

USSR

NIKITINA, L. S., Gigiyena Truda i Professional'nyye Zabolevaniya, No 9, Sep 70,
PP 31-34

the adaptive-compensatory mechanisms which restore the homeostasis disrupted by
berylliosis.

2/2

- 69 -

UDC 616-008.92-057:661.845

USSR

NIKITINA, L. S., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR

"Some Indices of Mineral Metabolism in Workers Exposed to Beryllium Compounds"
Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 5, 1970, pp 52-54

Abstract: The content of magnesium, chlorides, inorganic phosphorus, and calcium was determined in the serum of a group of workers exposed, some sporadically and others regularly, to soluble and insoluble beryllium compounds. None exhibited any symptoms of berylliosis. The calcium, inorganic phosphorus, and chloride levels were found to be within normal limits. But the blood magnesium content was abnormally low, varying with the degree and duration of contact with the toxic agent. These findings are similar to those observed in chronic berylliosis patients, except that the calcium level is abnormally high in berylliosis patients but was normal in the workers.

1/1

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USSR

UDC 576.858.75.095.5.097.5

BICHURINA, M. A., NIKITINA, L. YE., and FRIDMAN, E. A., Leningrad Scientific Research Institute of Epidemiology and Microbiology imeni Pasteur

"Utilization of the Method of Differentiating Antibodies of Different Molecular Weight for Determining the Extent of Antigenic Differences Between Influenza Virus Variants"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 529-532

Abstract: White rats were successively immunized with different influenza virus variants at intervals of 1.5-2 months. Blood samples were collected repeatedly and, by means of a sulfhydryl reagent, the antibodies were differentiated into two groups of different molecular weight: 19S and 7S. Immunologically significant differences were observed between influenza A2/Hong Kong/68 virus and the preceding variants of influenza A2 virus. The differences found between A2/57 and A2/65 were less pronounced. It is suggested that the presented method of differentiating related antigens on the basis of immunological memory may be tested on a wider range of antigens.

1/1

USSR

UDC 669.01

NIKITINA, M. E., Candidate of Technical Sciences, Docent, IL'YINA, R. I.,
Aspirant

"The Mechanical Properties and Structure of Aluminum Casting Alloys at Low
Temperatures"

Moscow, Izvestiya Vysshykh Uchebnykh Zavedeniy, Mashinostroyeniye, No 12,
1970, pp 126-130

Abstract: In the article are presented data on change of the mechanical prop-
erties, and sensitivity to the concentration of stresses, of aluminum casting
alloys of various systems when the test temperature is lowered to 20°K. The
character of the interrelationship of the properties and structure of the
alloys within the temperature interval of 293-20° K is ascertained, as well
as the cause for the embrittlement of a number of alloys at low temperatures.
Embrittlement and premature destruction of the alloys at low temperatures
are caused by large internal stresses, which bring about the origination and
opening of microcracks. 2 tables, 2 figures, 1 bibliographic entry in the
form of a footnote.

1/1

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USSR

UDC 539.4.015

IL'INA, R. I., SIDOROV, N. G., MOROZOV, B. S., NIKITINA, M. F., and
KOSHELEV, P. F., Moscow

"Interrelationship of Mechanical Properties and the Structure of Aluminum
and Magnesium Casting Alloys at Low Temperatures"

Kiev, Problemy Prochnosti, No 10, Oct 70, pp 108-112

Abstract: Test results of smooth and notched specimens of aluminum and magnesium alloys in a wide range of low temperatures are presented. The A₁19 aluminum alloy and the VMe2 magnesium alloy showed the best combination of properties in the 293-20°K temperature range. The VA₁5 and Me10 alloys showed properties up to a temperature of 77°K. A₁27-1 and A₁28M aluminum-magnesium alloys and the Me5 magnesium alloy can be used safely at temperatures up to 203°K.

1/1

Materials

UDC 629.78.002.3

USSR

DRITS, M. Ye., SVIDERSKAYA, Z. A., NIKITINA, N. I.

"New Magnesium Alloys for High Temperature Service"

V sb. Splavy tsvet. met. (Alloys of Nonferrous Metals -- Collection of Works), Moscow, "Nauka", 1972, pp 193-197 (from RZh-41. Raketostroyeniye, No 11, Nov 72, Abstract No 11.41.179)

Translation: The mechanical properties of Mg-Sc-Y-Mn alloys in the hot-pressed and the hot-rolled states were investigated at room temperature and at temperatures up to 400°. The effect of heat treatment on the properties of these alloys and the microstructure in the cast and hot-pressed states was also investigated. The strength properties of alloys of the Mg-Sc-Y-Mn considerably exceeds the properties of MA11 and MA12 alloys at temperatures up to 400° and properties of the alloy VMD1 up to 300°. At temperatures of 350-400° the strength properties of Mg-Sc-Y-Mn alloys are close to the strength properties of the VMD1 alloy. 3 ill., 3 tables, 20 ref. Resume.

1/1

USSR

UDC: 531.36

SAVKIN, M. I., NIKITINA, M. P.

"Some Problems of Analyzing and Synthesizing Systems Which Operate on the Boundary of Stability"

Tr. Mosk. aviats. in-ta (Works of the Moscow, Aviation Institute), 1970, vyp. 216, pp 134-170 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7A139)

Translation: The full system of equations is written out for a loop to stabilize banking of aircraft together with a correcting loop described in a previous article (see abstract No 7A138). The system is linearized. The stability of the linearized system is analyzed. The problem of choosing the parameters of the stabilization system is considered. The methods proposed for calculating the parameters are approximate. A. M. Formal'skiy.

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1/2 009 UNCLASSIFIED N PROCESSING DATE--13NOV70
TITLE--FAMILIAL FORMS OF SCOLIOSIS --U-
AUTHOR--(04)-ABALMASOVA, YE.A., KOGAN, A.V., NIKITINA, M.P., KHADZHAYEV,
R.R.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 4, PP 22-26
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MUSCULOSKELETAL DISEASE, HEREDITARY DISEASE, HUMAN GENETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1362 STEP NO--UR/9115/70/000/004/0022/0026
CIRC ACCESSION NO--AP0109443
UNCLASSIFIED

PROCESSING DATE--13NOV70

UNCLASSIFIED

2/2 009
CIRC ACCESSION NO--AP0109443
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS ANALYSIS INCLUDES 132 FAMILIES, IN 94 FAMILIES (200 SUBJECTS) SCOLIOSIS WAS OBSERVED IN 2 AND MORE PERSONS, IN 38 FAMILIES THE RELATIVES OF SCOLIOTIC PATIENTS SUFFERED FROM ENURESIS, 35 SCOLIOTIC PATIENTS ALSO HAD ENURESIS. ALL PATIENTS WITH SCOLIOSIS WERE DIVIDED INTO 3 GROUPS: SCOLIOSIS IN HOMO AND HETEROZYGOUS TWINS, SCOLIOSIS IN PARENTS AND CHILDREN, SCOLIOSIS IN TWO CHILDREN FROM ONE FAMILY. OF 8 PAIRS OF TWINS, 7 PAIRS WERE HOMOZYGOUS. AMONG 8 PAIRS, THERE WERE 6 PAIRS OF SISTERS, BROTHER AND SISTER IN ONE PAIR, AND BROTHERS IN ANOTHER. SCOLIOSIS IN TWINS WAS ALWAYS CONCORDANT, BUT IN ONE OF THEM ALWAYS MORE SEVERE THAN IN THE OTHER. BY THE CHARACTER AND SEVERITY, SCOLIOSIS IN THE DAUGHTER WAS IDENTICAL TO THAT OF THE MOTHER, WHILE IN THE SON IT WAS ALWAYS LESS MARKED. SCOLIOSIS IN THE SON BY THE CHARACTER AND SEVERITY WAS IDENTICAL TO THAT OF THE FATHER, WHILE IN THE DAUGHTER IT WAS ALWAYS MORE SEVERE. SCOLIOSIS OF VARIOUS SEVERITY WAS A RULE IN THE GROUP WHERE IT WAS PRESENT IN TWO CHILDREN OF THE SAME FAMILY. AMONG ALL SCOLIOSIS, THE SCOLIOSES IN PARENTS AND CHILDREN CONSTITUTED THE LARGEST GROUP AND, MOREOVER, THE INCIDENCE OF SCOLIOSIS IN THE MOTHER AND CHILDREN WAS 3 TIMES HIGHER THAN IN THE FATHER AND CHILDREN. IN ALL GROUPS SCOLIOSIS WAS MORE FREQUENTLY OBSERVED IN THE FEMALES, BUT IN THE GROUP WITH SCOLIOSIS IN THE MOTHER AND CHILDREN, THE PREVALENCE OF FEMALES WAS ESPECIALLY MARKED. THE AUTHORS BELIEVE MYCLODYSPLASIA AND THE DYSRAPHIC STATUS TO BE THE MOST FREQUENT CAUSE OF SCOLIOSIS DEVELOPMENT.

FACILITY: TSENTRAL'NOGO INSTITUTA TRAVMATOLOGII I ORTOPEDI.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--CONCENTRATION OF FREE AMINO ACIDS IN THE BLOOD OF PATIENTS WITH
 UTERINE CANCER DURING SURGICAL AND RADIATION TREATMENT -U-
 AUTHOR--(05)-TYUTIN, L.A., NIKITINA, M.P., SEREGIN, M.S., TYUTINA, YE.M.,
 UDALOVA, I.YE. N
 COUNTRY OF INFO--USSR
 SOURCE--VOP. ONKOL. 1970, 16(2), 29-33
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--AMINO ACID, REPRODUCTIVE SYSTEM, CANCER, SURGERY,
 RADIOTHERAPY, PAPER CHROMATOGRAPHY, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1998/0251

STEP NO--UR/0506/70/016/002/0029/0033

CIRC ACCESSION NO--AP0120941

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120941

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONC. OF FREE AMINO ACIDS WAS INVESTIGATED BY PAPER CHROMATOG. IN THE BLOOD OF WOMEN WITH UTERINE MALIGNANCY, AFTER SURGERY OR RADIOTHERAPY. IN CASES OF MALIGNANCY, A RISE IN THE LEVEL OF CYSTINE, SERINE, GLYCINE, TRYPTOPHAN AND PHENYLALANINE WAS RECORDED, WITH A FALL IN HISTIDINE, GLUTAMINE, AND GLUTAMIC ACID. AFTER DRASTIC SURGERY, LEVELS RETURNED TO NORMAL BY 3 WEEKS. THE INCREASES WERE GREATER IN ADVANCED CASES. AFTER RADIOTHERAPY, THE VALUES TEND TO BE HIGHER, AND MAY BE DUE TO CHANGED ACTIVITY OF CERTAIN ENZYME SYSTEMS. FACILITY: S. M. KIROV MIL. ACAD. MED. SCI., LENINGRAD, USSR.

UNCLASSIFIED

USSR

LITVIN, V. Yu., et al., Zoologicheskii Zhurnal, No 6, 1973, pp 931-938

old technique of amputating toes. The choice is determined by the particular objective of a study and by the degree of precision and completeness of the results desired.

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USSR

UDC 599.32:591.9(47+57):591.52

NTKUTINA N. A., Institute of Epidemiology and Microbiology, Academy of
Medical Sciences USSR

"The Size of Home Ranges of Rodents in the USSR"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 1, Jan 72, pp 119-126

Abstract: A survey of the literature is presented in which data are provided on the home ranges of rodents in the USSR. The area of home ranges of various species varies from a dozen square meters to several hectares, in some exceptional cases amounting to 200 hectares. The largest home ranges belong to *Sciurus*, *Spermophilopsis*, and *Dipus*. With a similar feeding pattern among the various species, the home range area corresponds to the size of the animals in question. For animals of similar size, the home ranges of seed consumers are larger than those of vegetation consumers. This consideration holds true, however, only if the mobility of the animals is compared over a brief period. Geographical distinctions in home ranges used by the same species are considerable, and may overlap species distinctions; therefore comparison of the home ranges of different species should be based upon material obtained in the same area.

