEVSKOGO MEDITSINSKUGO INSTITUTA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 621.43.011:533;621.5:533

REUTOVICH, L. N., SHATS, V. M., ARTMANOVA, V. T., SKOPINA, S. N.

"Hydrodynamics of Submerged Combustion Equipment (Gas Distribution)"

Tr. Leningr. n.-i. i proyekt. in-ta osnovn. khim. prom-sti (Works of the Leningrad Scientific Research and Design Institute of the Basic Chemical Industry), 1972, No. 6, pp 127-132 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B423)

Translation: Results of studies of the degree of uniformity of the distribution of gas flow in a liquid as a function of the gas rate, the area of the useful cross section of the gas distribution device, and the depth of its immersion in the liquid are presented. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR UDC: 7.41.79

SKOPTSOV, A. P.

"The Variational Problem of Extraction of a Spacecraft with a Solar Sail from the Sphere of Attraction of the Earth"

Probl. Mekh. Upravlyayemogo Dvizheniya [Problems of the Mechanics of Controlled Motion -- Collection of Works], No 1, Perm', 1972, pp 216-234 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 7, Moscow, Abstract No 7.41.79).

Translation: The problems is studied of the optimal velocity of a spacecraft which utilizes a "solar sail" as its engine. The final purpose of this control is to impart paraholic velocity to the vehicle. It is assumed that at the initial moment in time the apparatus is in a circular orbit around the Earth. The motion occurs in the plane of the ecliptic. The gravitational field of the Earth is assumed central. The stream of light rays from the sun is considered parallel and homogeneous, and the shadow of the Earth is considered. The light pressure is considered independent of changes in the mutual distance between the sun and the solar sail as the sail moves in orbit around the Earth. Suppose f is the force acting on the sail as a result of light pressure, θ is the angle between the direction of the light rays and force f. We assume

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKOPTSOV, A. P., Probl. Mekh. Upravlyayemogo Dvisheniya, No 1, Perm', 1972, pp 216-234.

$f = P \cos \theta$, $P = \text{const}$ (1). It is shown in this work that rule (1) is the best rule to assure rapid operation and that the sail design defined can be produced by (1). We note that for a sail consisting of a flat, mirror reflecting area, a similar rule for force f would be [2]: $f = P \cos^2 \theta$ (2). The problem is solved numerically. The computational method used is an iterational process, in which the solution to the problem of optimal control is sought both in the space of controls and in the space of phase coordinates. One distinguishing feature of the method is the small volume of information recorded in the reading process (the program with all working registers occupied some 1000 words of machine memory). The initial approximation used in the iterational process was the solution of the problem of acceleration of a spacecraft with a control yielding the maximum possible increase of mechanical energy for each point of the phase space. These controls and the corresponding phase trajectory will be called locally optimal. The problem of locally optimal control is also studied in this work. The numerical solutions produced encompass the area of values of radii of initial circular orbits of 15 to 44 thousand km. The corresponding trajectories in all cases are expanding spirals, in which the perigee distance changes slightly, except for the last revolution, for which in

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKOPTSOV, A. P., Probl. Mekh. Upravlyayemogo Dvisheniya, No 1, Perm', 1972, pp 216-234.

some trajectories there is a sharp decrease of perigee), while the apogee increases monotonically from revolution to revolution. Based on the calculations produced, it is noted that consideration of the shadow of the Earth and the method of mathematical modeling of the shadow have significant influence on the qualitative and quantitative aspects of the results. 8 figures, 2 tables, 4 biblio. refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

Corrosion

USSR UDC 620.193.01

SKORCHELLETTI, V. V.

"Theoretical Principles of the Corrosion of Metals"

Teoreticheskiye Osnovy Korrozii Metallov, Leningrad, Khimiya Press, 1973, 264 pages.

Translation of Foreword: A large army of corrosion specialists, working in research institutes and at plants in our country is involved in the protection of metals from corrosion. In the overwhelming majority of cases, corrosion engineers successfully solve the tasks set before them. However, frequently technicians and corrosion engineers who are fully familiar with the specific problems of protection in their own area of technology are not fully informed on the general problems of the theory of corrosion, combining various aspects of protection and creating a general foundation for the science of corrosion.

Also, the number of corrosion specialists is clearly insufficient to serve the various requirements of industry. This is a result of the fact that many administrators have not yet recognized the pressing need for qualified corrosion specialists in industry. The underestimation of the significance of a systematic struggle against corrosion damage results in great material losses to the national economy.

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USSR

SKORCHELLETTI, V. V., Teoreticheskiye Osnovy Korrozii Metallov, Leningrad, Khimiya Press, 1973, 264 pages.

The universities graduate comparatively few specialists on corrosion. In most cases, workers in this area come from those that have been graduated in various physical and chemical specialties (chemistry, electrochemistry, metal science, etc.). They must all accumulate the necessary knowledge on the job. Depending on conditions, they are able to familiarize themselves with a comparatively narrow portion of the science of corrosion, that absolutely necessary for the performance of their work. Their lack of deep knowledge in the area of the general problems of the theory of corrosion, of course, cannot help being reflected in the results of their daily activity. Also, the lack of a general theoretical basis makes it difficult for them to read the journal literature, which is frequently insufficiently used.

The present book is designed to increase the general theoretical knowledge in the area of corrosion. Familiarization with the book should also facilitate use of the journal literature. Furthermore, it may help beginning corrosion engineers who have not been specially educated in the university, and serve as a teaching aid for students -- future corrosion engineers. If the performance of even a small portion of these important tasks can be facilitated by means of this book, the author will feel that

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USSR

SKORCHELLETTI, V. V., Teoreticheskiye Osnovy Korrozii Metallov, Leningrad, Khimiya Press, 1973, 264 pages.

his purpose has been achieved. The book is constructed so as to fill, in as much as possible, the most frequently encountered gaps in the training of both young and experienced corrosion engineers, with extensive work experience.

