

KOLODUB, F.A.

Hygiene
(Biology)

JPRS 56583
24 July 1972

INC 012-014,426,015,3

BIOCHEMICAL ASPECTS OF THE BIOLOGICAL EFFECT OF A
LOW-FREQUENCY PULSED ELECTROMAGNETIC FIELD

Article by F. A. Kolodub and G. I. Tsvetashenko, of the Institute of
Occupational Hygiene and Hygiene, Novosibirsk, Novosibirsk, S.S.S.R.
Preprint of the Journal of Hygiene, Moscow, S.S.S.R., 1971, pp 13-17

The literature data (T. V. Gordon, A. S. Peregrom, Yu. A. Kholodov, etc.) indicate a well-expressed biological effect of electromagnetic fields of different frequency ranges.

The biochemical mechanisms on which the morphological and functional disorders arising under the effect of an electromagnetic field are based have been inadequately studied. Meanwhile, such data are extremely necessary if one is to understand the primary mechanisms of interaction of electromagnetic fields with biological objects, to find methods of etiopathogenesis and develop ways to standardize them.

The task of the present article is to explain the possible biochemical mechanisms of the action of a pulsed low-frequency electromagnetic field on the organism. The selection of the one hand, by the increasing use of the energy of a pulsed electromagnetic field with a low frequency (5-50 kHz) in various branches of industry, science, and engineering and, on the other, with a practically complete absence of data on the character of its biological effect. Pulsed electromagnetic fields with an intensity of 24 and 72 kV/m (a frequency of 7 kHz, a pulse length of 130 milliseconds, and an interval interval of 10 seconds) were used in conducting the investigations.

The character of the effect of pulsed electromagnetic fields was traced under conditions of multiple effects (15 sessions, daily exposure for 2 hours, and an intensity (I) of 72 kV/m) and chronic effect (1.5, 3 and 6 months, daily exposure for 1.5 hours, and an intensity of 24 kV/m).

- 1 -
II - USSR - C)

USSR

UDC 546.185

KOLODYAZHYI, O. I., KALYAGIN, G. A., and GOLOLOBOV, Yu. G., Institute of Organic Chemistry, Acad. Sc. Ukrainian SSR

"Reaction of Chlorophosphates With Metallic Derivatives of Malonic Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1859-1860

Abstract: Diethyl chlorophosphate reacts with sodium, potassium, or lithium derivatives malonic ester via O-phosphorylation, yielding diethyl (carboethoxypropenyl) phosphate, b.p. 120-122°/0.05 mm, n_D^{20} 1.4472, d_4^{20} 1.1650.

1/1

USSR

UDC: 8.74

BADENKO, L. A., IVANOVA, L. V., KALININ, O. M., KACHURIN, A. L., KOLO-
DYAZHNYI, S. F.

"Analysis of the Motion of Aggregates of Cells in a Fresh-Water Sponge"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works),
vyp. 25, Moscow, "Nauka", 1972, pp 119-127 (from RZh-Kibernetika, No 6, Jun
72, Abstract No 6V599)

Translation: An attempt is made to find estimates of the principal param-
eters of cell motions on the basis of mathematical processing of individual
trajectories of finite aggregates in a fresh-water sponge. Authors' ab-
stract.

1/1

- 72 -

USSR

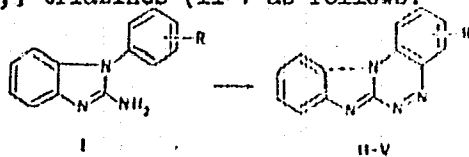
UDC 547.785.5.556.3

KOLODYAZHNAYA, S. N., SIMONOV, A. M., ZHELTIKOVA, N. N., and POZHARSKIY, A. F.,
Rostov State University, Rostov-on-Don

"Intramolecular Nitrogen Bonding in a Series of 1-Substituted 2-Aminobenzimidazols"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 714-715

Abstract: Compounds of the type 1-aryl-2-aminobenzimidazol (I) form, in addition to the intermolecular bonds, intramolecular nitrogen bonding which occurs in the o-position of N-aryl radical and leads to the formation of dibenz [a,g] imidazo [2,1-C][1,2,4,] triazines (II-V as follows:



The ring closure occurs smoothly in concentrated H_3PO_4 ; the presence of H_2SO_4 results in the formation of 5- and 6-azobenzimidazols. A methyl group in the m-position on the N-aryl radical facilitates the ring closure. Elemental analysis, IR data, physical constants, and molecular weights are given.
1/1

1/3 019 UNCLASSIFIED PROCESSING DATE--09OCT70 .
TITLE--NITROGEN CONTAINING BISHETEROCYCLIC SYSTEMS. II. NATURE OF THE
INFLUENCE OF THE 2,BENZIMIDAZOLYL RADICAL -U-
AUTHOR--(05)-KOLUDYAZHNAYA, S.N., SIMONOV, A.M., KOLODYAZHNYI, YU.V.,
OSIPOV, O.A., BREN, V.A. *K*
COUNTRY OF INFO--USSR
SOURCE--KHM. GETEROTSIKL. SOEDIN. 1970, (2), 238-44
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, UV SPECTRUM, HETEROCYCLIC NITROGEN COMPOUND,
BENZIMIDAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1169

STEP NO--UR/0409/70/000/002/0238/0244

CIRC ACCESSION NO--AP0054070

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/3 019

CIRC ACCESSION NO--AP0054070

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUATERNARY SALTS ESP. OF 1,ARYL, 3,(BENZIMIDAZOL,2,YL)BENZIMIDAZOLIUM UNDERGO RING OPENING REACTIONS WITH WEAK BASES (SUCH AS NH SUB3 IN PYRIDINE) AT ROOM TEMP. THE SALTS WITH A FREE NH GROUP (I.E., WITHOUT THE 1,ARYL SUBSTITUENT) REACT SIMILARLY. NO YLIDE FORMATION WAS FOUND. THE RING OPENING PRODUCTS DEFORMYLATED BY HEATING. THE UV AND IR SPECTRA OF VARIOUS STARTING COMPS., PRODUCTS, AND INTERMEDIATES WERE RECORDED. A CH SUB2 GROUP BETWEEN THE TWO IMIDAZOLE RINGS INCREASES STABILITY. THE RINGS ARE THEN OPENED ONLY IN THE PRESENCE OF STRONG BASES AT ROOM TEMP.; THE PRODUCTS ARE RECYCLIZED IN ACID MEDIUM. THE PROTONIZATION CONSTS. OF PK SUBA 1 AND PK SUBA2 OF MODEL COMPS. WERE MEASURED IN MEQN. THE FOLLOWING VALUES (7-7.5 HIGHER THAN THOSE MEASURED IN WATER) WERE OBTAINED FOR N,(1,1,METHYLBENZIMIDAZOL,2,YL,SUBSTITUTED COMPS. (COMP., PK SUBA1, PK SUBA2, AND M.P. GIVEN): IMIDAZOLE, 11.46, 5.34,-; BENZIMIDAZOLE, 9.91, 5.01,-; PYRAZOLE, 9.59, -,91-2DEGREES; INDAZOLE, 8.80, -, 171-2DEGREES; FOR N,(1,1,METHYLBENZIMIDAZOL,2,YL,METHYLENE SUBSTITUTED COMPS.: IMIDAZOLE, 13.73, 9.25, 150DEGREES; BENZIMIDAZOLE, 12.58, 9.21, 165-6DEGREES; PYRAZOLE, 12.27, 4.29, 109.5-10.0DEGREES; INDAZOLE, 12.03, 4.72, 167-8DEGREES; FOR SUBSTITUTED BENZIMIDAZOLES: N,ET, 13.22,-,-; N,PR, 13.22,-,-. THE QUATERNARY SALTS WERE PREPD. BY MELTING AT 140-50DEGREES EQUIMOLAR AMTS. OF N,ALKYLBENZIMIDAZOLE WITH 2,CHLORO OR 2, (CHLOROMETHYL)BENZIMIDAZOLE.

UNCLASSIFIED

379 019

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--A0054070

ABSTRACT/EXTRACT--THUS, THE FOLLOWING DERIVS. OF

N,(BENZIMIDAZOL,2,YL),O,PHENYLENEDIAMINE WERE PREPD. (M.P. GIVEN):

N,ME,N,FORMYL, 207-8DEGREES; N,ME, 226-7DEGREES; N,PH, 268-9DEGREES;

SIMILARLY, N,PH AND N,ET,N PRIME,(1,METHYLBENZIMIDAZOL,

2,YL,O,PHENYLENEDIAMINES, M. 183-4DEGREES AND 222-3DEGREES, RESP., WERE

OBTAINED. N,METHYL,N,FORMYL,N PRIME,(1,METHYLBENZIMIDAZOL,2,YL,

METHYLENE),O,PEHNYLENEDIAMINE, M. 164-5DEGREES WAS PREPD.

UNCLASSIFIED

USSR

UDC: 539.3:534.1

KOLODYAZHNYI, A.P., KRASOVSKIY, V.L. and KUCHERENKO, V.M.

"Tests of Reinforced Cylindrical Shells for Stability Under Bending"

Dnepropetrovsk, Sb. Resheniye Nekotor, Fiz.-Tekhn. Zadach (Symposium on Solution of Certain Physical-Technical Problems), 1972, pp 49-52 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2V294 by V.V. Kabanov)

Translation: A device is described for testing shells under pure bending on a universal compression machine, inspection test results are given for nonreinforced shells fabricated by spot welding out of KH18N9N steel plate. These test results agree with known data. Brief information is also included on strain gage tests of a shell reinforced by stiffeners. It is pointed out that at the instant of total loss of stability the amplitude of compression stress is 1.3 time the amplitude of tension stress.

1/1

USSR

UDC: 620.178.7

KOLOGYAZHNYI, A. V., SMELYANSKIY, V. A., Khar'kov

"Experimental Study of the Stress State of an Elastic Beam under Transverse Impact"

Kiev, Problemy Prochnosti, No 7, Jul 73, pp 116-118.

Abstract: Results are presented from experimental study of stresses and displacements in an elastic prismatic beam under transverse impact by a solid body. A method of experimental study of the stress state and the influence of wave processes on the parameters of the stress-strain state of the elastic system under transverse impact are presented.

1/1

- 98 -

UDC 546.185

USSR

KOLODYAZHNYI, O. I., SAMARAY, L. I., and GAYDANAKA, S. N., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Anionotropic Conversion of bis(Trichloromethyl)chlorophosphazocarbonyl Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, p 1972

Abstract: bis(Trichloromethyl)chlorophosphazohydride reacts with oxalyl chloride to give bis(trichloromethyl)chlorophosphazooxalyl chloride. The latter decomposes on heating to 120° to give carbon monoxide and a mixture of isomers -- bis(trichloromethyl)dichloroisocyanatophosphorus and bis(trichloromethyl)chlorophosphazocarbonyl chloride, UV spectra indicate mobile equilibrium of the isomers in the mixture, which is characteristic of tautomeric systems.

1/1

- 46 -

USSR

UDC 632.95

PROTOPOVA, G. V., RAYDALOVA, L. I., KOLODYAZHNYX, O. I., SAMARAY, L. I.,
and DERKACH, G. I., Institute of Organic Chemistry, Academy of Sciences of
the UkrSSR

"A Pesticide"

USSR Author's Certificate No 253483, filed 25 Nov 68, published 8 Apr 70
(from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N553 P)

Translation: N-(O-alkyl-S-alkylthiophosphono)-S-ethylurethanes have LD₅₀
170 mg/kg for warm-blooded animals and have systemic and contact insecti-
cidal and acaricidal action. Most toxic for houseflies is (CH₃O)(CH₃S)-
(P(O)NHCOSC₂H₅) (I); 0.01 mg per fly, this compound was 92% fatal (the
corresponding figure for chlorophos is 53%); for weevils of the rice and
cereal type, most toxic is (CH₃O)(C₂H₅S)P(O)NHCOSC₂H₅ which was 100% fatal
at 0.25 mg/dm² and 100% lethal for aphids at 0.005 mg/dm². Compound I is
most effective for systemic action on aphids. In field experiments on
controlling beet weevils, compound I in a dose of 1 kg/ha was nearly as
effective as heptachlor at 2 kg/ha, and is at least as persistent in its
effect. Compound I at 0.5 kg/ha was nearly as effective against beet
aphids as rogor at 0.3 kg/ha.