1/1

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Luminescence

UDC 543.70

USSR

AMIKINA, L. I., RAGREYEV, V. V., BORKOLYUROVA, T. S., ~~BOLOTOW, Yu. A.,~~
KARYAKIN, A. V., MTKLISHANSKIY, A. Z., ~~NIKIFIM, N. G.,~~ ~~FALEI, P. M.,~~ YAKOVLEV,
Yu. V.

"Luminescent Determination of Gadolinium, Europium and Samarium as Impurities
in Metallic Uranium"

Moscow, Zhurnal Analiticheskoy Khimii, Vol XX, No 7, pp 1014-1018

Abstract: A quantitative luminescent method of analyzing gadolinium, europium and samarium impurities in metallic uranium is described. A large part of the uranium was separated by a chromatographic method, passing uranyl sulfate in 1 N H₂SO₄ through a column with KaU-2 cation-exchanger. The rare-earth element impurities remaining in the column were washed out by 4-5 N HCl. It was established photometrically with the application of arsenazo III that an unacceptable high amount of uranium (~ 0.04 percent from a weighed sample of 10 grams of uranyl sulfate) was washed into the eluate, making necessary the development of additional methods for separation and determination of the rare-earth elements. Luminescent methods were then used. Gadolinium, europium and samarium in metallic uranium were analyzed by the radiation spectra of lumiphors based on Y₂O₃ for gadolinium and YVO₄ for europium and samarium. The rare-earth elements were concentrated chromatographically, and the luminescence was spark-excited. A spectrograph was used to measure the spectra. The sensitivity of analyzing

ANIKINA, L. I., et al., Zhurnal Analiticheskoy Khimii, Vol XX, No 7, pp 1014-1018
gadolinium, europium and samarium was $2 \cdot 10^{-6}$ percent, and the variation factor was 30 percent. The method permits quantitative determination of the indicated rare-earth elements from a weighed sample of up to 1 gram of uranium. As a control, the additive method was used. Gadolinium, europium and samarium were introduced in the amounts of $2 \cdot 10^{-5}$ and $5 \cdot 10^{-5}$ percent after decomposition of the metal uranium by nitric acid. An analysis flow chart and sample luminescence spectra are given in the article.

1/2 014
TITLE--USE OF SURFACE LAYER ADSORBENTS FOR THE GAS CHROMATOGRAPHIC
DETERMINATION OF HEATS OF ADSORPTION -U-
AUTHOR-(02)-BEREZKIN, V.G., NIKITINA, N.S.

PROCESSING DATE--30OCT70

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 537-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, GAS CHROMATOGRAPHY, ALKANE, PENTANE

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2060

STEP NO--UR/0076/70/044/002/0537/0539

SIRC ACCESSION NO--AP0125647

UNCLASSIFIED

N

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 014

CIRC ACCESSIGN NO--AP0125647
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DETN. OF HEATS OF ADSORPTION OF C SUB5,C SUB12 ALKANES ON SURFACE LAYER ADSORBENTS BY GAS CHROMATOG. IS DESCRIBED. THE SURFACE LAYER ADSORBENT WAS PREPD. BY MECH. AGITATION OF CELITE NAX AND CHROMOSORB G(1:5) AND BY SIFTING OUT THE EXCESS CELITE NAX; 13PERCENT NAX PER CHROMOSORB G COLUMN, HE CARRIER GAS (40 ML PER MIN), AND A FLAME IONIZATION DETECTOR WERE USED. CHROMOSORB G DOES NOT ADSORB C SUB5,C SUB12 ALKANES. HEATS OF ADSORPTION WERE DETD. GRAPHICALLY FROM THE SLOPE OF THE LOG V SUB0 (RETENTION VOL.) VS. 1 PER DEGREESK PLOTS. HEATS OF ADSORPTION OF THE C SUB5,C SUB12 ALKANES ARE PROPORTIONAL TO THE NO. OF C ATOMS, AND THEY INCREASE BY 0.9 KCAL PER MOLE FOR EACH CH SUB2 GROUP. THIS METHOD ENABLES THE QUANTITY OF ADSORBENT TO BE DIMINISHED, THE OPERATING TEMP. TO BE LOWERED TO 100-300DEGREES, AND THE WORK TO BE CARRIED OUT UNDER NEAR EQUIL. CONDITIONS.
FACILITY: INST. NEFGEKHM. SIN. IM. TOPCHIEVA,
MOSCOW, USSR.

UNCLASSIFIED

1/2 011
 UNCLASSIFIED
 PROCESSING DATE--23OCT70
 TITLE--GAS CHROMATOGRAPHIC STUDY OF A SURFACE LAYER ABSORBENT IN GAS
 LIQUID CHROMATOGRAPHY -U-
 AUTHOR-(02)-NIKITINA, N.S., BEREZKIN, V.G.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 535-41
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--GAS CHROMATOGRAPHY, SORPTION, SURFACE AREA, HYDROCARBON SEPARATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1999/1909
 STEP NO--UR/0062/70/000/003/0535/0541
 CIRC ACCESSION NO--AP0123693
 UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--A0123693
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE RETAINED VOL. VS. THE AMT. OF DISPERSE SORBETN AND THE VOL. OF THE LIQ. PHASE PLOTS ARE GIVEN FOR VARIOUS MIXTS. OF C SUB6 H SUB6, MEPH, NONANE, OCTANE, AND DECANE IN N STREAM USING CHROMOSORB W AS THE SOLID PHASE ALONG WITH SPHEROCHROMEL-1. FROM THE RESULTS OF SEPN. OF VARIOUS HYDROCARBONS IN THE MIXTS., IT WAS SHOWN THAT A VARIATION IS POSSIBLE IN THE SURFACE LAYER SORBENT TECHNIQUE OF CHROMATOGRAPHIC SEPN. IN WHICH THE FINELY DISPERSED SOLID SUPPORT WITH THE LIQ. ABSORBENT PHASE IS INTRODUCED INTO THE MACROPORES OF THE SOLID SORBETN CARRIER. THE TECHNIQUE IS SUPERIOR TO THE CONVENTIONAL VOL. SORBENT FOR THE SEPN. OF A NO. OF HYDROCARBON MIXTS.
FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR-

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--GAS CHROMATOGRAPHIC DETERMINATION OF HEATS OF ADSORPTION -U-
AUTHOR--(05)-BEREZKIN, V.G., NIKITINA, N.S., FATEYEVA, V.M., STAROSTINA,
N.G., STAROBINETS, L.L. N
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 19-21
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAS CHROMATOGRAPHY, ALKANE, UNSATURATED HYDROCARBON,
ADSORPTION, HEAT OF SOLUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0642 STEP NO--UR/0062/70/000/001/0019/0021
CIRC ACCESSION NO--AP0119554
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 017

CIRC ACCESSION NO--AP0119554

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

ABSTRACT. THE DIRECT GAS LIQ. CHROMATOGRAPHIC METHOD MAY BE USED TO DET. THE HEAT OF ADSORPTION FROM AN IMMOBILE LIQ. PHASE TO A SOLID CARRIER SURFACE. THE HEAT OF SOLN. AND ADSORPTION OF ALKANES AND ALKYNES ON APEIZON K SUPPORTED BY THE CARRIER INZ-600 WAS DETD. ALKYNES GAVE HEATS OF ADSORPTION THAT ARE 5-8 KCAL-MOLE GREATER THAN THOSE FOR ALKANES, EXPLAINED BY SPECIFIC INTERACTION OF THE TRIPLE BOND WITH THE SUPPORT SURFACE. THE RESULTS FOR HEXANE, 1,HEXYNE, HEPTANE, AND 2,HEPTYNE ARE TABULATED. THE METHOD IS BASED ON THE DETN. OF THE RETENTION VOL. RELATIVE TO THE AMT. OF DEPOSITED LIQ. PHASE, FROM WHICH THE DISTRIBUTION COEFF. AT VARIOUS TEMPS. MAY BE CALCD.; THE CONTRIBUTION OF ADSORPTION TO THE RETENTION VOL. IS THEN ESTD.

FACILITY: INST. NEFTEKHIM. SIN. IM.

TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

1/2 016
TITLE--SPECTROGRAPHIC ANALYSIS OF SLAG MELTS ON THE DFS10 QUANTOMETER
USING VARIOUS LIGHT SOURCES -U-
AUTHOR-(03)-NIKITINA, O.I., ANTIPENKO, L.L., KOLOMIYETS, L.P.

N

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 175-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--SLAG, CHEMICAL ANALYSIS, SPECTROGRAPHIC ANALYSIS, ELECTRIC GENERATOR/(U)IG3 VOLTAGE GENERATOR, (U)DFS10 QUANTOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1841

STEP NO--UR/0032/70/036/002/0175/0176

CIRC ACCESSION NO--AP0118805

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 016

CIRC ACCESSION NO--AP0118805
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A LOW VOLTAGE SPARK (40 MUF, 500 MUH) WAS USED IN THE ANAL. OF SLAG MELTS AND THE RESULTS WERE COMPARED WITH THOSE OBTAINED BY A HIGH VOLTAGE GENERATOR IG-3 (0.01 MUF, 0.55 MUH). THE AT. LINES SI I 288.1, AL I 396.1, MG I 518.3, FE I 440.4 NM GAVE BETTER REPRODUCIBILITY BY USING THE ARC, WHILE CA II 325.8 AND 370.6, MN II 293.3 AND 482.3, MG II 280.2 WAS BETTER WITH THE LOW VOLTAGE SPARK. THE RESULTS CONFIRMED THE FEASIBILITY OF USING A LOW VOLTAGE SPARK FOR SLAG ANAL.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTRON MICROSCOPIC METHOD FOR INVESTIGATION OF DISPERSE SYSTEMS
WITH LIQUID PHASES -U-
AUTHOR--(05)-KILPAKOV, L.V., NIKITINA, S.A., TAUBMAN, A.B., SPIRIDONOVA,
V.A., CHALYKH, A.YE. N
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 229-231
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ELECTRON MICROSCOPY, PROTECTIVE COATING, PHYSICS LABORATORY
INSTRUMENT, EMULSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1720

STEP NO--UR/0069/70/032/002/0229/0231

CIRC ACCESSION NO--AP0112714

UNCLASSIFIED

272 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112714

ABSTRACT/EXTRACT--(U) SP-0- ABSTRACT. A DEVICE HAS BEEN DESIGNED AND A TECHNIQUE DEVELOPED FOR ELECTRON MICROSCOPIC STUDY OF LIQUID SYSTEMS: EMULSIONS AND LATICES. BY MEANS OF THIS METHOD ELECTRON PHOTOMICROGRAPHS HAVE BEEN OBTAINED OF STRUCTURIZED PROTECTIVE FILMS FROM MICROEMULSIONS STABILIZING THE MACROEMULSIONS OF PURE LIQUIDS. IT HAS BEEN SHOWN THAT ELECTRON PHOTOMICROGRAPHS OF LATICES CAN BE OBTAINED IN THE CASE OF INCOMPLETE MONOMER CONVERSION.

UNCLASSIFIED

USSR

UDC 543.51:547.743

KLYUYEV, N. A., KHMEL'NITSKIY, R. A., NIKITINA, S. B.,
GRANDBERG, I. I.

