

USSR

UDC 582.288.42:632.4

BENKEN, A. A. and DOTSENKO, A. S., All Union Institute of Plant Protection

"Ways of Controlling Infection by *Verticillium dahliae* Kleb. in Soil"

Leningrad, Mikologiya i Fitopatologiya, No 4, 1971, pp 351-358

Abstract: Cotton growing is an economic necessity in the Central Asian republics of the Soviet Union; crop rotation, fallowing, etc. are not feasible. Field experiments have shown that two methods are especially valuable in ridding the soil of infection and in substantially reducing the extent of *Verticillium* wilt: (a) planting grain crops as precursors to cotton, particularly wheat, which seems to be completely immune to the disease; (b) plowing under the after-harvest residues of grain crops and/or adding cellulose-containing materials (sawdust, straw, etc.) to the soil in order to promote the growth of saprophytic and antagonistic microflora.

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1/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EFFECTIVENESS AND PERIODS OF COTTON DEFOLIATION UNDER VARIOUS CLIMATIC CONDITIGNS -U-

AUTHOR--(05)--ZAKIROV, T.S., KADRALIYEV, S.I., ALLAMURATOV, A.D., DOTSENKO, A.S., SADYKOV, SH.B.

COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA 1970, (2), 139-43

DATE PUBLISHED--70

D

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DEFOLIANT AGENT, FIBER PLANT, CYANAMIDE, MAGNESIUM COMPOUND, CHLORATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PRUXY REEL/FRAME--2000/0187

STEP NO--UR/0485/70/000/002/0139/0143

CIRC ACCESSION NO--AP0123956

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123956

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF DEFOLIATION WITH BUTIPHOS, CYANAMIDE, AND WITH MG(CLO SUB3) SUB2 UNDER VARIOUS CLIMATIC CONDITIONS AND DEVELOPMENT OF COTTON PLANTS ARE DISCUSSED. THE MOST EFFECTIVE WAS BUTIPHOS, ESP. WHEN SPRAYED AT 3 KG-HA. FACILITY: VSES. NAUCH. ISSLED. INST. KHLOPKOVOD., AKKHAVAK, USSR.

UNCLASSIFIED

USSR

UDC 666.266.52

DOISENKO, A. V. and ZAKHAROV, V. K., and TSEKHOMSKIY, V. A., Candidate of Sciences

"Determination of the Constants of the Relaxation Process in Photochrome Glass"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 11, Nov 73, pp 29-31

Abstract: There is conducted a brief critical discussion of works dealing with investigation of the relaxation mechanisms in photochrome glass, that is to say, parameters of the relaxation process, the values of which do not depend upon the conditions of exposure, but are functions only of the composition of the glass and of the temperature at which decolorization takes place. An expression is proposed, which describes the process of destruction of the color centers. The constants of the relaxation process are found, and an investigation is made of the relationship of the relaxation constants to the wave length of the control beam. 1 figure. 4 tables. 7 references.

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SITENKO, A. G.; FURSA, A. D.; DOTSENKO, I. S. (Institute of Theoretical Physics, Ukrainian Academy of Sciences; Institute of Nuclear Research, Ukrainian Academy of Sciences, Kiev)

"Calculation of the Distortion of Wave Functions during Multiple Analysis of Fast Nucleon Scattering by Nuclei"

Kiev, Ukrainskiy Fizicheskiy Zhurnal; June, 1971; pp 881-93

ABSTRACT: Wave function distortion in the initial and finite states is considered within the framework of the multipole formalism in describing high-energy nucleon scattering by nuclei. The distortional optical potential is calculated on the basis of two-nucleon interaction in accordance with the multiple scattering theory. Numerical calculations were made of the angular distributions under elastic scattering of protons by  $C^{12}$  nuclei as well as under inelastic scattering of protons with excitation of levels  $0^+$ ,  $1^+$ ,  $2^+$ , and  $3^-$  when  $T = 0$

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SITENKO, A. G., et al., Ukrainskiy Fizicheskiy Zhurnal, Jun 71, pp 881-893  
and  $1^+$  and  $2^+$  when  $T = 1$  of the  $C^{12}$  nucleus. A comparison with the experimental data is made for the proton energy of 185 Mev. The character of the angular relationships and absolute magnitudes of the cross sections in most cases is in good agreement with the experimental values.

The article includes 41 equations and 10 figures. There are 10 references.

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1/2 006

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--INFLUENCE OF SOLUBLE NITROGEN COMPOUNDS ON THE PURIFICATION AND SUGAR LEVEL IN MOLASSES -U-  
AUTHOR--(05)--GOLUBEVA, A.D., KARTASHOV, A.K., LIMANSKAYA, A.YA., DOTSENKO, L.D., VERCHENKO, L.M.  
COUNTRY OF INFO--USSR

SOURCE--SAKH. PROM. 1970, 44(2), 27-31

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NITROGEN COMPOUND, FOOD PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1990/0946

STEP NO--UR/0339/70/044/002/0027/0031

CIRC ACCESSION NO--AP0109103

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109103

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

ABSTRACT. THE DECREASED TECH. EFFICIENCY OF SUGAR BEET FACTORIES IN 1964-8 AS COMPARED WITH 1956-7 IS DUE TO THE POOR TECH. QUALITY OF SUGAR BEETS WHICH CONTAIN 70-5, 30-70, AND 400-600PERCENT OF THE NORMAL LEVELS OF K, P, AND N, RESP.

UNCLASSIFIED



Dotsenko, M. A.

SPRS 56, 499  
14 JULY 72

CHANGES IN THE MORPHOLOGICAL COMPOSITION OF THE BLOOD AND BONE MARROW DURING HYPOKINESIA AND PRESSURE CHAMBER TRAINING  
Article by I. I. Bril'yan and M. A. Potapenko; Moscow, Akademiya Nauk SSSR, *Voprasy Kosmicheskoy Biologii i Meditsiny* (Current Problems in Space Biology and Medicine), Russian, 1971, pp 32-33/

Prolonged hypokinesia and weightlessness cause changes in the physiologic systems, including the blood-forming system. P. A. Korshunov (1954), as interpreted by Lamb and Hoppy (1966), it is postulated that under weightlessness conditions of bone marrow will have no stimulating effect on the behavior of cells. Conditioning to hypoxic hypoxia increases the activity of cells in the erythroblastic series and depresses the activity of cells in the myeloid series (I. P. Blagovestova, 1965).

On this basis the objective of our study was a determination of the effect of preliminary adaptation to hypoxic hypoxia on tolerance of the hypokinetic effect using data on the morphological composition of the peripheral blood and bone marrow.

The study was made on common male rats. Stopped acclimatization to hypoxic hypoxia was created by amount of the animals in a pressure chamber for ten days each to altitude of 3,000, 5,000 and 7,000 m with their presence at each altitude for six hours each day. Thirty-day hypokinesia was created by placing the animals in special hypokinetic cages.

All the animals were divided into three groups. The first group included animals which had undergone preliminary acclimatization to hypoxic hypoxia and which were then subjected to hypokinesia; the second group consisted of animals without preliminary acclimatization which were exposed to 30

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POTAPOV, V. I., DOTSENKO, M. F.

UDC: 8.74

"Neuron-Like Elements in the Mode of Recovering Organs"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 10, pp 38-49 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V715 by the authors)

Translation: Mathematical models are considered for three types of neuron-like elements in the mode of regenerating organs. Expressions are derived for calculating the probability of trouble-free operation of redundant systems with nonadditive and additive neuron-like regenerating organs, and the effectiveness of the neuron-like elements is studied in the regenerating organ mode. This enables selection of the most effective structure and algorithm of adaptation of the neuron-like regenerating organ on the basis of a priori data as to the most probable situation in the process of operation at the inputs of the regenerating organ.

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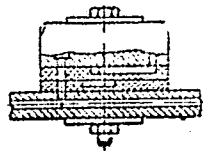
D UDC 681.3.056

ALEKSA, A. K., DOTSIENKO, S. A., SHMATKOV, N. A., Institute of Mining Mechanics and Technical Cybernetics imeni M. M. Fedorov

"A Pneumatic Logic Device"

Moscow, Otkrytiya, Izobreteniya, Promychlennyye Obraztsy, Tovarnyye Znaki, No 12, 1970, Author's Certificate No 267178, filed 28 Oct 68, p 116

Abstract: This Author's Certificate introduces: 1. A pneumatic logic device which contains single-contact valves mounted in a housing and isolated from one another. As a distinguishing feature of the patent, the device is designed for realization of elementary logic functions by incorporation of a universal elastic insert with commutating channels. 2. A modification of this device with the distinguishing feature of construction for realizing complex logic functions by incorporation of an additional rotating plate with commutating channels.



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UDC 669.295.015.3:543.42

USSR

DOTSENKO, S. N., POPLAVSKAYA, K. A., SEMENOVA, G. N., and KHUDYAKOVA, T. N.

"Spectrographic Testing of Impurities in Pigmented, Modified Titanium Dioxide"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 165-169

Translation: A method is developed for spectrographic testing of silicon, aluminum, zirconium, and iron in pigmented titanium dioxide modified by the "wet method." The spectra were photographed using an ISP-28 quartz spectrograph of average dispersion. The possibility of using production calibrating devices made of pigmented titanium dioxide, on the surface of which supplements of aluminum, silicon, and zirconium have been applied by the "wet method," and artificial calibrating devices in a spark and arc state is studied. The results received provide evidence that the spark state gives better reproducibility of results and two-fold less error in analysis than the arc state. The method ensures testing from 0.0076 to 0.018% Fe, 0.57-1.57% Al, 0.28-0.54% Si, and 0.30-1.52% (by mass) Zr. Four illustrations, three tables, and 19 bibliographic entries.

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USSR

UDC: 621.373+621.397.331.222+621.386.2/7

6

BAYKOV, A. P., BELAGO, V. A., BUDARNYKH, V. I., DOTSENKO, V. I.,  
KURASHOV, E. M., LYUBIN, V. M., NALIVAYKO, V. I., FEDOROVA, Ye. I.,  
TSUKERMAN, V. G., and SHESTAK, A. F.

"Methods of Recording X-Ray Images in a Science Research Automation System"

Novosibirsk, Avtometriya, No 6, 1971, pp 67-80

Abstract: A description is given of a complex of pulsed x-ray sources with memory elements for recording fast processes, along with highly sensitive systems for visualizing two-dimensional x-ray images of threshold intensity. The radiation required has a duration of  $10^{-8}$  to  $10^{-7}$  sec with a hardness of several hundred kev. For the recording equipment, photographic film and television systems were used, in which the memory cells were the semi-conducting targets of sensor tubes. In such a system, the image is impressed directly on the target of the x-ray vidicon with a controllable memory, or is fixed by re-recording the video signal on a vidicon with optical memory, thus allowing connection of the recording equipment to the input of an electronic computer. The purpose of a complex of this type is to gather scientific data as part of a system for automation of the research procedure. Descriptions of the equipment are given, together with photographs

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USSR

UDC: 621.373+621.397.331.222+621.386.2/7

BAYKOV, A. P., et al, Avtometriya, No 6, 1971, pp 67-80

of the x-ray and recording equipment as well as sample oscillograms of various equipment items. The authors express their gratitude to Yu. Ye. Nesterikhin and A. M. Iskol'dskiy for their delineation of the problem and their supervision of the work. For his assistance with the experiments made using this equipment, the authors thank E. V. Yanshin.

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USSR

UDC 539.5

DOTSENKO, V. I., PUSTOVALOV, V. V., STATINOVA, V. F., Kar'kov.

"Deformation Hardening of Copper at Low Temperatures"

Kiev, Problemy Prochnosti, No. 4, Apr 71, p. 41-46.

Abstract: The temperature dependences of the parameters of the hardening curves of copper monocrystals of various orientation and copper polycrystals of various purity are studied. It is demonstrated that as the temperature drops from 4.2 to 1.4°K, the critical shear stress of copper monocrystals of all three main orientations decreases. Two types of unevenness of the hardening curve of monocrystals are studied, observed at low temperatures. The stress relaxation method is used to produce values of the activation energy and activation volume of the process controlling plastic deformation.