1/1

- 46 -

USSR

UDC: 547.26'118

R
SAMARAY, L.I., KOLODYAZHENYY, O.I., VISENEVSKIY, O.V., and DERKACH, G.I. (Deceased)
Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Isocyanates of Phosphoric and Thiophosphoric Acids. III"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 750-754

Abstract: Isocyanates of phosphoric acids react with hydrazoic acid to give N-azidocarbonylphosphamides. The latter readily enter into oxidative imination reactions with phosphines and phosphites to give corresponding phosphazo compounds. Isocyanates of phosphoric acid esters interact with ϵ -caprolactam on heating in a benzene solution to give N-phosphonocarbamoyl- ϵ -caprolactams. Isocyanates of dialkylthio- and dialkylphosphoric acid react with alcohols (mercaptans) to give N-phosphorylated urethanes and thiolurethanes possessing high insecticidal activity, both systemic and contact. N. I. LIPTUGA took part in the work.

1/1

USSR

UDC: 547.26'118

SAMARAY, L.I., KOLODYAZHNYI, O.I., and DERKACH, G.I., (Deceased), Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Reaction of Amides of Pentavalent Phosphorus Acids With Phosgene"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 754-758

Abstract: The interaction of amides of dialkylphosphoric and dialkylthiophosphoric acids with phosgene gives a mixture of products, viz. isocyanates of the corresponding acids and adducts of the amides with hydrogen chloride. The direction of the reaction of phosgene with amides of pentavalent phosphorus acids is discussed. Two possible reaction schemes are suggested, with the likelier scheme being one in which the initial event is the formation of an O-acyl derivative of the amidophosphate. This is confirmed by the results of a study of the interaction of phosgene with dialkyl esters of N-monoalkylamidophosphoric acid, which show that acid chlorides of alkyl esters of N-alkylamidophosphoric acid are mainly formed. An exception is diethyl ester of N-methylamidophosphoric acid, which is phosgenated to give diethyl ester of N-methyl-N-chlorocarbonylamidophosphoric acid.

1/1

- 56 -

USSR

R
UDC 547.26'118

SAMARAY, L. I., KOLODYAZHNYI, O. I., and DERKACH, G. I., (DECEASED),
Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Reaction of Pentavalent Phosphorus Acid Amides With Oxalyl Chloride"
Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 994-998

Abstract: Diesters of N-alkylamidophosphoric acid react with oxalyl chloride to give 2,3-disubstituted phosphaoxazolidine-4,5-diones. The interaction of diethyl ester of N-isopropylamidophosphoric acid ($R=C_2H_5$, $R'=iso-C_3H_7$) with oxalyl chloride gives, along with 4,5-dione, the acid chloride of ethyl ester of N-isopropylamidophosphoric acid. Phosphaoxazolidine-4,5-diones are hydrolyzed by water to N-alkyloxaminic acids and alkyl phosphates and react with alcohols to give N-phosphorylated oxaminic acids.

1/1

- 54 -

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ISOCYANATES OF PHOSPHORIC AND THIOPHOSPHORIC ACIDS -U-
AUTHOR--(04)--SAMARAY, L.I., KOLODYAZHNYI, O.I., VISHNEVSKIY, O.V., DERKACH,
G.I. **K**
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 750-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, AMIDE, PHOSPHORUS SULFIDE,
INSECTICIDE, ORGANIC ISOCYANATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1486 STEP NO--UK/0019/70/040/004/0750/0754
CIRC ACCESSION NO--AP0128863

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0128383
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF 1 MOLE NH SUB3 IN ET SUB2
O TO R. SUB2 P(O)NCO GAVE (OVERNIGHT) THE FOLLOWING AMIDES: SHOWN ON
MICROFICHE. FACILITY: INST. ORG. KHIN., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 547.279

TKALENKO, V. G., AMARSKAYA, A. P., KOLODYAZHNYI, Yu. V., SADEKOV, I. D.,
MINKIN, V. I., and OSIPOV, O. A., Rostov-on-the-Don State University

"Synthesis and Physical Chemical Properties of Aromatic and Heterocyclic
Derivatives of Tellurium. V. Investigation of the Complex Formation of
TeCl₄ With Schiff's Bases"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 1943-1947

Abstract: Novel complex compounds of TeCl₄ with benzalanilines and β-
hydroxynaphtalanilines have been synthesized. On the basis of IR spectro-
scopic study of these complexes the conclusion was reached as to the lo-
calization of the coordination bond in azomethine molecules. It has been
shown that the equimolecular complexes are energetically more feasible
and their structures have been discussed. The heats of complex formation
reactions are correlated with the substituent constants in the aldehyde
(σ⁺) and aniline (σ^o) nuclei of the azomethine molecules.

1/1

- 17 -

USSR

UDC 547.785.5'821.07

POZHARSKIY, A. F., KUZ'MENKO, V. V., KOLODYAZHNYI, YU. V., SIMONOV, A. M.,
Rostov State University, Rostov-na-Donu

"Relative Reactivity of the Pyridine and Benzimidazole Systems in the
Chichibabin Reaction"

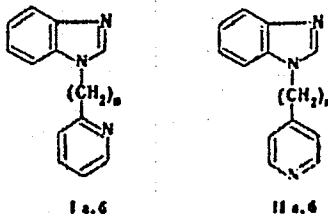
Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 9, 1972, pp 1252-1263

Abstract: Some α (or γ)-pyridyl and 1- α (or γ)-pyridylethyl-
benzimidazoles were synthesized and their reactivity to methyl iodide and
sodamide was studied. The results are discussed from the point of view
of basicity, the magnitude of the dipole moments, the mutual effect of
heterorings and the distribution of electron density in them, calculated
or estimated from the relative position of the chemical shifts in the para-
magnetic resonance spectra. The benzimidazole system enters into the Chichi-
babin reaction appreciably more easily than the pyridine system. On the
basis of the paramagnetic resonance spectral data for bases and cations of
pyridine and benzimidazole it is proposed that this phenomenon arises from
the high degree of polarizability of the C=N bond of the benzimidazole by
comparison with the C=N bond of the pyridine on their coordination with
NaNH₂. The protonation point of compounds I and II

1/2

USSR

POZHARSKIY, A. F., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 9, 1972, pp 1252-1263



a n=0; 6 n=2

the nature of the interaction of the imidazole and pyridine rings in N-pyridylbenzimidazoles and the reaction of N-pyridylbenzimidazoles to sodium amide are discussed. The procedures for synthesizing a number of the indicated compounds, the method of measuring the ionization constants, taking the paramagnetic resonance spectra, performing the quantummechanical calculations and determining the dipole moments are described.

2/2

- 28 -

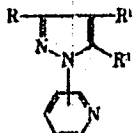
Acc. Nr:

AP0100370 CHEMICAL ABST.

Code:

5110 UR 0409

110632b Nitrogen-containing biheterocyclic systems. I. Dipole moments and structure of 1-pyridylpyrazoles. Alieva, S. A.; Kolodyazhnyi, Yu. V.; Garnovskii, A. D.; Osipov, O. A.; Grandberg, I. I.; Krokhtina, N. F. (Rostov-na-Donu Gos. Univ., Rostov-on-Don, USSR). *Khim. Geterotsykl. Soedin.* 1970, (1), 45-9 (Russ). The dipole moments of 1-pyridylpyrazoles and their amino derivs. were detd. in C_6H_6 at 25° with $5 \times 10^{-2} - 2 \times 10^{-4}$ mole fraction. Comparison of exptl.



and vectorially calcd. dipole moments shows that 1-pyridylpyrazoles, and 1-(3- or 4-pyridyl)5-aminopyrazoles have non-planar configuration; the planar angle between the pyrazole and pyridine rings was calcd. For 1-(2-pyridyl)-5-aminopyrazoles the planar trans configuration is assumed due to intramol. H

REEL/FRAME
19841795

AP0100370

bonding. The following data were obtained (R, R¹, R², position attachment of pyridine ring, and planar angle between two rings given): Me, H, Me, 2, 58°; Me, H, Me, 3, 81°; Me, H, Me, 4, 0°; Pr, Et, NH₂, 3, 66°; PhCH₂, Ph, NH₂, 3, 56°; *p*-MeC₆H₄, H, NH₂, 3, 80°; Et, Me, NH₂, 4, 0°; Me, H, Cl, 1, 0°; Me, H, NH₂, 2, 0°; PhCH₂, Ph, NH₂, 2, 0°; Et, Me, NH₂, 2, 0°; Pr, Et, NH₂, 2, 0°; *p*-H₂NC₆H₄, H, NH₂, 2, 0°.

S. K. Banerjee

19841796

1/3 019 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--NITROGEN CONTAINING BISHETEROCYCLIC SYSTEMS. II. NATURE OF THE
INFLUENCE OF THE 2,BENZIMIDAZOLYL RADICAL -U-
AUTHOR--(05)-KOLUDYAZHNAYA, S.N.; SIMONOV, A.M.; KOLUDYAZHNYI, YU.V.;
OSIPOV, O.A.; BREN, V.A.
COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 238-44

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, UV SPECTRUM, HETEROCYCLIC NITROGEN COMPOUND,
BENZIMIDAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1169

STEP NO--UR/0409/70/000/002/0238/0244

CIRC ACCESSION NO--AP0054070

UNCLASSIFIED

2/3 019

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054070
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE QUATERNARY SALTS ESP. OF 1,ARYL, 3,(BENZIMIDAZOL,2,YL)BENZIMIDAZOLIUM UNDERGO RING OPENING REACTIONS WITH WEAK BASES (SUCH AS NH SUB3 IN PYRIDINE) AT ROOM TEMP. THE SALTS WITH A FREE NH GROUP (I.E., WITHOUT THE 1,ARYL SUBSTITUENT) REACT SIMILARLY. NO YLIDE FORMATION WAS FOUND. THE RING OPENING PRODUCTS DEFORMYLATED BY HEATING. THE UV AND IR SPECTRA OF VARIOUS STARTING COMPS., PRODUCTS, AND INTERMEDIATES WERE RECORDED. A CH SUB2 GROUP BETWEEN THE TWO IMIDAZOLE RINGS INCREASES STABILITY. THE RINGS ARE THEN OPENED ONLY IN THE PRESENCE OF STRONG BASES AT ROOM TEMP.; THE PRODUCTS ARE RECYCLIZED IN ACID MEDIUM. THE PROTONIZATION CONSTS. OF PK SUBA 1 AND PK SUBA2 OF MODEL COMPS. WERE MEASURED IN HECN. THE FOLLOWING VALUES (7-7.5 HIGHER THAN THOSE MEASURED IN WATER) WERE OBTAINED FOR N,(1,METHYLBENZIMIDAZOL,2,YL,SUBSTITUTED) COMPS. (COMP., PK SUBA1, PK SUBA2, AND M.P. GIVEN): IMIDAZOLE, 11.46, 5.34,-; BENZIMIDAZOLE, 9.91, 5.01,-; PYRAZOLE, 9.59, -,91-2DEGREES; INDAZOLE, 8.80, -, 171-2DEGREES; FOR N,(1,METHYLBENZIMIDAZOL,2,YL,METHYLENE SUBSTITUTED COMPS.: IMIDAZOLE, 13.73, 9.25, 150DEGREES; BENZIMIDAZOLE, 12.58, 9.21, 165-6DEGREES; PYRAZOLE, 12.27, 4.29, 109.5-10.0DEGREES; INDAZOLE, 12.03, 4.72, 167-8DEGREES; FOR SUBSTITUTED BENZIMIDAZOLES: N,ET, 13.22,-,-; N,PR, 13.22,-,-. THE QUATERNARY SALTS WERE PREPD. BY MELTING AT 140-50DEGREES EQUIMOLAR AMTS. OF N,ALKYLBENZIMIDAZOLE WITH 2,CHLORO OR 2,(CHLOROMETHYL)BENZIMIDAZOLE.