"Mass Spectra and Structure of Some Pyrrolines"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 10, Oct 71,
pp 2038-2043

Abstract: The article describes results of a mass spectrometric study of the behavior of compounds of the pyrroline class under the action of electron impact. The following pyrrolines were studied: 2-methyl- Δ^1 -pyrroline, 2-ethyl- Δ^1 -pyrroline, 2-isopropyl- Δ^1 -pyrroline, 2-phenyl- Δ^1 -pyrroline and 1,2-dimethyl- Δ^2 -pyrroline. The mass spectra were obtained at a temperature of 2500, accelerating voltage of 2 kv, cathode emission current of 1.5 and 1.0 ma and ionizing electron energies of 50, 30, 20 and 15 ev. Relative sensitivity coefficients and relative ionization cross-sections were determined. It was found that there is a linear relation between the number of carbon atoms in the alkyl substituent and the relative ionization cross-section, described
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USSR -

KLYUYEV, N. A., et al, Zhurnal Organicheskoy Khimii, Vol 7, No 10,
Oct 71, pp 2038-2043

by a regressive equation. It is suggested that in the excited
state the studied compounds have an enamine structure and their
decomposition path is the result of this form.

2/2

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1/2 C09 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--ABSORPTION OF NONDISSOCIATED MOLECULES AND IONS OF ANILINE FROM
 AQUEOUS SOLUTIONS BY CATION EXCHANGERS -U-
 AUTHOR--(02)-NIKITINA, S.V., KOGANOVSKIY, A.M. *N*
 COUNTRY OF INFO--USSR
 SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 784-6
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--CATION EXCHANGE RESIN, AROMATIC AMINE, ANILINE/(U)KUZ ION
 EXCHANGE RESIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--2000/1708 STEP NO--UR/0076/70/044/003/0784/0786
 CIRC ACCESSION NO--AP0125329
 UNCLASSIFIED

2/2 OC9

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125329

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CATION EXCHANGER (MARK "KU 2") IN THE H CYCLE, ABSORBED FROM AQ. SOLNS. MAINLY NONDISSOC. MOLS. OF AROMATIC AMINES. THE ABSORPTION OF THE SAME MOLS. WAS SLIGHT FOR THIS EXCHANGER IN THE NA CYCLE. THE VAN DER WAALS CHARACTER OF ABSORPTION DURING THE NA CYCLE WAS CONFIRMED. THE RELATION BETWEEN CONSTS. OF PROTONATION OF AROMATIC AMINES, AND CONSTS. OF ION EXCHANGE ABSORPTION OF THE SAME COMPS. WAS FOUND. THE EXCHANGE CONSTS. INCREASED WITH INCREASING ENERGY OF PROTONATION AND REACHED A CONST. VALUE.

FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 537.226.33

GRODSHTEYN, A. Ye., MANAKOVA, N. A., NIKITINA, T. A., SVIRIDOVA, T. P.

"A Ferroelectric"

USSR Author's Certificate No 283344, filed 2 Jun 69, published 22 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V472 P)

Translation: A ferroelectric is proposed which is based on oxides of barium, manganese and titanium dioxide. As a distinguishing feature of the patent, the thermal stability of the material is improved by adding aluminum oxide to the charge and taking the initial components in the following proportions (in percent by weight): barium oxide 33-31, manganese oxide, 18-17, titanium dioxide 48-46, and aluminum oxide 1-6.

1/1

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USSR

UDC 621.375.82

GLAZER, A. A., NIKITINA, T. F., PANTELEYEV, V. I., PLOENIKOV, A. F., POPOV, YU. M., POTAPOV, A. P., SELEZNEV, V. N., TAGIROV, R. I., and SHUR, YA. S.

"Using GaAs and Nd Lasers for Optical Writing on MnBi Film"

Kratkiye Soobshch. po fiz. (Brief Communications on Physics) No 12, 1972, pp 9-12 (from RZh-Fizika, No 7, 1973, Abstract No 7D1088)

Translation: The possibility of using a GaAs semiconductor laser for recording information on a ferromagnetic film of MnBi is experimentally investigated. MnBi film 700 Å thick, which has undergone condensation in a vacuum on glass substrates of 0.1-0.2 mm in thickness, is used. For recording information, a GaAs laser with a threshold current of 2 amp at 77° K and a p-n junction width of 400 μ is used. It is shown that the laser's minimum pumping current at which recording is possible is 80 amp, whereas the radiation power is 20 w. The energy density of the radiation on the film is then $6 \cdot 10^{-9}$ j/μ². With a monopulse neodymium laser, an evaluation of an information recording density equal to 2500 lines/cm is made. It is noted that the use of a semiconductor laser with a junction width not exceeding 20 μ permits reducing the power to a fraction of a watt. Bibliography of four.

1/1

USSR

UDC: 51:8Q1

IL'IN, G. M., LEYKINA, B. M., NIKITINA, T. N., OTKUPSHCHIKOVA, M. I.,
FITIALOV, S. Ya.

"A Linguistic Approach to the Problem of Constructing an Information System"

V sb. Inform. vopr. semiotiki, lingvist. i avtomat. perevoda (Information
Problems of Semiotics, Linguistics and Automatic Translation), vyp. 2,
Moscow, 1971, pp 4-13 (from RZh-Kibernetika, No 4, Apr 72, Abstract No
4V614)

Translation: The paper describes the principles of construction of a
"question-answer" information-logic system. It is assumed that a natural
language can be used as a base for an information language. The actions
of the system are defined by the following relations: 1) text A is an
answer to question Q; 2) an answer to question Q may be extracted from
text A; 3) every answer extracted from text B is extracted from text A
as well; 4) texts A and B give identical answers to any question.

The methods of extracting an answer from the text are not considered
in the paper.

Let $3(T)$ designate the number of questions whose answers can be ex-
tracted from text T according to the rules of the given system. The sense

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USSR

UDC 612.172.4:796.071.2

NIKITINA, T. N., First Chair of Therapy, Novokuznetsk Institute for Advanced Training of Physicians

"High T-Waves of Noncoronary Origin in Athletes"

Moscow, Sovetskaya Meditsina, No 8, Aug 70, pp 137-139

Abstract: In a study of the EKG's of 53 athletes, a high T-wave ($> 1/2 R$) was observed for 24 (group 1) and a normal T-wave for 29 (group 2). Chest leads were used in taking the EKG's. Group 1 included predominately persons who had performed physical work, trained for endurance, and had high qualifications in the field of athletics, in which they were active. Persons in this group had a lower arterial pressure and a higher Razumov coefficient than athletes in group 2, a fact which indicated superior functional potential of the cardiovascular system. Ballistocardiographic determinations showed better adaptability in the cardiovascular system under conditions of physical loading in group 1 than in group 2. The subjects in group 1 exhibited a higher capacity of the myocardium for contraction, bradycardia, and a moderate sinus arrhythmia. No signs of pathological conditions were noted in the EKG's of either 1/2

USSR

NIKITINA, T. N., Sovetskaya Meditsina, No 8, Aug 70, pp 137-139

group. On the basis of the data obtained, a high T-wave is considered to be a characteristic for athletes trained for endurance and to denote a superior functional state of the cardiovascular system in outstanding athletes.

2/2

Inorganic Compounds

-USSR.

UDC 539.89 + 548.73

FEL'DGUN, L. I., NIKITINA, T. P., SOKHOR, M. I., and FUTERGENDLER, S. I.,
All-Union Scientific Research Institute of Abrasives and Grinding, Leningrad

"Mechanism of Modification Conversion in Boron Nitride"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, Vyp 12, 1971, pp 3067-3070

Abstract: Cubic boron nitride was synthesized from pyrolytic hexagonal boron nitride and its structure was studied with x-ray diffraction in order to examine the phase conversion mechanism of the hexagonal boron into the cubic form. The synthesis was carried out in a high-pressure chamber loaded with powdered and pyrolytic hexagonal boron nitride. The rate of conversion of powdered hexagonal boron nitride with a three-dimensional lattice was much higher than that of pyrolytic hexagonal boron nitride. It was attributed to a high density of pyrolytic nitride which retarded the flow of the melt between the particles and the solution of hexagonal nitride particles in the melt. The product contained dark and light colored boron nitride crystals with cubic structure. The appearance of the dark-colored crystals was due either to the presence of metal impurities, or to penetration of boron into the crystal lattice of cubic boron nitride. The crystal lattice parameters of the cubic boron nitride varied from $a = 3,6157 \text{ \AA}$ for colorless crystals
1/2

USSR

FEL'DGUN, L. I., et al., Zhurnal Fizicheskoy Khimii, Vol 45, Vyp 12, 1971, pp 3067-3070

to $\alpha = 3,6181 \text{ \AA}$ for dark-colored crystals. The size of the nitride crystals was from $\sim 10^{-3}$ to 10^{-2} cm. It is concluded that there was no direct conversion of the hexagonal boron nitride into a cubic structure, but the latter was crystallized from the melt due to the presence of unordered B - N complexes in it.

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1/3 . 009
 UNCLASSIFIED
 PROCESSING DATE--23OCT70
 TITLE--HEMOPROTEINS. SYNTHESIS OF TWO PEPTIDE FRAGMENTS OF CYTOCHROME C
 -U-
 AUTHOR--(05)-YEVSTIGNEYEVA, R.P., MIRONOV, A.F., VASILYEVA, G.A., SKIBENKO,
 L.V., NIKITINA, T.S.
 COUNTRY OF INFO--USSR
 SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 661-6
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
 TOPIC TAGS--BIOLOGIC PIGMENT, IRON COMPOUND, PEPTIDE, CHEMICAL SYNTHESIS
 CONTROL MARKING--NO RESTRICTIONS.
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAHE--1998/0398
 STEP NO--UR/0079/70/040/003/0661/0666
 CIRC ACCESSION NO--AP0121079
 UNCLASSIFIED

2/3 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BOC EQUALS TERT, BOD SUB2 C, Z
EQUALS PHCH SUB2 D SUB2 C THROUGHOUT. BOC, L, ALA AND N, HYDROXY,
SUCCINIMIDE (HGSU) TREATED IN DIOXANE WITH DICYCLOHEXYLCARBODIIMIDE 12
HR GAVE 74PERCENT BOC, L, ALA, OSU, M. 158.3-59DEGREES; SIMILARLY WAS
PREPD. 80PERCENT BOC, O, BENZYL, L, SER, OSU (I) M. 104-5DEGREES. N, Z, L, GLN
IN DMF WAS TREATED WITH PYRIDINE AND ET SUB2 N, FOLLOWED BY PIVALOYL
CHLORIDE AT MINUS 15DEGREES, FOLLOWED IN 15 MIN BY S BENZYL, L, CYSTEINE
ME ESTER, HCL AND ET SUB3 N, AND THE MIXT. HELD 12 HR, FINALLY AT
ODEGREES, TO YIELD 86PERCENT N, Z, L, GLN, S, BENZYL, L, CYS, OME (II), M.
199-200DEGREES. SIMILARLY WAS PREPD. 82PERCENT BENZYL, ESTER ANALOG, M.
187-9DEGREES. N, Z, L, ALA, OSU AND II. HBR WITH N, METHYLMORPHOLINE IN DMF
GAVE IN 5 HR 85PERCENT N, Z, L, ALA, L, GLN, S, BENZYL, L, CYS, OME (III), M.
192.5-4.5DEGREES. SIMILARLY WAS PREPD. 8.5PERCENT
N, BOC, L, ALA, L, GLN, S, BENZYL, L, CYS, OCH SUB2 PH, M. 152-3DEGREES.
TREATING III WITH 36PERCENT HBR IN ACOH 0.5 HR, FOLLOWED BY THE
P, NITROPHENYL ESTER OF N, Z, X, BENZYL, L, CYS IN DMF IN THE PRESENCE OF
N, METHYLMORPHOLINE, GAVE IN 12 HR, 82.5PERCENT
N, Z, S, BENZYL, L, CYS, L, ALA, L, GLN, S, BENZYL, L, CYS, OME, M. 218-19.5DEGREES.
SIMILARLY WAS PREPD. 94PERCENT BENZYL ESTER ANALOG, M. 205-6.5DEGREES,
WHICH WITH N SUB2 H SUB4 IN ETOH, DIOXANE GAVE THE HYDRAZIDE, M.
234-6DEGREES, WHICH TREATED WITH HCL, FOLLOWED BY NANO SUB2, THEN IN 5
MIN BY BENZYL ESTER OF N PRIMEIM, BENZYL, L, HISTIDINE AND ET SUB3 N, GAVE
IN 2 DAYS 80PERCENT N, Z, S, BENZYL, L, CYS, L, ALA, L, GLN, S, BENZYL, L, CYS, N
PRIMEIM, BENZYL, L, HIS, OCH SUB2 PH, M. 188-9.5DEGREES.

