

2/2 019

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125325

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE LUMINESCENT CHROMATOG. ANAL. METHOD WAS COMBINED WITH THE ANILINE POINT METHOD FOR THE SEP. DETN. OF PARAFFINIC AND NAPHTHENIC HYDROCARBONS, DETG. SIMULTANEOUSLY OTHER COMPONENTS OF THE MIXT. AROMATIC HYDROCARBONS WERE DETD. BY USING 1,3 DIPHENYLBUTADIENE AS INDICATOR. THE MEAN SQUARE DETN. ERROR WAS 1.5PERCENT. FACILITY: NMINKHGP, MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CHEMICAL SCHEME AND STRUCTURE OF THE MATHEMATICAL DESCRIPTION OF
HYDROCRACKING -U-
AUTHOR--(05)-ZHOROV, YU.M., PANCHENKOV, G.M., TATARINTSEVA, G.M., KUZMIN,
S.T., ZENKOVSKIY, S.M.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 1-3
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MATHENATIC EXPRESSION, CATALYTIC CRACKING, PETROLEUM
HYDROCRACKING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/1951 STEP NO--UR/0318/70/000/005/0001/0003
CIRC ACCESSION NO--AP0133795
UNCLASSIFIED

2/2 . 009 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0133795
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SCHEME BASED ON THE MAIN CHEM.
CONVERSIONS OF THE RAW MATERIAL WAS DEVELOPED FOR THE 1 STAGE CRACKING
OF VACUUM DISTILLATES, BUT IS WAS CONSIDERED A 2, OR 3 STAGE PROCESS, IF
IT TOOK PLACE UNDER MILD OR SEVERE CONDITIONS, RESP. THE WT. COEFFS. OF
THE SCHEME WERE CONST. FOR CONST. QUALITY OF THE STOCK. A MATH.
DESCRIPTION WAS DEVELOPED FOR AN ADIABATIC REACTOR WITH FIXED CATALYST
BED.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ISOMERIZATION OF N BUTENES AND N BUTANE IN THE PRESENCE OF GROUP
VIII METALS ON ALUMINUM OXIDE --U--
AUTHOR--(03)-PANCHENKOV, G.M., VOLOKOVA, G.S., ZHOROV, YU.M.
COUNTRY OF INFO--USSR
SOURCE--NEFTEKHIMIYA 1970, 10(2), 178-82
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ISOMERIZATION, BUTANE, BUTENE, METAL CATALYST, CATALYST
ACTIVITY, COBALT, NICKEL, RHENIUM, PALLADIUM, PLATINUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0958 STEP NO--UR/0204/70/010/002/0178/0182
CIRC ACCESSION NO--AP0134676

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134676

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE METALS WERE ACTIVE CATALYSTS FOR CIS TRANS AND DOUBLE BOND ISOMERIZATION, EXCEPTING RH AND PT, THE ACTIVITIES OF THE METALS WERE SIMILAR. THE ACTIVITY OVER THE SKELETON ISOMERIZATION OF OLEFINS INCREASED: CO LESS THAN NI LESS THAN RH LESS THAN FE LESS THAN PD LESS THAN PT, AL SUB2 O SUB3-RH AND PLATFORMING CATALYSTS WERE THE MOST ACTIVE FOR HYDROGENATION. OVER AL SUB2 O SUB3,CO AND AL SUB2 O SUB3,NI AS CATALYSTS, 2 BUTENES WERE CRACKED MORE READILY THAN 1 BUTENE. THE ISOMERIZATION ACTIVITY OF THE CATALYST FOR THE ISOMERIZATION OF N,C SUB4 H SUB10 WAS INDEPENDENT OF THE METAL. FACILITY: MOSK. INST. NEFTEKHIM. GAZOV. PROM. IM. GUBKINA, MOSCOW, USSR.

UNCLASSIFIED

ZHOROVA, E. D.

PROPOSALS FOR DESIGNING MODELS OF THE INTERNATIONAL STANDARD ATMOSPHERE

(Article) by Professors S. S. GRYSAROV, E. D. ZHOROVA, N. A. YETEMOVA, N. Ya. Kalitvina, Candidates of Geographic Sciences V. G. Shvilkovskiy, L. V. Shcherbakova, D. A. Izrael, L. V. Shcherbakova, Central Aerological Observatory, Moscow, *Geograficheskaya i Klimatologiya*, No 2, 1971, end.