The author expresses his great gratitude to the workers of the Department of the Theoretical Principles of Metallurgy of Leningrad Order of Lenin Polytechnical Institute imeni M. I. Kalinin for their help in the work: The Department Chief, Professor I. I. Naryshkin, Readers L. N. Lozhkin, A. I. Bukhbinder and A. M. Borshchevskiy, L. P. Baturova. The author is particularly greatful to his editors, Doctor of Technical Sciences B. V. Strokan and Doctor of Chemical Sciences A. M. Sukhotin for discussing a number of problems and for their valuable advice.

The Author

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKORCHELLETTI, V. V., Teoreticheskiye Osnovy Korrozii Metallov, Leningrad, Khimiya Press, 1973, 264 pages.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--STABILITY OF COMPLEXES OF THORIUM AND URANIUM IV WITH DICARBOXYLIC ACID ANIONS -U-

AUTHOR-(04)-MERKUSHEVA, S.A., KUMOK, V.N., SKORIK, N.A., SEREBRENNIKOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--RADIO KHIMIYA 1970, 12(1), 175-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, THORIUM COMPOUND, URANIUM COMPOUND, DICARBOXYLIC ACID, ADIPATE, SUCCINATE, STABILITY CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1493 STEP NO--UR/0186/70/012/001/0175/0178

CIRC ACCESSION NO--AP0135154

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

UNCLASSIFIED PROCESSING DATE--27NOV70

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CIRC ACCESSION NO--AP0135154

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLY. DATA WERE USED TO CALC. THE STABILITY CONSTS. BETA SUB1 AND BETA SUB2 OF COMPLEXES OF THE MA PRIME2POSITIVE AND MA SUB2 TYPES, RESP., WHERE M STANDS FOR TETRAVALENT TH OR U AND A IS A DICARBOXYLIC ACID ANION. FOR TH SUCCINATE, TH GLUTARATE, TH ADIPATE, TH AZELAATE, U SUCCINATE, U GLUTARATE, U ADIPATE, AND U AZELAATE COMPLEXES, THE VALUES OF LOG BETA SUB1 (AT 25DEGREES) WERE 8.375, 8.765, 8.422, 9.604, 9.781, 8.812, 9.280, AND 9.078, RESP., AND THE VALUES OF LOG (BETA SUB2-BETA SUB1) WERE 8.434, 8.288, 6.616, 8.473, 8.818, 7.201, 5.867, AND 0.908, RESP.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 014

TITLE--CALCULATION OF THE FORMATION OF PROTONATED COMPLEXES DURING THE CALCULATION OF EQUILIBRIUM CONSTANTS -U-

AUTHOR--KUMOK, V.N., SKORIK, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2) 291-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, POTENTIOMETRIC TITRATION, CALCIUM COMPOUND, MANGANESE COMPOUND, LEAD COMPOUND, LANTHANUM COMPOUND, EQUILIBRIUM CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0310 STEP NO--UR/0078/70/015/002/0291/0293

CIRC ACCESSION NO--AP0103965

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103965

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED FOR THE CALCN. OF EQUIL. CONST. OF MA AND MAH COMPLEXES (M EQUALS METAL, A EQUALS LIGAND) AT EVERY POINT OF THE POTENTIOMETRIC TITRN. CURVE. THE VALIDITY OF THE METHOD IS CHECKED ON LA PRIME3 POSITIVE CA PRIME2 POSITIVE, MN PRIME2 POSITIVE, AND PB PRIME2 POSITIVE TARTRATES (TAR) AND ON LA PRIME3 POSITIVE, EDTA COMPLEX. SOLY. PRODUCT (SP) OF LA SUB2 TAR SUB3 TIMES 9H SUB2 O IN 0.1M (H, NA)CLO SUB4 WAS DETD. AT 25DEGREES AND ITS VALUE IS GIVEN AS MINUS LOG SP EQUALS 20.77.

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S UDC 541.481+546.791.841

USSR

MERKUSHEVA, S. A., KUMOK, V. N., SKORIK, N. A., SHREBRENNIKOV, V. V.

"Stability of Complexes of Thorium and Uranium (IV) With Dicarboxylic Acid Anions"

Leningrad, Radiokhimiya, Vol 12, No 1, 1970, pp 175-178

Abstract: A previous article by the authors described methods for the synthesis of basic salts of dicarboxylic acids for cerium (IV), thorium and uranium (IV) and the solubility of these salts in 0.1 M solutions of (H, Na)ClO_4 at 25°C. Salts of succinic, glutaric, adipic and azelaic acids with the anion $[A]^{2-}$ have the general formula $(MOH)_2A_3 \cdot nH_2O$. The present article makes an analysis of the solubility data with allowance for the formation of two complexes of the type MA_2^- and MA_2 with stability constants β_1 and β_2 respectively. The values of β_1 and β_2 were calculated by searching for pairs of values of $\log \beta_1$ and $\log \beta_2$ such as would provide minimum variance of $\log SP$ of the salt in a given range, with the solubility product (SP) being

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USSR

MERKUSHEVA, S. A., et al., Radiokhimiya, Vol 12, No 1, 1970, pp 175-178

considered equal to $[M]^2[A]^3[OH]^2$. Rare-earth elements display a strong decrease in the stability of complexes of higher dicarboxylic acids as compared with oxalic acid. The same decrease in stability is observed in the case of thorium and uranium (IV), with the exception of azelates. In all cases (except the azelates) $\log \beta_1$ is greater for U^{4+} than for thorium.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

LITVAKOVSKIY, B. A., SKORIK, N. N. UDC: 621.396.6-181.48

"Origin of the Mask Imprint When Thin Films are Deposited in Vacuum"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 77-78 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V288)

Translation: The causes of development of a mask imprint on a heated substrate when thin films are deposited on the substrate in vacuum are analyzed. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 621.376.2(088.8)

SKORIK, YE. T., SHERMAREVICH, V. G., and BUTYRINA, L. A.