UNCLASSIFIED

3/3 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121079

ABSTRACT/EXTRACT--I AND L, GLN, S, BENZYL, L, CYS, OME. HBR WITH N, METHYLMORPHOLINE IN DMF 12 HR 80PERCENT

N, BOC, O, BENZYL, L, SER, L, GLN, S, BENZYL, L, CYS, OME, M. 131.5-3.5DEGREES,

WHOSE HCL SALT TREATED WITH THE NITROPHENYL ESTER OF CYSTEINE IN DMF WITH N, METHYLMORPHOLINE, GAVE IN 12 HR 88PERCENT

N, Z, S, BENZYL, L, CYS, O, BENZYL, L, SER, L, GLN, S, BENZYL, L, CYS, OME, M. 192.5-4.5DEGREES. THIS SUSPENDED IN DIOXANE, ETOH AND TREATED WITH N

SUB2 H SUB4 1 DAY GAVE THE HYDRAZIDE, M. 200-2DEGREES, WHICH WITH HCL AND NANO SUB2 GAVE THE AZIDE, WHICH TREATED IN SITU WITH N PRIMEIM,

BENZYLHISTIDINE BENZYL ESTER AND ET SUB3 N IN ETOAC 2 DAYS GAVE N, Z, S, BENZYL, L, CYS, O, BENZYL, L, SER, L, GLN, S, BENZYL, L, CYS, N PRIMEIM,

BENZYL, HIS, OCH SUB2 PH, M. 184-6DEGREES. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNO. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Instruments and Equipment

UDC 616.314-089.584

USSR

NIKITINA, T. V., Central Scientific Research Institute of Stomatology, Moscow

"Electroanesthesia for Treatment of Teeth"

Moscow, Meditsinskaya Tekhnika, No 4, Jul/Aug 72, pp 45-46

Abstract: The portable apparatus ELOZ-1 was designed by the author and B. N. Rostovtsev (All-Union Scientific Research Institute of Surgical Apparatus and Instruments). It is intended to be used in dental offices to produce electroanesthesia during the treatment of dental caries. The apparatus has a stabilized current supply within ± 5 , and max. resistance of 500 Kohm which can be varied from 100 ohm to 500 Kohm. A metal clip is used as cathode and the dental drill as anode. The clip is attached usually to the patient's ear. The pain is blocked by the electric current in the tooth by affecting the tooth nerve. In order to avoid current bypass, the drill holder is insulated either with epoxy resin or with a teflon sleeve. The current is controlled by a separate unit fixed on the dental chair. The apparatus was tested on 7,320 patients (16,500 tooth cavities were treated) aged 3 to 60. On the basis of clinical data, the optimum current parameters were established for each group of teeth (molars, incisors, etc.). A relationship between the age of patients and electroanesthesia showed that the best results (92%)

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USSR

NIKITINA, T. V., Meditsinskaya Tekhnika, No 4, Jul/Aug 72, pp 45-46

were obtained with children up to 10 years old, followed by 20-40 year-old adults (75%). Such a relationship was not observed for persons older than 50. In order to eliminate the psycho-emotional effects, it is recommended that electroanesthesia be combined with drugs affecting the central nervous system.

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1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--POSSIBLE SPECIFIC FEATURES OF THE PROGRESS OF THE PRINCIPAL
STOMATOLOGIC DISEASES DURING THE SIMULATION OF CERTAIN CONDITIONS OF
AUTHOR--NIKITINA, T.V.
COUNTRY OF INFO--USSR
SOURCE--KOSMICHESKAIA BIOLOGIIA I MEDITSINA, VOL. 4, JAN.-FEB. 1970, P.
53-56
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ORAL DISEASE, DENTAL CARRIES, SPACE MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1964 STEP NO--UR/0453/70/004/000/0053/0056
CIRC ACCESSION NO--AP0120607
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 022
CIRC ACCESSION NO--AP0120607

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVALUATION OF AVAILABLE SOVIET AND AMERICAN SIMULATED MEDICAL TEST DATA CONCERNING POSSIBLE STOMATOLOGIC DISORDERS WHICH MAY AFFLICT CREW MEMBERS DURING PROLONGED SPACE FLIGHTS. SOME SPECIFIC STOMATOLOGIC CONDITIONS WHOSE DEVELOPMENT UNDER PROLONGED EXTREMAL LOADS SHOULD BE ANTICIPATED ARE DISCUSSED BRIEFLY. THESE INCLUDE GINGIVITIS, STOMATITIS, DENTAL CARIES, PARODONTITIS AND ODONTOGENEOUS INFLAMMATIONS.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--HOME THERAPY OF PATIENTS WITH CHRONIC CARDIAC INSUFFICIENCY -U-
AUTHOR--(02)-SVIRIDOV, A.M., NIKITINA, V.G.
COUNTRY OF INFO--USSR
SOURCE--VOYENAG-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 41-44
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, PROPHYLAXIS, DRUG, BLOOD CIRCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0385

STEP NO--UR/0177/70/000/003/0041/0044

CIRC ACCESSION NO--AP0134161

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

272 023

CIRC ACCESSION NO--AP0134161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CARDIAC INSUFFICIENCY IS ONE OF THE MOST FREQUENT CAUSES OF MORTALITY AND INVALIDISM IN CARDIOVASCULAR DISEASES. IN THE THERAPY OF CARDIAC INSUFFICIENCY THE MAIN ROLE BELONGS TO CARDIAC GLYCOSIDES. THE PROCEDURE OF THEIR APPLICATION UNDER CLINICAL CONDITIONS HAS BEEN DESCRIBED WELL ENOUGH (G. F. LANG, V. F. ZELEIN, YE. M. TAREYEV, B. YE. BOTCHAL, A. L. MYASNIKOV, A. M. SIGAL, AND OTHERS). THE TREATMENT OF THEM PRESENTS A CERTAIN DIFFICULTY, HOWEVER. IT IS NO ACCIDENT THAT EDENS WROTE THAT DIGITALIS IN THE HANDS OF A THERAPEUTIST IS THE SAME AS A KNIFE IN THE HANDS OF A SURGEON, AND S. P. BUTKIN CONSIDERED EACH APPLICATION OF DIGITALIS A CLINICAL EXPERIMENT. ANALYSIS OF THE HISTORIES OF DISEASE OF PATIENTS WITH CHRONIC CARDIAC INSUFFICIENCY, TREATED IN ONE OF THE HOSPITALS, SHOWED THAT SEVERITY OF THE DISEASE OFTEN IS EXPLAINED BY INADEQUACY OF THE DOSING OF DIGITALIS PREPARATIONS IN THERAPY UNDER HOME AND POLYCLINIC CONDITIONS. V. S. SPJLENSKIY, OBSERVING PATIENTS WHO HAD BEEN TREATED IN A CLINIC, NOTED THAT A RARE PATIENT WITH CARDIAC INSUFFICIENCY ENTERS A CLINIC WHO HAS OBTAINED A FULL DOSE OF DIGITALIS AS A RULE IT MUST BE INCREASED 1.5-2 TIMES. OUR REPORT IS DEVOTED TO AN EXPERIMENT IN THE THERAPY OF PATIENTS WITH CARDIAC GLYCOSIDES UNDER HOME CONDITIONS. UNDER OBSERVATION WERE 70 PERSONS WITH INSUFFICIENCY OF THE BLOOD CIRCULATION, 46 MEN AND 24 WOMEN AGED FROM 45 TO 80 (4 WERE 45-50, 9 WERE 51-60, 33 WERE 61-70, AND 24 WERE 71-80 YEARS OF AGE). IN INSUFFICIENCY OF THE BLOOD CIRCULATION OF DEGREE IIA WAS DIAGNOSED IN 14, OF IIB IN 36 AND III IN 20 PERSONS.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REACTIONS OF ORGANOPHOSPHORUS COMPOUNDS CONTAINING ACTIVE METHYLENE
GROUPS WITH METHYL BETA, CHLOROVINYL KETONE AND ALPHA, HALO ETHERS -U-
AUTHOR--(03)-PUDOYIK, A.N., NIKITINA, V.I., KURGUZOVA, A.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 291-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, METHYLENE, CHLORINATED ORGANIC
COMPOUND, KETONE, HALOGENATED ORGANIC COMPOUND, ETHER, TRIETHYLAMINE,
AMMONIUM SALT, CYANIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1434 STEP NO--UR/0079/70/004/002/0291/0294
CIRC ACCESSION NO--AP0116881
UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

2/2 015

CIRC ACCESSION NO--AP0116881
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TREATING THE K OR NA DERIV. OF
APPROPRIATE ACTIVE METHYLENE COMPS. WITH CLCH:CHAC OYER 1-1.5 HR WITH
ICE COOLING GAVE, AFTER HEATING TO COMPLETE THE REACTION, THE FOLLOWING
ACCH:CHCRR PRIME R DOUBLE PRIME (R, R PRIME AND R DOUBLE PRIME SHOWN):
(FORMULA SHOWN ON MICROFICHE). TREATING THE P COMPD. CONTG. AN ACTIVE
METHYLENE GROUP, WITH ET SUB3 N AND EQUIMOLAR AMT. CLCH:CHAC GAVE
OVERNIGHT A SOLID MASS WHICH WAS HEATED 8-10 HR IN MEPH TO YIELD THE
PRODUCTS OF KETOVINYLATION BY MEANS OF TRIALKYL,ACYLVINYLAMMONIUM SALTS.
FOR ALKYLATION WITH HALOETHERS THE K DERIV. OF THE ACTIVE METHYLENE
COMPD. WAS TREATED WITH HALOETHER AND HELD 1-2 HR AT ROOM TEMP.
FOLLOWING WERE REPORTED: (FORMULA SHOWN ON MICROFICHE).

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ADDITION OF ALDEHYDES TO ALPHA, OXOPHOSPHONIC ACID ESTERS -U-
AUTHOR--(03)-PUDOVIK, A.N., NIKITINA, V.I., YEVOOKIMOVA, V.Y.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 294-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, PHOSPHATE ESTER, ALDEHYDE, BENZENE
DERIVATIVE, CHLORINATED ORGANIC COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0079/70/040/002/0294/0298
PROXY REEL/FRAE--1992/1750
CIRC ACCESSION NO--AP0112736
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 010

CIRC ACCESSION NO--AP0112736

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING (RO) SUB2-P(O) AC OR (RO) SUB2 P(O)BZ WITH SLIGHT EXCESS ALDEHYDE AND A TRACE OF PIPERIDINE IN MEPH OR C SUB6 H SUB6 20-5 HR GAVE THE FOLLOWING ADDUCTS: SHOWN ON MICROFICHE.

UNCLASSIFIED

USSR

PUDOVIK, A. N., et al., Zhurnal Obshchay Khimii, Vol 40, No 2, Feb 70,
pp 291-294

β -chlorovinyl ketone to give triacetylbenzene.

The interaction of (β -acylvinyl)ammonium salts with monoalkylated dimethyl phosphonoacetone and diethyl ester of benzylphosphonic acid was studied. High yields of the ketovinylation products were obtained in this case, and no formation of self-condensation product was observed. No ketovinylation product could be obtained in the case of diethyl ester of benzylphosphonic acid.

Reactions of α -chloromethyl propyl and α -chlorodimethyl ethers with potassium derivatives of phosphonoacetic ester, phosphonoacetone and cyanophosphonmethane were studied. Monoalkylation products were obtained in most cases, as well as dialkylation products in a number of cases. According to IR spectral data the alkylation products of phosphonoacetone are derivatives of its enol form.