A study was made of the vertical profile of the mean annual and atmospheric for different latitudinal zones of the longitudinal variations. The characteristic of the data presented.

Introduction

The present proposals with respect to expansion of the International Standard Atmosphere are presented in the procedures for execution of the Standardization Organization) IR-20/RG-6 26-29 May 1969. The working group adopted the resolution to charge the USA (A. E. Cole) and the USSR (Ye. G. Shvilkovskiy) with preparing the design for models of the International Standard Atmosphere for altitudes of 20-60 km (the mean distribution and there is a recommendation regarding the necessity of selecting the temperature profile closest to the mean annual profile with respect to the northern hemisphere for the mean model. At the meeting of the working group, it was recognized as desirable to expand the standard atmosphere to 80 km, considering the data in the 60-80 km layer as a supplement to the basic profile.

The given proposals were presented by the Soviet Union for examination by the Sixth Working Group of the Twentieth Technical Commission of the International Standardization Organization (ISO/TC/6 - 6) -- Standard Atmosphere -- a meeting of which was held in France (Pau) in February 1970.

SPRS 55893
4 May 72

USSR

UDC 771.531.37.778.33

BOGDANOV, L. M., GRECHKO, M. K., DONSKAYA, S. A., ZHORRES, V. I.,
KISLITSYN, V. K., and NEFEDCHENKOV, V. M., Shostinskiy Branch, Gosnikhimfoto-
proyekt Shostinskiy Chemical Combine

"A New X-Ray Film for Rapid Machine Processing"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii, Vol 18, No 4, 1973, pp 306-
307

Abstract: The Shostinskiy branch of the Gosnikhimfotoprojekt and the Shostin-
sky Chemical Combine completed in 1972 the development of a new medical X-ray
film, the RM-1 "M" which, in distinction from the series-produced RM-1 medical
X-ray film, is suitable for rapid machine processing. The specifications of
this new film are similar to those of the East German Supervidox Koentgen
Film/x-ray. The emulsion layer of the RM-1 "M" film is thinner than that of
the RM-1 film, and of the RM-1T film that is being produced in series for
tropical use; the emulsion layer of the new film is capable of withstanding
the severe temperature conditions of machine processing. During machine pro-
cessing, each of the operations of developing, fixing, washing, and drying
require 45 seconds. The RM-1 "M" film has been tested for machine processing
with entirely satisfactory results, and is now being produced in series.
2 tables. 2 references.

1/1

USSR

UDC: 621.396.6.019.3

PROKHOROV, R. I., ZHORZHOLIANI, B. L., GRANOVSKIY, Yu. V.

"Investigation of the Reasons for Failure of Modules in Complex Radio Equipment"

V sb. Nadezhnost' i kontrol' kachestva (Prilozh. k zh. "Standarty i kachestva") [Reliability and Quality Control--collection of works (Supplement to the Magazine Standards and Quality)], No 1, Moscow, 1971, pp 48-51 (from RZh--Radiotekhnika, No 5, May 71, Abstract No 5V222)

Translation: Statistical data on the failure of modules during the manufacturing process collected over a period of a year and systematized according to special characteristics (construction defects, defects in assembly and adjustment, failures due to the quality of elements) are used as the basis for analysis of the reasons for failures by the Box-Wilson method of planning experiments. As a result of the analysis it is established that the quality of elements has the greatest effect on failure of modules, followed by circuit quality and construction defects. Three tables. N. S.

1/1

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USSR

UDC 621.396.6.019.3

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ZHORZHOLIANI, B. L., SERGEYEV, N. A.

"Investigation of Causes for Failures of Soldered Joints During Operation"

V sb. Obmen opytom v radiopromyshlennosti (Experience Pooling in the Electronics Industry--collection of works), Vyp. 6, Moscow, 1970, p 39 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V254)

Translation: The authors investigate the reasons for failures of elements based on a foil-covered dielectric. These studies show that the basic reason for failure is flux residue which causes considerable corrosion of the leads. Resumé.