UNCLASSIFIED

3/3 019

UNCLASSIFIED

PROCESSING DATE--09GCT70

CISC ACCESSION NO--A0054070

ABSTRACT/EXTRACT--THUS, THE FOLLOWING DERIVS. OF

N,(BENZIMIDAZOL,2,YL),O,PHENYLENEDIAMINE WERE PREPD. (M.P. GIVEN):

N,ME,N,FORMYL, 207-8DEGREES; N,ME, 226-7DEGREES; N,PH, 268-9DEGREES;

SIMILARLY, N,PH AND N,ET,N PRIME,(1,METHYLBENZIMIDAZOL,

2,YL,O,PHENYLENEDIAMINES, M. 183-4DEGREES AND 222-3DEGREES, RESP., WERE

OBTAINED. N,METHYL,N,FORMYL,N PRIME,(1,METHYLBENZIMIDAZOL,2,YL,

METHYLENE),O,PEHNYLENEDIAMINE, M. 164-5DEGREES WAS PREPD.

UNCLASSIFIED

USSR

K UDC 547.551.4 + 541.49
GARNOVSKIY, A. D. KOLODYAZHNYI, YU. V., ALIYEVA, S. A., KROKHINA,
N. F., GRANDBERG, I. I., OSIPOV, O. A., and PRESNYAKOVA, T. M.,
Rostov-on-Don State University and All-Union Agricultural Academy
imeni K. A. Timiryazev

"Complex Compounds of Metals With Nitrogen-Containing Ligands. XIX.
Complexes of Tin Tetrachloride With 1-Pyridylpyrazoles and Their
5-Hydroxy(amino) Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1114-
1120

Abstract: Continuing their study of complexing in systems with
several donor centers, the authors studied the interaction of tin
tetrachloride with 1-(α , β or γ -pyridyl)pyrazoles and their
5-hydroxy and amino derivatives. The dipole moments of the resul-
tant complexes were determined and their IR spectra studied for
purposes of solving the question of the configuration and tautomer-
ism of the ligands. A comparative study was made of the IR spectra
of ligand and complex molecules in order to establish the localiza-
tion site of the coordination bond.
1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NITROGEN CONTAINING BIS HETEROCYCLIC SYSTEMS. IV. SYNTHESIS AND
STRUCTURE OF 5, HYDROXY, AMINO, 1, BENZAZOLYL PYRAZOLES -U-
AUTHOR--(05)-GARNOVSKIY, A.D., KOLODYAZHNYI, YU.V., GRANDBERG, I.I.,
ALIYEVA, S.A., KROKHINA, N.F.
COUNTRY OF INFO--USSR

K

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (5), 660-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HETEROCYCLIC OXYGEN COMPOUND, PYRAZOLE, THIAZOLE, DIPOLE
MOMENT, ORGANIC SYNTHESIS, MOLECULAR STRUCTURE, HYDRAZINE ORGANIC
COMPOUND, HYDROXYL RADICAL, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/E02 STEP NO--UR/0409/70/000/005/0660/0663

CIRC ACCESSION NO--AP0140304

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 016

CIRC ACCESSION NO--AP0140304

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

5, HYDROXY, 1, (BENZAZOL, 2, YL) PYRAZOLES (I) WERE PREPD. BY REFLUXING A MIXT. OF 0.05 MOLE APPROPRIATE HYDRAZINE AND 0.05 MOLE ACOCHR PRIME1 CO SUB2 R PRIME2 OR PHCH SUB2 C(:NH)CHPHCN (II) IN 50 ML TERT BUOH, 5 ML H SUB2 O, AND 5 ML ACOH 12 HR. THUS PREPD. WERE THE FOLLOWING I (R, R PRIME1, R PRIME2, Y, PERCENT YIELD, AND M.P. GIVEN): PH, H, OH, S, 73, 201DEGREES; PH, CH SUB2 PH, OH, S, 76, 165DEGREES; CH SUB2 PH, PH, OH, NH, 63, 224DEGREES; AND CH SUB2 PH, PH, OH, NCH SUB2 PH, -, -. REFLUXING EQUIMOLAR AMTS. 2, HYDRAZINOBENZOTHAZOLE, II, AND 30PERCENT HCL IN ISO PROH GAVE 60PERCENT

5, AMINO, 4, PHENYL, 3, BENZYL, 1, (BENZTHIAZOL, 2, YL) PYRAZOLE (I) (R EQUALS CH SUB2 PH, R PRIME1 EQUALS PH, R PRIME2 EQUALS NH SUB2, Y EQUALS S), M. 163DEGREES. DIPOLE MOMENT AND IR STUDIES SHOW THAT I EXIST BOTH INT HE CRYST. FORM AND IN SOLN. MAINLY IN HYDROXY AND AMINO FORMS, WHICH ARE STABILIZED BY INTRAMOL. H BONDING. FACILITY: ROSTOV.-NA-ONU

GOS. UNIV., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DIPOLE MOMENTS OF STEREoisomeric BETA-CHLOROVINYLMERCURY CHLORIDES
-U-
AUTHOR--(03)-KULODYAZHNYI, YU.V., GARNOVSKIY, A.O., OKHLOBYSTIN, O.YE.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1322-3 (PHYS. CHEM)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--DIPOLE MOMENT, ISOMER, VINYL COMPOUND, ORGANOMERCURY COMPOUND,
CHLORINATED ALIPHATIC COMPOUND, DIELECTRIC PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0215 STEP NO--UR/0020/70/191/006/1322/1323
CIRC ACCESSION NO--AT0132487

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 015

CIRC ACCESSION NO--AT0132487

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

ABSTRACT. THE FOLLOWING DIPOLE MOMENTS (IN D) WERE CALCD. FROM DIELEC. DATA IN C SUB6 H SUB6 AT 25DEGREES: CIS CLCH:CHHGCL 2.92; TRANS ISOMER 1.81; AND 1:1 MIXT. OF THE ISOMERS (M. 78DEGREES) 2.79. SINCE THE VALUE OF THE DIPOLE MOMENT IN THIS MIXT. IS CLOSE TO THAT OF THE PURE CIS FORM, THIS METHOD IS UNDERSIARBLE FOR IDENTIFICATION PURPOSES. FACILITY: ROSTOV.-NA-DOU GOS. UNVI., ROSTOV-CN-DCN, USSR.

UNCLASSIFIED

1/3 010 UNCLASSIFIED PROCESSING DATE--02JCT70
TITLE--INVESTIGATION OF MICROORGANISM PEPTID HYDROLASES -U-
AUTHOR--(04)-TSIPEROVICH, G.S., LOSEVA, A.L., KOLODZHEYSKA, M.V., LISENKOV,
M.V.
COUNTRY OF INFO--USSR
SOURCE--UKRAYNS'KIY BIOKHMICHNIY ZHURNAL, 1970, VOL 42, NR 2, PP 227-233
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MICROORGANISM, PEPTIDE HYDROLASE, FUNGUS, STREPTOMYCES,
PROTEIN, PEP SIN, TRYPSIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/F RAME--1988/1531

STEP NO--UR/0300/70/042/002/0227/0233

CIRC ACCESSION NO--AP0106284

UNCLASSIFIED

2/3 010

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106284

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH BRIEF REVIEW OF WORKS IN WHICH THE AUTHORS STUDIED THE COMPLEXES OF PEPTID HYDROLASES, PRODUCED BY STREPTOMYCES GRISEUS, ASPERGILLUS FLAVUS, A. SPERGILLUS ORYZAE. THE METHODS ARE DEVELOPED OF DISTINGUISHING THESE COMPLEXES AS WELL AS OF STR. GRISEUS IN THE CRYSTALLINE FORM. ALL THREE ARE CAPABLE OF SPLITTING IN THE PROTEIN MOLECULE UP TO 80PERCENT OF PEPTIDE LINKS LIKE "PRONASE". THE PHYSICOCHEMICAL PROPERTIES ARE INVESTIGATED OF THE OBTAINED ENZYMIC PROTEINS: PH OPTIMUM OF ACTIVITY, STABILITY, EFFECT OF METAL IONS, EDTA, SOME DENATURANT FACTORS. STUDYING THE EFFECT ON SYNTHETICAL SUBSTRATE, THEIR ENZYMIC COMPOSITION WAS INVESTIGATED; THE PROTEINASE ACTIVITIES ARE FOUND OF THE TRYPSIN TYPE AS WELL AS OF PEPSIN (IN THE CRYSTALLINE PROTEASE OF STR. GRISEUS); A SERIES OF PEPTIDASE ACTIVITIES, LEUCINAMINOPEPTIDASE, CARBOXYPEPTIDASE, AMINOTRIPEPTIDASE, VARIOUS DIPEPTIDASES, GLYCILE GLYCINIC, GLYCILE I LEUCINIC AND OTHERS IS FOUND. THE COMPLEXES WERE SEPARATED BY THE METHODS OF IONIC EXCHANGE CHROMATOGRAPHY, GEL FILTRATION, DISC ELECTROPHORESIS, SOMETIMES BY SEDIMENTATION; THEIR CONSIDERABLE HETEROGENEITY IS OBSERVED (FROM FIVE UP TO EIGHT COMPONENTS). THE SEPARATION OF SOME PROTEINASES AND PEPTIDASES IS CARRIED OUT ON DEAE CELLULOSE. PROTEINASE ASP. FLAVUS IS DISTINGUISHED AND STUDIED, IT IS SHOWN THAT THE PRESENCE OF METAL AND THIOL GROUP IONS IS OF NO IMPORTANCE FOR MANIFESTATION OF ITS ACTIVITY.

UNCLASSIFIED

3/3 010

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106284

ABSTRACT/EXTRACT--IN THE COMPLEX FROM ASP. ORYSAE PROTEINASE IS FOUND OF THE TRYPSIN TYPE WITH UNUSUAL PROPERTIES, HYDROLYZING BENZOYL ARGININE METHYL ESTER AND BENZOYL ARGININE ETHYL ESTER, BUT NOT SPLITTING TOSYL ARGININE METHYL ESTER AND HAVING NO AMIDASE ACTIVITY BY BENZOYL ARGININE PARANITROANILIDE. EXCEPTIONALLY HIGH CONCENTRATION IS FOUND OF AMINOPEPTIDASE HYDROLYZING L LEUCILE GLYCILE GLYCINE.

UNCLASSIFIED

USSR

UDC: 621.375.432.3

KOLOGRINOV, A. G.

"Graph-Analytic Calculation of an Emitter Follower"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications--collection of works), Moscow, "Svyaz", 1970, pp 55-63 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D110)

Translation: The author analyzes the amplitude-frequency (frequency), phase-frequency (phase) and transient responses of an emitter follower. Circle diagrams are used to establish a new property of the circuit -- the presence of a maximum passband in the case of a less-than-optimum feedback parameter. Parameters are determined which correspond to the maximum passband, minimum phase distortions and minimum overshoot of the transient response. Six illustrations, bibliography of seven titles. Resumé.

1/1

USSR

UDC: 539.376+532.135

KOLOKOL'CHIKOV, V. V.

"Quasilinear Theory of Moment Viscoelasticity"

V sb. Uprugost' i neuprugost'. Vyp. 1 (Elasticity and Inelasticity--collection of works, No 1), Moscow, Moscow University, 1971, pp 211-220 (from RZh-Mekhanika, No 5, May 72, Abstract No 5V431)

Translation: A quasilinear cubic theory of moment viscoelasticity is constructed on the basis of a number of hypotheses. This theory is a generalization of the momentless quasilinear theory. The equations of state contain 5⁴ singular secondary relaxation kernels. Integral expressions are derived which give the relation between the secondary kernels of creep and relaxation in general form. It is shown that if the spherical parts of the tensor of force stresses and the strain tensor have no effect on shear properties, then the number of secondary singular relaxation kernels decreases to 45. In the secondary kernels, δ -singularities are isolated, i. e. the cubic moment theory is broken down into four component theories: regular moment viscoelasticity, moment viscoelasticity with regular secondary influence functions of two arguments, principal moment viscoelasticity, and moment cubically nonlinear elasticity. L. Kh. Papernik.