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USSR

UDC 629.7.036.3.55

DOTSENKO, Yu. N., PELEPEYCHENKO, I. P., VOLKOV, V. G.

"Determination of Adjustment Parameter of Correcting Circuit Operating in System for Regulation of Aviation Gas Turbine Engine Gas Temperature"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Construction and Air Force Technology. Republic Interdepartmental Thematic Scientific and Technical Co-lection], 1971, No. 25, pp 46-50.

(Translated from Referativnyy Zhurnal Aviatsionnye i Raketnye Dvigateli No 1, 1972, Abstract No 1.34.71, from the resume).

Translation: A method is suggested for determining the time constant of the working thermocouple installed before a turbine in a gas stream, designed to operate in the regulation system of an aviation turbine engine. Determination of the time constant is preceded by determination of the instantaneous temperature and speed of the gas stream, which is achieved by using two measuring thermocouples of different thermal inertia. A method is suggested for converting the time constant of the operating thermocouple for various operating conditions. 5 figs; 5 bibliic refs.

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USSR

UDC 535.376:621.382

DOTSENKO, Yu. V., SELIVERSTOV, D. M., SHESTERNEV, A. N.

"Temporal Characteristics of GaP Semiconductor Diodes"

Tr. 7-y Konferentsii po yadern. elektron. T.1, Ch.4 (Works of the 7th Conference on Nuclear Electronics, Vol 1, Part 4), Moscow, Atomizdat, 1970, pp 313-322 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B233)

Translation: A study is made of the form of light pulses of GaP luminescent diodes (LD) applicable as simulators of pulsed radiation during investigation of the temporal characteristics of a photomultiplier. The glow of the LD was excited by current pulses of rectangular form with an intrinsic rise time of  $\sim 4$  nsec and was registered with the aid of a Type K 14 FS-50 photomultiplier, the signal from the anode of which was transmitted on a matched line to a S-I-II oscilloscope (intrinsic time of amplifier  $\sim 5$  nsec). The oscillographs inspected show that both fronts of the light pulse of the LD consist of two components with relaxation times of 30 and 100 nsec. With inverse connected the relaxation time is  $\leq 10$  nsec. The delay of the LD glow with respect to the moment of admission of the signal and the divergence  $1/2$

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DOTSENKO, Yu. V., et al., Tr. 7-y Konferentsii po yadern. elektron. T.1, Ch.4 (Works of the 7th Conference on Nuclear Electronics, Vol 1, Part 4), Moscow, Atomizdat, 1970, pp 313-322 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B233)

of the delay were investigated and shown to be smaller with an inverse connection. The halfwidth of the time distribution of the moments of triggering amounts to 0.15 nsec. 5 ill. 3 ref. N. S.

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1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--ON SOME MECHANISMS OF BRONCHOSPASM IN PATIENTS WITH BRONCHIAL  
ASTHMA -U-  
AUTHOR-(03)-DOTSENKO, YA.N., MEDVEDCHUK, G.YA., YEREMEYEV, V.G.  
COUNTRY OF INFO--LSSR  
SOURCE--VRACHEBNYE DELO, 1970, NR 5, PP 90-92  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PULMONARY DISEASE, HYPOCAPNIA, HYPOXEMIA, HYPERCAPNIA,  
RESPIRATORY DRUG  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3002/1738 STEP NO--UR/0475/70/000/005/0090/0092  
CIRC ACCESSION NO--AP0129106  
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70  
CIRC ACCESSION NO--AP0129106  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BRONCHIAL PATENCY CHANGES HAVE BEEN STUDIED IN 22 HEALTH PERSONS AND 13 PATIENTS WITH BRONCHIAL ASTHMA AND ASTHMATIC BRONCHITIS UNDER THE EFFECT OF HYPOCAPNIA, HYPERCAPNIA AND HYPOXEMIA. SIGNS OF MILD BRONCHOSPASM WERE FREQUENTLY FOUND DUE TO THESE EXCITATIONS OF THE RECEPTORS OF THE BRONCHO PULMONARY APPARATUS. A STUDY OF 35 PATIENTS WITH ASTHMA BRONCHIALE REVEALED A GROUP OF 10 PATIENTS WITH THE SO CALLED HYPERVENTILATION SYNDROME, IN WHICH DRUGS INHIBITING THE RESPIRATORY CENTER ARE INDICATED. FACILITY:  
KAFEDRA FAKUL'TETSKOY TERAPII, ZAPOROZHSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

DOVATOR, N.A.

UNC 530-83-007.56

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JMS 5/16/74  
14 Aug 73

HELIUM SELF-OSCILLATING MAGNETOMETER WITH OPTICAL PUMPING OF He<sup>4</sup> ATOMS

Article by R. A. Zhitnikov, P. P. Kulshov, N. A. Dovator, and V. A. Azin  
(Physico-technical Institute, Inst. A. F. Ioffe, Leningrad, Gosfizicheskaya  
Apparatura, Russian, no 50, 1972, pp 5-9)

For measuring the various parameters of a geomagnetic field, ever-increasing use is being made of the quantum magnetometers with optical pumping of the vapors of alkali metals and of metastable He atoms. These magnetometers can be built according to a system with automatic frequency tuning of the external (reference) oscillator toward the center of the working medium's resonance line or according to a self-oscillating system utilizing a spin-type oscillator (self-oscillating magnetometers). The self-oscillating magnetometers are simpler, more compact and reliable, and provide a higher operating speed.

The magnetometers using vapors of alkali metals as a working medium when compared with helium-type magnetometers reveal several shortcomings, including the nonlinear dependence between the magnetic field which is being measured and frequency of signal which is being recorded, requirement of thermostatic control over the absorption chamber, and asymmetry of resonance line.

Whereas the atoms of alkali metals have been employed in the development of self-oscillating magnetometers and magnetometers with automatic frequency tuning, the metastable He atoms were used only in magnetometers functioning according to the last setup. The development of a self-oscillating magnetometer with optical pumping of metastable He atoms [1, 2] permitted us to create a device offering the possibility of a spin-type oscillator and the advantages of He<sup>4</sup> as a working agent.

One of the basic difficulties in developing such a magnetometer was occasioned by the complexity of the optical detection of the metastable He<sup>4</sup> atoms' narrow frequency (0.7-2.1 MHz) in the range of terrestrial magnetic fields. For the effective detection of light modulation with very long (A - 1.08x microns at such frequencies), we developed two types of special

USSR

UDC: 621.762.5(088.8)

MUKHA, I. M., DOVBISHCHUK, M. A., KAL'NENKO, B. I., BELILOVETS, A. D.

"Method of Sintering of Metal Ceramic Products"

USSR Author's Certificate Number 353793, Filed 10/02/70, Published 30/10/72  
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract  
No 8G403).

Translation: A method is suggested for sintering metal ceramic products, including heating in a controlled gas atmosphere. In order to reduce the sintering cycle and increase product quality, they are heated by a glowing gas discharge.

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USSR

MUKHA, I. M., DOVBISHCHUK, M. N., BELILOVETS, A. D., VYSHNEVSKIY, V. S., Kiev

"Strength of Welded Joints of VK Hard Alloys as a Function of the Thickness of the Interstitial Layer and the Technological Process of Applying It"

Kishinev, Elektronnaya obrabotka materialov, No 5 (47), 1972, pp 26-30

Abstract: A study was made of the technological procedures for applying Ni and Co interstitial layers for diffusion welding of VK type hard alloys in glow discharge and also the effect of the thickness of the interstitial layers on the strength of the welded joint. Interstitial layers made of powdered Ni and Co can be used for surface ground parts made of hard alloys. Interstitial layers in the form of thin films obtained by thermal evaporation in a vacuum can be used for welding parts of complex surface curvature. The optimal film thickness is 4,000 to 8,000 Å. The variation in strength of the welded joints of VK6-VK16 hard alloys is plotted as a function of the thickness of the Co and Ni interstitial layers from 2,000 to 40,000 Å.

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USSR

UDC 621.791.012

SAMSONOV, G. V., MUKHA, I. M., DOVBISHCHUK, M. N., and KAL'NENKO, B. I.,  
Kiev

"The Effect of Heating by Glow Discharge on the Physico-Chemical Surface  
Condition of Solid Alloys"

Kishinev, Elektronnaya Obrabotka Materialov, No 5 (35), 1970, pp 32-38

Abstract: The effect of ionic heating on the physico-mechanical surface  
properties of solid alloys of the type VK (VK2, VK6, VK8, VK15, and VK20)  
and TK (T5K10, T15K6, and T30K4) and tungsten and titanium carbides during  
diffusion welding in a glow discharge is demonstrated. An analysis is  
presented of the variation of the chemical composition of surface layers  
as a function of the energy condition and the electron structure of the  
heated materials.

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USSR

UDC: 513.88:513.83

DOVBYSH, L. N."On Expansions in Non-Minimal Sequences"

Zap. nauchn. seminarov Leningr. otd. Mat. in-ta AN SSSR (Notes of Scientific Seminars, Leningrad Department, Mathematics Institute of the Academy of Sciences of the USSR), 1970, 18, pp 177-190 (from RZh-Matematika, No 5, May 71, Abstract No 5B723)

Translation: The concept of a formal base is introduced for nonminimal sequences in a B-space  $E$ : the system  $\phi = \{q_k\}$  is a formal base if there exists a closed linear subspace  $N$  in the space of all number sequences  $R^\infty$  and a continuous embedding  $p$  of subspace  $E$  in  $R^\infty/N$  for which to each element  $\phi_k$  there corresponds a class of contiguity which contains the element  $\epsilon_k = (0, \dots, 0, 1, 0, \dots, \dots)$ .  $R^\infty$  is considered in the topology of convergence by coordinates. It is shown that the system  $\phi$  is a formal base if and only if  $\cap L_n = \{0\}$ , where  $L_n$  is a closed linear shell  $\{\phi_{n+1}, \phi_{n+2}, \dots\}$ . The author investigates the properties of systems  $\phi$  containing subspaces  $N$  and mappings. In conclusion, some properties of Gram matrices of nonminimal systems are presented. V. Gaposhkin.

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USSR

UDC: 621.385.9(088.8)

BAGYAN, L. G., DOVBYSH, V. D.

"An Amplifier"

USSR Author's Certificate No 283312, filed 8 Dec 68, published 14 Dec 70  
(from RZh-Radiotekhnika, No.6, Jun 71, Abstract No 6D110)

Translation: An amplifier is proposed which consists of an output transistor connected in a common-emitter circuit. Connected in the emitter circuit of the output transistor is the collector of another transistor with a Stabilitron in the base circuit. Also incorporated in the device is a two-stage amplifier based on transistors of opposite conductivity types with a variable resistor connected between the emitter of the first transistor and the collector of the second transistor. To increase the input impedance of the amplifier, the collector of the second transistor in the two-stage amplifier is connected through the Stabilitron to the collector of the input transistor.

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AA0043439

Dov bysh, V. G.

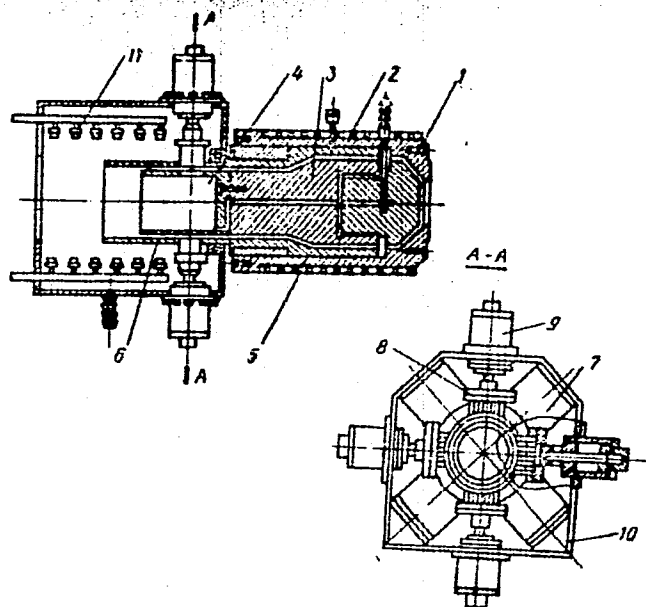
UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, <sup>1-70</sup>

228261 EXTRUSION HEAD, e.g. for making tubes from thermoplastics material, consisting of the body section (1) containing electrical heating elements (2), distributing mandrel (3), and calibrated mandrel (4) which acts as the matrix during the perforation of the tube. In a concentric arrangement with the mandrel (4) is the die (5) with its calibrated insertion pieces (6); the latter has grooves to guide the blades (7) of the slot-piercing tools (8). The process whereby previously-plasticised polymer castings are converted into tubes using this attachment is described briefly.