2/2

- 97 -

USSR

UDC 547.26'118

PUDOVIK, A. N., NIKITINA, V. I., and YEVDOKIMOVA, V. V."Addition Reactions of Aldehydes to α -Ketophosphonic Acid Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, pp 294-298

Abstract: Continuing their study of addition and condensation reactions of organophosphorus compounds with an active methylene group, the authors studied reactions of aceto- and benzoylphosphonic acids with aldehydes. It was found that reactions of chloral with dimethyl and diethyl esters of acetophosphonic acid and diethyl ester of benzoylphosphonic acid in benzene at 80° in the presence of piperidine proceed on the carbonyl groups to give dialkyl esters of α -hydroxy- α -acetoxy- or α -hydroxy- α -benzoylhydroxyethylphosphonic acids. At a higher temperature (110°) in toluene there is a phosphonate-phosphate rearrangement to give phosphates. The reactions of dimethyl and diethyl esters of acetophosphonic acid with benzaldehyde and butyl ester of glyoxylic acid, as well as of diethyl ester of benzoylphosphonic acid with benzaldehyde in toluene in the presence of piperidine give the corresponding phosphates.

1/1

1/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--MASS SPECTROMETRIC STUDY OF THE STRUCTURE OF SOME ORGANIC SULFIDES AND THIOPHENES SEPARATED FROM ARLANSKII PETROLEUM -U-

AUTHOR--(03)-BRODSKIY, YE.S., NIKITINA, V.S., LYAPINA, N.K.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 120-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--MOLECULAR STRUCTURE, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, CHEMICAL COMPOSITION, THIOPHENE, SULFIDE, ORGANIC SULFUR COMPOUND, SOLVENT EXTRACTION, MASS SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2078

STEP NO--UR/0204/70/010/001/0120/0122

CIRC ACCESSION NO--AP0127451

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127451

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. S COMPS. SEPD. BY EXTN. WITH 86PERCENT H SUB2 SO SUB4 FROM A 150-250DEGREES KEROSENE FRACTION OF ARLAN PETROLEUM AND FURTHER SEPD. INTO SULFIDES BY COMPLEX FORMATION WITH AGNO SUB3 AND INTO THIOPHENES BY SUCCESSIVE EXTN. WITH 82 AND 86PERCENT H SUB2 SO SUB4 WERE IDENTIFIED BY MASS SPECTRAL ANAL. THE SULFIDES CONSISTED OF 3.0PERCENT ALKYL SULFIDES, 1.6PERCENT CYCLOALKYL SULFIDES, 68.8PERCENT THIACYCLOALKANES HAVING ONE LONG CHAIN ALKYL AND 2-3 ME SUBSTITUENTS, 24.3PERCENT THIABICYCLOALKANES HAVING 1-3 ME SUBSTITUENTS, AND 2.3PERCENT THIATRICYCLOALKANES. THE THIOPHENES CONSISTED OF 74PERCENT ALKYLTHIOPHENES HAVING A C SUB2-3 AND A C SUB3-5 ALKYL GROUP AND 1-2 ME GROUPS, 24PERCENT CYCLOALKYLTHIOPHENES, AND 2PERCENT THIAINDANS. FACILITY: VSES. NAUCH.-ISSLED. INST. PERERAB. NEFT., MOSCOW, USSR.

UNCLASSIFIED

Environmental & Ecological Problems

USSR

BLIZEYEV, V. I., D'YACHKOV, V. I., LERNER, I. B., MISHIN, V. K., NEKLANKINA, G.S.
NIKITINA, Ye. I., DEANOVA, YE. F., and MAKLONOVA, R. Ye.

"Joint Hygienic Study of Atmospheric Pollution in Certain Industrial Centers of
the Central Volga Region"

Sb. nauch. tr. Kuybyshev, NII gigiyeny (Collection of Scientific Works of the
Kuybyshev Scientific Research Institute of Hygiene), No 7, 1972, pp 92-93
(from RZh-Geofizika, Svodnyy tom, No 5, 1973, Abstract No 5B504 by L.S.G.)

Translation: A study was made of the contamination of the atmosphere by chem-
ical and oil-refining complexes and of the impact of pollutants on the health
and sickness rate of children and on immunohematological indexes of animals.
Measures have been elaborated for the elimination and reduction of specific
discharges into the atmosphere, for the organization of sanitary shielding of
industrial sites, and for improving the health of the child population.

1/2 017

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--CONCERNING THE MATHEMATICAL LINGUISTICAL ANALYSIS OF THE
SYNTACTICAL LAYER OF SPEECH IN SCHIZOPHRENIC PATIENTS -U-

AUTHOR-(03)-AMENEV, G.A., BAYRAMOVA, L.K., NIKITINA, YE.V. *N*

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRIL IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 3, PP 408-413

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MATHEMATIC ANALYSIS, SPEECH, SCHIZOPHRENIA, LINGUISTICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0793

STEP NO--UR/0246/70/070/003/0406/0413

CIRC ACCESSION NO--AP0052230

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052230

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

ABSTRACT. BY CONSTRUCTING "TREES OF RELATIONSHIP OF SYNTACTICAL SUBORDINATIONS" THE AUTHORS STUDIED WRITTEN SPEECH OF NORMALS AND IN PARANOID SCHIZOPHRENICS. IT WAS ESTABLISHED THAT THE LAW OF LANGUAGE PROJECTIVELY, EXPRESSED IN A PREVALENCE OF PROJECTIVE STRUCTURES OVER NON PROJECTIVE ARE NOT IMPAIRED IN PATIENTS. THE CORRELATION IN THE QUALITY OF DEXTRA AND SINISTRAL SYNTAXIS SHOWS THAT THE PROCESSES OF SUCCESSIVE SYNTHESIS IN SPEECH ACTIVITY IN NORMALS AS WELL AS IN SCHIZOPHRENIC PATIENTS PREVAILS OVER PROCESSES OF FORESTALLING SYNTHESIS. HOWEVER, IN PATIENTS THIS PREVALENCE IS EXPRESSED LESS SIGNIFICANTLY. IN OTHER WORDS, THE SPEECH ACTIVITY PROCEEDS IN SUCH CASES WITH A HEAVIER LOADING OF CANALS OF FORESTALLING SYNTHESIS. THE DISTRIBUTION OF THE LENGTH OF SYNTACTICAL CONNECTIONS IN THE NORMALS COMPARED TO THE SPEECH OF SCHIZOPHRENICS IS NEARER TO THE EXPONENT. THE LENGTH OF SYNTACTICAL CONNECTIONS IN PATIENTS IS SIGNIFICANTLY HIGHER THAN IN NORMALS. THIS IS AN OBJECTIVE INDEX OF A CUMBROUS SYNTACTICAL STRUCTURE AND MAY BE EXPLAINED BY AN INERTIA OF OPERATIVE MEMORY.

UNCLASSIFIED

1/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INFRARED ABSORPTION SPECTRA AND STRUCTURE OF THE ClO PRIME2
POSITIVE CATION -U-

AUTHOR--(04)--KARELIN, A.I., NIKITINA, Z.K., KHARITONOV, YU.YA.,
ROSOLOVSKIY, V.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 941-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR ABSORPTION, CHLORINE COMPOUND, FLUORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1229

STEP NO--UR/0078/70/015/004/0941/0948

CIRC ACCESSION NO--AP0123193

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123193

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA OF CLO SUB2 BF SUB4, CLO SUB2 SBF SUB6, AND CLO SUB2 SB SUB3 F SUB16 ARE GIVEN THE ASSIGNMENT OF MAX. IS TABULATED. THE STUDY REVEALS THAT CLO SUB2 PRIME POSITIVE HAS OCLO SIMILAR TO 119DEGREES. ANAL OF NORMAL MODES OF VIBRATION OF CLO SUB2 PRIME NEGATIVE, CLO SUB2 PRIME POSITIVE, AND CLO SUB2 IS GIVEN AND THE RESULTS ARE COMPARED WITH EXPTL. DATA ON CLO SUB3 PRIME NEGATIVE, CLO SUB4 PRIME NEGATIVE, AND CLO PRIME NEGATIVE. THE CALCD. DELTAH DEGREES OF FORMATION (FROM AT. SPECIES) OF CLO SUB2 PRIME NEGATIVE, CLO SUB2, AND CLO SUB2 PRIME POSITIVE IS 114.5, 123, AND 167 KCAL-MOLE, RESP.

UNCLASSIFIED

Acc. Nr.: AT0047059

N

Ref. Code: UR0020
JPRS 50052

(Abstract: "Determining the Structure of Atmospheric Aerosol by the Spectral Transparency Method," by N. I. Nikitinskaya, A. Ya. Perel'man and K. S. Shifrin, Leningrad Forestry Academy; Moscow, Doklady Akademii Nauk SSSR, Vol. 190, No. 2, 1970, pp. 331-333)

Determining Structure of Atmospheric Aerosol

This paper presents the results of inversion of data on the spectral transparency of the aerosol component of a layer of the moist atmosphere obtained under conditions of high transparency. Inversion was by the transparency method proposed by K. S. Shifrin, et al., DAN, 151,326, 1963. This method makes it possible to determine the size distribution of particles without any assumptions concerning the structure of the investigated disperse system. The experimental work was done near Leningrad during a 50-day period in the summer and autumn of 1951, but the only data analyzed here are for 15 days of exceptionally high transparency during prevalence of Arctic air masses. Studies of the spectral transparency were made using a Feisner thermoelectric actinometer operating jointly with a galvanometer having a response of 10^{-9} A and a set of narrow-band interference light filters. Absorption by ozone and oxygen were taken into account.

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Reel/Frame
19790512

6

Acc. Nr.: AT0047059

The aerosol optical thickness τ_λ was computed using the Bouguer formula. In contrast to the monotonic increase of τ_λ with a decrease in wavelength λ usually observed in a moist atmosphere, during all 15-days characterized by high transparency there was a distinct maximum of the τ_λ curve varying in the range 0.4-0.65 μ . Possible errors in the transparency method are discussed and the results obtained by this method are compared with those obtained by other authors using different methods (in particular, R. W. Fenn, Beiträge zur Physik der Atmosphäre, 37, 69, 1964). It is shown that the use of the transparency method makes it possible to obtain important information on the distribution of radii of aerosol particles by the use of simple instrumentation. The types of distribution of aerosol particles obtained under different conditions by different methods were extremely close.

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REEL/FRAME

19790513

PROCESSING DATE--11DEC70

UNCLASSIFIED

1/2 040

TITLE--PLASMA PULSE SOURCE OF ELECTRONS -U-

AUTHOR--(03)--KREYNDEL, YU.YE., GUTOVA, L.A., NIKITINSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ RADIOELEKTRONIKA (USSR), VOL. 13, NO. 1, P.77-9 (JAN. 1970)

DATE PUBLISHED--JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON PLASMA, PLASMA GENERATOR, CURRENT DENSITY, COLD CATHODE, MAGNETIC FIELD EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/1423

STEP NO--UR/0452/70/013/001/0077/0079

CIRC ACCESSION NO--AP0138433

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 040

CIRC ACCESSION NO--AP0139433

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

ABSTRACT. DESCRIBES THE CONSTRUCTION AND THE CHARACTERISTICS OF A PULSE TYPE SOURCE OF THE ELECTRONS, EMPLOYING THE PLASMATRON PRINCIPLE, BUT HAVING THE THERMIONIC CATHODE AND THE INTERMEDIATE ANODE REPLACED BY A PENNING TUBE WITH A COLD CATHODE. RESULTS ARE GIVEN FOR THE OUTPUT CURRENT AND FOR THE EXTRACTOR CURRENT VERSUS THE EXTRACTION POTENTIAL, WHEN THE DISCHARGE CURRENT IS 3.5 A. MEASUREMENTS WERE MADE WITH 10 MUSEC WIDE PULSE, REPEATING AT 50 HZ. THE CATHODE ANODE POTENTIAL WAS 700 V. THE H.F. MODULATION OF THE OUTPUT CURRENT WAS BELOW 20PERCENT. THE BEAM CURRENT DENSITY DISTRIBUTION IS SHOWN AS A FUNCTION OF RADIUS, USING MAGNETIC FOCUSING; THE CURRENT DENSITY AT THE CENTRE IS 30 A PER CM PRIME2.