"A Channel Modulator With Single Sideband Suppression"

USSR Author's Certificate No 282463, filed 2 Jun 69, published 18 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D312 P)

Translation: A channel modulator with single sideband suppression is proposed. The device contains a 3-DB power divider, switching diodes which are connedted to the output arms of the divider, and an adder. The width of the passband is increased by making the 3-DB adder in the form of a directional coupler. V. P.

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Composite Materials

USSR

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UDC 661.189.2:661.718.5

KORITSINA, M. V., KUHLANSKAYA, E. V., and SKORIK, Yu. I., Institute of Silicate Chemistry imeni I. V. Grebenshchikov, Leningrad, Academy of Sciences USSR

"Grafting of Polydimethylsiloxane Macromolecules Onto Surface of Glass Fiber by Thermal Shock Method"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 9, Sep 70, pp 2085-2088

Abstract: The article describes results of experiments on the hydrophobization of glass in polydimethylsiloxane by the thermal shock method, i.e., by sharply cooling specimens of alkali-free glass or glass fiber from temperatures of 350-550 to 25° in a toluene solution of polydimethylsiloxane. The hydrophobization of the glass and glass fiber is due to chemical grafting of macromolecules of the organosilicon polymer onto the surface of the glass. The hydrophobic film obtained in this way on the glass fiber surface is resistant to thermooxidative degradation up to 450° and endows the glass fiber with high dielectric properties.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 011 UNCLASSIFIED

TITLE--EFFECT OF THE DEGREE OF DISPERSION AND COMPOSITION OF SILICEOUS FILLERS OF RUBBER ON FILLER REINFORCING ACTION -U-

PROCESSING DATE--30OCT70

AUTHOR-(04)-KUKHARSKAYA, E.V., CHIGAREVA, O.G., SKORIK, YU.I., GILEVA, K.G.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(3), 21-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FILLER, SYNTHETIC RUBBER, SILICA, ALKALINE EARTH METAL, STYRENE/(U)SKMS30RP SYNTHETIC RUBBER, (U)AEROSIL SILICEOUS FILLER, (U)ULTRASIL VN3 SILICEOUS FILLER, (U)HISIL SILICEOUS FILLER, (U)BS50 SILICEOUS FILLER, (U)ZEOLEX25 SILICEOUS FILLER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0838

STEP NO--UR/0138/70/029/002/0021/0023

CIRC ACCESSION NO--AP0124505

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 011

CIRC ACCESSION NO--AP0124505

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A RUBBER MIXT., CONTG. SKMS-30RP AS ITS MAIN COMPONENT, WAS FILLED WITH SEVERAL SILICEOUS FILLERS: E. G., AEROSIL 300, ULTRASIL VN-3, HI-SIL, SILOXIDE, BS-50 (I), ZEOLEX-25 (II), AND ZEOLEX-23 (III), AND THE MIXT. WAS EXAMD. MICROSCOPICALLY. NO CORRELATION WAS OBTAINED BETWEEN THE DEGREE OF DISPERSION OF A FILLER AND ITS REINFORCING EFFECT. THE REINFORCING EFFECT OF THE FILLERS WAS INVERSELY PROPORTIONAL TO THE CONTENT OF ALK. AND ALK. EARTH CATIONS; THUS III, II, AND I WERE THE LEAST EFFECTIVE FILLERS.

FACILITY: INST. KHIM. SILIKATOV IM. GREBENSHCHIKOVA, LENINGRAD, USSR.

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Nuclear Sciences and Technology

UDC 621.039.573

USSR

SAKHAROV, YE. S., CHUCHALIN, I. P., SKORIKOV, A. G., AKIMOVA, R. I., and KARNAUKHOV, V. V.

"Radiation Loop of the IRT Reactor at Tomsk Polytechnical Institute"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

Abstract: A description is given of the characteristic features and technical specifications of the radiation loop of the IRT reactor at Tomsk Polytechnical Institute and the results of efforts made to optimize its operating conditions as a function of the position of the activity generator layers with respect to each other and the generator as a whole with respect to the core. The effect of the loop on the criticality of the reacotr is also estimated.

It has been established that increasing the gamma-carrier flow rate above 4 cm^3/sec does not increase the power of the irradiator since the parameters τ, ν, and ε decrease sharply. Graphs are presented showing the results of experiments in optimizing the operating conditions of the loop. From the figure it is obvious that there is an optimium distance between the

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USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

activity generator layers. However, the dependence of the irradiator power on the position of the activity generator with respect to the core has a monotonic nature. A difference between single-layer and multiple-layer generators is noted. In the position of the single-layer activity generator with respect to the core there is a clear optimum coinciding with the bump zone of the thermal neutron flux in the reflector. For the multiple layer generator the power of the irradiator increases montonically on approaching the core. The nature of the increase in the power curve coincides with the spatial distribution of the total neutron flux in the reactor. This means that not only thermal neutrons, but also more rigid neutrons which decellerate in the interstitial layer of water between the γ-carrier layers, participate in activation. Thus, more complete utilization of neutrons leaking out of the core is achieved in the multiple layer generators. In addition, more complete participation of the γ-carrier nuclei in absorption of neutrons is also achieved as a result of a partial decrease in self-shielding as a result of thinning-down of the layers and decreasing the depression of

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

the neutron flux in adjacent layers of moderating material.