19761772

AA0043439



21.8.67. as 1181969/23-5, KIMSHA, V.P. and  
DOVEYSH, V.G. (3.6.69) Bul. 31/8.10.68. Class 39a<sup>4</sup>  
Int. Cl. B 29f.

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19761773

USSR

UDC 616.831-07.:617.7-072.7

DOVEDOVA, Ye. L., BOGOLEPOV, N. N., and PUSHKIN, A. S., Brain Institute,  
USSR Academy of Medical Sciences USSR

"Ultrastructural and Biochemical Characteristics of the Visual Analysor  
After Prolonged Light Deprivation"

Moscow, Zhurnal Nevropatologii i Psikhiiatrii, No 7, 1973, pp 1,070-1,077

Abstract: Keeping rats in total darkness for 7 months caused ultrastructural and biochemical changes mainly in the ergastoplasm of visual analysor neurons. It also reduced the activity of enzymes of mediator and oxidative metabolism in the mitochondria and synaptosomes. The ultrastructural changes included increased numbers of ribosomes, enhanced osmiophilia of the hyaloplasm, deep invaginations of the nuclear membranes, and enlargement of some nucleoli. Abnormal enzyme activity was most pronounced in the lateral geniculate bodies. Monoamine oxidase, acetylcholine esterase, and potassium and sodium adenosinetriphosphatase activities diminished in the mitochondria of the superior colliculus. The commonest change both in the cortex and in the lateral geniculate bodies was the increased quantity of ribosomes in the cytoplasm of the neuron body.

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USSR

UDC 616-093.921.1.04-07:616.8-091.81-07

BOGOLEPOV, N. H., MATVEYEVA, T. S., DOVEDOVA, Ye. L., and VOROB'YEVA, T. V.,  
Brain Institute, Academy of Medical Sciences USSR, Moscow

"Ultrastructural Changes in Nerve Cells Induced by Hypoxia"

Moscow, Zhurnal Nevropatologii i Psikhiiatrii, No 12, 1972, pp 1819-1827

Abstract: Optical microscopic examination of cortical neurons in rats exposed to hypoxia for varying periods revealed a great variety of morphological changes ranging from physiological activation to ischemia, karyocytolysis, and disappearance of whole groups of cells. Electron microscopy showed four types of ultrastructural changes, the severity varying with the duration of hypoxia: (a) presence of "dark" osmiophilic cells with increased electron density of the cytoplasm; (b) presence of cells with an increased number of lysosomes and dark osmiophilic granules; (c) various changes in the mitochondria; (d) changes typical of retrograde degeneration, i.e., shifting of the nucleus to the periphery, decrease in number of elements of granular reticulum, swollen mitochondria lacking in cristae. The associated biochemical changes were marked chiefly by the decreased activity of the oxidation enzymes. The data are analyzed from the standpoint of the mechanisms of the destructive and compensatory processes in the cerebral cortex during hypoxia.

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Acc. Nr.:

AP0030988

D

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 1, pp 44-47

DISTRIBUTION OF ENZYMIC ACTIVITY IN SUBCELLULAR FRACTIONS FROM DIVERSE PORTIONS OF THE RAT'S BRAIN SEPARATED BY GRADED CENTRIFUGING

Yel. Dovedova

Institute of the Brain of the AMS of the USSR, Moscow

Biochemical peculiarities of the mitochondria fraction and of 5 subfractions (A, B, C, D, E) separated in the density gradient of the saccharose (0.8-1.4 M) from the cerebral hemispheres cortex, the brain stem and the intact brain of rats were investigated. Differences in the distribution of protein and in the level of the specific activity of the cytochromoxidase and succinates, viz. cytochrome C—oxydoreductase and acetylcholinesterase contained in mitochondrial subfractions of the brain divisions under study. These results point to the unequivalence of mitochondria of different types.

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REEL/FRA

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UDC 621.396.6.019.3

DOVGAL', S. I., KREDETSER, B. P., MARAKHOVSKIY, A. YE.

"Analyzing the Operational Quality of Electronic Circuits by Statistical Modeling With the Computer"

Kiev, Izvestiya VUZ -- Radioelektronika, Vol 13, No 7, 1970, pp 868-873

Abstract: Although a good many papers have been devoted to the problem of the operational reliability of electronic circuits subject to gradual breakdown, a complete method of analysis of parametric reliability has yet to be developed. The purpose of this article is to consider an engineering method for investigating the problem by reliability criteria which are to a large extent free from the limitations of existing methods. The object of this investigation are elementary functional units such as inverters, flip-flops, phantastrons, amplifiers, and the like. The method proposed for this investigation can also be used for more complex units. Four stages are outlined for statistically testing mathematical models of the unit under investigation using universal digital computers: first, finding a mathematical description of the circuit, obtaining initial data for the laws of distribution of all primary parameters, and establishing the conditions of normal circuit operation; second, formalizing the process of the circuit

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USSR

DOVGAL', S. I., et al., Izvestiya VUZ -- Radioelektronika, Vol 13, No 7, 1970, pp 868-873

operation and constructing the mathematical model; third, developing modeling algorithms and their programs for the computer; fourth, repeatedly realizing the modeling algorithm on the computer in imitation of the circuit assembly. The method was verified by investigating a transistor switching circuit with the Ural-2 computer; a derivation of the mathematical description of the circuit for that investigation is given. The authors conclude that statistical modeling combined with analytic methods and extensive experimentation is effective in analyzing the quality of electronic circuit operation.

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--300CT70  
TITLE--SOME DATA ON THE CHARACTERISTICS AND CLINICAL USE OF THE NON  
CITRATED DONOR PLASMA --U-  
AUTHOR--(04)--DOVGALEV, S.I., DANILOV, I.P., BUGLOV, YE.D., BUGLOVA, YA.F.  
COUNTRY OF INFO--USSR  
SOURCE--ZDRAVOKHRANENIYE BELORUSSII, 1970, NR 4, PP 80-83  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--BLOOD PLASMA, CALCIUM, PHOSPHATE, CELLULOSE, DONOR BLOOD,  
BLOOD COAGULATION, LIVER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3003/0133 STEP NO--UR/0477/70/000/004/0080/0083  
CIRC ACCESSION NO--AP0129389  
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS HAVE SHOWN THAT IN THE NON CITRATED AND NATIVE PLASMA, OBTAINED FROM THE BLOOD, STABILIZED WITH THE HELP OF THE FIBRED SURBENT OF THE CALCIUM IONS, CELLULOSE PHOSPHATE (THE M-I PREPARATION) THE COAGULATION SYSTEM FACTORS HAVE BEEN BETTER PRESERVED. THE NON CITRATED PLASMA WITH ITS PHYSICO CHEMICAL AND CURATIVE PROPERTIES HAS FAVOURABLY DIFFERED FROM THE CITRATED ONE. DUE TO A LOWER REACTOGENESIS ITS USE IS PREFERRED IN CASES OF THE DISEASES ACCOMPANYING A LIVER AFFECTION. FACILITY: BELGRUSSKIY N-I INSTITUT PERELIVANIYA KROVI AND 1-YA KAFEDRA GOSPITAL'NOY TERAPII MINSK. MEDITSINSKUGG INSTITUTA.

UNCLASSIFIED

USSR

UDC 669.018.5:620.181:538.21

DOVGALEVSKIY, Ya. M., VLASKINA, K. I., LOYKO, A. D., and POKROVSKIY, Ya. I.,  
Saratov Institute of the Mechanization of Agriculture

"Study of the Influence of  $\alpha\gamma$ -Phase in Magnico-type Magnetic Solid Alloys on the Decrease of Brittleness"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 5, 1973, pp 123-127

Abstract: The increased tendency to brittle failure of magnico-type magnetic solid cast alloys on a Fe-Ni-Al-Co base was investigated on specimens of ANKok alloy. The specimens were smelted down in a high-frequency furnace with quartzite lining and were then ground up to 10 x 10 x 55 mm. Fractures of Magnico alloys in a highly coercive condition and with  $\alpha\gamma$ -phase separations were studied by means of fractional photography. The presence of  $\alpha\gamma$ -phase separations results primarily in the appearance of transcrystalline fracture. Three figures, one table, five bibliographic references.

1/1

.. 49 -

1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--SPIRITUOUS METHOD OF SERUMAL POLYGLOBULIN OBTENTION -U-

AUTHOR-(04)-DOVGALYEV, S.I., DANILOV, I.P., DREKOV, G.A., KORNEYCHIK, V.S.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 2, PP 26-28

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA GLOBULIN, DRUG PRODUCTION, HEMATOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1988/1655

STEP NO--UR/0477/70/000/002/0026/0028

CIRC ACCESSION NO--AP0106401

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0106401

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW SPIRITUOUS METHOD WAS OFFERED OF OBTAINING SERUMAL POLYGLLOBULIN, DIFFERING FROM THE RIVANOLUOUS METHOD OF OBTAINING GAMMA GLOBULIN IN EXCLUDING THE BULKINESS OF MULTITUDE OF OPERATIONS; IT INCREASED THE APPARATUS OUTPUT. ITS PRODUCTION IS AVAILABLE TO ANY INSTITUTION OF BLOOD SERVICE.

UNCLASSIFIED

USSR

UDC 535.373.1(083.76)

YAKHNIS, G. I., GOVOROVA, R. A., DOVGAN' M. YE., BATURICHEVA,  
Z. B.

"Some Questions of Scintillator Standardization"

Khar'kov, Monokristally, Stsintillyatory i Organicheskiye Lyumino-  
fory -- Sbornik (Monocrystals, Scintillators, and Organic Lumino-  
phores -- Collection of Works), No 5, 1970, pp 302-306 (from  
Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 12,  
1970, Abstract No 12.32.1498)

Translation: In recent years, the area of the employment of scin-  
tillators has expanded considerably. Demands made upon them have  
also increased, particularly with regard to their capacity to  
operate under conditions of the action of various climatic and  
mechanical factors. Standardization of the products should begin  
with the development of basic rules which include a classification  
of the products according to the nature of their employment and  
according to the level of their operational characteristics; jus-  
tified guarantee periods and a technical service life must be  
established. The present article sets forth the results of  
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USSR

YAKHNIS, G. I., et al, Monokristally, Stsintillyatory i Organiches-  
kiye Lyuminofory -- Sbornik, No 5, 1970, pp 302-306

research carried out in this direction. 1 figure, 1 table,  
2 bibliographic entries.

2/2



Acc. Nr.

AP0041855

Abstracting Service:

CHEMICAL ABST.

4/70

Ref. Code

4R0366

D

89866u Adamantane and its derivatives. XXII. Synthesis of aldehydes of the adamantane series based on diethyl acetals. Stepanov, F. N.; Doyzan, N. I. (Kiev. Politekh. Inst., Kiev, USSR). *Zh. Org. Khim.* 1970, 6(1), 55-8 (Russ). The reaction of RCH<sub>2</sub>OH (R in this abstr. is 1-adamantyl) with Pb(OAc)<sub>2</sub> and HC(OEt)<sub>2</sub> gave RCH(OEt)<sub>2</sub>, which was condensed with H<sub>2</sub>C:CHOEt in the presence of BF<sub>3</sub>·Et<sub>2</sub>O to give RCH(OEt)-CH<sub>2</sub>CH(OEt)CH<sub>2</sub>CH(OEt)<sub>2</sub> and RCH(OEt)CH<sub>2</sub>CH(OEt)<sub>2</sub> (I). The hydrolysis of I with AcOH-AcONa-H<sub>2</sub>O mixt. gave RCH(OEt)CH<sub>2</sub>CH(OEt)<sub>2</sub>. Similarly, RCH<sub>2</sub>CH(OEt)<sub>2</sub> (II) was converted to RCH<sub>2</sub>CH(OEt)CH<sub>2</sub>CH(OEt)CH<sub>2</sub>CH(OEt)<sub>2</sub> and RCH<sub>2</sub>CH(OEt)CH<sub>2</sub>CH(OEt)<sub>2</sub>, which was hydrolyzed to RCH<sub>2</sub>CH:CHCHO. The pyrolysis of II or RCH<sub>2</sub>CH<sub>2</sub>CH(OEt)<sub>2</sub> on Mg-HPO<sub>4</sub>-Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> mixt. at 250°/65-75 mm gave, resp., RCH:CHOEt or RCH<sub>2</sub>CH:CHOEt.