1/1

USSR

UDC 619.614.485:663.632.8

GOLOSOV, I. M., Veterinary Institute, Leningrad, KAZAKYAYICHUS, P. A., and
ZHOSHTAITAS, A. S., Lithuanian Republic Veterinary Laboratory

"Disinfection of Water With Ultraviolet Radiation"

Moscow, Veterinariya, No 10, 1971, pp 26-28

Abstract: Livestock farms in Lithuania obtain their water mainly from open sources, including small ponds, lakes, and streams, which are heavily polluted with the decomposition products of organic matter (ammonia, nitrites, chlorides, hydrogen sulfide). Bacteriological analysis showed that in those sources where the coli count was low, bacterial contamination was high. Ultraviolet irradiation of pond water (with an OV-1P unit and bactericidal lamps) increased the coli count in the winter to 105-143 while the total number of bacteria ranged from 110 to 150 in 1 ml. In the summer the coli count rose to 177-130 while bacterial contamination decreased to 110-110 microbial cells in 1 ml. The coli count in lake water did not exceed 4 throughout the year, but after ultraviolet irradiation it rose to 111-300, i.e., 25 to 75 times. The effectiveness of the treatment is enhanced by first filtering the water through gravel to remove mechanical impurities, thereby permitting the ultraviolet rays to act directly on the microbial cells.

1/1

UNCLASSIFIED

PROCESSING DATE--16OCT70

72 019
E--FLUX DENSITIES OF SOME RADIO SOURCES IN THE FREQUENCY RANGE 12-25

MHz -U-
THOR-(05)-BRAUDE, S.YA., LEBEDEVA, O.M., NEGN, A.V., RYABOV, B.P.,

ZHOUCK, I.N.
COUNTRY OF INFO--USSR

SOURCE--ASTROPHYS. LETTERS (GB), VOL. 5, NO. 3, P. 129-32 (MARCH 1970)

DATE PUBLISHED----MARTO

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION

PIC TAGS--ELECTRON FLUX, RADIO TELESCOPE, COSMIC RADIO SOURCE/(U)UTRI
RADIO TELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
COXY REEL/FRAME--1992/0539

STEP NO--UK/0000/70/005/003/0129/0132

RC ACCESSION NO--AP0111732

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

019

RC ACCESSION NO--AP0111732

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER PRESENTS MEASUREMENTS OF THE FLUX DENSITIES OF 33 DISCRETE RADIO SOURCES, MADE WITH THE RADIO TELESCOPE UTR-1 IN GRAKOVO, AT FREQUENCIES RANGING FROM 12.6 TO 25 MHZ. FACILITY: ACAD. SCI. UKRAINIAN SSR, KHARKOV, USSR.

USSR

UDC 619:616.981.42-084.47

ZHOVANIK, P. N., MAYBORODA, A. A., and YERZH, N. I., Ukrainian Scientific
Research Institute of Experimental Veterinary Medicine

"Effectiveness of Nonagglutinogenic Vaccine Against Brucellosis"

Moscow, Veterinariya, No 6, Jun 73, pp 50-52

Abstract: In connection with a study of mutations of Brucella microorganisms, strains of nonagglutinogenic mutants were selected which had lowered virulence, exhibited pronounced immunogenicity, and did not stimulate the formation of antibodies that reacted with the ordinary brucellosis antigen. One of these strains, Br. abortus V-8, which was found to retain its cultural and biological characteristics for about 10 yrs, was used for the preparation of an antibrucellosis vaccine. Good results were obtained in field tests by applying this vaccine for the immunization of cattle.

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Veterinary Medicine

USSR

UDC 636.2:615.371

ZHOVANIK, P. N., Doctor of Veterinary Sciences, and MAYBORODA, A. A. and
YERZIN, N. I., Candidates of Veterinary Sciences, Ukrainian SSR Scientific
Research Institute of Veterinary Science

"Tests of Strain B-8 Nonagglutinating Brucellosis Vaccine in Immunization
Experiments on Young Cattle"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii. Sel'skokhozyaystvennykh
Nauk imeni V. I. Lenina, No 8, 1972, pp 33-35

Abstract: Dry, live brucellosis vaccine obtained from cultures of nonaggluti-
nating, weakly virulent mutant *Brucella abortus*, strain B-8 was tested in the
laboratory of guinea pigs and 5-10 month old heifers and at two brucellosis-
infected farms on 5-10 month old heifers. The preliminary laboratory experi-
ments indicated that the vaccine did not cause appearance of agglutinins and
generated stable immunity. No significant pathological changes due to the
vaccine were noted. In a 2-year period 641 heifers at 2 farms were immunized
at 5-10 months old and revaccinated 1-2 months prior to fertilization.
Pathological changes were insignificant up to 6 weeks after vaccination, while
none were noted among heifers slaughtered 10 months after vaccination. The
vaccine culture was found to survive well for the 1st 3 weeks and then rapidly
1/2