The participation of neutrons of all energies in activation was confirmed by an experiment in which the adjacent row of fuel assemblies was replaced by graphite and the activity generator was shifted away from the core. As a result, the activity of the loop dropped by 10 percent. The graph of the experimental results also shows that the decrease in the reactivity margin of the reactor even with the generator at the closest point to the core does not exceed 0.25 percent, and in the presence of graphite fuel elements it is still less (0.17 percent). These data do not differ in practice from those obtained on other devices. Application of a movable irradiator permitted significant expansion of the experimental possibilities of the loop since it permitted entrance into the operating chamber almost immediately after shutting down the loop even if the alloy residues had not been blown out. In addition, the presence of the irradiator permitted not only feeding samples to the source but also the source to the samples.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

It is concluded that the experience in operating the radiation loop cinfirms the reliability and simplicity of servicing such devices. The capacity of the loop should be increased in the future by increasing the number of layers in the generator and also by using a more efficient γ-carrier -- pure indium.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC 620.193+539.24

SEMIN, YE. G., SKORIKOV, YE. A., BALASHOV, D. V., DOROFEYEV, B. YU., KAL'NITSKAYA, E. A., Novocherkassk Polytechnic Institute

"Oxidation Resistance of Fe-Ni-Al-Co-Based Alloys in the Air at 1280°"

Moscow, Zashchita Metallov, Vol 8, No 6, 1972, pp 718-719

Abstract: A study was made of the oxidation resistance of alloys based on Fe-Ni-Al-Co used in the production of permanent magnets in the air at 1280° as a function of the content of the technological additives Co, Ti, Nb, and S. The oxidation products were investigated by x-ray, electron diffraction and metallographic methods using the URS-50IM and the BEIM-1 devices and the MIM-7 microscope. The oxidation of the alloys takes place nonuniformly. The outer layer of the scale is formed of coarse regular crystals elongated perpendicular to the surface. The longer the experiment and the higher the temperature, the larger are the crystals. The inside layer of the scale is formed of small equant grains and is bonded tightly to the metal. The scale becomes thicker when the specimens are held up to 3 hours at 1280°.

The composition of the scales is presented. The oxidation law of the alloys with time is parabolic in the first 10 minutes and then linear, which is connected with continuous destruction of the oxide film. Thus, alloying the

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SEMIN, YE. G., et al., Zashchita Metallov, Vol 8, No 6, 1972, pp 718-719

Fe-Ni-Al-Co alloys with technological additives has little effect on their corrosion resistance; therefore their thermomagnetic treatment must be carried out in the presence of a protective atmosphere or protective coatings.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

S

USSR

UDC 576.858:616.988.43

SKORIN, I. Ye., (Deceased), AVILOV, V. S., LEBEDEV, A. I., BYKOV, I. A., and REVENKOV, A. G., All Union Institute of Experimental Veterinary Science

"Comparison of the Immunogenic Properties of Foot-and-Mouth Disease Virus Types O and A_{22} Multiplying the Tongue Epithelium from Healthy Animals and Animals Recovered from Food and Mouth Disease"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 2, 1970, pp 36-38

Abstract: Experiments on guinea pigs and cattle showed that vaccine prepared from the A_{22} virus grown in epithelial tissue from animals 12 months after recovery from foot-and-mouth disease (caused by homologous virus) was indistinguishable in activity from vaccine prepared from virus that multiplied in epithelium for healthy animals. It was also found possible to use explants of tongue epithelium from immune animals to culture the heterologous type (O) of virus, regardless of the length of time elapsing since recovery.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 020

UNCLASSIFIED

TITLE--THE ORIGIN OF PREGANGLIONIC NERVE FIBERS ENTERING THE CRANIAL CERVICAL SYMPATHETIC GANGLION OF THE CAT -U-

PROCESSING DATE--04DEC70

AUTHOR--SKORITSKAYA, V.M.

COUNTRY OF INFO--USSR

S

SOURCE--ARKH ANAT GISTOL EMBRIOL 58(3): 80-83. ILLUS. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CAT, GANLION, NERVE DEGENERATION, SYMPATHETIC NERVOUS SYSTEM, NEURON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/E04 STEP NO--UR/9076/70/058/003/0080/0083

CIRC ACCESSION NO--AP0139995

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139995

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERNAL CAROTID NERVE IN THE CAT WAS TRANSECTED. AFTER TREATMENT BY BIELSCHOWSKI GROSS AND CAMPOS METHODS DEGENERATED PREGANGLIONIC FIBERS WERE REVEALED, PROBABLY LEADING FROM MEDULLA OBLONGATA TO CELLS OF THE CRANIAL SYMPATHETIC GANGLION. THE CRANIAL SYMPATHETIC GANGLION CONTAINS NEURONS WITH FAR REACHING AND BRANCHING PROCESSES, APPARENTLY DOGIEL TYPE II CELLS. FACILITY: DEP. HUM. ANAT., CHELYABINSK MED. INST., CHELYABINSK, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--MODIFIED PRODUCTION OF ERGOTOL -U-

AUTHOR-(03)-BOZHKO, N.G., SKORKIN, L.V., TROPP, M.YA.

COUNTRY OF INFO--USSR

SOURCE--KHIM. FARM. ZH. 1970, 4(1), 52

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALKALOID, PROCESSED PLANT PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0996 STEP NO--UR/0450/70/004/001/0052/0052

CIRC ACCESSION NO--AP0109153

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

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CIRC ACCESSION NO--AP0109153 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ERGOT ALKALOIDS WERE EXTD. WITH DILD. HCl (PH 1.7-1.9) AT 10DEGREES, ADSORBED ON KIESELGUHR OR SILICA CONTG. ABSORPTIVE IN THE PRESENCE OF 10PERCENT NACl, AND ELUTED BY CHCl SUB3 OR CH SUB2 Cl SUB2 MIXED WITH A 10PERCENT ALC. SOLN. CONTG. A BASE. THE NEXT ELUATION OF THE ALKALOIDS WAS WITH CHCl SUB3 MINUS C SUB6 H SUB6 IN VARIOUS RATIOS AND THE ELUATE DRIED. AFTER SOLN. OF THE POT RESIDUE IN ACETONE, I WAS PPTD. BY ADDN. OF AN ALC. SOLN. OF H SUB3 PO SUB4. THE MOTHER LIQUOR AFTER SEPN. OF THE PHOSPHATES WAS NEUTRALIZED BY ADDN. OF NH SUB3 TO PH 7.0, CAUSING THE PPTN. OF ADDNL. PHOSPHATES WHICH WERE ADDED TO THE BASIC PRODUCT. THE TOTAL YIELD OF H SUB3 PO SUB4 ERGOT ALKALOID SALTS WAS NOT SMALLER THAN 80PERCENT. THIS METHOD YIELDED ERGOTOL, THE TOTAL ALKALOID CONTENT BEING 98PERCENT, THE COMBINED BASES HAVING (ALPHA) 20 OVER D MINUS 130 TO 140DEGREES (C 0.5, CHCl SUB3).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