CPJR

*see*

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REEL/FRAME

19751736

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USSR

UDC 621.314.58(088.8)

DOVGANYUK, I. YA., STRYUTSKOV, V.K. [VNII elektroenerg.---All-Union Scientific-  
Research Institute Of Electrical Power]

"Device For Control Of Direct Frequency Converter Using Symistors"

USSR Author's Certificate No 265261, filed 26 Apr 68, published 23 June 70  
(from RZh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No  
38592P)

Translation: A device is proposed for indication of the blocked state of  
symistors, which gives a signal to a control circuit during reverse of the con-  
verter. The indication device consists of two toroidal transformers, the  
primary windings of which are connected in series and connected into the net-  
work between the common point of the power electrodes of the symistors and the  
common point of the RC-circuit connected to the other power electrodes of the  
symistors. 2 ill. A.S.

1/1

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USSR

DOVGAY, V. V.

"Asymptotic Behavior of Solutions of Certain Nonlinear Stochastic Systems with High Parameter Value"

Mat. Fizika. Resp. Mezhd. Sb. [Mathematical Physics. Republic Interdepartmental Collections], 1973, No 13, pp 31-36 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V35)

Translation: A Cauchy problem is studied for a system of nonlinear second order differential equations with randomly perturbed parameters

$$y'' + \lambda^2 Q(t)y = f_0(t, y) + \sum_{k=1}^m f_k(t, y) \xi_k(t), \quad (1)$$

$$y(t_0) = y_0, \quad y'(t_0) = y'_0, \quad t_0 < t < T < \infty.$$

$y$  and  $f_k(t, y)$  ( $k = 0, 1, \dots, m$ ) are  $n$ -dimensional vectors with components  $y_i$  and  $f_k^i(t, y)$  ( $i = 1, 2, \dots, n$ ), where vector  $f_k(t, y)$  ( $k = 0, 1, \dots, m$ ) is continuous with respect to  $t \in [t_0, T]$  and satisfies the conditions

$$\begin{aligned} |f_k(t, y)| &< r(t)|y|^l, \\ |f_k(t, y_1) - f_k(t, y_2)| &< K|y_1 - y_2| \end{aligned}$$

1/2

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USSR

DOVGAY, V. V., Mat. Fizika. Resp. Mezhved. Ab., 1973, No 13, pp 31-36

where  $t \in [t_0, T]$ ,  $|y| < \infty$ ,  $|y_1| < \infty$ ,  $|y_2| < \infty$ . Function  $r(t)$  is non-negative and continuous in sector  $[t_0, T]$ ,  $K$  is a certain positive constant,  $Q(t)$  is a diagonal matrix of order  $n \times n$  with elements  $q_i(t)$  ( $i = 1, 2, \dots, n$ ), twice continually differentiable and strictly positive in the interval  $[t_0, T]$ ;  $\xi_k(t)$  ( $k = 1, 2, \dots, m$ ) are processes of independent Gaussian white noise with zero mean and covariation matrix

$$\delta_{ij} \delta(t-s) = M[\xi_i(s) \xi_j(t)],$$

where  $\delta_{ij}$  is the Kroneker symbol,  $\delta(t)$  is the  $\delta$ -function of Dirac. The real parameter  $\lambda$  satisfies the condition  $\lambda \geq \lambda_0 > 0$ . In this work, using the method of the differential invariant, asymptotic formulas are established for the first and second moments of the solution of the Cauchy problem (1) as  $\lambda \rightarrow \infty$ . Author's view

2/2

USSR

UDC 519.2

DOVGAY, V. V.

"Asymptotic Properties of Solutions of Some Linear Systems of Differential Equations with Random Coefficients"

Dopovidi AN URSR (Reports of the Ukrainian SSR Academy of Sciences), 1972, A, No 8, pp 686-688, 763 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V76)

Translation: A study was made of the Cauchy problem of a system of second-order linear differential equations with random coefficients which includes the parameter  $\lambda$ . Asymptotic formulas were obtained for  $\lambda \rightarrow \infty$  for the first two moments of the solution of this problem with accuracy to values on the order of  $O(1/\lambda)$ .

1/1

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USSR

DOVGIY, V. I.

"Transfer of Words and Mathematical Logic"

Nauch.-tekhn. Inform. Sb. Vses. In-t. Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of All-Union Inst. of Sci. & Tech. Inform., 1971, Series 2, No 12, pp 15-24, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V597 by the author).

Translation: The problem of synthesis of a word carry automaton is studied. The main algorithm for word carry is formulated in a four-letter alphabet and written in terms of the algebra of regular events. Abstract and structural synthesis of word carry automata is performed.

1/1

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USSR

UDC 535.8:666.189.2

BOVGIY, YA. O., BILYY, YA. M., BRILINSKIY, M. I., GNYP, R. G., DMYTRUK, V. I.,  
SIMKIN, YU. YE.

"Effect of Fiberglass on the Contrast-Frequency Characteristics of Optical  
Systems"

Leningrad, Optika i Spektroskopiya, Vol XXXIV, No 4, 1973, pp 789-791

Abstract: The quality of the image formed by an optical system is determined by its contrast-frequency characteristic or the contrast transmission function  $T(N)$ . If during transformation of the optical signals their relative intensity (contrast) does not change it is possible to write the equation [F. Perren, Usp. Fiz. Nauk, No 78, 307, 1962]:

$$T_{\text{sys.}}(N) = \prod_i T_i(N)$$

( $T_i(N)$  is the contrast-frequency characteristic of the  $i$ -th element of the system,  $N$  is the spatial frequency). A study was made to determine how fiberglass affects the contrast-frequency characteristic of the system. The fiberglass introduces a contrast distortion and violates the above relation. The degree of the distortions depends on the relations of the fiberglass apertures and the other system elements. The conditions most acceptable for measuring the contrast-frequency characteristics of the fiberglass are as follows:  
1/2

USSR

DOVGIY, YA. O., et al., Optika i Spektroskopiya Vol XXXIV, No 4, 1973, pp  
789-791

illumination by a collimated beam of uniform cross section using any receiving  
objective or diffuse illumination jointly with a narrow-aperture objective  
( $A_{ob} \leq A_{\text{fiberglass}}$ ).

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USSR

UDC 666.189.212:535.818.7

~~DOVGIY, YA. O.~~, BILYY, YA. M., BRILINSKIY, M. I., GNYP, R. G., <sup>Amirguk</sup>~~DETRAE~~, V. P.,  
SIMKIN, YU. YE., STEFANSKIY, I. V. [L'vov State University imeni Ivan Franko]

"Frequency-Contrast Characteristics And Noise Of Fiber Optic Cathodoluminescence Screens"

Tekhnika kino i televideniya, No 4, Apr 1972, pp 54-55

Abstract: Measurements were made of the frequency-contrast characteristics (FCC) and noise of fiber optic cathodoluminescence screens during their excitation by a static electron beam. The measurements were made by methods developed for measuring the FCC and noise of cathodoluminescence screens with a glass substrate. The principal scheme of the device used for measuring FCC is described and a comparison is made of FCC measured by the micrometric method and with electron excitation. The additive contribution of the glass fiber substrate to the noise characteristics of the screen is shown. 3 ill. 4 ref.

1/1

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USSR

UDC: [537.226+537.311.33]: [537+535]

DOVGIY, Ya. O., BRILINS'KIY, M. I., and KOROLISHIN, N. M.

"Polarization Shift of the Absorption Edge in  $\alpha$ -HgS"

Fiz. elektronika, Resp. mizhvid. nauk.-tekhn. zb. (Physical Electronics, Interdepartmental Scientific-Technical Collection, Ukrainian Republic--collection of works) No. 2, 1970, pp 37-41 (from RZh-Fizika, No. 11, 1971, Abstract No. 11E1171)

Translation: At temperatures of 300 and 80° K, the polarization shift of the natural absorption edge for  $\alpha$ -HgS monocrystals cut parallel to the c-axis was measured. On the basis of theoretical and group analysis, a possible variant of the zonal system of  $\alpha$ -HgS is presented and the rules of selection for zone-zones transitions at point  $\Gamma$  of the Brillouin zone are defined. The amount of the polarization shift then corresponds to the energy gap between the valence subzones  $\Gamma_4$  and  $\{\Gamma_5 + \Gamma_6\}$  arising as a result of the spin-orbital interaction. It is expected, from the selection rules, that the optically active absorption band in the infrared region of the spectrum can be observed only when  $\vec{E} \perp c$ . Author's abstract  
1/1

USSR

UDC: 669.162.263.24:616

DOVGOPOL, V., Director, Ural Scientific Research Institute of Ferrous Metals;  
and ORLOV, N., Director, Sverdlovsk Scientific Research Institute for Health  
Resorts and Physiotherapy

"Utilization of Blast Furnace Slag Granulation Water For Medical Purposes"

Moscow, Metallurg, No 1, Jan 72, pp 44-45

Abstract: The effectiveness of production waste water spent by blast furnace slag granulation units with sulfides and residues of other mineral compounds for balneological therapy, is discussed. Data are presented on the basis of observations conducted by medical institutions for a period of years dating back to 1916. The results support the benefits of slag water therapy and the practicality of establishing hydrotherapeutic slag stations at metallurgical and cement plants equipped with slag granulation equipment. Examples are cited of such establishments which have been operated at various plants and provide successful treatment of a variety of disorders, including nervous system disorders, gynecological problems, occupational diseases, psoriasis, various arthritic disorders, etc. Recovery rates are cited. The high cost effectiveness of such treatments is also discussed.

1/1

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1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--PROCESSING AND USE OF TITANIUM BLAST FURNACE SLAGS -U-  
AUTHOR--(04)-DOVGOPOL, V.I., KOCHETOV, N.N., DRININSKIY, N.V., SHKOLNIK,  
YA.SH.  
COUNTRY OF INFO--USSR  
SOURCE--METALLURG (MOSCOW) 1970, 15(3), 39-40  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--BLAST FURNACE, SLAG, TITANIUM, METALLURGIC RESEARCH FACILITY,  
CEMENT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0915 STEP NO--UR/0130/70/015/003/0039/0040  
CIRC ACCESSION NO--AP0133004  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133004

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USUAL BLAST FURNACE SLAGS ARE MAINLY UTILIZED IN THE PRODUCTION OF PORTLAND CEMENT BUT THOSE CONTG. HIGHER TIO SUB2 CONCNS. (5-13PERCENT) SHOW LESS HYDRAULIC ACTIVITY TO THEIR LOW SOLY. IT IS ASSUMED THAT THE QUALITY OF CEMENT IS NOT POOR IF SLAG CONTAINS SMALLER THAN OR EQUAL TO 4PERCENT TIO SUB2, SP. SURFACE OF CEMENT IS GREATER THAN 4000 CM PRIME2 -G, AND THE CONTENT OF TI SLAG IN IT IS SMALLER THAN 50PERCENT. THE SWELLING TENDENCY OF TI SLAGS IS GOOD AND THEY CAN BE USED IN THE PRODUCTION OF FOAMED SLAG. MOREOVER, PAVEMENT BLOCKS, CRUSHED SLAG, AND SLAG WOOL ARE PRODUCED. PRODUCTION OF FOAMED SLAG IS THE MOST ECONOMIC AND SUITABLE MEANS OF UTILIZATION OF TI SLAG. FACILITY: URAL. INST. CHERN. METAL., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 8.74

BABENKO, L. P., DOVGOPOLAYA, L. I., TROKHIMENKO, V. S., USENKO, R. D., YUSHCHENKO, YE. L.