USSR

ZHOVANIK, P. N., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 8, 1972, pp 33-35

disappear by the 6th week. Hemagglutination and complement-fixation reactions were negative after vaccination and revaccination for all but 1 immunized heifer. The preventative properties of blood serum from 69 vaccinated heifers were tested on white mice. Such serum resulted in 41.3% survival of mice infected with a highly virulent strain, while only 22.6% of such mice survived when not treated with the serum. The immunity of 18 vaccinated and 12 control heifers was tested by infecting them with standard strain Br. abortus 5/44. While a generalized infection resulted among all control animals, 13 immunized heifers had complete immunity and 5 had partial immunity. All 5 animals infected after revaccination exhibited complete immunity. It is concluded that this vaccine should be tested further and employed on young animals to improve the condition of brucellosis-infected herds.

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USSR

UDC 681.327.12

ZHOVTIS, I. M.

"Graphic Information Reader"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 28, 1971, p 202

Abstract: USSR Author's Certificate No. 315192 (Cl. G 06k 11/00), filed 16 March 1970, issued 21 September 1971, covers a graphic information reader containing the following optically interconnected components: an objective, a mirror with a drive, a diaphragm, a photomultiplier connected to a signal shaper. The unique feature of the device is that, in order to expand its functional capabilities, a transducer and a cathode-ray tube are introduced, with the latter interposed in the luminous flux of the projected image behind the objective.

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USSR

UDC: 681.3:656.072

ZHOZHAKASHVILI, V. A., MITSKEVICH, L. A., NOVOKHATNIY, A. A., SILAYEV, V. N.

"The 'Sirena' Time-Sharing Queueing System"

Moscow, Pribory i Sistemy Upravleniya, No 9, Sep 70, pp 1-4

Abstract: A generalized analysis is presented of the requirements placed on remote automatic queueing systems, systems with large numbers of widely separated information sources (and consumers), a widely branched network of information transmission, and centers for storage and processing of information. Study of currently available series-produced equipment for use in such systems has indicated that the available equipment does not satisfy the requirements of such a system, particularly as concerns input-output and information transmission devices with sufficient reliability, devices for concentration of information flow, and devices for interconnection of channels and machines. Therefore, a new series of devices has been developed, including a cathode ray tube information terminal and display unit with a universal information keyboard; an information editor, a memory device for storage of information from the keyboard or information arriving from the information processing center; and a device for parallel printing of documents on standard blanks. This equipment plus equipment already available
1/2

USSR

ZHOZHAKASHVILI, V. A., et al, Pribory i Sistemy Upravleniya, No 9, Sep 70, pp 1-4

has been combined into the "Sirena-I" computerized airline reservation system used for reservation of seats on Aeroflot Aircraft. The first portion of this system is presently being installed in Moscow. The computer used with the system is the M-3000 hybrid computer. A brief analysis of the operation of the system is presented.

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L/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF IMIDDICARBOXYLIC ACIDS AND POLY,AMIDO IMIDES, BASED
ON THEM -U-
AUTHOR-(03)-MASEKEVICH, S.A., ZHUBANOV, B.A., RAFIKOV, S.R.
COUNTRY OF INFO--USSR
SOURCE--TR. INST. KHIM. NAUK, AKAU. NAUK KAZ. SSR 1970, 28, 78-82
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IMIDE, CARBOXYLIC ACID, ORGANIC SYNTHESIS, POLYCONDENSATION,
POLYMER, HEXAMETHYLENEDIAMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1114 STEP NO--UR/0000/70/028/000/0078/0082
CIRC. ACCESSION NU--AF0134800

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134800

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF POLY(TRIMELLITAMIDO
IMIDES) (I) HAVING A M.P. 100-220DEGREES WAS PREPD. BY POLYCONDENSATION
OF 4,CARBOXY,N,(OMEGA,CARBOXYDECYL)PHTHALIMIDE AND NH SUB2 (CH SUB2)
SUB6 NH SUB2 (II), P OR M,XYLYLENEDIAMINE. ALTERNATIVELY, INTERFACIAL
POLYCONDENSATION OF 4,CARBOXY,N,(P,CARBOXYPHENYL)PHTHALIMIDE AND II GAVE
A NO. OF STABLE I (TD 300-85DEGREES).