1/1

USSR

UDC: 539.376+532.135

KOLOKOL'CHIKOV, V. V.

"Concerning Isotropy of Materials With Memory"

V sb. Uprugost' i neuprugost'. Vyp. 1 (Elasticity and Inelasticity--collection of works, No 1), Moscow, Moscow University, 1971, p 268 (from RZh-Mekhanika, No 5, May 72, Abstract No 5V451)

Translation: The author considers materials whose stress tensor is a functional of the strain tensor and of temperature. It is assumed that the stress tensor is, generally speaking, nonanalytically dependent on deformations, i. e. isotropic materials are considered whose stresses do not decompose into an integral series with respect to powers of deformations. The author studies a special class of isotropic materials having so-called elastic (strong) isotropy. Expression of the stress tensor in terms of the strain tensor for materials having elastic isotropy is by definition form-invariant for the following transformation of the strain tensor ϵ_{ij} to new quantities ϵ'_{ij}

$$\epsilon'_{ij} = C_{\alpha\beta} \epsilon_{\alpha\beta}$$

where the matrix of transformation $C_{\alpha\beta}$ is orthogonal and depends on time and coordinates.

1/1

- 123 -

USSR

UDC 621.771:621.783

USTIMENKO, V. A., KOLOGRIVOV, N. P., KRYLOVSKIY, A. P., SKREMENTOV, V. M.,
TKACHEV, A. V., and CHERVIYAROV, V. V.

"Rolling of Sheets Plated With OKh23N28M3D3T Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-
Oct 70, pp 81-82

Abstract: A description is given of new technological process of rolling corrosion-resistant sandwich sheets plated with OKh23N28M3D3T (EI943) complex alloy steel. The sheets are used for manufacturing containers for stocking and transporting highpurity acids. The chemical compositions of the basic metal (20K steel) and the plating metal are given. Data on the strength properties of the two steels are also given. The shearing strength along the welding plane substantially exceeds the minimum GOST 10885-64 value (15 kg/mm²). The high adhesion strength of the layers was confirmed by bending tests. The results show the feasibility of using this technology for the mass production of large-size sheets with a plating layer which completely satisfy the requirements of GOST 10885-64.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--A COUPLE THEORY OF SMALL ELASTIC PLASTIC DEFORMATIONS -U-
AUTHOR--KOLOKOLCHIKOV, V.V. *K*
COUNTRY OF INFO--USSR
SOURCE--MOSKOVSKII UNIVERSITET, VESTNIK, SERIIA I MATEMATIKA, MEKHANIKA,
VOL. 25, JAN.-FEB. 1970, P. 76-84
DATE PUBLISHED-----70

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

TOPIC TAGS--PLASTIC DEFORMATION, ELASTIC DEFORMATION, POTENTIAL ENERGY,
STRESS LOAD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0120

STEP NO--UR/0055/70/025/000/0076/0084

CIRC ACCESSION NO--AP0054916

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054916

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COUPLE THEORY OF SMALL ELASTIC PLASTIC DEFORMATIONS IS PROPOSED. THEOREMS OF MINIMUM POTENTIAL ENERGY, SIMPLE LOADING AND ELASTIC UNLOADING ARE PROVED. UNDER SIMPLE LOADING, THE EQUIVALENCE OF SOME THEORIES OF COUPLE PLASTICITY AND THE COUPLE THEORY OF SMALL ELASTIC PLASTIC DEFORMATIONS IS ESTABLISHED.

UNCLASSIFIED

USSR

UDC: 51

KOLOKOLOV, A. A.

"On Estimating the Number of Iterations for Direct Algorithms of the Method of Truncation in Integral Linear Programming"

V sb. Mat. analiz ekon. modeley. Ch. 1 (Mathematical Analysis of Economic Models--collection of works. Part 1), Novosibirsk, 1971, pp 137-164 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V851)

Translation: The author notes that up to the present only one paper (RZh-Mat, 1970, 12V467) has been published dealing with the theoretical estimate of the number of iterations in the method of truncation. In this paper an estimate from below is found for the maximum number of iterations for one of the dual algorithms -- The completely integral algorithm of Gomori.

In the present paper, direct algorithms of the method of truncation are investigated which owe their origin to Junge (RZh-Mat, 1966, 9V190; 1969, 6V356). A general description is given of the investigated class of algorithms in which individual algorithms are distinguished from one another only by the rules for selecting the guide column and the generating line (the line from which truncation is constructed).

1/2

- 19 -

-USSR.

UDC: 51

KOLOKOLOV, A. A., Mat. analiz ekon. modeley. Ch. 1, Novosibirsk, 1971, pp 137-164

Proof is given for the simple lemma 2. Let n_1, \dots, n_l be whole numbers ($l \geq 2$), λ_j are whole numbers ($j=1, 2, \dots, l, j \neq j_0$), $n_{j_0} = -n_{j_0}$, $n_j = n_j - \lambda_j n_{j_0}$. Then the greatest common divisor $(n_1, \dots, n_l) = \text{GCD}(n_1, \dots, n_l)$. On the basis of this lemma, the investigation of simplex tables in direct algorithms reduces to a study of simpler simplex tables (where the greatest common denominator in each line for all elements except the free term is equal to 1).

Only problems with two non-basis variables are studied further. The finiteness of direct algorithms is proved for these problems, estimates are given of the number of iterations from above, and proofs are given for the methods of selecting the problem and the algorithm for which the estimate is attained. Yu. Finkel'shteyn.

2/2

USSR

UDC: 512.25/.26+519.3:330.115

KOLOKOLOV, A. A. KHOKHLYUK, V. I.

"On Two Direct Algorithms of Linear Whole-Number Programming"

V sb. Optimal'n. planirovaniye (Optimum Planning--collection of works),
Vyp. 16, Novosibirsk, 1970, pp 33-46 (from RZh-Kibernetika, No 7, Jul
71, Abstract No 7V622)

Translation: Construction of finite direct algorithms of the cut-off method has been a more complex problem than the construction of finite two-way algorithms originating directly from the work of Gomori (RZh-Mat, 1959, 7256). It wasn't until 1965 that Young first proposed such an algorithm, but with a very complex rule for selecting the generating row and a no less complicated justification of finiteness (RZhMat, 1966, 9V190). Simplified versions of the algorithm were given by Young (RZh-Mat, 1969, 6V356) and Glover (RZh-Mat, 1969, 6V357). This paper takes up the consideration of two direct algorithms for whole-number linear programming. To simplify the direct algorithm, finiteness is proved

1/2

KOLOKOLOV, A. A., KHOKHLYUK, V. I., Optimal'n. planirovaniye, Vyp. 16, Novosibirsk, 1970, pp 33-46

under a simpler rule for selecting the generating line than in the above mentioned papers. Two numerical examples are given. The results of a computer experiment on solution of small problems are presented. Yu. Finkel'shteyn.

KOLOKOLOV, A.S.

neurology

30 Apr 71

139

0-2

OFFICE MEMORANDUM

139, USSR Assembly 501 FOREIGN PRESS DIST: 30 APR 1971

KOLOKOLOV, A. S. and SHUKLINA, M. A. "Modeling the Adaptation of a Neuron and Spontaneous Activity of a Neural Net"

Gosmenyuze Problemy Kibernetiki -- Stepanik (Modern Problems of Cybernetics -- Collection of Voprosy, Moscow, Nauka, 1970, pp 252-261)

Abstract: This paper is devoted to modeling the processes of the adjusting activity of a neural net.

A model of a neuron, which contains a blocking generator whose frequency is controlled and a pulse shaper, is used as the elementary unit of a neural net. The neuron model has a static characteristic which is almost separable. Besides the properties of a static characteristic, the model possesses the property of adaptation. Adaptation is understood to mean a decrease in time of the pulse frequency generated by an individual neuron in the presence of a constant input action. The units of accomplishing adaptation in a neuron are examined: 1) alteration of the neuron from the input action; 2) introduction of negative feedback.

It appears that on the basis of analyzing neurons one can model a spontaneous generator of pulse actions (a "neural network") and introduce a mechanism 1/2

USSR

KOLOKOLOV, A. S., et al., Gosmenyuze Problemy Kibernetiki -- Stepanik, "Nauka," 1970, pp 252-261

Under influence of neurons which possess the property of undulating activity -- that is, the passage of pulses takes place along it.

2/2

USSR

UDC 621.371.029.55 10

BENEDIKTOV, Ye. A., GETMANTSEV, G. G., YEZHOV, A. I., KOROBKOV,
~~Yu. S.~~, MALYSHEV, S. K., KATYUGIN, S. N., MITYAKOV, N. A.,
SAZONOV, Yu. A., CHERNOV, V. A., BEN'KOVA, N. P., BEREZIN, Yu. M.,
BUKIN, G. V., KOLOKOLOV, L. Ye., and PEREKHVATOV, Yu. K.

"Results of an Experiment in Shortwave Radio Propagation"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 73-76 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A367)

Translation: Results of experiments on investigating the characteristics of wave propagation in the decameter range (5.7-15.0 MHz) are analyzed; the communications took place between the following magnetically adjacent points: an ionospheric station in Gor'kiy and two science research ships in the Indian Ocean. In particular, the possibility of communication over the Peterson beam was estimated. Two illustrations, bibliography of one. N. S.

1/1

USSR

UDC: 537.521

KAGAN, Yu. M., ~~KOLCKOLOV, N. B.~~, LYAGUSHCHENKO, R. I., MILENIN, V. M., and MIRZABEKOV, A. M.

"Investigating the Electron Distribution Function in Hg+Ar and Hg+Kr Mixtures"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, vol. 41, No. 4, April 1971, pp 714-719

Abstract: The measurements made in this article were of the energy distribution of electrons in the positive column of discharges in gases mixing mercury vapor and inert argon and krypton. Such measurements are of practical interest. Because difficulties arise as the result of intense noise, in making these measurements the authors used a tracking probe through which the effect of the space potential variations on the measurement of the distribution function can be eliminated. The measurements were made in a tube measuring 35 mm in diameter with an incandescent cathode. Curves of the distribution are plotted. A comparison

1/2

KAGAN, et al, Zhurnal Tekhnicheskoy Fiziki, vol. 41, No. 4, April 1971, pp 714-719

was also made of the experimental distribution functions and the functions calculated from the kinetic equation. The estimates made indicate that elastic collisions of electrons and the mercury atoms are negligible compared to the elastic collisions with the inert gas atoms. The authors are associated with the Leningrad State University, imeni A. A. Zhdanov.

2/2

- 105 -

UDC 537.525 : 546.292

USSR

KAGAN, YU. M., KOLOKOLOV, N. B., and MILENIN, V. M.

"Electrical and Optical Measurements in Moving Striations in Neon. I"

Leningrad, Optika i Spektroskopiya, Vol 29, No 6, Dec 70, pp 1041-1044

Abstract: The article describes results of a study of the electrical and optical parameters of moving striations in neon. Such studies permit quantitative elucidation of the pattern of excitation and ionization in moving striations with allowance for the specific character of the electron distribution. An earlier article by the authors described a method making it possible to measure the energy distribution of electrons in moving striations. The present article uses this method to measure the energy distribution of electrons in different phases of moving striations in a neon discharge in a tube with a 2.5-cm radius at a pressure of 0.75 torr and discharge currents of 120 and 200 ma, with the strata length 17 and 18 cm respectively.