"Debugging Media in a Programming System"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 309-314 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V486)

Translation: A study was made of means controlled by the user in the COBOL programming system for the Dnepr-21. In order to retain the general organization of the COBOL program the debugging instructions in the indicated system are in the form of an auxiliary division of the COBOL program, the so-called debugging section which is an instruction for the operations system with respect to the problem statement mode on the computer. The language of giving this instruction is similar with respect to form to the COBOL language and is based on its concept and terminology. All of the debugging operators in the COBOL-Dnepr-21 system are divided into the following categories: 1) the operator for initial running of the program; 2) the operators for interrupting the normal course of execution of the program on occurrence of certain situations which are provided for; 3) operators permitting additional information

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USSR

BABENKO, L. P., et al., Teoriya yazykov i metody postroyeniya sistem programmir., Kiev-Alushta, 1972, pp 309-314

to be obtained on the process of execution of the program on occurrence of an interrupt situation or before beginning its execution; 4) operators permitting halting of execution of the program or continuation of it after an interrupt by transferring control to a section of the COBOL program. The syntax of the debugging section of the COBOL program is presented as an example.

2/2

USSR

UDC: 8.74

DOVGOPOLYY, V. G., KALAYDA, Ye. I., KONOZENKO, V. I., MASHBITS, G. Ya., NIKITIN, A. I.

"Principles of Adjusting an Operational System for a Variable Set of Equipment, and the Number of Solvable Problems"

Kiev, Konstruirovaniye i vnedreniye novykh sredstv vychisl. tekhn.-- sbornik (Designing and Introducing New Computer Facilities--collection of works), t. 1, 1971, pp 91-94 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V639)

Translation: Rapid and effective alignment of an operational system for a certain set of equipment and the necessary number of problems to be handled is one of the most urgent and most complicated problems of systems programming. This paper describes methods of solving some aspects of this problem; these procedures have been used in developing an operational system for the "Dnepr-2" computer. An operational system of modular structure was used as the basis of these methods (see Ye. I. Kalayda, V. I. Konozenko, G. Ya. Mashbits, A. I. Nikitin, "Konstruirovaniye i vnedreniye novykh sredstv vychisl. tekhn.", t. 1, pp 94-96).

1/1



USSR

UDC546.86'22'151:541.67

FIRTSAK, YU. YU., DOVGOSHECHY, N. I., GRYADIL', I. A., and CHEPUR, D. V.,  
Uzhgorod State University

"Physical Properties of SbSi Seignette-Electric Films"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 10, No 3,  
Mat 74, pp 402-404

Abstract: Experimental results are presented from producing Seignette electric films of SbSi by the method of discrete vaporization and "two temperatures." Films produced under optimum conditions have a resistivity of  $10^8$ - $10^9$  ohm-cm. The ratio of photoflux to obscure flux amounts to  $10^2$  (at a candle power of 40 w). SbSi films possessing excess  $Sb_2S_3$ , i.e., produced when substrate temperatures are above optimum, possess a low resistivity and very little photosensitivity. The activation energy for SbSi films is 0.84 ev as determined from the relationship of photoflux magnitude to temperature. The Seignette-electric phase transition temperature for these films is 25-27° C. Physical properties of SbSi films are given. Three figures, 11 bibliographic references.

1/1

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USSR

UDC [537.226+537.311.33]:[537+535]

MUCHICHKA, I. I., SAVCHENKO, N. D., DOVGOSHEY, N. I., TURVANITSA, I. D.,  
CHEPUR, D. V., SLIVKA, V. YU.

"Effect of Temperature on Certain Electrophysical and Optical Properties of  
 $AsS_xSe_{1-x}I$  and  $As_xSb_{1-x}SI$  Samples"

V sb. Nekotor. vopr. khimii i fiz. poluprovodnikov slozhn. sostava (Certain Prob-  
lems in the Chemistry and Physics of Semiconductors of Complex Compositions --  
Collection of Works), Uzhgorod, 1970, pp 228-233 (from RZh Fizika, No 12, Dec 71,  
Abstract No 12Yel399)

Translation: Compounds of  $AsS_xSe_{1-x}I$  were obtained in the vitreous state by a  
direct synthesis method, and single crystals of  $As_xSb_{1-x}SI$  were obtained from the  
gas phase. The current-voltage characteristics were studied at various tempera-  
tures in the range 100-383°K; the photocurrent was determined as a function of  
wavelength, illumination, and temperature, and the absorption spectra of the  
samples were measured at different temperatures. Conclusions were drawn on the  
basis of the data concerning conductivity mechanisms, recombination mechanisms,  
defect levels, and the temperature coefficient of the width of the forbidden  
zone. A. Ya. O.

1/1

USSR

UDC 621.315,592

DOVGOSHEY, N. I., FIRTSAK, Yu. Yu., TURyanITSA, I. D., ZAYACHKOVSKIY, V. P.,  
and MEL'NICHENKO, T. N.

"Production and Some Physical Properties of SbSI and SbSeI Films"

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 66-70 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 9B165)

Translation: The films were produced by the method of discrete explosive vaporization of source material in a unit mounted at the base of the UVR-2 general-purpose vacuum station. Single crystals obtained from the gaseous phase were used as the source material. Vaporization was conducted at a pressure of  $10^{-4}$  mm of mercury on cold and hot mica and glass substrates. X-ray studies showed that specimens deposited on the cold substrates are quasi-morphous, and films obtained on substrates heated to 150-160°C were polycrystalline. Films deposited on substrates heated to 270°C display an excess of  $SbS_3$  and  $Sb_2Se_3$ , respectively. Measurements of the electrical conductance were made on films obtained on mica substrates heated to 150-160°C. The temperature dependence of the electrical conductivity for a SbSI film is characterized by a low-temperature linear section with an activation energy  $1/2$

USSR

DOVGOSHEY, N. I., et al., Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 66-70 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 8B165)

of 0.08 eV and two sections of linear dependence in the region of high temperatures (0-100°C) with activation energies of 0.57 and 0.68 eV. For SbSeI the temperature dependence of electrical conductivity has two linear sections with activation energies of 0.96 and 0.98 eV. The width of the forbidden band  $\Delta E = 1.94$  eV is determined by the spectral dependence of the absorption coefficient (K) for SbSI films at room temperature. The absorption edge K is a straight line in the case of the function  $K^{1/2} = f(h\nu)$ . The function  $K^{1/2} = f(h\nu)$  plotted for SbSeI gives a width of the forbidden band equal to  $1.73 \pm 0.05$  eV and indicates the presence of interzonal indirect junctions.  
9 ref. I. I.

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USSR

UDC 535.215.1:621.315.61.416

KOVACH, Ye. T., DOVGOSHEY, N. I., and CHEPUR, D. V.

"Photoelectric and Optical Properties of Thin Films of the System  $CdS_xSe_{1-x}$  ( $0 \leq x \leq 1$ )"

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 97-120 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 9B413)

**Translation:** The photoelectric and optical properties are studied of thin films of  $CdS_xSe_{1-x}$  obtained on substrates of glass, fused quartz, and mica by the method of thermal sputtering in a vacuum and by the "silk screen" method with subsequent thermal processing. Contacts of In, Al, and Cd were also applied by the method of thermal sputtering. The measuring device is described with which the voltampere, luxampere, spectral and frequency characteristics were studied, as well as the lifetime of carriers and the quantum yield of the photocurrent. The measurements were made in the temperature range of  $-100^{\circ}C \pm 300^{\circ}C$  with the use of the appropriate cryostats. It is found that the spectral distribution of the photoconductivity and the luxampere characteristics depend on the technological conditions for producing the film. The voltampere characteristics were linear and practically did not depend on the production method. The long-time 1-90 min and the short-time  $10^{-2} - 10^{-2}$  sec components of the photoconductivity relaxation were found, the ratio between which depends on 1/2

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KOVACH, Ye. T., et al., Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 97-120 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 9B413)

the dark resistance of the specimen and the method of its production. A monotonic change was observed of the magnitude of the threshold energy which indicates that the specimens in question are a continuous series of solid solutions of replacement. Studies of the reflection and adsorption spectra shown that in thin films of  $CdS_xSe_{1-x}$  direct interzonsl junctions are most probable. 16 ill. 50 ref. G.Sh.

2/2

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1/2 049 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--ELECTROPHYSICAL PROPERTIES OF ALKALI METAL METASELENOARSENITES -U-  
AUTHOR--(05)-DOVGOSHEY, N.I., NIKOLYUK, V.I., SEMRAD, YE.YE., CHEPUR, D.V.,  
GOLOVEY, M.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIS. 1970, 13(3), 138-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, PHYSICS  
TOPIC TAGS--ACTIVATION ENERGY, IR RADIATION, SEMICONDUCTOR MATERIAL,  
PHYSICAL CHEMISTRY PROPERTY, SODIUM COMPOUND, POTASSIUM COMPOUND,  
ARSENIDE, SELENIDE, CESIUM COMPOUND, LITHIUM COMPOUND, RUBIDIUM COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3003/1504 STEP NO--UR/0139/70/013/003/0138/1504  
CIRC ACCESSION NO--AT0130433  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0130433

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COND. SIGMA, OF MASSE SUB2, M  
EQUALS LI, NA, K, RB, AND CS, WAS DETD. FROM MINUS 50 TO 190DEGREES.  
THE ACTIVATION ENERGY OBTAINED FROM LOG SIGMA VS. 1-T CURVES INCREASED  
FROM 1.10 FOR LIASSE SUB2 TO 2.00 EV FOR CSASSE SUB2. ALL MASSE SUB2  
EXHIBITED A SLIGHT PHOTSENSITIVITY AT ROOM TEMP. LIASSE SUB2 WAS  
SENSITIVE TO IR RADIATION. ALL OTHERS WERE SENSITIVE TO VISIBLE LIGHT.  
THE HIGHEST PHOTSENSITIVITY WAS EXHIBITED BY NA AND K COMPDS. THAT OF  
NAASSE SUB2 INCREASED SHARPLY AS THE TEMP. DECREASED. ALL MASSE SUB2  
COMPDS. ARE SEMICONDUCTORS. FACILITY: UZHGOROD. GOSUNIV.,  
UZHGOROD, USSR.

UNCLASSIFIED



USSR

UDC 537.311.3:546.23'48:546.22'48

GRYADIL', I. A., DOVGOSHEY, N. I.

"Concerning the Effect of Production Methods on the Structure of  $CdS_xSe_{1-x}$ "

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 86-96 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B116)

Translation: The structure of CdS-CdSe solid solution films (in the entire composition range) is studied by electron diffraction methods (by transmission and by reflection) with deposition on structureless (colloids, carbon, quartz glass) and single crystal (mica, NaCl) substrates, both heated and cold. The morphology of the films is studied by the electron microscopic method of a replica. It is established that depending on the conditions of crystallization, both monophasic (cubic type of sphalerite or hexagonal type of wurtzite) and polyphasic films are formed, with the face (111) of the cubic phase or (0001) of the hexagonal ordinarily oriented parallel to the substrate. 29 ref. Ye. G.

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USSR

UDC 621.315.592:545.22148

DOVGOSHEV, N.I., KOVACH, YE.T., GRYABIL', I.A.

"Production Method, Electron Conduction, And Photosensitivity Of  $CdS_xSe_{1-x}$   
( $0 \leq x \leq 1$ ) Films"

V sb. Poluprovodn. elektronika (Semiconductor Electronics--Collection Of Works),  
Uzhgorod, 1971, pp 71-85 (from RZh--Elektronika i yeye primeneniye, No 10,  
October 1971, Abstract No 10B118)

Translation: In order to obtain thin films of  $CdS_xSe_{1-x}$  ( $0 \leq x \leq 1$ ), powders or crystals of CdS and CdSe were used, which were taken in various molar ratios. Amorphous, polycrystalline, and single crystals were used, possessing both non-orienting and orienting action. Thin films of  $CdS_xSe_{1-x}$  were obtained by the methods of thermal sputtering in a vacuum, "silk screening," and cathode sputtering. It is shown that films of a different composition prepared on cold substrates are of low resistance ( $\rho = 0.01-10$  ohm. cm) and are practically non-photosensitive. The low resistivity is caused by an excess of Cd in the film. With an increase of the temperature of the substrates, the resistivity of the films is increased by several orders of magnitude and they become photosensitive. Heat treatment of these films at  $\sim 500^\circ C$  and above over a period of 40--100 min leads to an abrupt reduction of their resistance and to a complete loss of

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DOVGOSHEY, N. I., et al., Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 71-85 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B118)

their photosensitivity. The monocrystalline films  $CdS_xSe_{1-x}$  were grown on a fresh spalling of mica at  $250^{\circ}C$  and an average rate of growth of 100 Å/min. It is established that the resistivity of  $CdS_xSe_{1-x}$  films increase with a decrease of their thickness. 41 ref. I.Sh.