UNCLASSIFIED

1/2 012
 TITLE--AUTOMATION OF CHARGE FEEDING FOR CUPOLA MELTING --U-
 UNCLASSIFIED
 PROCESSING DATE--09OCT70
 AUTHOR--(04)--TRESHCHALIN, V.V., SUKHARCHUK, YU.S., BLAGONRAVDV, B.P.,
 NIKITIN, P.A.
 COUNTRY OF INFO--USSR
 SOURCE--LITEINOE PROIZVOD. 1970, 2, 8-10
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
 TOPIC TAGS--CAST IRON, TECHNICAL STANDARD, METAL MELTING, AUTOMATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1995/1379
 STEP NO--UR/0128/70/002/000/0008/0010
 SESSION NO--AP0116828
 UNCLASSIFIED

PROCESSING DATE--09OCT70

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--AP0116828
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE VARIATIONS IN THE CHEM. COMPN. OF THE CHARGE COMPONENTS (AS ALLOWED BY GOVERNMENT STDS.) HAS A MUCH LARGER EFFECT ON VARIATIONS IN THE CHEM. COMPN. OF THE CAST IRON MELTED, THAN THE VARIATIONS IN WEIGHING OF THE COMPONENTS WITH ERRORS SMALLER THAN OR EQUAL TO 10-15PERCENT. THE AUTOMATED WEIGHING OF CHARGES TO THE CUPOLA SHOULD NOT BE TOO ELABORATE AND A SIMPLE ARRANGEMENT WITH THE ACCURACY OF 10-15PERCENT IS QUITE SATISFACTORY, PROVIDED A LARGE INTERMEDIARY STORAGE IS PROVIDED IN WHICH THE VARIATIONS IN CHEM. COMPN. ARE EQUALIZED.

UNCLASSIFIED

Rare Metals

UDC 669.018:669.017.538.23

USSR

BELOV, K. P., YELYUTIN, O. P., NIKITKIN, S. A., PSHECHENKOVA, G. V., SOKOLOV, V. I., and TARATYNOV, V. P., Moscow State University imeni M. V. Lomonosov and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Magnetic Hysteresis of Rare-Earth Metals and Alloys"

Sverdlovsk, Fizika Metallov i Metallovedniye, Vol 30, No 6, Dec 70, pp 1146-1150

Abstract: A study was made of the hysteresis loops of rare-earth metals and alloys which possess a magnetic structure of the ferromagnetic spiral type (Dy-Er and Ho-Er). Ingots of rare-earth metals with a purity of 99.5% were made in a vacuum-arc zone furnace with a nonconsumable tungsten electrode and a water-cooled copper hearth. Melting was done under argon at a pressure of 300-400 mm Hg in two passes with rotation of the ingots. Samples 2.5 mm in diameter and 28 mm long were machined from the ingots and vacuum annealed for 24 hours at a pressure of 10⁻³ mm Hg. The magnetic characteristics were obtained in a superconducting solenoid (50 kilooersted) at 4.2°K. In this field the hysteresis properties of gadolinium, terbium, dysprosium, holmium,

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USSR

BELOV, K. P., et al, Fizika Metallov i Metallovedniye, Vol 30, No 6, Dec 70, pp 1146-1150

and erbium and alloys Dy-Er and Ho-Er were studied. A new type of hysteresis was observed in the alloys manifested by failure of the ferromagnetic spiral in a strong field. It was established that despite a vast magnetic anisotropy, cast samples of rare-earth metals and alloys, even under magnetization in a field of 50 kilooersted at 4.2°K, possess comparatively small values of the coercive force which does not exceed 10^3 oersted.

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- 38 -

USSR

N UDC 612.58:612.13:612.821.51

ARYNCHYN, M. I., ~~NIKOLSEN~~, U. M., MATSKEVICH, B. K., ZEMAKINA, V. A.,
KAZLOVA, L. M., SHARIN, I. K., SHAFRANSKI, E. V.

"Differential (Complex) Hypothermia and Its Experimental and Theoretical Basis"

Minsk, Vestn Akademiya Nauk BSSR, Seriya Biyologicheskaya Nauk,
No 1, 1970, pp 60-66

Abstract: A broad review of the applications of hypothermia is presented and the various biological functions involved, including EKG, biochemistry, hemodynamics, central and peripheral affects, etc. are discussed. An original construction of a cooling chamber is shown, consisting of two chambers, one for the head, and one for the body, in which the temperatures differ. The effect of two-chamber hypothermia, occurring under different degrees of temperature on various reflexes in dogs, hemodynamics, hormones, minerals, and blood proteins is discussed. Various clinical possibilities are discussed and the use of this apparatus in cardiac surgery is suggested.

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Mechanical Properties

UDC 669.15-194:669.14

USSR

NIKITSKAYA, V. A., PYATAKOVA, L. L., POLTAVETS, N. A.,
SHUBINA, S. A., KUZNETSOVA, L. M., VOLKOV, L. G., BARANOV, V. Ya.,
and CHEREDNIK, L. Ye., Metallurgical Plant imeni Dzerzhinskiy,
Dneprodzerzhinsk Industrial Institute imeni M. I. Arsenichev

"Improvement of Mechanical Properties of Hot-Rolled 10KhSND Steel"
Moscow, Metallurg, No 1, Jan 73, pp 16-17

Abstract: Experimental data are presented on the effects of chemical composition, method of final deoxidation, and temperature at the end of rolling on the level of mechanical properties and the amount of waste of 10KhSND steel in the hot-rolled state. The effects of C, Mn, Si, and Cr and their summary effect on the impact strength and the ultimate strength (yield) of 10KhSND steel deoxidized in the ladle with aluminum (1000 g/ton) and ferro-titanium (500 g/ton) are discussed by reference to diagrams. Best results in improving the mechanical properties and in decreasing the amount of waste were obtained by applying calciosilicate (2000 g/ton) and by reducing the rolling temperature to 900 °C at the same time. The use of calciosilicate in the final deoxidation of steel in the open-hearth shop of the Plant imeni Dzerzhinskiy decreased the amount of waste by 5-5.5 times. Two figures, one table.

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USSR

UDC 615.21:547.824

NIKITSKAYA, Ye. S., LEVKOYEVA, Ye. I., ARTYUNYAN, G. S., VLASOVA, T. F.,
~~MASHKOVSKIY~~, M. D. and YAKHCNTOV, L. N., All-Union Scientific Research
Chemical-Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"The Synthesis and Pharmacological Study of 1-Dialkylaminoalkyl-2,5-Dimethyl-
piperidole-4-Esters"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 3-6

Abstract: Twelve 1-dialkylaminoalkyl-2,5-dimethylpiperidole-4-esters were synthesized from 2,5-dimethylpiperidone by acylation with chloracetic or beta-bromopropionic anhydride, reaction with dimethylamine or diethylamine reduction with lithium aluminum hydride, and acylation with acetic, benzoic or 3,4-5-trimethoxybenzoic acid. Water soluble salts were formed with D-tartaric acid for convenience in pharmacological studies. The stereochemistry of the starting material and one of the simplest intermediates was checked by proton magnetic resonance. The compounds showed no analgesic effect on mice or rats. Small doses in narcotized cats gave a small, short-term hypotensive effect, while larger doses were toxic. No cholinolytic action was found in isolated rabbit ears or intestinal sections.

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USSR

UDC 615.212.547.834.47.0121

NIKITSKAYA, YE. S., ARUTYUNYAN, G. S., SHVARTS, G. YA., MASHKOVSKIY, M. D.,
and YAKHONTOV, L. N., All Union Scientific Chemical-Pharmaceutical Research
Institute imeni S. Ordzhonikidze, Moscow

"Synthesis and Pharmacological Study of Substituted 2,2,6,6-Tetramethyl-4-
-aminopiperidyl-4-carboxamides"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7m No 9, Sep 73, pp 16-19

Abstract: Derivatives of 2,2,6,6-tetramethyl-4-aminopiperidyl-4-carboxamide
(I) -- analogues of the pyriethramide -- were synthesized in search for new
analgesic agents. The reaction sequence was based on triacetoneamine being
converted through the triacetoneaminocyanohydrine to 2,2,6,6-tetramethyl-4-
-(N-substituted)amino-4-cyanopiperidines which could be converted with 90%
sulfuric acid at 100° to (I). Further alkylation of these carboxamides was
very difficult. Pharmacological studies carried out on these products showed
that steric hindrance around the cyclic nitrogen atom with methyl groups did
not improve the analgesic or other pharmacological properties of the parent
agents.

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USSR

UDC 615.31:547.834.4

LEVKOYEVA, YE. I., ~~NIKITSKAYA, YE. S.~~ SHARAPOV, I. M. and YAKHONTOV, L. N.;
All-Union Scientific-Research Chemico-Pharmacological Institute ineni S.
Ordzhonikidze, Moscow

"Synthesis and Pharmacological Study of the Polyalkylquinonucleidnes"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 9, 1973, pp 16-21

Abstract: The high ganglioblocking and hypotensive activity of hydrobromide 2,2,6,6-tetramethylchinoxalidine (recommended in the form of the preparation "Tomakhine" for wide medical use by the USSR Ministry of Public Health) prompted research into other polyalkylchinoxalidines. Sixteen members of this group were studied by the authors. Basic chemico-physical data were determined, along with some information on toxicity.

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UDC 547.822.7.07

USSR

NIKITSKAYA, YE. S., ALEKSEYEVA, L. M., SHEYNKER, YU. N., and YAKHONTON, L. N.,
All-Union Scientific Chemical-Pharmaceutical Research Institute imeni S.
Ordzhonikidze, Moscow

"Synthesis of N'-Substituted 4-Aminopiperidines With a Shielded Nitrogen Atom"
Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 12, Dec 71, pp 1672-1678

Abstract: A detailed study was carried out of the triacetoneamine cyanohydrine (I) reaction with ammonia and various amines. It has been shown that (I) reacts with fatty and aromatic amines in methanol at 0-20°C yielding respective 2,2,6,6-tetramethyl-4-cyano-4-amino piperidines (II). Aromatic amines do not react under these conditions. The α -aminonitriles (II) are thermally unstable, and when heated above 50°, they split HCN, forming tetramethylpiperidines. Decyanation of (II) occurs also easily when these compounds are reduced with LiAlH_4 , yielding pure N'-substituted-2,2,6,6-tetramethyl-4-aminopiperidines (III). Reacted with formic acid and formalin, (III) are easily methylated at the piperidine nitrogen atom. In cases where the exocyclic nitrogen atom happens to be a secondary amine, it also becomes methylated. The products -- N',N-disubstituted 1,2,2,6,6-pentamethyl-4-aminopiperidines are strong bases; they give stable dihydrochlorides.