1/1

- 92 -

K Magnetohydrodynamics

USSR

UDC 533.933

KAGAN, YU. M., KOLOKOLOV, N. B., MILEVIN, V. M., MIRZABEKOV,
A. M., Leningrad State University

"Measurement of the Energy Distribution of Electrons in a Plasma
in the Presence of Noise"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 5, June 1970,
pp 1319-1321

Abstract: Serious difficulties caused by fluctuations in the discharge for plasma diagnostics generally and probe diagnostics in particular are examined. It is noted that the sensitivity and, in certain cases, the applicability of the probe method are considerably limited by the intensity of discharge noises. The effect of noises on a technique using modulation of the probe current to study electron distribution is said to be a masking of the signal of the second derivative on the one hand and a distortion of the shape of the distribution itself of the other, due to oscillations in the potential of the space where the probe

1/3

USSR

KAGAN, YU. M., et al, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 5, June 1970, pp 1319-1321

is located. The "tracking" probe method is proposed for measuring the energy distribution of electrons in the presence of noise. The authors showed earlier that to obtain the real averaged distribution function in the presence of periodic plasma fluctuations the variable component of the potential of the measuring probe must "track" the space potentials. The following principle was used for measurements in a plasma in the presence of oscillations: a reference probe at the potential of the floating probe was placed close to the measuring probe. The change in the floating potential of this probe caused by oscillations of the plasma is transmitted to the circuit of the measuring probe. In the experiments described, an emitter follower with the following characteristics was used: input resistance 1 mw, output resistance 5ω , transmission band 30-600,000 Hz. The SK-4-3 spectral analyzer was used to analyze the spectrum and the amplitude of the noises. The energy distribution of electrons in a mercury-argon mixture at a mercury vapor pressure of $2.5 \cdot 10^{-3}$ torr and an argon pressure of 0.6 torr was measured for a discharge current of 100 ma. The spectrum of oscillations between
2/3

USSR

KAGAN, YU. M., et al, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 5,
June 1970, pp 1319-1321

the measuring probe and the ground before and after inclusion of the emitter follower is given. It was shown that the application of the tracking probe method makes it possible to measure the distribution function in a plasma in the presence of noises when the use of the ordinary method leads to erroneous results.

3/3

USSR

UDC 547.345+543.422.4

KOLOKOL'TSEVA, I. G., CHISTOKLETOV, V. N., and PETROV, A. A., Leningrad
Technological Institute imeni Lensovet

"1,3-Bipolar Addition to Unsaturated Compounds: XXV. Dipolarophilic Activity
of Organophosphorus and Organosilicon Unsaturated Compounds With 1,3-Bipolar
Systems"

Leningrad, Zhurnal Obshchey Khimii, Vol XL, No 12, Dec 70, pp 2618-2622

Abstract: Since any conjugation will increase dipolarophilic activity of
multiple bonds in the reactions with 1,3-dipolar systems; it was attempted
here to establish the effect of organosilicon and organophosphorus substi-
tuents on dipolarophilic activity of multiple bonds, using the method of
competing reactions.

It was shown that in the case of diphenylnitrilimine, the rate of addition
increases with increasing electrophilicity of the double bond of the com-
pounds investigated. The *N*-oxide of benzenitrile, the variation in di-
polarphilic activity in the dipolariphiles studied is inadequate for their
activity in reactions with diphenylnitrilimine.

1/1

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--1,3,DIPOLAR ADDITION TO UNSATURATED COMPOUNDS. XXIII. REACTIONS OF
ALPHA,BETA,UNSATURATED PHOSPHINES WITH DIPHENYLNITRILIMINES -U-
AUTHOR-(03)-KOLOKOLTSEVA, I.G., CHISTOKLETOV, V.N., PETROV, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. BOSHC. KHIM. 1970, 40(3), 574-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IMINE, HETEROCYCLIC NITROGEN COMPOUND, ORGANIC PHOSPHORUS
COMPOUND, ORGANIC AZOLE COMPOUND, BENZENE DERIVATIVE, ORGANIC SYNTHESIS,
CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1366

STEP NO--UR/0079/70/040/003/0574/0578

CIRC ACCESSION NO--AP0128767

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128767

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REFLUXING AN EQUIMOLAR MIXT. OF PH SUB2 PCH:CH SUB2, 1,5-DIPHENYLTETRAZOLE, AND ET SUB3 N.HCL IN MESITYLENE 3 HR GAVE 66PERCENT I, M. 235-70DEGREES. PH SUB2 PC TRIPLE BOND CH AND PHNHN:CCLPH WITH ET SUB3 N-C SUB6 H SUB6 GAVE AFTER 1 DAY AT ROOM TEMP. AND 1-2 HR ON A STEAM BATH, 98PERCENT II (R EQUALS H), M. 244-50DEGREES: SIMILARLY WERE PREPD. II (R EQUALS ME), M. 243-50DEGREES, AND II (R EQUALS PH) M. 150-2DEGREES. II, R EQUALS H AND 3PERCENT AQ. KOH GAVE 73PERCENT PH SUB2 P(O)CH:CHNPHN:CHPH (III) M. 214-15DEGREES. SIMILARLY TO I WAS PREPD. 50PERCENT PH SUB2 P(O)CH SUB2 SUB2 NPHN:CHPH, M. 184-50DEGREES, WHEN PH SUB2 PCH:CH SUB2 AND DIPHENYLNITRILIMINE WERE ALLOWED TO REACT IN THE PRESENCE OF CONTROLLED AMT. OF H SUB2 O. III WAS HYDROGENATED OVER RANEY NI IN EtOH TO 68.9PERCENT PH SUB2 P(O)CH SUB2 SUB2 NHPH (IV), M. 132-40DEGREES. REFLUXING PH SUB2 P(O)CH:CH SUB2 WITH PHNH SUB2 AND PHNH SUB2 .2HCL 5 HR GAVE 50PERCENT IV, M. 132-40DEGREES. REACTION OF PH SUB2 PCH:CH SUB2 WITH PHCCL:NNHPH AND ET SUB3 N AT 20DEGREES 3 HR GAVE 60PERCENT I; WITH 2 MOLES PH SUB2 PCH:CH SUB2 THIS ROSE TO 83PERCENT, WHILE WITH 2 MOLES ET SUB3 N IT ROSE TO 78PERCENT, DECREASE OF PROPORTION OF ET SUB3 N OR ITS ELIMINATION CAUSED A SHARP DECLINE OF THE YIELD. THIS SUPPORTS THE REACTION MECHANISM IN WHICH THE PRIMARY PRODUCT IS V. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

BIOLOGY
Agriculture

USSR

UDC 633.311:631.53.027.3

KOLOKOL'TSEVA, L. S. and PROKOF'YEV, M. K., Tashkent Agricultural Institute and
Tashkent Polytechnical Institute

"The Effect of Ultrasound on the Germination of Blue Alfalfa Seeds"

Moscow, Seleksiya i Semenovodstvo, No 1, 1971, pp 59-60

Abstract: Treatment of "hard" alfalfa seeds with ultrasound is simpler and more effective than mechanical, thermal, or chemical methods of increasing the germination rate and ensuring even stands. "Hard" seeds differ from ordinary ones in possessing a tough coat that prevents water or air from entering, thus delaying germination for a long time. Four varieties (Bostandykskaya, Bakhmal'skaya, Tokmanskaya mestnaya, and Semirechenskaya mestnaya) were exposed from 1 to 10 min to ultrasound (1.6 to 2.75 w/cm²), and then grown under different soil and climatic conditions. The effects of ultrasound were varied. One variety (Tokmakskaya mestnaya) required a long period of exposure and high intensity, another required a long period but a lower intensity (Bostandykskaya), while the other two (Bakhmal'skaya and Semirechenskaya mestnaya) required both a brief exposure and low intensity of ultrasound. Exposures for 10 minutes or more were injurious to all the seeds.

1/1

USSR

UDC 621.039.3

KOLOKOL'TSOV, N. A., MINENKO, V. P., NIKOLAYEV, B. I., SULABRIDZE, G. A.,
and TRET'YAK, S. A.

"Constructing Cascades for Separating Multicomponent Isotope Mixtures"

Moscow, Atomnaya energiya, Vol 29, No 6, Dec 70, pp 425-429

Abstract: At present, there is a great deal of interest in separation of isotope mixtures and consequently in the theory of building separating multicomponent cascades, with the requirement that isotopes of intermediate mass as well as those of extreme mass be separated. Nothing that the difficulty in designing these cascades is that the concentration of intermediate-mass isotopes tends to be a maximum inside the cascade, the authors discuss systems of continuous profile cascades for separating isotopes of intermediate mass, and the simulation of these cascades by actual flows consisting of constant-flow sections. The five steps required for this simulation process are outlined, and the modeling of a continuous profile cascade for the separation of tungsten isotopes, in the form of the gaseous compound WF_6 , is given as an example.

1/1

USSR UDC 619:616.9-022.7+636.2+636.3+636.4+636.52/.58

ISLAMOV, R. Z.; IOGANSON, T. N.; KOLOMAKIN, G. A.

"Dogs as Possible Sources of Brucellosis on Swine-Breeding Farms"

Tr. In-ta Krayev. patol. KazSSR (Works of Institute of Regional Pathology of the Kazakh SSR, No 20, 1970, pp 17-20 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.632)

Translation: Epizootiological analysis of a swine-breeding establishment threatened with brucellosis was performed. It was concluded that at such a focus, dogs might be contaminated with Br. suis and apparently can transmit the latter to susceptible sows.

1/1

USSR UDC 619:616.9-022.7+636.2+636.3+636.4+636.52/.58

REMENTSOVA, M. M.; KOLOMAKIN, G. A.

"Problems of Brucellosis Epidemiology in Connection With Brucella Migration"

Tr. In-ta Krayev. patol. KazSSR (Works of Institute of Regional Pathology of the Kazakh SSR, No 20, 1970, pp 10-16 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.631)

Translation: Migration of the goat-sheep form of brucellosis to cows was observed in some zones of the Kazakh Republic where cows and sheep and goats use common seasonal pastures and water supplies. In such cases, foci of an epidemic nature are formed, which complicates the fight against the infection.

1/1

Acc. Nr: **AP0046372**

Abstracting Service: INTERNAT. AEROSPACE ABST **5-70 URO208**

Ref. Code:

A70-25190 # Use of the Monte-Carlo method to calculate the risk of exceeding a given dose of solar flare protons (Primenanie metoda Monte-Karlo dlia vychisleniia riska prevysheniia zadannoi dozy protonov solnechnykh vypyshek). V. L. Genozov, V. L. Kolomenskii, V. G. Kuznetsov, and V. A. Sakovich. *Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki*, vol. 10, Jan.-Feb. 1970, p. 247-250. 10 refs. In Russian.

Calculation of the radiation hazard presented to space vehicles by proton fluxes from solar flares, using the Monte Carlo method. An estimate is made of the probability of exceeding a given dose of solar flare protons. The distribution of the flares in time is simulated on a computer. At appropriate stages of the simulation the techniques of importance sampling and analytical averaging are applied. **A.B.K.**

4

40

REEL/FRAME
19781537

12

USSR

UDC: 621.391.2:621.371.1(088.8)

YUSHKOV, N. F., KOLOMENTSEVA, T. I., YAROSHENKO, V. V.

"A Cycle and Channel Synchronization Device for an Equal-Accessibility Multiple-Channel Radio Communications System"

USSR Author's Certificate No 259136, filed 3 Oct 67, published 23 Apr 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A258 P)

Translation: This patent covers a cycle and channel synchronization device for an equal-accessibility multiple-channel radio communications system. The device consists of a phase discriminator, cadence pulse shaper, oscillator, cycle synchronization signal decoder, channel distributor, selector and multiplexer. To ensure independent synchronization of one receiver or a group of receivers simultaneously from different transmitter signals arriving with different time delays, the device incorporates the following modules: 1) an independent synchronization module connected between the cadence input and the output of the cycle synchronization signal decoder, the cadence and trigger inputs and the intermediate output of the channel distributor, the cadence input of the multiplexer and the input of the phase discriminator, and connected by its commutated inputs to the outputs

1/2

USSR

YUSHKOV, N. F. et al., USSR Author's Certificate No 259136

of the oscillator and cadence pulse shaper; 2) a phase storage module connected between the selector output and the cadence input of the channel distributor; 3) a series circuit comprised of a control pulse shaper, a counter of decorrelated cycle synchronization signals and a generator of autonomous cycle synchronization signals connected between the output of the cycle synchronization signal decoder and the trigger input of the channel distributor.