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE—300CT70
TITLE--SYNTHESIS OF POLYMERS BASED ON AN ADDUCT OF TOLUENE AND MALEIC ANHYDRIDE -U-
AUTHOR--(03)-ALMABEKOV, O.A., ZHUBANOV, B.A., RAFIKOV, S.R.
COUNTRY OF INFO--USSR
SOURCE--TR. INST. KHIM. NAUK, AKAD. NAUK KAZ, SSR 1970, 28, 83-7
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--MALEIC ANHYDRIDE, TOLUENE, POLYCONDENSATION, AMINE, POLYAMIDE COMPOUND, POLYIMIDE RESIN, THERMAL STABILITY, DIAMINE, ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0691 STEP NO--UR/0000/70/028/000/0083/0087
CIRC ACCESSION NO--AT0124363
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE—30OCT70

CIRC ACCESSION NO—AT0124363

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. THE DIELS ALDER REACTION OF MALEIC ANHYDRIDE WITH PHME GAVE 3,6,ENDO,ETHENO,9,BICYCLO(2,4)OCTANE,6,METHYL,1,2,9,10,TETRACARBOXYLIC ACID DIANHYDRIDE (I) (E. GRAVENSTEIN, ET AL., 1961). THE POLYCONDENSATION OF I WITH BIFUNCTIONAL AMINES IN HCONME SUB2 SOLN. UNDER AR GAVE POLYAMIDES. HEATING THE POLYAMIDES LESS THAN OR EQUAL TO 300DEGREES, FOLLOWED BY ANNEALING 3 HR AT 300DEGREES IN VACUO GAVE HEAT STABLE POLYIMIDES (AMINE USED, DECOMPN. TEMP. IN AIR GIVEN): BENZIDINE, 500DEGREES; (P,H SUB2 HC SUB6 H SUB4) SUB2 D, 410DEGREES; P,XYLYLENEDIAMINE, 400DEGREES; M,XYLYLENEDIAMINE, 390DEGREES; (P,H SUB2 NC SUB6 H SUB4) SUB2, 412DEGREES; HEXAMETHYLENEDIAMINE, 380DEGREES.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OXIDATIVE CHLOROPHOSPHORYLATION OF LOW MOLECULAR WEIGHT WASTES FROM
POLYETHYLENE PRODUCTION -U-
AUTHOR--(03)-ZHUBANOV, B.A., MESSERLE, YE.P., MANSUROVA, R.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 48-52

DATE PUBLISHED--70

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

TOPIC TAGS--POLYETHYLENE, ORGANIC PHOSPHORUS COMPOUND, CHEMICAL REACTION
RATE, OXIDATION, PHOSPHORYLATION, INDUSTRIAL WASTE TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/1916

STEP NO--UR/0360/70/020/002/0048/0050

CIRC ACCESSION NO--AP0123700

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--3001170

CIRC ACCESSION NO--AP0123700

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LOW MOL. WT. POLYETHYLENE (I) RESIDUES WERE DISSOLVED IN HOT PCL SUB3. THE PASSAGE OF O OR AIR THROUGH THE SOLN. GAVE CHLOROPHOSPHORYLATED I, WHICH, WITHOUT ISOLATION, WAS HYDROLYZED WITH ICE WATER TO I POLYPHOSPHONIC ACID (I) CONTG. SMALLER THAN OF. EQUAL TO 18.5P. BESIDES CH SUB2 CHPO(OH) SUB2 CH SUB2 GROUPS, II ALSO CONTAINED CHICLCHPO(OH) SUB2 GROUPS RESULTING FROM THE DIRECT ADDN. OF PCL SUB3 TO CH:CH GROUPS OF I. THE REACTION HAD NO INDUCTION PERIOD AND IT WAS ZERO ORDER. THE REACTION RATE DEPENDED ON THE RATE OF BUBBLING OF O THROUGH THE REACTION MIXT. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 041 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHESIS AND STUDY OF NEW HEAT RESISTANT POLYMERS
POLYBENZIMIDAZOPYRROLONES -U-
AUTHOR--(03)-ZHUBANOV, B.A., LYUBCHENKO, N.P., RAFIKOV, S.R.
COUNTRY OF INFO--USSR
SOURCE--TR. INST. KHIM. NAUK. AKAD. NAUK KAZ. SSR 1970, 28, 118-22
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS
TOPIC TAGS--ORGANIC SYNTHESIS, CONDENSATION REACTION, HEAT RESISTANT
PLASTIC, POLYMER, BENZIMIDAZOLE, BENZENE, MALEIC ANHYDRIDE, UV LIGHT,
PYRROLES, HETEROCYCLIC NITROGEN COMPOUND, KETONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0771 STEP NO--UR/0000/70/028/000/0118/0122
CIRC ACCESSION NO--AT0132869