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UDC 547.834.4

USSR

LEVKOYEVA, YE. I., NIKITSKAYA, YE. S., and YAKHONTOV, L. N., All-Union Scientific Research Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Synthesis and Conversions of 6,6,7,7-Tetramethylquinuclidone-2"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, Academy of Sciences Latvian SSR, No 3, 1971, pp 378-384

Abstract: A new representative of the quinuclidone-2 series -- 6,6,7,7-tetramethylquinuclidone-2 (I) -- was synthesized from (2,2,6,6-tetramethylpiperidyl-4)acetic acid (II) by converting the latter to its acid chloride and then treating it with triethylamine. I has the following properties: λ_{\max}

230 microns (in alcohol), pK_a 6.37 + 0.05 (in water, determined potentiometrically), and dipole moment 3.95 D (in benzene). I participates in three types of chemical reactions: 1) in reaction with protonic nucleophilic agents (water, alcohols, amines, hydroxylamine, and hydrazines), the H-CO bond is ruptured and the nucleophilic agents are alkylated. I reacts more readily with nucleophilic reagents than do other amides, ranking between ketones and acid halides. 2) Unusual conversions are observed when the amide of I is treated with nucleophilic agents in aprotic media (phenyllithium in ether, phosphorus

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USSR

LEVKOYEVA, YE. I., et al., Khimiya Geterotsiklicheskikh Soyedineniy,
No 3, 1971, pp 378-384

pentachloride in benzene, acetone cyanohydrin, and lithium aluminum hydride in ether). The N-C (CH₃)₂ bond is ruptured with the formation of 4-substituted 6,6-dimethylpiperidones-2. 3) When I is treated with electrophilic reagents (hydrogen chloride and methyl iodide) in aprotic solvents, reactions occur with the retention of the quinuclidine ring. This is also true in the reduction reaction of I.

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- 12 -

Pharmacology and Toxicology

USSR

UDC: 615.214:547.869.2

MEDVEDEV, B.A., NIKITSKAYA, YE.S., All-Union Scientific Research Chemical Pharmaceutical Institute imeni Sergo Ordzhonikidze, Moscow, Ministry of Health USSR

"Phenothiazine Derivatives of 3,9-Diazabicyclo(3,3,1)-Nonane as Possible Psychopharmacological Agents"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 2, Feb 70, pp 13-16

Abstract: Sixteen phenothiazine derivatives of 3,9-diazabicyclo(3,3,1)-nonane were prepared, based on 3-benzyl-3,9-diazabicyclo(3,3,1)nonane. In experiments with rats it was found that neurological properties decrease when the dimethyl amine group in the amineazine molecule is replaced by 3-methyl-3,9-diazabicyclo(3,3,1)-nonane. Shortening or lengthening the propyl chain in the cyclic system also leads to a decrease in neurological activity.

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1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PHENOTHIAZINE DERIVATIVES OF 3.9 DIAZABICYCLO (3.3.1) NONAME AS
POSSIBLE PSYCHOPHARMACOLOGICAL AGENTS -U-
AUTHOR--(02)--MEDVEDEV, B.A., NIKITSKAYA, YE.S. *N*
COUNTRY OF INFO--USSR
SOURCE--KHIM.-FARM. ZH. 1970, 4(2), 13-16
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHEMICAL SYNTHESIS, ORGANIC AZINE COMPOUND, HETEROCYCLIC BASE
COMPOUND, THIOL, BENZENE DERIVATIVE, CHLORINATED ORGANIC COMPOUND,
PSYCHOCHEMICAL AGENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0595 STEP NO--UR/0450/70/004/002/0013/0016
CIRC ACCESSION NO--AP0113483
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 017

CIRC ACCESSION NO--AP0113483

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

ABSTRACT. PHENOTHIAZINE DERIVATIVES OF 3.9

DIAZABICYCLO(3.3.1) NONANE AS POSSIBLE PSYCHOPHARMACOLOGICAL AGENTS

PREPD. AS SHOWN ON MICROFICHE.

UNCLASSIFIED

1/3 014 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--RESULTS OF USING AEROMETHODS IN GEOLOGY IN THE PAST 25 YEARS -U-
 AUTHOR--(05)-VOSKRESENSKIY, YE.N., DRENOV, N.V., GAVRILOV, A.A., YEREMIN,
 V.K., NIKITSKIY, V.YE.
 COUNTRY OF INFO--USSR
 SOURCE--RAZVEDKA I OKHRANA NEOR, 1970, NR 2, PP 5-8
 DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOLOGIC EXPLORATION, PROSPECTING, AEROMAGNETIC SURVEY,
 RADIOMETER, MAGNETOMETER, AEROELECTRIC SOUNDING, GEOPHYSIC
 INSTRUMENT/(U)AYAAM6 AEROMAGNETOMETER, (U)AMM13 AEROMAGNETOMETER
 INSTRUMENT, (U)AM13 AEROMAGNETOMETER INSTRUMENT, (U)AEM49
 AEROMAGNETOMETER INSTRUMENT, (U)ASG48 GEOPHYSIC INSTRUMENT, (U)SG10

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3007/1357

STEP NO--UR/9083/70/000/002/0005/0008

CIRC ACCESSION NO--AP0136722

UNCLASSIFIED

2/3 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136722

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HISTORY OF THE DEVELOPMENT OF AEROMETHODS IN GEOLOGICAL PROSPECTING, LISTING INSTITUTIONS, PERSONALITIES, AND INSTRUMENTS, IS GIVEN. IN 1949, THE VIRG INTRODUCED THE SG-10 AERORADIOMETER, AND LATER DEVELOPED THE ASGM-25, ASG-46, AND ASG-48 AEROGEOLOGICAL STATIONS FOR SIMULTANEOUS AEROMAGNETIC AND AERORADIOMETRIC SURVEYS. THE ASG-48 INSTRUMENT IS USED TO DETECT CONCENTRATIONS OF URANIUM THORIUM, ETC. IN THE 1950'S, THE AEM-49 FERROUSOUND AEROMAGNETOMETERS WERE INTRODUCED. THE MINISTRY OF GEOLOGY THEN INTRODUCED THE AM-13 AND AMM-13 AEROMAGNETOMETERS. THE VNIIGEOFIZIKA DEVELOPED AND INTRODUCED THE PROTON MAGNETOMETER ACCESSORY TO FERROUSOUND AEROMAGNETOMETERS. VITR DEVELOPED THE AYAAM-6 PROTON AEROMAGNETOMETER CAPABLE OF MEASURING ABSOLUTE VALUES OF GEOMAGNETIC FIELD FORCE AND, AT PRESENT, IS SUCCESSFULLY TESTING A NEW MODEL PROTON AEROMAGNETOMETER, THE AHP-7, FOR BAUXITE PROSPECTING. A HELICOPTER BORNE AEROELECTROPROSPECTING DEVICE, THE INFINITELY LONG CABLE, WAS INTRODUCED IN 1959. THE AIRCRAFT BORNE AERIS SYSTEM (INDUCTION INVESTIGATIONS) WAS DEVELOPED AT THE SAME TIME. IN THE 1960'S, BITR DEVELOPED APPARATUS FOR THE ROTATING MAGNETIC FIELD SYSTEM, WHILE SVEGINGED DEVELOPED APPARATUS FOR THE AERORADIOKIP METHOD OF SEARCHING OUT WATER IN DESERT AREAS. VIRG DEVELOPED A SIMILAR INSTRUMENT TO USE IN GEOLOGICAL MAPPING OPERATIONS VNIIGEOFIZIKA INTRODUCED THE SUCCESSFUL POISK RADIOGEOLOGICAL SYSTEM. IN 1968-69 SEVERAL DIFFERENT INSTITUTES DEVELOPED THE AMPP AEROELECTROPROSPECTING SYSTEM FOR USE IN A METHOD INVOLVING TRANSITION PROCESSES OF THE ELECTROMAGNETIC FIELD.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

3/3 014

IRC ACCESSION NO--AP0136722

ABSTRACT/EXTRACT--RADAR, THERMAL, SPECTROMETRIC, AND RELATED AERIAL SURVEY METHODS ARE DEVELOPED IN LAEM. VARIOUS GEOLOGICAL SURVEY PROJECTS NOW UNDER WAY ARE GIVEN.

FACILITY: VSESOYUZNYI AEROGEOLOGICHESKIY

TREST. FACILITY: VSESOYUZNYI NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT

EKONOMIKI MINERAL'NOGO SYR'YA I GEOLOGORAZVEDOCHNYKH RABOT.

FACILITY: MINISTERSTVO GEOLOGII SSSR.

UNCLASSIFIED

UDC: 532.526

USSR

KALISHEVSKIY, L. L., NIKITUSHKINA, G. P., STREL'TSOV, V. Ya.

"Experimental Investigation of a Turbulent Boundary Layer in the Case of Intensive Blow-in"

Tr. Mosk. vyssh. tekhn. uch-shcha im. N. E. Baumana (Works of the Moscow Higher Technical Academy imeni N. E. Bauman), 1971, No 144, pp 80-87 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B970)

Translation: The article deals with analysis of the results of an experimental study of an isothermal boundary layer on a porous plate measuring 450×50 mm when air is blown into air. The blow-in intensity $(\rho V)_{\infty}/(\rho U)_{\infty}$ varied over limits from 0.0008 to 0.022. The velocity of the main flow was $\sim 40 \text{ m}\cdot\text{s}^{-1}$. There was a slight negative pressure gradient. Included in front of the porous plate was a section $l = 62$ mm without injection, and the boundary layer was suctioned off in front of this section to eliminate the influence of the initial conditions. In the experiments, the thickness distribution of the boundary layer of dynamic and static pressures was measured in 12 sections lengthwise of the plate. The flowrate of the air blown in through the porous plate was determined. The pressure field was taken

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USSR

KALISHEVSKIY, L. L. et al., Tr. Mosk. vyssh. tekhn. uch-shcha im. N. E. Bauman, 1971, No 144, pp 80-87

by pneumometric probes with aperture size of 0.1 mm. Measurement accuracy was $\pm 2\%$. The velocity field in the boundary layer over the plate was determined on the basis of the measurements. The integral characteristics of the boundary layer were calculated: the displacement thickness δ^* , the impulse loss thickness δ^{**} , the formfactor $H = \delta^*/\delta^{**}$, the coefficient of friction on the plate C_{f_w} .

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PREPARATION OF CARRIER FREE CALCIUM 47 -U-
AUTHOR--(03)-VILGELMOVA, L., NIKITYUK, L.N., RYBAKOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--RADIOKIMIYA 1970, 12(2), 407-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--CALCIUM ISOTOPE, IRRADIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0108 STEP NO--UR/0186/70/012/002/0407/0409
CIRC ACCESSION NO--AP0132401
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132401

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNCHROCYCLOTRON IRRADN. OF A V
TARGET PRODUCED PRIME47 CA BY THE PRIME51 V(P,4N) PRIME47 CA REACTION.
AFTER HNO SUB3 SOLN. AND REMOVAL OF MOST OF THE V AS AN HYDRATED OXIDE,
THE PH OF THE SOLN. WAS ADJUSTED TO 3-4, AND THE SOLN. PASSED THROUGH A
CATIONIC ION EXCHANGE COLUMN (DIAM. EQUALS 1 CM, HEIGHT EQUALS 5 CM) OF
DOWERX-50X4 (50-100 MESH) IN NA FORM. AFTER SUBSEQUENT REMOVAL OF FE,
V, AND PRIME46-48 SC, PRIME47 CA WAS ULTIMATELY REMOVED FROM THE COLUMN
WITH 3N HNO SUB3 AND THE SOLN. EVAPD. TO THE DESIRED VOL. A GAMMA
SPECTRUM WITH A NAI(TL) SCINTILLATION SPECTROMETER INDICATED MAX. AT
ENERGIES OF 510, 810, AND 1310 KEV. THE PRIME47 CA HALF LIFE WAS 4.46
PLUS OR MINUS 0.18 DAYS.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXPERIMENTAL DETERMINATION OF (MU PRIME NEGATIVE, NU) REACTION
PROBABILITY ON ALUMINUM 27, SILICON 28, AND VANADIUM 51 NUCLEI -U-
AUTHOR--(05)-BUNATYAN, G.G., YEVSEYEV, V.S., NIKITYUK, L.N., POKURVSKIY,
V.N., RYBAKOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(4), 795-9
DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS
TOPIC TAGS--PROBABILITY, ALUMINUM ISOTOPE, SILICON ISOTOPE, VANADIUM
ISOTOPE, NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1027