2/2

USSR

UDC 541.128+662.222

KOROBAYNICHEV, O. P., VIKTORENKO, A. M., TERESHCHENKO, A. G., KOLOMEYCHUK, N. N.,
Novosibirsk

"Mechanism of the Effect of a Catalyst on Condensed Combustion Systems"

Novosibirsk, Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 511-517

Abstract: A study was made of the mechanism of the effect of a catalyst on the combustion of condensed systems based on ammonium perchlorate. Results are presented from studying the catalysis of the combustion of ammonium perchlorate and mixtures based on it using an optical microscope and a scanning electron microscope. Data are also presented from the studies of the effect of the disperseness of the catalyst on the combustion rate of ammonium perchlorate and the model system of ammonium perchlorate and polymethylmethacrylate. The data confirm that the catalyst operates very efficiently in the c-phase (the presence of sinks around the catalyst particles in the case of copper oxide). The formation of a skeleton of catalyst particles (in the case of Fe_2O_3) protruding 10-20 microns above the burning surface must also lead to an increase in the efficiency of its effect near the c-phase surface (as a result of an increase in the effective concentration of the catalyst in the vicinity of the gas phase by comparison with that which exists at distances greater than 10-20 microns from the c-phase surface). If the distance from the c-phase surface to the flame

1/2

USSR

KOROBAYNICHEV, O. P., et al., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 511-517

area is 50-100 microns, it can be considered that the catalyst operates efficiently near the c-phase. If the flame area is 10-20 microns from the fuel surface, the c-phase (which can include the skeleton of catalyst particles) is in the flame area.

2/2

- 66 -

USSR

K UDC 621.362.2(088.8)

BEYLIN, A. Yu., DUDKIN, L. D., ZYKOVA, N. P., KOLONEYETS, N. V. MAZUR, V. A.,
TARTAKOVSKIY, D. L., KHANIN, M. A.

"A Thermocouple"

USSR Author's Certificate No 227428, Filed 6 Jul 67, Published 20 Jan 70 (from
RZh-Electrotehnika i energetika, No 8, Aug 70, Abstract No 8A127 P)

Translation: The proposed thermocouple contains a P-branch of germanium tellu-
ride, a commutation bus of iron, and a commutation substrate. A mechanical
mixture of tungsten and tin telluride, or tungsten and lead telluride is used
as the commutation substrate. This is to improve mechanical strength and reduce
power lost in commutation.

1/1

K

USSR

UDC 613.644:666.932

KUSHNARENKO, N. I., YEREMEYeva, A. M., MOSHCHANSKIY, Yu. D., and KOLOMEYETS, R. G.,
Ministry of Health USSR

"Experience in Reducing the Level of General Vibration at the Vibration Tables of
a Reinforced Concrete Plant"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1970, p 44

Abstract: The vibration tables used in shaping articles made of concrete subject
the workers to general vibrations far above permissible levels. The authors suc-
ceeded in lowering the levels to the point where vibrations could not be recorded
with a VR-1 gauge or felt by the workers. They did this by placing spring-
supported, individually fitted concrete or metal slabs under each table.

1/1

KOLOMEYETS, Ye.V.; TYASTO, M.I.

Effect of "small" solar flares in cosmic rays during the maximum of solar activity. Geomag. i aer. 1 no.4:507-509 JI-Ag '61.

(MIRA 14:12)

1. Kazakhskiy gosudarstvennyy universitet i Leningradskoye otdeleniye Instituta zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

(Cosmic rays)

(Solar radiation)

USSR

UDC 661.183.123

KOLOMEYTSSEV, O. P., and KUZNETSOVA, N. N.

"Synthesis and Characteristics of Large-Lattice Ion Exchange Resins"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, Vyp 9, 1972, pp 1978-1982

Abstract: The particular resins considered are the N-substituted methacrylamides: N, N-dimethylaminoethylmethacrylamide (DMAEMA) and N,N,N-trimethylaminoethylmethacrylamide iodide (ITMAEMA). The yield and strength of the resins are functions primarily of the amount of "seed" material and the concentration of the monomer. The ion exchange capacity for the resins in 0.1N HCl and 0.1N NaCl vary from about 3-5 meq/g. Cycles of regeneration reduced values to about 3.5 from the initial range of 3.5-5. Copolymerization of DMAEMA or ITMAEMA with N,N-hexamethylenedimethacrylamide may produce a weakly or strongly alkaline anion exchange resin particularly useful for the adsorption of the ions of organic compounds.

1/1

- 18 -

USSR

UDC: 621.372.822

KOLOMEYTSEV, V. A.

"Distribution of Steady-State Temperature in a Waveguide With an Absorbing Film of Magnetic Material on the Inner Surface"

V sb. Vopr. elektron. tekhniki (Problems of Electronic Technology--collection of works), Saratov, 1971, pp 74-81 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B136)

Translation: A heat source function is analyzed. An investigation is made of the conditions of the effect of absorption inhomogeneity on heat field distribution. Recommendations are given for effective use of film resistors in a rectangular waveguide. Resumé.

1/1

USSR

UDC: 621.372.822

ARKHANGEL'SKIY, Yu. S., KOLOMEYTSEV, V. A.

"Heat Field of a Rectangular Waveguide With an Absorbing Film on the Inner Surface"

V sb. Vopr. elektron. tekhniki (Problems of Electronic Technology--collection of works), Saratov, 1971, pp 82-92 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B135)

Translation: Computational relationships are found for determining the heat field of a rectangular waveguide with a thin microwave power absorbing film applied to the inner surface. An investigation is made of the process of heating of the waveguide during the transmission of pulse power through it. Three illustrations, bibliography of seven titles. Resumé.

1/1

USSR

UDC: 621.382.2

KOLOMEYTSSEV, V. F., POSTNIKOV, I. V., MIL'MAN, S. I.,

"A Gallium Arsenide Mixer Diode With Schottky Barrier"

Elektron. tekhnika. Nauch.-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific and Technical Collection. Semiconductor Devices), 1970, vyp. 5 (55), pp 3-11 (from RZh-Elektronika i yeye Primeneniye, No 6, Jun 71, Abstract No 6B217)

Translation: Design calculations and measurement results are given for a microwave mixer diode with Schottky barrier. The design of the semiconductor diode is based on an epitaxial planar structure with gold - gallium arsenide honeycomb contacts. The operations used include epitaxial growth, ion plasma application of a protective film, photolithography and electrochemical and vacuum deposition. The parameters of the resultant semiconductor diodes are also presented. Resumé.

1/1

USSR

KOLOMIETS, V. G., MUKHITDINOV, T. M.

"Averaging in Systems of Differential Equations with Random Parameters"

Analit. i Kachestven. Metody Teorii Differents. Uravneniy [Analytic and Qualitative Methods in the Theory of Differential Equations -- Collection of Works], Kiev, 1972, pp 118-124 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V103 by M. Benderskiy).

Translation: A study is made of the system

$$\begin{aligned} \dot{x} &= X(t, x, y, \omega), \\ \dot{y} &= Y(t, x, y, \omega), \end{aligned} \tag{1}$$

where $x \in R^n, y \in R^m, \omega \in \Omega, \Omega$ is a probability space. Together with this system, a study is made of the degenerate system

$$\dot{y} = Y(t, x, y, \omega), \quad x = \text{const}, \tag{2}$$

to which (1) is converted where $\dot{x} = 0$. If the solution of system (2) $y = f(t, x, c, \omega), f(0, x, c, \omega) = c$ is known, then (1) indicates that

1/2

$$\frac{dx}{dt} = X(t, x, f(t, x, c, \omega), \omega) = F(t, x, c, \omega), \quad x(0) = x_0,$$

USSR
KOLOMIETS, V. G., MUKHITDINOV, T. M., Analit. i Kachestven. Metody Teorii
Differents. Uravneniy, Kiev, 1972, pp 118-124.

$$\frac{dy}{dt} = -e \left(\frac{\partial f}{\partial c} \right)^{-1} \frac{\partial f}{\partial x} \cdot X(t, x, t, \omega) = \varepsilon Z(t, x, t, \omega), \quad (3)$$

$c(0) = y_0.$

In the case when $F(t, x, c, \omega)$ and $Z(t, x, c, \omega)$ have even distribution with respect to time with probability 1, the theorem of R. Z. Khas'minskiy on averaging can be applied to analysis of system (3). If only $F(t, x, c, \omega)$ has an even mean, the authors apply a theorem which they proved earlier concerning partial averaging (see Abstract 3 V104) to analysis of system (3).

2/2

USSR

KOLOMIETS, V. G., MUKHITDINOV, T. M.

"Partial Averaging in Nonlinear Systems of Differential Equations with Random Functions"

Analit. i Kachestven. Metody Teorii Differents. Uravneniy [Analytic and Qualitative Methods in the Theory of Differential Equations -- Collection of Works], Kiev, 1972, pp 125-134 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V104 by M. Benderskiy).

Translation: A study is made of the system

$$\begin{cases} \dot{x} = \varepsilon X(t, x, y, \omega) \\ \dot{y} = \varepsilon Y(t, x, y, \omega), \quad x(0) = x_0, \quad y(0) = y_0. \end{cases} \quad (1)$$

where $x \in \mathbb{R}^m$, $y \in \mathbb{R}^n$, is a point in the probability space, $X(Y)$ is an m-dimensional (n-dimensional) vector function. It is assumed that for function X , the strong law of large numbers is fulfilled:

$$\frac{1}{T} \int_0^T X(t, x, y, \omega) dt \rightarrow X_*(x, y) \text{ при } T \rightarrow \infty$$

1/2

USSR

KOLOMIETS, V. G., MUKHITDINOV, T. M., Analit. i Kachestven. Metody Teorii Differents. Uravneniy, Kiev, 1972, pp 125-134.

with probability 1. Suppose $x(t, \omega)$, $y(t, \omega)$ is the solution of (1), while $\xi(t, \omega)$, $\eta(t, \omega)$ is the solution of the partial averaged system, i. e., a system which is produced by replacement of X with X_0 . It is proven that for sufficiently small $\delta > 0$ and any $L > 0$, we can indicate an $\epsilon_0 > 0$ such that where $0 < \epsilon < \epsilon_0$ in the interval $0 < t < L\epsilon^{-1}$, the equation

$$M|x(t, \omega) - \xi(t, \omega)| < \delta, M|y(t, \omega) - \eta(t, \omega)| < \delta, \quad (2)$$

is fulfilled if $X(t, x, y, \omega)$ and $Y(t, x, y, \omega)$ are evenly limited and satisfy the Lipschitz condition.

If the solution $\xi(t, \omega)$, $\eta(t, \omega)$ is evenly asymptotically stable, formula (2) obtains with all $t \geq 0$.

2/2

1/2 022

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--PRESERVATION OF THE VAGUS NERVE IN GASTRECTOMY -U-

AUTHOR--(03)-MASYUKOVA, YE.M., TSEKHANOVICH, T.I., KOLUMINA, I.D.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 39-43

DATE PUBLISHED-----70

K

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM, SURGERY, JEJUNUM, PROTEIN METABOLISM,
CARBOHYDRATE METABOLISM

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--302/1769

STEP NO--UR/0531/70/000/006/0039/0043

CIRC ACCESSION NO--AP0129137

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129137

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

ABSTRACT. THE ISSUE CARRIES THE RESULTS OF EXAMINATION OF 82 PATIENTS AT REMOTE PERIODS AFTER GASTRECTOMY; IN 18 CASES DURING THE OPERATION THE POSTERIOR CHORD OF THE VAGUS WAS PRESERVED. THE OPERATIONS WERE PERFORMED VIA THE ABDOMINAL APPROACH, THE CONTINUITY OF THE GASTROINTESTINAL TRACT WAS RESTORED WITH THE AID OF ESOPHAGOJEJUNOSTOMY. THE RESULTS OF CLINICAL EXAMINATION OF PATIENTS, AS WELL AS STUDIES OF THE PROTEIN CARBOHYDRATE METABOLISM, AND THE FUNCTIONAL STATE OF THE LIVER IN PATIENTS AFTER GASTRECTOMY HAVE SHOWN THAT PARTIAL PRESERVATION OF THE PARASYMPATHETIC INNERVATION IS CONDUCTIVE TO A BETTER COMPENSATION OF THE LOST FUNCTIONS.