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USSR

UDC 541.183.24

ZAGRAI, Ya. M., DOVGUSHA, P. I. (Institute of Colloid Chemistry and the Chemistry of Water, UkrSSR Academy of Sciences)

"Exchange of  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ , and  $\text{Cu}^{2+}$  Ions on the Sulfo-Polystyrene Cation Exchanger KU-2"

Kiev, Ukrainskii Khimicheskii Zhurnal, Vol 39, No 10, 1973, pp 1011-1014

Abstract: The equilibrium distribution of  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ , and  $\text{Cu}^{2+}$  from aqueous solutions of their salts (chloride, sulfate, and acetate) was studied. It was shown that the water content of the ion exchanger, per mg-equivalent of exchanger, was a linear function of the composition. Concentration constants for the systems were calculated. The dependence of the concentration constants of the ion exchange equilibrium on the nature of the ions participating in the exchange and the nature of the compounds formed was shown.

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DOVGUSHA, P.I.

CHEMISTRY

File 61490 p. 106-98  
A BASIC PROCESS FOR SEPARATING NON-FERROUS METALS FROM WASTE WATER USING CONTINUOUS FLOW TECHNIQUES  
Patented by Ya. M. Pavlov and I. I. Bogdanov, USSR Acad. Sci. Division USSR Kiev, Изобретение в области химии, No. 1,173, signed to issue 13 December 1975, pp. 52-53

Considerable progress in the field of synthesizing and producing ionites is expanding the possibility of using them for removing and utilizing the salts of non-ferrous metals extracted from waste water.

However, the use of this method faces difficulties since in the process of using ionites to remove non-ferrous metals from waste water, the ion-exchange processes must be carried out in dilute solutions with low residual concentrations of extracted ions (the required exchange concentrations are from 0.001 to 1.0 mg/liter). In addition, fairly large volumes of solutions are submitted to treatment by ionites; these contain a mixture of salts which include an inorganic component hard salts, iron salts, and considerable quantities of suspended substances (from 0.5 to 2.0 mg/liter).

Efficient use of ionites in such operations is possible only with continuous processes of ion-exchange using fluidization. Procedures in which use is made of an apparatus of continuous action can easily be made fully automatic and will operate with high technical-economic indicators.

One of the methods of fluidization makes it possible to avoid use of mechanical devices for feeding, comminuting, and dosing the ionite particles out the stages of the process, and to create completely automatic units.

In developing techniques for removing iron through extraction of non-ferrous metal salts from diluted solutions, one was made of the method of bringing the ionite into contact with the solutions in the fluidized state, with continuous synchronous recovery of a constant quantity of ion-exchange material from the lower portion of the sorption, desorption, and washing devices, and subsequent transferring and dosing into the upper portion of the devices. Depending on the correlation of flow rates of the solutions and

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USSR

UDC 628.543:661.183.12

ZAGRAY, YA. M., DOVGUSHA, P. I., IKKHiKhV [expansion unknown] AN USSR (Academy of Sciences, Uzbekistan SSR)

"Principle Technological Systems for Salvaging Light Metals From Polluted Waters by Using a Continuous Exchange"

Kiev, Khimicheskaya Tekhnologiya, No 6, Nov/Dec 73, pp 52-55

Abstract: The effective utilization may be made of continuous flow ion exchange resins for purification of waters which are very hard or which contain iron or significant amounts (from 0.5 to 2.0 g/l) of suspended material if a pseudo-liquefaction technique is used. A system is shown for the continuous cycling of large volumes of solution over the ion exchange resins, to remove the light metals such as  $Zn^{+2}$ ,  $Ca^{2+}$ , and  $Mg^{2+}$ . The total amount and % of the metal removed was more or less a function of temperature and pH, depending on the particular metal ion involved. A table shows one example of pH dependence.

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USSR

UDC 8.74

GLUSHKOV, V. M., DOVGYALLO, A. M., PLATONOV, B. A., YUSHCHENKO, YE. L.

"Standard Dialog Training System Training System Pedagog with the Avtor Service Mode for Teaching Programming Languages. Part 1"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 82-97 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V475)

Translation: A standard program training system Pedagog is described. The system is designed to teach programming languages in the dialog mode. The Pedagog training system performs the following functions with respect to training control: it makes the assignments to the trainee to which he must respond (which is realized by indicating the assignment coordinates in a special aid with the assignment); it receives and analyzes the trainee answers to the assignment; it gives the trainee the possibility of correcting the responses input to the computer memory from an individual device (teletype); it gives assistance to the trainee on request, indicating where the materials are located for the given assignment in the text; it offers the possibility to the trainee of repeating the assignment; it returns the answers to the assignment  
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USSR

GLUSHKOV, V. M., et al., Teoriya yazykov i metody postroyeniya sistem programmir., Kiev-Alushta, 1972, pp 82-97

from the memory to the trainee on his request or automatically if on completion of the correction of the answers he halts the operation of the system; it insures adaptation to the trainee, giving information on the errors in the answers at different levels of detail, helping him at the same time detect errors and simultaneously adapting to the capabilities of the user; it collects statistics on the course of the training process with respect to each user; it insures mastery by the user of the training material on a guaranteed level without allowing the user to carry out the next assignment to obtaining a direct response to the present one from it. In addition, the system executes the functions connected with the specific nature of the training process by applying a digital computer with time sharing operating in the dialog mode as the instructor. These basically are functions aimed at maintaining contact between the trainee and the computer: the information about what external systems devices must be used by the trainee at the defined points in time; the information about which operations it should perform on the external devices, what operators of the operation training language and in what cases it must be input; holding recording dialog with the trainee in which the system receives certain data from the user for its subsequent identification in the system; the control of the dialog with user in the training process (or in the process of joint solution of the training problem). There is 1 illustration and a 7-entry bibliography.

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USSR

UDC 8.74

GLUSHKOV, V. M., DOVGYALLO, A. M., PLATONOV, B. A., YUSHCHENKO, YE. L.

"Standard Pedagog Dialog Training System with the Avtor Service Mode for Teaching Programming Languages. Part 2"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 98-110 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V476)

Translation: A study was made of the basic characteristics of the Pedagog training system with the Avtor service mode for teaching programming languages. All of the software for the training system is divided into two parts: general including the training process control program and the program for interpreting the input operator; a special program including the programs defining the correct response to the system assignment (reactors) and the service files. Data is stored in the files on the basis of which the training process is controlled and the files also include data relating the control programs to the training material. The system is designed to teach the COBOL language to one student in the dialog mode (the DD-3 dispatcher of the Dnepr-2 digital computer offers the possibility of paralleling the training process for several trainees).  
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-USSR

GLUSHKOV, V. M., et al., Teoriya yazykov i metody postroyeniya sistem programir. Kiev-Alushta, 1972, pp 98-110

The system programs are organized by the modular principle. The functioning of the module programs does not depend on their allocation in the common memory which permits changes to be introduced into the system. The volume of the system modules is on the average 100-140 instructions, and the information exchange between the modules is realized via the dynamic memory in the base register field. The Avtor mode of the training system is designed for correcting the service information files. It is noted that the specific nature of organization of the training system in which the general and special sections are clearly separated permits changing the operation of the system by correcting only the service information. These changes can, in particular, pertain to the sequence of assignments to the training, and in connection with this, the training algorithm and also the training subject. For the Avtor mode a special language has been created which permits correction of all the files of the special section of the training system. The presence of such possibilities in the training system permits efficient variation of the training process, dropping of the necessary and incorrect assignments, insertion of new ones, introduction of new assignment sequences, provision of new auxiliary material, and so on. It is possible to use the Avtor mode both after accumulating certain statistics on the course of the training process and directly during the course

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USSR

GLUSHKOV, V. M., et al., Teoriya yazykov i metody postroyeniya sistem programmir., Kiev-Alushta, 1972, pp 98-110

of training. The programs in the Avtor mode are designed for operation in the dialog mode. The basic device for the Avtor dialog is teletype. The operators of the Avtor language input from teletype are recognized by the Monitor program which then transfers control to the corresponding programs -- interpreter -- which performs all the operations given in the operator. After processing, these programs return control to the Monitor program which goes to the state of waiting for the next message from the user. The operators of the Avtor mode are divided with respect to purpose into two groups: the operators for printing the file contents, the operators for correcting the files. Illustrative examples are presented for the Dnepr-2 training system. The bibliography has 8 entries.

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USSR

UDC: 681.3

DOVGYALLO, A. M., NIKITIN, A. I., PLATONOV, B. A., SEMOTYUK, V. P.,  
YUSHCHENKO, Ye. L.

"On One Approach to Developing a System of Instruction in Programming Languages on a Digital Computer Base"

V sb. Primeneniye tsifr. vychisl. mashin dlya obuch. programmir. (Use of Digital Computers for the Teaching of Programming--collection of works), Kiev, 1970, pp 25-30 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V780)

[No abstract]

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USSR

UDC 8.74

BRANOVITSKIY, V. I., DOVGYALLO, A. M., LOZINSKIY, L. S.

"Some Forms of the Man-Computer Dialog"

V sb. Mat. i inform. probl. prognozir. i upr. naukoy (Mathematical and Information Problems of Forecasting and Control of Science -- collection of works), Kiev, 1971, pp 184-194 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V623)

Translation: A study was made of the following problems: the interaction of man with a computer and his role in the joint solution of a problem by them: a dialogue as a form of such interaction, basic characteristics and forms of dialogues; methods of organizing a dialog controlled by a computer and its role in the development of problem-solving algorithms.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SOME ZINC CONTAINING DEHYDROGENASES IN ACUTE MYOCARDIAL INFARCTION  
-U-  
AUTHOR--(02)-DOVGYALLO, G.KH., TISHKOVSKIY, V.G.  
COUNTRY OF INFO--USSR *D*  
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 4, PP 84-86  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ZINC, BLOOD SERUM, ENZYME, DEHYDROGENASE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/0422 STEP NO--UR/0504/70/042/004/0084/0086  
CIRC ACCESSION NO--AP0124173  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124173

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE ACTIVITY OF LACTIC, MALICDEHYDROGENASE AND THE ZINK CONTENT IN THE BLOOD SERUM OF 178 PATIENTS WITH DIFFERENT FORMS OF CORONARY INSUFFICIENCY WITH A VIEW TO FINDING THE GENESIS OF HYPERENZYMEIA OF THESE ZINK CONTAINING DEHYDROGENASES. THERE IS AN INDIRECT CORRELATION IN THE CHANGES OF LACTICDEHYDROGENASE AND ZINK. TAKING INTO CONSIDERATION A GREAT NUMBER OF COINCIDENCES IN THE DEGREE OF DEVIATIONS OF ZINK AND LACTATEDEHYDROGENASE FROM THE NORMAL AND THE PRESENCE OF INDIRECT CORRELATION BETWEEN THEM THE AUTHORS CAME TO THE CONCLUSION THAT PROLONGED HYPERENZYMEIA IN ACUTE MYOCARDIAL INFARCTION IS NOT ONLY THE RESULT OF ELIMINATION OF THE ENZYME FROM THE CHANGED CELLS OF THE MYOCARDIUM INTO THE BLOOD BUT ALSO THE CONSEQUENCE OF PECULIAR INTERRELATION WITH ZINK. FACILITY: L YA KAFEDRA GOSPITAL'NOY TERAPII MINSK MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC: 8.74

PETKYAVICHUS, I. Yu., DOVIDENAS, L. Yu.