UNCLASSIFIED

2/2 041

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIELS-ALDER CONDENSATION OF C
SUB6 H SUB6 WITH MALEIC ANHYDRIDE IN THE PRESENCE OF PH SUB2 CO UNDER UV
LIGHT IRRADN. GAVE I. ANALOGOUSLY STARTING WITH PHME, I 3-ME DERIV.
(IA) WAS OBTAINED. THE CONDENSATION OF I WITH 3,3 PRIME
DIAMINOBENZIDINE (II) IN HCONME SUB2 SOLN. GAVE THE CORRESPONDING
POLYAMIDE, WHICH WAS CYCLIZED BY HEATING 3 HR AT 300DEGREES TO
POLYBENZIMIDAZOPYRROLONES (III). ANALOGOUSLY, STARTING WITH IA THE
CORRESPONDING III ANALOGS WERE PREPD. THESE POLYMERS WERE STABLE LESS
THAN OR EQUAL TO 380DEGREES IN THE AIR. THE EFFECT OF THE MONOMER
CONCN., POLYCONDENSATION TIME, AND TEMP. ON THE VISCOSITY OF THE
POLYMERS WAS STUDIED.

UNCLASSIFIED

USSR

UDC 542.91:661.183.123.3

YERGOZHIN, E. E., RAFIKOV, S. R., IMANBEKOVA, S. M., ZHUBANOV, B. A.,
Institute of Chemical Sciences of the Academy of Sciences of the Kazakh SSR
and the Institute of Chemistry of the Bashkir Branch of the USSR Academy of
Sciences

"Synthesis of New Anion Exchange Resins Based on Polyethylenepolyamine and
bis(chloromethyl)-diphenyloxide"

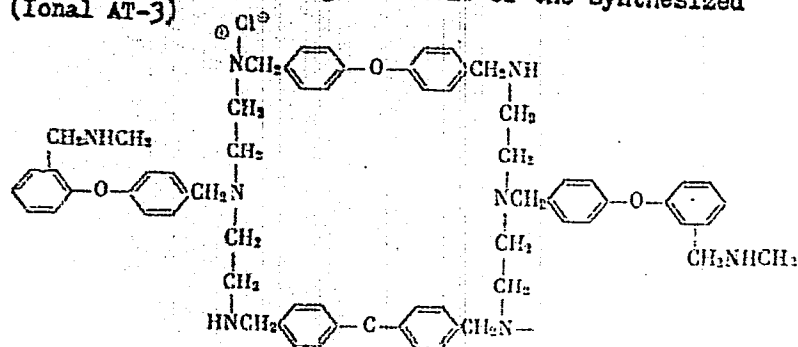
Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972,
pp 2609-2612

Abstract: A study was made to synthesize anion exchange resins based on
polyethylenepolyamine (PEPA) and bis(chloromethyl)diphenyl ether. The con-
densation of 4,4-bis(chloromethyl)diphenyloxide with PEPA was first carried
out at a reduced temperature (0-30, 30-40 minutes) and then at 20-25° to
gelatination. The gel formed was congealed in a dessicator at 70° for 20
hours and at 120° for 30 hours. The anion exchange resin obtained was
chrushed, screened and separated into a fraction with grain sizes of 0.25-
0.50 mm. The properties of the synthesized ion exchange resins depend to a
significant degree on the mole ratio of the chloromethylated diphenyloxide
and PEPA and also on their condensation conditions. Comparative data are
1/2

USSR

YERGOZHIN, E. E., et al., Izvestiya Akademii Nauk SSR - Seriya Khimicheskaya, No 11, 1972, pp 2609-2612

tabulated. The results of studying the chemical stability of the anion exchange resins with respect to HNO_3 , NaOH and H_2O_2 solutions are tabulated. They indicate that Ional AT-3 appreciably simplifies the process of obtaining the ion exchange resin since it does away with the necessity for separating the isomers. Chemical analysis combined with the infrared spectra considering the mechanism of the interaction of aliphatic amines with chloromethylated aromatic hydrocarbons indicates the following structure of the synthesized anion exchange resins (Ional AT-3)