FACILITY: KAFEDRA GOSPITAL'NOY KHIRURGII TOMSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--INVERSE CORRELATION BETWEEN THE FUNCTIONAL ACTIVITY OF AN ANTICOAGULATING SYSTEM AND THE DEVELOPMENT OF A NEOPLASM IN THE ORGANISM

AUTHOR--(03)-KUDRYASHOV, B.A., KALISHEVSKAYA, T.M., KOLOMINA, S.M.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., BIOL., POCHVOVED. 1970, 25(2), 16-43

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEOPLASM, BLOOD COAGULATION, FIBRINOLYSIS, ANTICOAGULANT DRUG, RAT, MOUSE, NERVOUS SYSTEM DRUG, CHLORPROMAZINE, HEPARIN, DOG, CARCINOMA, REPRODUCTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/009 STEP NO--UR/0444/70/025/002/0016/0043

CIRC ACCESSION NO--AP0139983

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS THE GROWTH OF NEOPLASMS APPEARS TO BE ACCOMPANIED BY A STIMULATION OF THE BLOOD CLOTTING MECHANISM, THE EFFECTS OF ANTICOAGULANTS AND FIBRINOLYTIC AGENTS ON TUMOR BEARING RATS AND MICE WERE INVESTIGATED. BLOOD ANAL. SHOWED A 3-4 FOLD INCREASE IN FIBRINOGEN CONTENT, A DECREASE IN FIBRINOLYTIC ACTIVITY (0-2PERCENT VS. 10-12PERCENT IN CONTROLS), AND A SHORTENED CLOTTING TIME. TREATMENT OF TUMOR BEARING MICE WITH HEPARIN OR FIBRINOLYSIN, ALONE OR IN COMBINATION, DID NOT PRODUCE A CONSISTENT REDN. IN TUMOR GROWTH, ACTUALLY PROMOTING GROWTH IN SEVERAL ANIMALS. HOWEVER, BLOCKING OF THE VEGETATIVE NERVOUS SYSTEM WITH CHLORPROMAZINE DURING ANTICOAGULANT AND FIBRINOLYTIC TREATMENT LED TO A SIGNIFICANT REGRESSION OF TUMORS. THUS, DAILY ADMINISTRATION OF 2000 UNITS HEPARIN-KG AND 8000 UNITS FIBRINOLYSIN*KG AFTER TUMOR TRANSPLANTATION PRODUCED AT 51-96PERCENT DEPRESSION OF TUMOR GROWTH IF THIS TREATMENT WAS SUPPLEMENTED BY THE ADMINISTRATION OF CHLORPROMAZINE. A SIGNIFICANT DECREASE IN METASTASES WAS ALSO OBSD. CHLORPROMAZINE ADMINISTERED ALONE PRODUCED A LOWER AND LESS CONSISTENT REGRESSION OF TUMORS. HISTOPATHOL. STUDIES CONFIRMED THE BENEFICIAL EFFECT OF THE COMBINED ANTICOAGULANT CHLORPROMAZINE TREATMENT. THIS DRUG COMBINATION WAS APPLIED WITH SUCESS TO THE TREATMENT OF A DOG WITH SPONTANEOUS ADENOCARCINOMA OF THE MAMMARY GLANDS.

UNCLASSIFIED

inner surface of the hub are spiral channels
and the outer surface of the hub are spiral channels
3 and 4 of right and left hand thread. The glue
layer joins hub and crown. If the joint should be
broken, the two parts will not turn relative to
each other.

6.5.67. as 1154010/25-27, Add to 185617 KOLAKHINOV
B.V. (31.10.68) Bul. 24/2.8.68, Class 4/B, int. Cl.
F 06c.

1/2

1938

1814

18

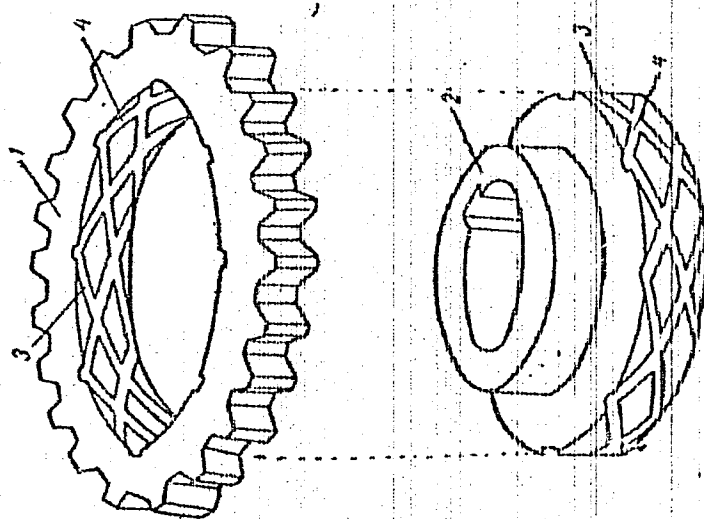
AA9031449

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, 3/
Derwent,

... appearing in the contact surfaces of

AA9031449



2/2

1938

1815

Zu 10

USSR

KOLOMINSKIY, Ya.

Chelovek sredi lyudey (Man Among People), Moscow, Molodaya Gvardiya, 1973,
240 pp, 100,000 copies printed

Conclusions

There is probably an unwritten law that stipulates the time that must separate the publication of fundamental works from the publication of popular books in a given area of science. Not long ago I saw Popular Nuclear Physics in a bookstore. Imagine, it is already popular!

If such a law does exist, the book you have just read clearly violates it. It was written hot on the traces of experimental research on group psychology. It includes accounts of works on the reports of which the "ink is not yet dry." Hence it is pointless to search for a systematic presentation of all the basic questions in the book. After all it is not yet clear just which of the problems of our science are the basic ones. The book rather contains things that strike me as important and interesting. Another psychologist would have written an entirely different book. I have probably failed to mention certain points and of course I have not been able to name all the scientists whose research findings have become a part of the book in one way or another.

There is yet one more doubt that does not let me rest: was it worthwhile to open the doors of the psychological laboratory for everyone to see? Is there not much sorrow in psychological wisdom? What if the readers get the

USSR

KOLOMINSKIY, Ya., Molodaya gvardiya, 1973, 240 pp

idea that they know everything and begin experimenting on one another? I hope that this will not happen. After all people do not take out their own appendix just because they have read a popular book on surgery. An no one will perform heart surgery on their friends after seeing the movie based on the story by Nikolay Mikhaylovich Amosov.

But man among people is always a psychologist. And if our talks have helped you to glimpse something new in such age-old and conventional phenomena as human interrelations, if they have prompted you to think upon your place among people, if you have decided that group psychology is an important thing then the author will consider his mission fulfilled.

| <u>Contents</u> | | <u>Page</u> |
|---|--|-------------|
| Chapter One. How Albert Einstein took pity on Jean Piaget | | 5 |
| A living library | | 5 |
| Into the darkness of another's mind | | 15 |
| The Kinnbrook affair | | 19 |
| Chapter Two. Society under a microscope | | 24 |
| Can psychology be asocial?..... | | 24 |
| Microstructure of society | | 25 |
| The psychology business | | 29 |
| 2/5 Kinds of groups | | 31 |

USSR

KOLOMINSKIY, Ya., Molodaya gvardiya, 1973, 240 pp

The group and the collective 44

Chapter Three. The psychology of choice 48

 Live models 51

 Concerning the very first choice 53

 Who is to sit with whom or how 7B almost discovered sociometry 57

 What is sociometry? 59

 Choice in action 64

 Psychological table of ranks 68

 Second coordinate 74

 Secret assignment 76

 What is equal status? 82

 Caution -- man! 85

Chapter Four. Face to face 85

 And you, my friends, no matter how you sit 90

 Three in one... rocket 99

 "Stars" and leaders 107

 School for ... leaders 116

Chapter Five. The effect of the group 116

 The debate concerning conformity 122

 Substitute group 122

3/5

USSR

KOLOMINSKIY, Ya., Molodaya gvardiya, 1973, 240 pp

Through the prism of purpose 128

Cerebral attack 138

A group that heals 144

Chapter Six..... 152

 Yura Volkov agrees with George Sand 152

 Who am I? 155

 "Paradoxes of realization" 162

 Fat or thin 166

 Who is who? 170

 If I were the czarina or once more concerning paradoxes 175

Chapter Seven. Secrets of charm 184

 "What" and "Why?" 184

 The secrets of "tele" 191

 Polar profiles 197

 Deciphering the code (or the first "and all the same")..... 205

 Equation with four unknowns (or the second "and all the same") 211

Chapter Eight. With the "smaller brethren" 218

 Between Charybdis and Scylla 218

4/5

USSR

KOLOMINSKIY, Ya., Molodaya gvardiya, 1973, 240 pp

| | |
|---------------------------------------|-----|
| Rings with feet | 219 |
| "Alpha" and omega" | 221 |
| Nor do they live by bread alone | 225 |
| In place of a conclusion | 236 |

5/5

Surgery

USSR

~~K~~
~~KOLOMIYCHENKO~~ A. I., Director, Kiev Scientific Research Institute
of Otolaryngology

"They Hear Again"

Kiev, Pravda Ukrainy, 17 Feb 70, p 4

Abstract: In this brief press interview, the director of the Kiev Research Institute of Otolaryngology highlights the progress made in recent years in the surgical treatment of otosclerosis (hearing restored in 96% of the cases), drug therapy of chronic otitis, and advances in tympanoplasty, including the use of prostheses. Mention is made of the efforts by Professor V. I. Rodin of the Donetsk Medical Institute to restore hearing by transplanting auditory ossicles. The long-term results of 55 such operations are awaiting evaluation.

1/1

USSR

UDC: 621.317.382.023(088.8)

VORONTSOV, A. N., KOLOMIYCHENKO, G. N.

"A Waveguide Bolometric Head"

USSR Author's Certificate No 270014, filed 1 Apr 68, published 13 Aug 70
(from FZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A317 P)

Translation: This Author's Certificate introduces a waveguide bolometric head which contains a section of waveguide and a wire filament. To increase power measurement precision, a longitudinal slot is made in the waveguide wall, and above this slot are turns of the wire filament which is wound over the waveguide and insulated from it by a dielectric film. Resumé.