"A Device for Keyboarding and Keypunching Seven-Place Symbols"

Klavishnoye ustroystvo dlya nabora semirazryadnykh simvolov s posleduyushchey perforatsiyei. In-t fiz. i mat. AN LitSSR (cf. English above. Institute of Physics and Mathematics, Academy of Sciences of the Lithuanian SSR), Vil'nyus, 1970, 11 pp, ill., bibliogr. 2 titles (No 3492-71 Dep.) (from RZh-Kibernetika, No 5, May 72, Abstract No 5V483 DEP)

Translation: The paper presents the diagram of a keyboard device for preparation of punched cards in seven-place codes for the BESM-4 computer. The work involves use of the shift keyboard of the "Vil'nyus" computer, the ShI 8/25 step switch and RKM relays for the memory unit. A standard M-20 keypuncher is used for perforation. Authors' abstract.

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USSR

UDC 632.95

DOVLATYAN, B. B., ELIAZYAN, K. S., Armenian Agricultural Institute

"A Method of Obtaining 2-Hydroxy-4,6-bis-alkylamino-S-triazines"

USSR Author's Certificate No 357201, class C 07 d 55/12, filed 4 Nov 69, published 2 Feb 73 (from RZh-Khimiya, No 18 (II), Sep 73, Abstract No 18 N508 by I. A. Mel'nikova)

Translation: 2-HO-4-RR'N-6-RR''N-sym-triazines (I) (R' - R'' = H, alkyl) are obtained by treating the corresponding 2-chloro derivatives with AcOK in DMFA or AcOH. For example, a mixture of 20 g of 2-chloro-4,6-bis-ethyl-amino-sym-triazine, 9.8 g of AcOK, and 60 ml of DMF [dimethylformamide] is heated for 16 hours at 155 to 160° and filtered, after which the sediment is washed with water, producing 14.8 g of I (R = H, R' = R'' = Et), yield 80%, melting point 340°. I (R = H, R' = Et, R'' = iso-Pr), yield 76%, melting point 340°, is obtained in a similar manner. I are the principal metabolites of simazine and atrazine in plants.

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USSR

DOVLATYAN, V. V., and ELIAZYSN, K. A.

"Synthetic Method for 2-Hydroxy-4,6-bis-alkylamino- Or Bis-dialkyl-amino-sym-triazines"

USSR Author's Certificate No 368260, filed 4 Nov 69, published 4 Apr 73  
(from RZh-Khimiya, No 20, Oct 73, Abstract No 20N544P)

Translation: The synthetic method for 2-hydroxy-4,6-alkylamino or bis-dialkyl-amino-sym-triazines (I) is based on hydrolysis of the respective 2-cyano-methylhydroxy derivatives with concentrated hydrochloric acid and heating.  
Example. A mixture of 2 g 2-NCCH<sub>2</sub>O-4,6-(Et<sub>2</sub>N)<sub>2</sub>-sym-triazine and 8 ml 35%

HCl is heated for 4 hrs over a boiling water bath, then the mixture is evaporated almost dryness on the same bath, 10 ml of water is added, filtered, the filtrate is neutralized with sodium carbonate, the precipitate is suctioned off, dried in air to yield 93.45% of 2-OH-4,6-(Et<sub>2</sub>N)<sub>2</sub>-sym-triazine, decomposition

point 173-5°. Analogously following I were obtained (substituents in position 4 and 6, yield in %, decomposition point in °C being reported):  
NH<sub>2</sub>t, NH<sub>2</sub>t, 91, > 340; NH<sub>2</sub>t, iso-PrNH, 98, > 340; NMe<sub>2</sub>, NMe<sub>2</sub>, 79 260-3.

I can also be obtained by acid hydrolysis of the respective 2-alkoxy derivatives.

I/1

USSR

UDC 542.91+632.938

DOVLATYAN, V. V., and METSBURYAN, D. A., Armenian Agricultural Institute,  
Yerevan

"Synthesis of Pesticides. 2-Methylthio-4-alkyl(dialkyl)amino-6- $\alpha$ -hydroxy  
(methoxy)-  $\text{S}$ ,  $\text{S}$ ,  $\text{S}$  -trichloroethyl/amino-sym-triazines"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 10, 1971, pp 924-927

Abstract: By reacting 2-chloro-4-alkyl(dialkyl)amino-6-amino-sym-triazines with thiourea in the presence of traces of HCl, the corresponding thiuronium salts were obtained. Their cleavage with KOH followed by methylation with  $\text{Me}_2\text{SO}_4$  yielded 2-methylthio-4-alkyl(dialkyl)amino-6-amino-sym-triazines (I) which, on being reacted with chloral, formed 2-methylthio-4-alkyl(dialkyl)amino-6-( $\alpha$ -hydroxy-  $\text{S}$ ,  $\text{S}$ ,  $\text{S}$  -trichloroethyl)amino-sym-triazines. By methylation of the latter with  $\text{Me}_2\text{SO}_4$ , 2-methylthio-4-alkyl(dialkyl)amino-6-( $\alpha$ -methoxy-  $\text{S}$ ,  $\text{S}$ ,  $\text{S}$  -trichloroethyl)amino-sym-triazines (II) were synthesized. Compounds I (8 compounds) and II (8 compounds) together with their yields and decomposition or melting points are listed in tables. Results of testing of the pesticidal activity of the compounds prepared will be reported separately.

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USSR

UDC 542.91+547.873+632.938

DOVLATYAN, V. V., and KEACHATRYAN, N. KH. Armenian Agricultural Institute  
(Yerevan)

"Synthesis of Pesticides. 2-Chloro(methoxy, methylmercapto)-4-[ $\alpha$ -alkyl  
(alkenyl, alkynyl)- $\beta$ -acylhydrazino]-6-alkyl(dialkyl)aminosymm-triazines"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 8, 1972, pp 697-701

Abstract: Alkylation of 2-chloro-4-( $\alpha$ -methyl- $\beta$ -acylhydrazino)-6-alkyl  
(dialkyl)amino-symm-triazines yields 2-chloro-4-[ $\alpha$ -alkyl(alkenyl, alkynyl)- $\beta$ -  
acylhydrazino]-6-alkyl(dialkyl)amino-symm-triazines. Reacting 2-chloro-4-  
( $\alpha$ -ethyl- $\beta$ -acylhydrazino)-6-alkyl(dialkyl)amino-symm-triazines with sodium  
methoxide yields 2-methoxy-4-( $\alpha$ -ethyl- $\beta$ -acetylhydrazino)-6-alkyl(dialkyl)  
amino-symm-triazines. When the reaction is carried out with thiourea -- the  
products are thiuronium salts which can be methylated with dimethyl sulfate  
to yield methylmercapto derivatives of parent compounds. Preliminary evalua-  
tion showed that compounds with an ethyl radical at the  $\alpha$ -nitrogen atom  
of the hydrazine group have the highest herbicidal activity.

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USSR

UDC 542.91+547.873+632.938

DOVLATYAN, V. V., and KHACHATRYAN, N. KH., Armenian Agricultural Institute (Yerevan)

"Synthesis of Pesticides. 2-Chloro-4-( $\alpha$ -methyl- $\beta$ -acylhydrazino)-6-alkyl(dialkyl)amino-symm-triazines"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 7, 1972, pp 613-619

Abstract: Searching for more selective herbicidal agents, an attempt was made to convert 2-chloro-4-( $\beta$ -acetylhydrazino)-6-alkyl(dialkyl)-amino-symm-triazines (I) to respective 2-methoxy derivatives by reacting (I) with sodium or potassium methoxide. However, instead of the expected product, the reaction yielded 2-chloro-4-( $\alpha$ -sodium(potassium)- $\beta$ -acylhydrazino)-6-alkyl(dialkyl)amino-symm-triazine. Methylation of these compounds with methyl iodide or dimethyl sulfide yielded 2-chloro-4-( $\alpha$ -methyl- $\beta$ -acylhydrazino)-6-alkyl(dialkyl)-amino-symm-triazines. The structures of these compounds have been confirmed by independent syntheses.

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USSR

UDC 543.544+632.954

ATURYAN, M. M., KATVALYAN, G. T., and DOVLATYAN, V. V., Armenian Agricultural Institute (Yerevan)

"Thin Layer Chromatography of Herbicides. Identification and Analysis of Crotyline, 2,4-D and Its Sodium Salt"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 12, 1971, p 1085

Abstract: A study was made of the chromatographic behavior of crotyline on a thin layer of aluminum oxide. This offers the possibility of determining it in microamounts in different products and also of separating of the herbicide from the admixtures in the technical preparation: free 2,4-D and its sodium salt. The values of  $R_f$  of crotyline, 2,4-D and its sodium salt were measured in a series of solutions, in mixtures of acetone and water, acetone-water-NH<sub>4</sub>OH, in different volumetric ratios. The complete text of the report (available at the All-Union Institute of Scientific and Technical Information, Registration No 3254-71, 9 August 1971) contains the data from these measurements. For analysis of the crotyline and 2,4-D mixture it is necessary to have neutral aluminum oxide; 2,4-D partially reacts with basic aluminum oxide to form a salt.

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USSR

ATURYAN. M. M., KATVALYAN, G. T., DOVLATYAN, V. V.

"Thin-Layer Chromatography of Herbicides, Identification and Analysis of Crotyline, 2, 4-D Acid and Its Sodium Salt"

Tonkosloynaya Khromatografiya Gerbitsidov, Identifikatsiya i Analiz Krotilina, 2,4-D Kisloty i Yeye Natriyevoy Soli. [English Version Above], Yerevan, 1971, 10 pages. (Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract No 4N695 Dep. by the authors).

Translation: Crotyline is produced as a herbicide on a commercial scale. A method of TLC is suggested for determination and identification of crotyline, 2, 4-D, the Na salt of 2, 4-D. The method suggested is sensitive, convenient and simple, can be used in the production of crotyline and for purity testing of the preparate produced.

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## Pesticides

USSR

UDC 542.91+632.938

DOVLATYAN, V. V., and CHAKRYAN, T. O., Armenian Agricultural Institute (Yerevan)

"Pesticide Synthesis. 4,6-bis-Arylamino-symm-triazinyl-2-mercaptoacetic Acids"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 7, 1971, pp 629-631

Abstract: To 0.01 mole of thourea dissolved in 20 ml anhydrous acetone, 0.01 mole of 2-chloro-4,6-bis-arylamino-symm-triazine is added and refluxed with stirring for 4 hrs. The product -- S- $\sqrt{4,6\text{-bis-arylamino-symm-triazinyl-2-thiouronium}}$  hydrochloride (I) -- precipitates and is washed with anhydrous acetone; aryl substituent, decomposition point,  $^{\circ}\text{C}$  are reported:  $\text{C}_6\text{H}_5$ , 262-263; o- $\text{CH}_3\text{C}_6\text{H}_4$ , 218-219; m- $\text{CH}_3\text{C}_6\text{H}_4$ , 241-242; o- $\text{ClC}_6\text{H}_4$ , 197; m- $\text{ClC}_6\text{H}_4$ , 272-273; and p- $\text{ClC}_6\text{H}_4$ , 284-286. Adding 0.02 mole of sodium hydroxide in 16 ml of 50% ethyl alcohol to 0.01 mole of (I) and refluxing for 2 hrs followed by addition of 0.02 mole of chloroacetic acid and 0.04 mole sodium hydroxide in 16 ml of 50% ethyl alcohol converts (I) to the free acid -- 4,6-bis-arylamino-symm-triazinyl-2-mercaptoacetic acid; aryl substituent, decomposition point  $^{\circ}\text{C}$  are reported:  $\text{C}_6\text{H}_5$ , 340; o- $\text{CH}_3\text{C}_6\text{H}_4$ , 216-217; m- $\text{CH}_3\text{C}_6\text{H}_4$ , 185-186; o- $\text{ClC}_6\text{H}_4$ , 207-208; m- $\text{ClC}_6\text{H}_4$ , 220-221; and p- $\text{ClC}_6\text{H}_4$ , 247-248.