2/2

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MECHANICALLY STRONG CATALYSTS FOR LIQUID PHASE HYDROGENATION -U-
AUTHOR--(05)-SOKOLSKIY, D.V., ZHUBANOV, K.A., SHUMATEVA, N.F., GOGOL, N.A.,
KRUPENYA, N.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,354
REFERENCE--OTKRYTIYA, IZJDBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, HYDROGENATION, CHEMICAL PATENT, GYPSUM, MECHANICAL
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0827

STEP NO--UR/0432/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136261

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0136261

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MECH. STABLE CATALYSTS ARE PREPD.

BY: ADDING A GYPSUM BINDER TO THE CATALYST.

FACILITY: INSTITUT

KHIMICHESKIKH NAUK AN KAZAKHSKOY SSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DIFFUSION OF HYDROGEN TO THE SURFACE OF A STATIONARY CATALYST
DURING THE HYDROGENATION OF FATS -U-
AUTHOR-(03)-ZHUBANOV, K.A., SHUMATEVA, N.F., SOKOLSKIY, D.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 31-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--CATALYTIC HYDROGENATION, VEGETABLE OIL, NICKEL, RHODIUM, METAL
CATALYST, CHEMICAL REACTION RATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/1732 STEP NO--UR/0360/70/020/002/0031/0032
CIRC ACCESSION NO--AP0138705
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138705

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE HYDROGENATION OF COTTONSEED OIL AT ATM. PRESSURE IN THE PRESENCE OF NI RH CATALYST, THE DIFFUSION VARIED FROM 0.423 ML-MIN AT 110DEGREES TO 2.59 ML-MIN AT 190DEGREES IN THE COUNTERCURRENT MODE, AND FROM 0.158-0.199 ML-MIN TO 1.008 ML-MIN, RESP., IN THE JET MODE. THE HYDROGENATION CONSUMED 0.215-0.473 ML-MIN AND 0.15-0.45 ML-MIN, RESP. THE CONTACT TIME HAD LITTLE EFFECT ON THE HYDROGENATION VELOCITY. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC 547.244

KAZANTSEV, A. V., ZHUBEKOVA, M. N., ZAKHARKIN, L. I., Karaganda Pedagogical Institute

"Synthesis of m -Carboranylphosphinous and Phosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, pp 1570-1571

Abstract: It was shown that m -carboranylphosphinous acid can be synthesized by reacting lithium- m -carborane with bis(diethylamino)chlorophosphine in an ether-benzene solution with subsequent treatment of the resultant bis(dimethyl amino)- m -carboranylphosphine with dry hydrogen chloride and moist air. m -Carboranylphosphonic acid was synthesized from bis(diethyl amino) m -carboranyl phosphine.

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USSR

UDC 547.244+547.241

KAZANTSEV, A. V., ZHUBEKOVA, M. N., and ZAKHARKIN, L. I.

"Synthesis and Some Conversions of Substituted o-Carboranylphenylchlorophosphines and Bis(o-Carboranyl)chlorophosphines"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 2027-2033

Abstract: Described are the synthesis and conversions of the phosphorus derivatives of o-carboranes, including substituted o-carboranylphenylchlorophosphines (I), o-carboranylphenylphosphines, bis(o-carboranyl)chlorophosphines II, bis(o-carboranyl)phosphines, o-carboranylphenylphosphinic and thiophosphinic acid chlorides (III) and esters of o-carboranylphosphinous acids (IV). The rearrangements of compounds I, II, III and IV are presented, the reactions of all intermediate compounds described and the considerable differences in stability, reactivity and other properties are given.