UDC:621.762.4.04

ZHIVOV, L. I., SKORNYAKOV, YU. N. and NOTYCH, A. A., Zaporozhye Machine Building Institute imeni V. YA. Chubar'

"Study of the Process of Hot Extrusion of Sintered Materials"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 74, pp 23-28

Abstract: The fact that not only dimensions but also volume change when porous sintered materials are deformed makes the nature of shape change and force mode somewhat different in comparison to the deformation of monolithic metals and alloys. This article studies the process of even deformation of a porous cylindrical briquette compacted in a container. The theory of plastic flow is used to analyze the process of compacting of the porous material. As a second phase of the process of hot extrusion, the ejection of the compacted material through the extrusion aperture is studied. The study establishes the relationship between the degree of deformation during extrusion and the residual porosity of the extruded piece.

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UNCLASSIFIED

TITLE--PRESSING OF COPPER BORON NITRIDE TUBES -U-

PROCESSING DATE--02OCT70

AUTHOR-(03)-ZHIVOY, L.I., SKURNYAKOV, YU.N., PAVLOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--POROSHKOVAYA MET., JAN. 1970, (1), 92-97

DATE PUBLISHED-------70

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

TOPIC TAGS--BORON NITRIDE, COPPER, CERMET, REFRACTORY COMPOUND, CERAMIC PROCESSING, CERAMIC PRESSING, DEFORMATION RATE, COPPER TUBE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1287

STEP NO--UR/0226/70/000/001/0092/0097

CIRC ACCESSION NO--AP0109371

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/2 036 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109371

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PRINCIPLES UNDERLYING THE HOT PRESSING OF HOLLOW TUBULAR ELECTRODES FROM CU-BN CERMETS ARE DISCUSSED. SPECIAL ATTENTION IS REQUIRED IN RELATION TO OPTIMIZATION OF THE PRESSING PARAMETERS (APPLIED STRESS, RATE OF DEFORMATION, ETC.). THE APPLIED PRESSURE IS PARTLY GOVERNED BY THE DESIRED WALL THICKNESS OF THE TUBE; TYPICAL CASES INVOLVE TUBES OF DIA. 10-20 AND WALL THICKNESSES 1-8 MM. SUBJECT TO PROPER CONDITIONS THE CU COMPONENT OF THE TUBULAR ELECTRODES IS PROTECTED FROM ELECTRICAL DAMAGE (IN PARK DISCHARGES) BY THE REFRACTORY BN COMPONENT. G. A.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

1/3 009 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--STUDYING FERROMANGANESE NODULES -U-

AUTHOR-(02)-ANDRUSHCHENKO, P.F., SKORNYAKOVA, N.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, PRIRODA, NO 5, 1970, PP 63-67

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--OCEAN BOTTOM SAMPLING, CLAY, MINERAL NODULE/(U)VITYAZ OCEANOGRAPHIC SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1937 STEP NO--UR/0026/70/000/005/0063/0067

CIRC ACCESSION NO--AP0135466

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

2/3 009 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135466

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIGURE 1 IN THE TEXT IS A MAP OF THE DISTRIBUTION OF FERROMANGANESE NODULES ON THE FLOOR OF THE PACIFIC OCEAN; IT SHOWS AREAS OF INDIVIDUAL FINDS, AREAS OF WIDESPREAD OCCURRENCE AND REGIONS OF HIGH CONCENTRATIONS. THESE NODULES USUALLY LIE ON THE VERY SURFACE OF BOTTOM DEPOSITS, PRIMARILY ON RED CLAYS, SOMETIMES ON RADIOLARIAN, LESS FREQUENTLY ON CARBONACEOUS OZZES. THE CONFIGURATION OF THE NODULES IS FREQUENTLY DEPENDENT ON THE ORIGINAL SHAPE OF THE FRAGMENTS SERVING AS THEIR NUCLEI AND THE DEGREE OF SUBSTITUTION OF THESE FRAGMENTS BY ORE MATERIAL. VIRTUALLY ANY CONFIGURATION CAN BE FOUND. THE AVERAGE SIZE OF THE NODULES IS FROM 3 TO 7 CM IN DIAMETER; SOMETIMES THEY MEASURE FROM 10 TO 20 CM IN DIAMETER AND WEIGH UP TO 4 KG. EARLIER IT WAS ASSUMED THAT THE NUCLEI OF THESE NODULES WERE PRIMARILY FRAGMENTS OF BASALTS, TUFF BRECCIAS AND TUFFS OF BASALTIC COMPOSITION, PUMICE AND VOLCANIC GLASS, BUT IT HAS NOW BEEN ESTABLISHED THAT THERE ARE COMPLETELY MINERALIZED NODULES WHOSE NUCLEI ARE VERY SMALL ORGANIC OR MINERAL PARTICLES. SMALL TEETH AND BONES OF FISH ALSO SERVE AS NUCLEI. SHARK TEETH UP TO 11 CM IN LENGTH AND 8 CM AT THE BASE OFTEN SERVE AS NUCLEI. NODULES WITH NUCLEI OF DIFFERENT COMPOSITION ARE FOUND IN DIFFERENT PARTS OF THE OCEAN. THE FOLLOWING TEXTURAL TYPES ARE DISCUSSED: PARALLEL LAYERED, DENDRITIC, GLOBULAR, CONCENTRICALLY BANDED, CATACLASTIC. DESPITE THE CONSIDERABLE VARIETY OF TEXTURAL TYPES, THE COMPOSITION OF NODULES IS LIMITED TO A RELATIVELY SMALL NUMBER OF MINERAL TYPES.