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USSR

UDC 547.461.2+547.47

DOVLATYAN, V. V., and AMBARTSUMYAN, E. N., Armenian Agricultural Institute, Yerevan

"Pesticide Synthesis. Reaction of Oxalyl Chloride With Aldehyde and Ketone Cyanohydrins"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 1, 1971, pp 42-44

Abstract: In studying the reaction of oxalyl chloride with aldehyde and ketone cyanohydrins it was found that in contrast to phosgene these compounds do not form cyclic imidochlorides, but only di(cyanoalkyl) oxalates. To 3.2 g oxalyl chloride in 12 cc benzene a mixture consisting of 4.25 g acetone cyanohydrine and 4 g pyridine cooled to 0° was added dropwise with stirring. The precipitate was removed by filtration, washed and dried. The product -- di- $\alpha$ -cyano- $\alpha$ -methylethyl oxalate, m.p. 83-85° and di- $\alpha$ -cyanoethyl oxalate, m.p. 98-100° were obtained. To obtain dicarbethoxymethyl oxalate, a mixture of 1.7 g of dicyanomethyl oxalate, 0.92 g ethanol and 20 ml ether was saturated with HCl and left to stand overnight. The crystals obtained were removed by filtration, washed and dried; the product -- an iminoester hydrochloride -- melts at 73-75°, is soluble in water, on recrystallization 1/2

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DOVLATYAN, V. V., and AMBARTSUMYAN, E. N., *Armyanskiy Khimicheskiy Zhurnal*,  
Vol 24, No 1, 1971, pp 42-44

from water yields dicarbethoxymethyl oxalate, m.p. 58-59°. Analogously  
di- $\alpha$ -carbethoxyethyl oxalate, m.p. 63-64°, was obtained.

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USSR

UDC 542.91+547.872+632.928

DOVLATYAN, V. V., CHAKRYAN, T. O., and METSBURYAN, Dzh. A., Armenian  
~~Agricultural~~ Institute, Yerevan

"Pesticide Synthesis. 4,6-bis-Alkyl(dialkyl)amino-symm-2-triazinyl-  
mercaptoacetic Acid"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 3, 1971, pp 264-270

Abstract: Title compounds were synthesized and characterized. The synthesis consists of the reaction of S-4,6-bis-alkyl(dialkyl)amino-symm-triazinyl-2-thiuronium chlorides with a mixture of chloroacetic acid and sodium hydroxide followed by acidification with hydrochloric acid. Another route consisted of saponification of the esters obtained from the reaction of ethyl thioglycolate with 2-chloro-4,6-bis-alkyl-(dialkyl)amino-symm-triazines or 2,4-dichloro-6-alkyl(dialkyl)amino-symm-triazines followed by amination of the 2-chloro-4-alkyl(dialkyl)amino-symm-triazinyl-2-mercaptoethyl acetates. The compounds exhibited no herbicidal activity; sodium salts of 4,6-bis-diethylamino-symm-triazinyl- and 4-ethylamino-6-isopropylamino-symm-triazinyl-2-mercaptoacetic acid exhibited growth promoting properties.

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USSR

UD 542.91+532.954

DOVLATYAN, V. V., ELIAZYAN, K. A., Armenian Agricultural Institute. Yerevan

"Synthesis of Pesticides. 0-2-Methoxy-3,6(3,5)-dichlorobenzoylglycolic Acids"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 2, 1971, pp 187-188

Abstract: In connection with obtaining new pesticides, containing the lipophile (COOR) and hydrophile functions, 0-2-methoxy-3,5(3,6)-dichlorobenzoylglycolic acids were synthesized with conversion of the latter into water soluble sodium and trialkylammonium salts. The synthesis started with 0-2-methoxy-3,5(3,6) dichlorobenzoylglyconitriles and the ethyl ether of 0-2-methoxy-3,6-dichlorobenzoylglycolic acid. The process leading to the formation of the desired acids, the reactions of 2-methoxy-3,6-dichlorobenzoyl chloride, cyanomethylation, and hydrolysis, are described.

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UDC 542.91+547.87

DOVLATYAN, V. V., KHACHATRYAN, N. Kh., Armenian Agricultural Institute, Yerevan

"Synthesis of Pesticides. XXIX. Synthesis and Conversion of 2-chloro-4-hydrazino-6-alkyl(dialkyl) amino-symm-triazines,

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 2, 1971, pp 167-173

Abstract: In connection with the absence of data on substituted derivatives of symm-triazine containing hydrazine radicals and chlorine atoms, and the fact that in a number of herbicides with the symm-triazine ring, the 2-chloro<sup>2</sup>-bis-alkylamino-symm-triazines are the most active, a study was made of the reaction of 2,4-dichloro-6-alkyl (dialkyl) amino-symm-triazines with hydrazine hydrate. This interaction leads to the formation of 2-chloro-4-hydrazino-6-alkyl(dialkyl) amino-symm-triazines. The potassium salts of  $\beta$ -[2-chloro-6-alkyl(dialkyl) amino-symm-triazinyl-4-dithiocarbamic acids are obtained by interaction of hydrazino-triazines with carbon disulfide, and by condensation with maleic anhydride, 2-chloro-4-maleichydrazino-6-alkyl(dialkyl) amino-symm-triazines are obtained. The latter are converted into the corresponding thiuronic chlorides which are split and subsequently methylated by dimethyl sulfate to form 2-methylmercapto-4-hydrazino-6-alkyl(dialkyl) amino-symm-triazines. By condensation of the latter with maleic anhydride, 2-methylmercapto-4-maleichydrazino-6-alkyl

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Pesticides

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UDC 542.91+547.872

DOVLATYAN, V., V., and KHACHATRYAN, N. Kh., Armenian Agricultural Institute,  
Yerevan

"Pesticide Synthesis. Synthesis and Reactions of sym-Triazine Derivatives"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 1, 1971, pp 51-55

Abstract: The reaction of 2,4-dichloro-6-alkyl(dialkyl)amino-sym-triazines (I) with maleic hydrazide yielded 2-chloro-6-alkyl(dialkyl)-amino-4-(pyridazone-6'-yl-3)-hydroxy-sym-triazines. When acetylhydrazine reacted with (I), the products were 2-chloro-4-( $\beta$ -acetylhydrazino)-6-alkyl(dialkyl)amino-sym-triazines which were converted into the corresponding thiuronium salts. Treatment of the later with KOH followed by methylation with dimethyl sulfate gave 2-methylthio-4-( $\beta$ -acetylhydrazino)-6-alkyl(dialkyl)amino-sym-triazines. The compounds were synthesized to be tested as herbicidal agents, but no biological data have been reported.

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USSR

UDC 542.91+547.87

DOVLATYAN, V. V., METSBURYAN, Dzh. A., Armenian Agricultural Institute, Yerevan

"Synthesis of Pesticides. Synthesis of Thiocarbamoylthio Derivatives of Symm-triazine"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol XXIV, No 2, 1971, pp 174-178

Abstract: In connection with the presence of the dialkyldithiocarbamic group in highly active fungicide molecules, a study was made of the synthesis of thiocarbamoylthio derivatives of symm-triazine. By interaction of cyanuric chloride with sodium dialkyldithiocarbamates, 2,4,6-tris-dialkylthiocarbamoylthio-symm-triazines were synthesized; 2-chloro-4-alkyl(dialkyl) amino or 2-chloro-4-methoxy-6-dialkylthiocarbamoylthio-symm-triazines were also synthesized by interaction of 2,6-dichloro-4-alkyl(dialkyl) amino or 2,6-dichloro-4-methoxy-symm-triazines with sodium dialkyldithiocarbamates. By interaction of 2-chloro-4,6-bis-alkyl(dialkyl)amino-symm-triazines with sodium alkyl(dialkyl)dithiocarbamates, 2-alkyl(dialkyl)thiocarbamoylthio-4,6-bis-alkyl(dialkyl)amino-symm-triazines were synthesized. The experimental procedures for obtaining the given compounds, yields, analysis data and melting points are tabulated. The results of testing the fungicidal and herbicidal activities will be published separately.

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USSR

DOVLATYAN, V. V., KHA'CHATRYAN, N. Kh., Armyanskiy Khimicheskiy Zhurnal,  
Vol XXIV, No 2, 1971, pp 167-173

(dialkyl) amino-symm-triazines are obtained. The experimental procedures for  
obtaining the mentioned compounds, their formulas, yields and physical and  
chemical properties are presented.

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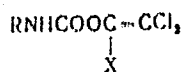
UDC 547.495.1+632.938

DOVLATYAN, V. V., and AMBARTSUMYAN, E. N., Armenian Agricultural Institute, Yerevan, Ministry of Agriculture USSR

"Synthesis of Pesticides. XXVII. The Problem of Dehydrochlorination of  $\alpha$ -Cyano(carbethoxy)- $\beta$ ,  $\beta$ ,  $\beta$ -trichloroethyl-N-aryl (benzoyl, methyl)carbamates"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 295-296

Abstract: The paper is a report on synthesis of  $\alpha$ -cyano(or  $\alpha$ -carbethoxy)- $\beta$ ,  $\beta$ -dichlorovinyl-N-substituted carbamates with the general formula



X=CN, COOC<sub>2</sub>H<sub>5</sub>, R=CH<sub>3</sub>, C<sub>6</sub>H<sub>5</sub>CO, ClC<sub>2</sub>H<sub>4</sub>.

Synthesis was achieved by interacting chloral cyanohydrin or ethyl trichlorolactate with isocyanates in the presence of traces of pyridine as a catalyst. It is shown that interaction of  $\alpha$ -cyano- $\beta$ ,  $\beta$ ,  $\beta$ -trichloroethyl-N-arylcarbamates with dehydrochlorinating agents produces 2-oxo-1-aryl-4-imino-5-dichloromethylenoxazolidines.

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DOVLATYAN, V. V., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 295-296

Potash dehydrochlorination of  $\alpha$ -cyano-,  $\beta$ -trichloroethyl-N-methylcarbamate produces  $\alpha$ -cyano-,  $\beta$ -dichlorovinyl-N-methylcarbamate, while sodium cyanide as the dehydrochlorinating agent gives 2-oxo-3-methyl-4-imino-5-dichloromethylenoxazolidine. Dissolution of 2-oxo-3-aryl(methyl)-4-imino-5-dichloromethylenoxazolidine chlorohydrates in water produces the corresponding 2,4-dioxo-3-aryl(methyl)-5,5-dichloromethylenoxazolidines.

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UDC: 542.91 + 547.433.1-  
632.913

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DOVLATYAN, V. V., and AMBARTSUNYAN, E. N., Armenian Agricultural Institute,  
Yerevan, Ministry of Agriculture USSR

"Pesticide Synthesis. XXVIII. Intramolecular Cyclization of  $\alpha$ -Cyanoalkyl-  
N-arylcarbamates"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 2, 1970, pp 173-179

Abstract: Heating  $\alpha$ -cyanoalkyl-N-aryl (or methyl) carbamates, especially in the presence of pyridine or red mercury oxide, yields oxazolidine derivatives which form by intramolecular cyclization. This reaction may also take place in some cases on standing at room temperature for 10-20 days and in all cases where the ether solution is saturated with dry hydrogen chloride. The position of a substituent on the phenyl ring has a substantial effect on the rate of cyclization. The hydrochlorides of these compounds hydrolyze easily in water, yielding 2,4-diketo-3-aryl-5-alkyloxazolidines. The presence of an aryl group directly attached to nitrogen was found necessary for cyclization, since  $\alpha$ -cyanoalkyl-N-benzoylcarbamates failed to give cyclic products.

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APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002200710010-8

Yerevan

Abstract:

0.025 g pyridine, then left standing, filtered, washed, ester of phenylcarbamic acid, m.p. 92-94°. Analogously, the  $\alpha$ -cyanomethyl ester of p-chlorophenylcarbamic acid, m.p. 98-100°, and  $\alpha$ -cyanoethyl ester of phenyl- (m.p. 77-78°) and p-chlorophenylcarbamic acids (m.p. 92-94°) were obtained. The  $\alpha$ -cyano- $\alpha$ -methylethyl ester of phenyl carbamic acid, m.p. 136-137°, was obtained by mixing phenylisocyanate, acetone cyanohydrine and pyridine, and letting the mixture stand at room temperature for 3-4 days. Analogously, this type ester of p-chlorophenylcarbamic acid, m.p. 117-119°, was obtained. To obtain the  $\alpha$ -cyanomethyl ester of m-chlorophenylcarbamic