STEP NO--UR/0367/70/011/004/0795/0799

CIRC ACCESSION NO--AP0124686

UNCLASSIFIED

2/2 009
CIRC ACCESSION NO--AP0124686

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVATION METHOD WAS USED TO MEASURE RELATIVE PROBABILITIES OF THE MU PRIME NEGATIVE, NU) REACTION ON PRIME27 AL, PRIME28 SI, AND PRIME51 V NUCLEI. THE PROBABILITY W OF THE PROCESS (MU PRIME NEGATIVE, NU) WAS CALCD. THE RESP. RESULTS WERE 10 PLUS OR MINUS 1, 28 PLUS OR MINUS 4, AND 10 PLUS OR MINUS 1 PERCENT. EXPTL. DATA WERE COMPARED TO THEORETICAL VALUES WHICH WERE CALCD. ON THE BASIS OF THE THEORY OF FINITE FERMI SYSTEMS. DISCREPANCIES BETWEEN THE EXPTL. AND THEORETICAL VALUES ARE DISCUSSED. THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU) ARE DETD. BY THE CAPTURE FROM A SMALL NO. OF ENERGY LEVELS OF THE PRODUCT NUCLEUS DISCRETE SPECTRUM. THUS, SMALL ERRORS IN THE DETN. OF TRANSFER PROBABILITY AS WELL AS THE POSITION OF THE NUCLEUS SIGNIFICANTLY AFFECT THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU).
FACILITY: DB'EDIN. INST. YAD. ISSLED., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.981.49-022.39

NIKITYUK, N. M., Central Scientific Research Institute of Epidemiology, Moscow

"The Role of Animals and Birds as Sources of Salmonella Infections in Man"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70,
pp 123-130

Abstract: A review is presented of the literature concerning the etiology of human salmonellosis in various countries, including the Soviet Union, Britain, Sweden, Holland, Spain, the United States, Canada, Mexico, Argentina, Uruguay, Japan, Indonesia, Ceylon, the United Arab Republic, and Australia. There is a universal consensus that animals and birds constitute the principal source of Salmonella infections in man. Data are cited from numerous authors which indicate that the frequency of salmonellosis among animals and birds varies not only from country to country but also from region to region within a single country. Of all the animals investigated, cattle and hogs are the main transmitters of salmonellosis; goats and horses are of lesser epidemiological significance. Poultry, particularly ducks and geese, display a high incidence of Salmonella (mainly *S. typhimurium*) infections and also play a very important role in the epidemiology of salmonellosis.

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USSR

UDC: 681.33

NIKITYUK, N. M.

"Integrated Circuit Analog-Digital Converter"

Moscow, Pribory i tekhnika eksperimenta, No 1, Jan-Feb 71, pp 102-105

Abstract: This paper describes an analog-digital converter built as an integrated circuit, defining it as a device for measuring pulses and slowly varying voltage levels with an accuracy of at least 99.9 to 99.8%. The measured voltage is in the form of a series of pulses in a sequence code and a parallel 10-bit code at the counter output. The counter indication is given in light on the unit's front panel. There is also a special oscillator with a pulse repetition frequency of 40-50 Hz to check the instrument's accuracy. For measurement of slowly varying or constant voltage levels, linear gates opened by externally supplied pulses or from a front-panel knob are supplied. Specifications are given, and diagrams of the converter and one of its linear gates are shown. Diagrams of the pulse oscillator and counter are also reproduced. There are also two tables, one for

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NIKITYUK, N. M., Pribory i tekhnika eksperimenta, No 1, Jan-Feb 71,
pp 102-105

measurements made of voltage sources from 0.1 to 6 volts, the other
for pulse voltage measurements varying from 0.1 to 8 volts. The
author is from the Dubna Institute of Nuclear Research.

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Acc. Nr: *N*
AP0036816

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 1, pp 53 - 57

PHAGE TYPING OF S. TYPHIMURIUM ISOLATED IN VARIOUS
TERRITORIES OF THE USSR

N. M. Nikityuk

A method of phage typing was applied to the study of 1,308 strains of S. typhimurium, isolated from human beings (sick and carriers), animals and from food stuffs. The cultures were isolated in various territories of the USSR. Strains of 14 phagotypes and their variants were revealed in man, and of 10 phagotypes — in animals. The most frequently encountered in man and animals was strains of 2b phagotype. There were noted some peculiarities in the distribution of S. typhimurium phagotypes at various USSR territories. Phage typing of S. typhimurium served as a valuable method for improving the quality of epidemiological examination and analysis of diseases caused by this causative agent.

D. 9.

b

REEL/FRAME

USSR

UDC 621.373.8

KOVRIGIN, A. I., NIKLES, P. V.

"A Nonresonator Parametric Light Emitter Based on a Crystal of α -HIO₃"

Pis'ma v ZhETF (Letters to the Journal of Experimental and Theoretical Physics), 1971, 13, No 8, pp 440-443 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7D349)

Translation: The paper describes a cavityless parametric light generator with continuous frequency tuning in a range of 1-1.1 μ , and with an energy conversion factor of 57 percent. Experimental realization of such a generator requires the use of highly effective nonlinear crystals. A crystal of α -HIO₃ is used. The width of the spectrum of the output emission was 0.2 cm^{-1} . The directivity of the emission is approximately 4 min. The cavityless parametric light generator circuit can readily be converted to a parametric light generator with a resonator for one frequency. A. K.

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USSR

UDC 620.179.16

NIKOFOROV, L. A., and KHARITONOV, A. V., Leningrad Electrotechnical Institute
imeni V. I. Ul'yanov (Lenin)

"Surface Wave Stimulation by an Ultrasonic Beam on the Liquid-Solid Medium
Interface"

Sverdlovsk, Defektoskopiya, No 3, 1973, pp 45-53

Abstract: This article was devoted to solution of the two-dimensional problem on surface wave stimulation with an ultrasonic beam in the case of a liquid wedge (immersion variant, local bath, overflow detector, etc.). Formulation of the problem in two dimensions does not make it possible to consider the diffraction separation of the stimulated wave but it does yield the possibility to concentrate attention on the characteristics features of the beam conversion process in the surface wave. 2 figures, 3 bibliographic references.

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USSR

UDC 576.312.3

SAKHAROVA, M. N., RAPOPORT, I. A., BEKNAZAR'YANTS, M. M., and NIKOFOROV, Yu. L.,
Institute of Chemical Physics, Academy of Sciences USSR

"Puffs Induced by Thiocyanate and the Puff Model For Determining Drug Injury
to Enzymes"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 5, 1971, pp 1,217-1,220

Abstract: The modification of *Drosophila* chromosome puffs induced by sodium thiocyanate added to the nutrient medium in a concentration of $2 \times 10^{-4} M$ was investigated. As a result of incorporation of this compound, the number of puffs increased from 26 (control) to 28 in X-chromosomes; from 17 to 24 in 2L-chromosomes; from 21 to 23 in 2R-chromosomes; from 24 to 28 in 3L-chromosomes; and from 22 to 28 in 3R-chromosomes. Significant changes were also observed in the morphology of other puffs and in the activity of chromosome enzymes. This method appears to be very useful in the study of the biological effects of drugs on pathogens and on the host.

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USSR

UDC 523.035.2

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

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

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

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

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

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USSR

UDC: 632.95

AVETYAN, M. G., NIKOGOSYAN, L. L., MATSOYAN, S. G., Institute of Organic Chemistry, Academy of Sciences of the Armenian SSR

"A Method of Making 2-Chloroethyl-2-thiocynoethylamine"

USSR Author's Certificate No 345142, filed 27 May 70, published 15 Aug 72 (from RZh-Khimiya, No 10, May 73, abstract No 10N560P by T. Ya. Ogibina)

Translation: A method is proposed for synthesizing 2-chloroethyl-2-thiocynoethylamine (I). The compound is used as a biologically active material in agriculture because of the presence of the β -chloroethyl and β' -thiocynoethyl groups in the molecule. Example: 0.1 mole of N-(2-chloroethyl)-ethylenimine in 100 ml of C_6H_6 is added over a 30 minute period to 20 ml of dry ethyl solution containing 0.3 mole of HSCN with cooling by ice water, the mixture is agitated for one hour at about $20^\circ C$, and the product is isolated from the organic solution and washed in absolute ether yielding 19.7 g of thiocyanide of compound I, $C_6H_{10}ClN_3S_2$, melting point $78-9^\circ C$ (Acetone).

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USSR

UDC 613.647:612.014.426

NIKOGOSYAN, S. V., Yerevan Medical Institute

"Analysor Function in Persons Exposed to Radio Waves"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1971, pp 49-51

Translation: Many experimental and clinical studies have been published which show that the central nervous system is highly sensitive to radio waves (Z. V. Gordon et al.; Z. V. Gordon, 1966; Ye. A. Lobanova and Z. V. Gordon; E. A. Drogichina and M. N. Sadchikova; Z. M. Gvozdikova et al.; D. A. Ginzburg and M. N. Sanchikova; P. P. Fukalova; Yu. A. Kholodov; I. A. Kitsovskaya, 1968). In the light of these findings and of the generally held opinion that various neurological disorders may be reflected in the state of analysor excitability, we investigated vestibular and visual analysor functions in persons exposed to radio waves of different bands.

We examined 170 engineers, technicians, operators, and specialists in thermal treatment of metals handling high-frequency, ultrahigh-frequency, and microwave oscillators. They included 138 males and 32 females mostly
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between 20 and 40 years of age (148 persons) with experience ranging from several months to 10 years or more (up to 1 year -- 28, from 1 to 5 years -- 71, from 5 to 10 years -- 30, over 10 years -- 41).

The control consisted of 50 persons who had not been exposed to radio waves (laboratory workers in the administrative division and trainees 20 to 40 years of age). Visual and vestibular functions were studied using a pulsed electronic stimulator (ISE-01). Dark adaptation was also determined (adaptometer, ADM model).

Definite deviations were noted in the functional state of these analysors. Changes in the sensitivity of the visual and vestibular analysors were manifested by an elevation of the threshold of excitability, as shown by rheobase and chronaxy. Changes in the sensitivity of the visual analysor were further characterized by a lengthening of the time required for dark adaptation.

The number of cases and intensity of the changes in sensitivity of the vestibular and visual analysors tended to increase with length of time

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on the job. It is evident from the foregoing that the high-frequency, ultrahigh-frequency, and microwave ranges lowered the excitability of the visual and vestibular analysors and impaired the time of dark adaptation, obviously a sign of functional changes arising in the central nervous system as a result of exposure to radio waves.

The results of our studies are in agreement with data indicating that the threshold of olfactory sensitivity rises in persons exposed to microwaves (Ye. A. Lobanova and Z. V. Gordon), ultrahigh-frequency and high-frequency waves (P. P. Fukalova and Ye. I. Smurova; P. P. Fukalova). Similar changes in dark adaptation were observed by P. P. Fukalova in persons exposed to short waves and ultra-short waves.

Experimental studies have shown that the microwave range is the more active biologically (Z. V. Gordon, 1964; I. A. Kitsovskaya, 1968).

We observed more pronounced deviations in the state of the visual and vestibular analysors in the ultra-high frequency and high-frequency

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ranges, which we ascribed to the working conditions of the examinees. As sanitary-hygienic investigations have demonstrated, the intensity of irradiation produced by ultrahigh-frequency and high-frequency oscillators exceeded the maximum permissible doses several dozen times, which was not the case when microwave oscillators were in operation. Moreover, such accompanying factors as noise and the strain of working on shifts (at radio stations) acting on the central nervous system may also play a role in the origin of changes in analyzor function.

A comparison of the results of the examination of the health status of persons exposed to radio waves and studies of analyzor sensitivity revealed a correlation between the clinical manifestations of the effects of micro-waves, ultra-high frequency and high-frequency waves and changes in analyzor excitability.

However, changes in analyzor sensitivity were also detected in persons with no clinical symptoms of exposure to radio waves. Hence changes in analyzor

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NIKOGOSYAN, S. V., *Gigiyena Truda i Professional'nyye Zabolevaniya*, No 7, 1971, pp 49-51

excitability may arise in the preclinical stage.

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