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3/3 . 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0135466 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--EARLIER IT WAS ASSUMED THAT THE PRINCIPAL ORE FORMING-MANGANESE MINERAL FORMING FERROMANGANESE NODULES WAS FERROUS AND MANGANOUS MANGANITE. NOW THIS IS KNOWN TO BE UNTRUE. NONORE MINERALS INCLUDE MONTMORILLONITE AND NONTRONITE. THESE RESULTS FROM THE 43D VOYAGE OF THE "VITYAZ'" ARE ALL DISCUSSED IN GREATER DETAIL.

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USSR

KALNIBOLOTSKIY, Yu. M., SKOROBOGAT'KO, N. V., and KOROLEV, Yu. V.

UDC: 621.372.061

"An Algorithm for Tuning Circuits"

Avtomatiz. proyektir. v elektronike. Resp. mezhved. nauchno-tekhn. sb. (Automation of Design in Electronics. Republic Interdepartmental Scientific-Technical Collection) 1970, No. 1, pp 144-149 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A133)

Translation: One of the methods for tuning an electronic circuit using a digital computer according to the specified system function and the initial configuration is considered. An algorithm is proposed through which the rated elements can be determined, the configuration of the circuit can be made more accurate, and its characteristic corrected. A block diagram of the programmed solution for this problem by the computer is given. The proposed method can be used also for designing correcting stages and for solving component equations. One illustration, one table, bibliography of three. Resume

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

037

UNCLASSIFIED

TITLE--FORMAL KINETICS OF REACTIONS OCURRING IN PHOTODISSOCIATION GAS LASERS -U-

PROCESSING DATE--30OCT70

AUTHOR--SKOROBOGATOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. LENINGRAD. UNIV., FIZ., KHIM. 1970, (1), 144-57

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS LASER, REACTION KINETICS, PHOTOEFFECT, CHEMICAL DECOMPOSITION, GAS DISSOCIATION, PYROLYSIS, RADIATIVE RECOMBINATION, ORGANIC COMPLEX COMPOUND, FLUORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0546

STEP NO--UR/0054/70/000/001/0144/0157

CIRC ACCESSION NO--AP0117776

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

272 057

CIRC ACCESSION NO--AP0117776 UNCLASSIFIED PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS WAS STUDIED OF STIMULATED EMISSION IN GAS LASERS WHICH USE PHOTODISSOCN. OF WORKING MOLS. RA AS A SOURCE OF ACTIVATED ATOMS OF A. THE WORKING GAS MIXT. WAS SUPPOSED TO CONTAIN IN ADDN. TO THE MOLS. OF RA ALSO THOSE OF A SUB2, R SUB2, RADICALS R, ATOMS OF A ON BOTH WORKING LEVELS, MOLS. OF ANOTHER ORIGINALLY PRESENT COMPD. X, AND OF ITS REACTION PRODUCT Y, SO THAT SEVERAL MECHANISMS OF DISPROPORTIONATION, RECOMBINATION, AND DEACTIVATION OF RADICALS R AND ATOMS A HAD TO BE CONSIDERED. PARTICULAR ATTENTION WAS GIVEN TO CEASING MECHANISMS OF THE STIMULATED EMISSION BY DEACTIVATION ON MOLS. RA, X, OR RADICALS R, BY PYROLYSIS, AND BY COMBINATION. THEORETICAL RESULTS FOR THE 3 CASES WERE DEMONSTRATED WITH THE EXAMPLE OF CF SUB3 I BEING USED IN PLACE OF RA.

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Simulations

USSR

UDC: 62-501.72

KOSHARSKIY, B. D., Candidate of Technical Sciences, SKOROBOGATOV, M. S., ASHEROV, A. T., Candidate of Technical Sciences

"Modeling a Control Problem in Systems of Organizational Type"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 1, Jan/Feb 73, pp 18-26

Abstract: The paper gives a formalized description of organizational systems and subsystems as sets of elements ordered in a certain way using two general approaches: a) the system is defined as a set of objects which has predefined properties with fixed relations among them; b) the system is defined as a set of objects on which a predefined relation is realized among fixed properties. These approaches can be used to isolate two kinds of functional subsystems on any hierarchical level of an organizational system for control of an industrial enterprise -- factoral and procedural. Categories of control problems are considered, and it is shown that the functional structure of such a problem can be defined in terms of the controlling link in a closed feedback loop. A model is described which was used in developing the automated control systems of the West Siberian

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USSR

KOSHARSKIY, B. D. et al., Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 1, Jan/Feb 73, pp 18-26

Metallurgical Plant and the Izyumsk Instrument Making Plant. Practice has shown that the model is sufficiently general for control problems at all hierarchical levels and meets the requirements of engineering practice.

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USSR

UDC: 51

KOSHARSKIY, B. D., ASHEROV, A. T., SKOROBOGATOV, M. S.

"Prediction of Conflict Problems of Operational Control in Automated Technical-Economic Systems"

V sb. Operativn. upr. proiz-vom (Operational Control of Production--collection of works), Moscow, "Nauka", 1971, pp 51-59 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V504)

Translation: Extraformalistic control problems belonging to the category of conflict problems are considered. The causes giving rise to conflict problems are analyzed, as well as questions of determining the random number of conflict problems over a certain period, determining the stability of the established order of operation of the computing center of an automated control system for management, optimum planning, and accounting for conflict problems Authors' abstract.

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AA 0525564

Soviet Inventions Illustrated, Section III Mechanical and General, UR 0482
Derwent, 12-68

21E405 TWIN-FLOW CYLINDRICAL REDUCTION GEAR

comprising two fast shafts, one slow shaft and gear wheels connecting them, differing in having two stages. Both fast stages are planetary. Their sunwheels and poles are fixed to the gears of the slow-running stages and the crown wheels are connected. This evens out the torque moment on the fast shafts. The reduction gear consists of two fast shafts 1 and 2 and one slow shaft 3. It has two stages 4 and 5. Both fast stages are planetary, and comprise sunwheels 6 & 7, poles 8 and 9, firmly connected to gears 10-12 of the slow stages, and crown wheels 13 and 14, kinematically connected to each other. By evening out the turning moments on the shafts of paired engines, this enables the power of a drive to be doubled without increasing its height.