1/1

- 52 -

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EVALUATION OF THE METHODS OF SURGICAL TREATMENT OF PEPTIC ULCER -U-
AUTHOR--(02)--KGLOMIYCHENKO, M.I., BOYKOV, YA.P.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 16-23
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SURGERY, DIGESTIVE SYSTEM DISEASE, STOMACH, DUODENUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1771 STEP NO--UR/0531/70/000/006/0016/0023
CIRC ACCESSION NO--AP0129139

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE GIVES AN ASSESSMENT OF DIFFERENT METHODS OF SURGICAL TREATMENT OF GASTRODUODENAL ULCER ON THE BASIS OF CLINICAL DATA FOR THE PERIOD BETWEEN 1969-1969. RESECTION OF THE STOMACH IS DEEMED AS THE MAIN METHOD OF SURGICAL TREATMENT OF GASTRIC PEPTIC ULCERS BASING UPON THE RESULTS OF 542 OPERATIONS FOR GASTRODUODENAL ULCERS. BILLROTH-1 MODIFICATIONS AND ECONOMIC RESECTIONS ARE CONSIDERED AS JUSTIFIED. IN DUODENAL ULCERS, AS A RULE, IT IS NECESSARY TO RESECT TWO THIRDS OF THE STOMACH, THIS GUARANTEES FROM THE ORIGINATION OF PEPTIC ULCER OF THE ANASTOMOSIS. IN LOW LOCATED DUODENAL ULCERS GOOD RESULTS WERE OBTAINED IN RESECTION FOR EXCLUSION. IN SUCH INSTANCES VAGOTOMY IS ALSO INDICATED. SELECTIVE GASTRIC VAGOTOMY WITH DRAINING OPERATIONS MERIT ATTENTION, HOWEVER, THEY REQUIRE FURTHER CLINICAL STUDY, ESPECIALLY AT REMOTE PERIODS. FACILITY: KAFEDRA OBSHCHEY KHIRURGII KIEV. MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

Nitrogen Compounds

USSR

UDC 632.95

FOKIN, A. V., KOLOMIYETS, A. F., STUDNEV, YU. N., and RAPKIN, A. I."Process for the Preparation of the β -Rhodanine Ethyl Esters of Carboxylic Acids"

USSR Author's Certificate No 350-783, filed 30 Jul 70, published 20 Sep 72 (from Referativnyy Zhurnal -- Khimiya, No 11(II), 1973, Abstract No 11N579P by T. A. Belyayeva)

Translation: A process is described for the preparation of the β -rhodanine ethyl esters of carboxylic acids by the reaction of trimethyl- β -rhodanethoxysilane (I) with an acyl halide at 0-120° in an organic solvent. For example, 7.2 g of FC1CHCOCl are added 8.8 g of (I), heated with the simultaneous distilling of tri-methylchlorosilane and yielding 9.6 g of the β -rhodanine ethyl ether of fluorochloroacetic acid. The boiling point is 109-110°C/1 mm, the n_{20}^D is 1.4821, d_4^{20} is 1.4180. 5.4 g of the trimethylchlorosilane is added to a suspension of 5.3 g of KSCN in 35 ml of acetone, stirred at about 20° for two hours, to which is added 2.6 g of ethylene oxide. The reaction mixture is allowed to sit for 1 hour; the excess ethylene oxide is removed; the mixture is filtered and 6.3 g of $\text{KClCH}_2\text{COCl}$ is added to the filtrate. It is then allowed to sit for 1 hour at 20°. 8.3 g of the β -rodane

1/2

USSR

FOKIN, A. V., et al., USSR Author's Certificate No 350783, filed 30 Jul 70, published 20 Sep 72

ethyl ethers of monochloroacetic acid is separated. The product has a boiling point of 119° at 1 mm, n_{D}^{20} of 1.5125 and a d_{4}^{20} of 1.3857. The following compounds were also prepared. The numbers given are the boiling point in $^{\circ}\text{C}/\text{mm}$ or the freezing point in $^{\circ}\text{C}$, the n_{D}^{20} , and d_{4}^{20} ; $\text{MeC(O)CH}_2\text{CH}_2\text{SCN}$, 72 - 3/1, 1.4765, 1.1891; $2,4\text{-Cl}_2\text{C}_6\text{H}_3\text{OCH}_2\text{C(O)OCH}_2\text{SCH}$, 35 - 6, -, -; $\text{CCl}_3\text{C(O)OCH}_2\text{CH}_2\text{SCN}$, 44 - 5, -, -; $\text{CF}_3\text{C(O)OCH}_2\text{CH}_2\text{SCN}$, 93 - 4/9, 1.4174, 1.4160; $\text{CF}_3\text{CF}_2\text{CF}_2\text{C(O)OCH}_2\text{CH}_2\text{SCN}$, 84 - 5, -, -; and $\text{PhC(O)OCH}_2\text{CH}_2\text{SCN}$, 137 - 8/1, 1.5631, 1.1960.

2/2

UDC 632.95

USSR

BLIZNYUK, N. K., KOLOMIYETS, A. E., GOLUBEVA, R. N., GRANIN, Ye. F.,
FADEYEV, Yu. N., VRUBLEVSKAYA, L. S., VARSHAVSKIY, S. L., KOFMAN, L. P.,
VIKHANSKIY, K. N.

"A Method of Making Derivatives of Aryl Esters of β -Isothiuronium
Ethanesulfonic Acid"

USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72
(from RZh-Khimiya, No 9, May 73, abstract No 9N522P by T. G. Chekareva)

Translation: Compounds of the general formula $RO_3SC_2H_4SC(NH_2)=NH \cdot HA$ (I)
(R = aryl unsubstituted or substituted by Cl, NO_2 , Me; A = Cl or an organic
acid radical) are synthesized by reacting $CH_2=CHSO_3R$ (II) with salts of
thiourea or a mixture of thiourea with inorganic or organic acids. Example.
Solutions of equimolar quantities of II and thiourea hydrochloride in
butanol which are saturated at 60-90°C are heated at 80-90°C for 1 hour,
cooled, and filtered, giving I with a yield of 85-96%. Evaporation of
the mother liquor gives an additional quantity of I. The overall yield of
I is 95-100%. The following compounds of type I (A = Cl) are synthesized
(given are R and the melting point in °C): Ph, 165-6; 4-ClC₆H₄ (Ia),
1/2

USSR

BLIZNYUK, N. K., et al., USSR Author's Certificate No 337381, filed 1 Aug 63,
published 1 Jun 72

144-6; 3-ClC₆H₄, 168-70; 2,4-Cl₂C₆H₃, 157-9; 2,4,5-Cl₃C₆H₂, 178-80; 2,4,6-
-Cl₃C₆H₂, 184 (decomp.); 4-NO₂C₆H₄, 155-8; 3-MeC₆H₄, 160-2. Saturated
aqueous solutions of equimolar quantities of Ia and 2,4-Cl₂C₆H₃OCH₂COONa
are mixed at 90-100°C, cooled, and filtered, giving compound I (A =
2,4-Cl₂C₆H₃OCH₂COO-, R = 4-ClC₆H₄), melting point 134-5°C, yield 99.5%.
in concentrations of 3.1-25 mg per liter compound I suppresses the growth
of the mycelium *Botritis cinerea* and *Piricularia oryzae* by 50-100%; in
concentrations of 0.25-1 mg per liter, compound I suppresses the growth
of spores of *Botritis cinerea* and *Piricularia oryzae* by 8-100%, and in a
concentration of 0.1% the chemical suppresses rust of the wheat strain
Puccinia graminis f. tritici by 42-58%.

2/2

USSR

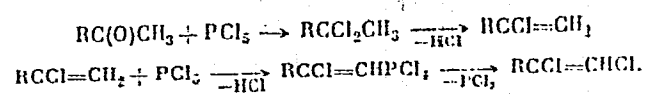
UDC 547.341

FOKIN, A. V., KOLOMIYETS, A. F., and SHCHENNIKOV, V. S.

"Reactions of Phosphorus Pentachloride With Ketones"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 801-802

Abstract: The reaction of PCl_5 with ketones forms 2-(chloroalkenyl) phosphorotetrachlorides in addition to the gem-dichloroalkanes and chloroalkanes. The yield of the former can be increased with an excess of PCl_5 ; the yield of the latter two is increased somewhat by increasing the temperature and reaction time. Thus, in these reactions, the phosphorylation of the chloroalkene is the first step in the secondary rearrangement. The reactions in the PCl_5 -ketone system may be outlined as follows:



1/1

USSR

BABII, V. V., BLIZNYUK, N. K., DENISENKOVA, R. N., KOLOMIYETS, A. F.,
STREL'TSOV, R. V., FILIN-KOLDAKOV, B. V.

"Method of Fighting Undesirable Vegetation"

USSR Author's Certificate No 303038, filed 20/04/67, published 5/07/71.
(Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract
No 4N703P by T. A. Belyaeva).

Translation: In order to increase the herbicidal properties of α -(2, 4, 5-trichlorophenoxy)-propionic acid, it is suggested that it be used as its benzylester, which is more active than the other esters of this acid and has very low volatility.

1/1

USSR

UDC 547.27+547.562

FOKIN, A. V., KOLOMIYETS, A. F., SHCHENNIKOV, V. S., and STUDNEV, Yu. N.

"Reactions of 2-Aryl(Alkyl)thioethanols With Phosphoric Acid"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 7, Jul 71, pp 1406-1407

Abstract: Reacting phosphoric acid with 2-aryl and 2-alkylthioethanols in solutions produces good yields of respective simple ethers. A mixture of 0.1 g-mole of aryl or alkylthioethanol, 50 ml toluene or xylene, and 0.5 g of anhydrous phosphoric acid is refluxed under a Dean-Stark trap as long as water is being produced. The reaction mixture is then cooled, dissolved in 50 ml benzene, washed with sodium carbonate until neutral, dried and vacuum distilled to yield the desired products.

1/1

USSR

UDC 632.95

BABIN, V. V., DENISENKOVA, R. N., UGRYUMOV, YE. P., SHCHEGLOV, YU. V., BLIZNYUK, N. K., STREL'TSOV, R. V., and KOLOMIYETS, A. F., Northern Caucasus Scientific Research Institute of Phytopathology; All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Herbicide"

USSR Authors' Certificate No 250603, filed 14 Jun 68, published 26 Jan 70, (from RZh-Khimiya, No 20 (II), 25 Oct 70, Abstract No 20 NG01P by N, B. VSEVOLOZHSKAYA)

Translation: Compounds of the general formula $\sqrt{4}\text{-Cl-2RC}_6\text{H}_3\text{OCH}_2\text{C}(\text{O})\text{O}^{\frac{1}{2}}\text{SnBu}_2$ (I) (R = Cl or Me) are not inferior in herbicidal activity to butyl esters of the corresponding aryloxyalkylcarboxylic acids. For example, mustard plants in the six-leaf phase were sprayed with aqueous solutions of I in a dose of 50, 100, 250 and 500 g/ha (calculated in acid equivalent). The dose at which the weight of aboveground portions of the plant declines 50% was 53 g/ha for I (R = Cl), whereas that for the butyl ester of 2,4-D was 61 g/ha.

1/1

USSR

UDC: 621.373.531.3(088.8)

GOLUBCHIKOV, A. M., KOLOMIYETSEV, A. K., LAGUNOVICH, Ye. F., Donetsk Scientific Research and Design and Planning Institute for Automation of Mining Machinery

"A Multichannel Overlapping Pulse Generator"

USSR Author's Certificate No 265182, filed 6 Feb 68, published 12 Jun 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No IG281 P)

Translation: This Author's Certificate introduces a multichannel overlapping pulse generator which contains a master multivibrator and output cells based on flip-flops with transistors of opposite conductivity type. The device is designed to give a predetermined time overlap of the output pulses. Connected to the collector of the NPN transistor in each output cell of the generator are the input of a coincidence circuit for moving the signal on to the following output channel, and the input of a coincidence circuit for quenching the signal in the preceding channel; the second inputs of the corresponding coincidence circuits are connected together and tied to different legs of the multivibrator, the inputs of the coincidence circuit for moving the signal being connected to the leg of the multivibrator which determines the time of overlap of the pulses.

1/1

USSR

UDC: 621.374.32

KOLOMIYTSYEV, A. K., LAGUNOVICH, Ye. F., Donetsk Scientific Research Institute for Design and Planning in the Automation of Mining Machinery

"A Computer Which Retains Data in the Case of Interruptions in the Power Supply"

USSR Author's Certificate No 250998, filed 5 May 68, published 30 Jan 70
(from RZh-Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A40 P)

Translation: This Author's Certificate introduces a computer which retains information when there are interruptions in the power supply. The device contains an end-around counter in which each digital place consists of a flip-flop based on two transistors of opposite conductivity type and a magnetic core with rectangular hysteresis loop. The device also contains a read-out pulse shaper. To improve resistance to interference, the collector of the n-p-n transistor for each digital place is connected through a semiconductor diode to the output of the read-out pulse shaper. A single cell in the counter is activated at each instant. Corresponding to the activated state of a counter cell is the state of positive magnetization of the core, while negative magnetization corresponds to the deactivated state. These states are retained when the power supply voltage is disconnected. One illustration. N. S.

1/1