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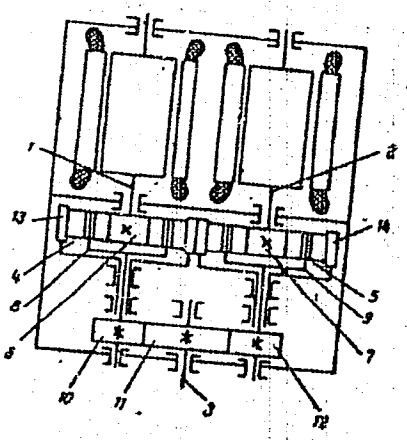

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USSR

UDC 539.4

ZOLOTUKHIN, I. V., AKININ, K. G., ABRAMOV, V. V., KETUSOV, Yu. K., SKOROBOGATOV, V. S., and SVEDOMTSEV, N. V. (Voronezh)

"Investigation of the Damping and Elastic Characteristic of Plasma Coatings of Tungsten, Nichrome, Zirconium Dioxide, and Chrome-Nickel Spinel"

Kiev, Problemy Prochnosti, No 9, Sep; 73, pp 86-89

Abstract: Consideration is given to problems connected with study of the damping and elastic characteristics of thin plasma coatings. The influence of the conditions of application and annealing of the coatings upon the value of oscillation attenuation and the modulus of elasticity. The results of investigation of the modulus of elasticity are presented in a table and in three figures. For tungsten coatings, the modulus of elasticity is characterized by considerable scattering of the values -- from $2 \cdot 10^5$ kg/cm^2 to $14 \cdot 10^5$ kg/cm^2.

The relationship of the modulus of elasticity of the coatings to the temperature, before and after annealing, is shown. Analysis of the E -- t relationships of tungsten and zirconium dioxide coatings shows that in the temperature interval from 20 to 800°C the values of the elasticity modulus E change insignificantly (within the limits of 2-10). For nichrome coatings E decreases more intensively with a temperature rise, and at t = 800°C its

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USSR

ZOLOTUKHIN, I. V., et al., Problemy Prochnosti, No 9, Sep 73, pp 86-89

values are on the average 17-23% smaller than at room temperature. 4 figures. 1 table. 14 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

USSR

SKOROBOGATOVA, A. Ye.; ARZHAKOV, S. A., BAKEYEV, N. F., and KABANOV, V. A.,
Moscow State University Imeni M. V. Lomonosov

UDC 678.744.325.01:539.389

"Forced Elastic Relaxation of Glass-Like Polymers and the Mechanism of Forced Elasticity"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 1, Jul-Aug 73, pp 151-154

Abstract: The kinetics of the relaxation of polymethylmethacrylate samples, polymethylmethacrylate mixed with 20% dibutyl phtalate and other polymers subjected to preliminary monoaxial compression or stretching in the glass-like state was studied in an attempt to find the relationship between forced elasticity and supermolecular structure of the polymers. In general, the forced elastic deformation consists of two components: one of them is capable of relaxing at low temperature, the other -- at the temperature of glass formation. The input of these components depends on the temperature of deformation and on the degree of deformation at a fixed temperature. There were no differences found between these two samples tested. The experimental data, especially the relaxation ability after the deformation due to monoaxial compression, point out that the amorphous polymers have a quite perfectly ordered supermolecular structure.

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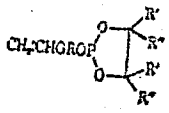
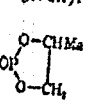
"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

Acc. Nr: AP0049502 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0079

99938h Vinyl ethers of haloalcohols. IV. General method for synthesizing monohaloalkoxyethylenes. Shostakovskii, M. F.; Atavin, A. S.; Trofimov, B. A.; Gusarov, A. V.; Nikitin, V. M.; Skoropogatova, V. I. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). Zh. Obshch. Khim. 1970, 40(1), 70-7 (Russ). A synthesis of (haloalkoxy)ethylenes was developed from the Arbuzov rearrangement of vinyloxyalkyl glycol phosphites. Heating 100 g $(CH_2)_3(OH)_2$ and 10 g KOH under 70 ml tetrahydrofuran in an autoclave 4 hr at 120° gave 54% $H_2C{:}CHO(CH_2)OH$, b_{12} 95°, d^{20} 0.8926, n_D^{20} 1.4460. Treating 0.228 mole vinyl glycol ether in 0.3 mole pyridine and 200 ml Et_2O with 0.228 mole phosphorochloridite of a glycol at 15–20° gave, after removal of $C_5H_5N.HCl$, (I) (R, R', and R'' given): $(CH_2)_2$, H,



(I)



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Me, b_3 96.5°, d^{20} 1.1060, n_D^{20} 1.4615; $(CH_2)_5$, H, Me, b_{11} 86–7°, 1.0730, 1.4580; $(CH_2)_6$, H, Me, b_{14} 105°, 1.0509, 1.4583; $(CH_2)_6$, H, Me, b_1 135°, 1.0340, 1.4605; $(CH_2)_5$, Me, Me, b_5 87°, 1.0500, 1.4572; $(CH_2)_6$, Me, Me, b_1 105–8°, 1.0391, 1.4595; $(CH_2)_5$-CHMe, H, Me, b_1 90–5°, 1.0511, 1.4620; $(CH_2)_2O(CH_2)_2$, H, Me, b_7 145°, 1.1106, 1.4645; $(CH_2)_5$, H, H, b_4 93°, 1.1795, 1.4710; H, b_1 65°, 1.1334, 1.4614. These with 5 molts alkyl halide heated in a sealed tube at 90–150° several hr gave 20–85% $H_2C{:}CHORX$ (R and X shown): $(CH_2)_5$, F, b. 79°, 0.9745, 1.3860; $(CH_2)_5$, Cl, b. 106°, 1.0470, 1.4375; $(CH_2)_5$, Br, b_{31} 50°, 1.4051, 1.4710; CH_3CH_2, I, b_{37} 71°, 1.7585, 1.5283; $(CH_2)_5$, F, b. 95–8°, 0.9534, 1.4003; $(CH_2)_5$, Cl, b_{41} 52–3°, 1.0273, 1.4375; $(CH_2)_5$, Br, b_{11} 55°, 1.3484, 1.4705; $(CH_2)_5$, I, b_1 51–5°, 1.6368, 1.5193; $(CH_2)_6$, Cl, b_{11} 61–5°, 0.9965, 1.4459; $(CH_2)_6$, Br, b_{24} 72–3°, 1.2860, 1.4710; $(CH_2)_6$, I, b_1 70–1.5°, 1.5471, 1.5158; $(CH_2)_6$, Cl, b_{12} 84–6°, 0.9713, 1.4478; $(CH_2)_6$, Br, b_1 54–5°, 1.2049, 1.4708; $(CH_2)_6$, I, b_1 84–5°, 1.3947, 1.5015; $(CH_2)_2CHMe$, Br, b_{34} 76–8°, 1.2071, 1.4650; $(CH_2)_2CHMe$, I, b_7 62–4°, 1.5056, 1.5080; $(CH_2)_2O(CH_2)_2$, Cl, b_7 69–71°, 1.1040,

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AP0049502

1.4535; $(CH_2)_2O(CH_2)_3$, Br, b_1 73–5°, 1.3564, 1.4750; $(CH_2)_2O(CH_2)_3$, I, b_1 58–9°, 1.5893, 1.5139. Exchange of the iodo members with KF gave the fluoro analogs: $(CH_2)_3$, F, described above; $(CH_2)_4$, F, described above; $(CH_2)_4$, F, b. 115–20°, 0.9272, 1.4045. Rearrangement of I [R = $(CH_2)_3$, R^1 = R^2 = H] with $H_2C:CHCH_2Br$ resulted in ring opening only and gave $H_2C:CHCH_2P(O)(OCH_2CH_2Br)O(CH_2)_3OCH:CH_2$ (III); $(PrO)_2POCH_2CH_2OCH:CH_2$ and EtI similarly gave only the open-chain $H_2C:CHO(CH_2)_2OP(O)(Et)OPr$, b_1 87–9°, 1.0476, 1.4417. III, b_1 144–5°, 1.3630, 1.4890, was obtained above in 67% yield. Reaction of 2 moles chlorohydrin with 2 moles AcH and dry HCl at −5–0° gave the requisite chloro ethers, which with 2.2 mole Et_3N at this temp., then 5 hr at 80–90°, gave the (haloalkoxy)ethylenes $H_2C:CHORX$ (R and X shown): $(CH_2)_3$, Cl; $(CH_2)_3$, Cl and $(CH_2)_2$, Br and $(CH_2)_4$, Cl, described above. Triethylene glycol and Br with red P gave $(BrCH_2CH_2OCH_2)_2$ $b_{1.5}$ 103–5°, 1.6638, 1.5010, which with powd. KOH in a Cu vessel at 95–110° in partial vacuo gave 18.5% $H_2C:CHO(CH_2)_2O(CH_2)_2Br$, described above. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203030001-0

UDC 613.644+612.014.45

USSR

ANDREYEVA-GALANINA, Ye. Ts., MALYSHEV, E. N., PRONIN, A. P., and SKORODUMOV, G. Ye., Leningrad Sanitary-Hygiene Medical Institute and Leningrad Institute of Railroad Transport Engineers"

"The Effect of Subsonics on the Human Organism"

Moscow, Gigiyena i Sanitariya, No 11, 1970, pp 65-69

Abstract: The noise spectrum was recorded for the simultaneous operation of VP-20V, I-18, and V 10/8 compressors, measured at the work area of one of the Oktyabrskaya Railway compressor stations, for the frequency range 6.3-3,200 Hz. The overall sound pressure measured by the Leningrad Institute's new meter at the work area of the shift foreman was 113 db, but the value measured by the standard III-63 noise meter was only 98 db. The maximum peak to the left of 50 Hz (12.5 Hz) was 111 db, and that to the right of 50 Hz was 96 db (125 Hz). Thus, the greatest sound pressure levels correspond to a frequency of 12.5 Hz. Analysis of the spectrum showed that the principal sources of compressor noise in the subsonic range were the stage I and II compressors (peaks at frequencies of 8, 12.5 and 25, and in the audible frequencies -- harmonics of the fundamental frequencies of 50 and 125 Hz). Compressor station workers questioned

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complained of fatigue, headaches, poor sleep habits, and general debility. However, there are no grounds to relate these complaints solely to the subsonic frequency range. The most general physiological effects observed upon exposure of the human organism to subsonics are shifts in respiratory and cardiac rhythms, disturbances of the functioning of the central nervous system, etc.

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IVANOV, N. I., and SKORODUMOV, G. Ye., Leningrad

"Hygienic Evaluation of the Noise of Heavy Section Maintenance Machines"

Moscow, Gigiyena i Sanitariya, No 11, 1970, pp 98-100

Abstract: Control of noise made by heavy rail section maintenance machines was investigated by the Department of Labor Protection of the Leningrad Institute of Railway Transport Engineers, together with the maintenance force of the Oktyabrskaya Railway. Noise measurements were taken with the precision Bryul' i K'yer noise level meter, with octave filters. The noise level was measured in the control cabs, at outlying remote control stations, in diesel power stations, and also in all other areas where maintenance personnel are situated. The noise field surrounding the machines during their operation was measured at distances of 1, 3, 5, and 7 meters at the sides of the machine and at distances of 1, 2 and 5 meters ahead of and behind the machines. The microphones in the cabs were 1.5 meters from the floor and at the level of the operator's head at the outlying remote control stations. The main noise sources in the machines studied are the working parts in contact with the ballast (engines and exhaust units). The noise

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