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1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--GLUCOSE 6, PHOSPHATE DEHYDROGENASE AND LACTATE DEHYDROGENASE FROM
MEMBRANOUS STRUCTURES OF THE RETINA -U-
AUTHOR--(03)-ETINGOF, R.N., ZHUGHIKHINA, A.A., SHUKOLYUKOV, S.A.
COUNTRY OF INFO--USSR
SOURCE--BIOKHEMIYA 1970, 35(1), 35-41
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LACTATE DEHYDROGENASE, RETINA, CELL PHYSIOLOGY,
MITOCHONDRION, HOMOGENIZATION, CENTRIFUGATION, ISOENZYME,
ELECTROPHORESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1996/0640 STEP NO--UR/0218/70/035/001/0035/0041
CIRC ACCESSION NO--AP0117866
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117866

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MITOCHONDRIA AND OUTER SEGMENTS OF BOVINE RETINA POSSESSED GLUCOSE,6,PHOSPHATE DEHYDROGENASE (I) AND LACTATE DEHYDROGENASE (II). ALMOST ALL II PERTAINING TO THE MEMBRANOUS STRUCTURE WAS RECOVERED IN EXTS. AFTER HOMOGENIZATION IN 0.9PERCENT NACL AND CENTRIFUGATION. I WAS RECOVERED FROM EXTS. TREATED WITH 1PERCENT TRITON X-100 IN 0.9PERCENT NACL. EXTS. OF RETINA AND SEGMENTS CONTAINED 5 AND 4 II ISOENZYMES, RESP., AS REVEALED BY AGAR GEL ELECTROPHORESIS. THERE WERE NO ESSENTIAL DIFFERENCES IN I ACTIVITIES IN AQ. AND SALT EXTS. AND EXTS. TREATED WITH TRITON X-100. FACILITY: INST. EVOL. PHYSIOL. BIOCHEM., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 669.018.298-426

LESHCHINER, A. M., ZHUCHIN, V. N., DZUGUTOV, M. YA., KORNEYEV, N. I., and
OVSEPYAN, V. G., Elektrostal' Plant and the All-Union Scientific Research
Institute of Aviation Materials

"Crack Removal in the Production of Wire Made From Precipitation Hardened Alloys"

Moscow, Stal', No 7, Jul 73, pp 652-654

Abstract: The processes of formation and nature of cracks were studied in a nickel-base alloy EP578 with the following chemical composition (in %): 18-20 Cr, 9-10.5 W, 2.75-3.25 Ti, 1.3-1.8 Al, 5.5-6.5 Co and 0.05 C (max). Deep longitudinal cracks (up to 2 mm in 5-mm diameter wire) along the entire wire length are sometimes formed. Investigation showed that this was linked with the occurrence of structural transformations during heating and, in particular, with precipitation of the gamma-prime type strengthening phase Ni₃(Ti,Al). Crack formation was also possible in the presence of surface defects and high residual tensile stresses. The first factor can be eliminated by rapid heating (at a rate not less than 250-300 deg/sec for suppression of aging), and the second factor -- by means of burnishing cold-drawn wire prior to its recrystallization, owing to which residual surface stresses become compressive stresses. Experiments also showed that cracks are formed in less-
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LESHCHINER, A. M., et al., Stal', No 7, Jul 73, pp 652-654

alloyed materials such as nickel-base alloys EP567 and NIMO-25 (66-69% Ni) with the following chemical composition:

	Cr	W	Mo	C	Si	Mn	Fe
EP567	14.5-16.5	3.0-4.5	15.0-17.0	0.03*	0.15*	1.0*	1.5*
NIMO-25	---	---	25.0-28.0	0.035*	0.25*	0.5*	balance

*-maximum

Precipitation of dispersed phases does not occur during heating of these alloys but proceeds by an ordering process. Thus, one of the necessary conditions of crack formation is the presence of structural transformations during heating. Four figures, four bibliographic references.

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Superalloys

(4)

USSR

UDC 669.14.018.45-13:621.771.0.14:539.374

GUN, G. YA., POLUKHIN, P. I., SKUGOREV, V. S., GALKIN, A. M.,
ZHUCHIN, V. N., ISAYEV, V. A., KARLOV, S. V., and ZAPOROZHTEV,
YU. V., Moscow Institute of Steel and Alloys

"Investigation of the Resistance to Deformation and the Indicators of Plasticity of Heat-Resistant Alloys on a Nickel Base"

Moscow, Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

Abstract: In this article the authors cite the results of an investigation on resistance to deformation of heat-resistant alloys EP199, EP220, and EI929 on a nickel base in wide temperature range and deformation rate. They have constructed curves for the change in the indicators of plasticity in a broad range of temperature-rate conditions of deformation.

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(4)

USSR

GUN, G. YA., et al., Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

The research was carried out because of the reality at the present time for knowledge of the behavior of materials with respect to resistance to deformation and indicators of plasticity in a range that varies broadly for the temperature and rate of deformation.

The first three illustrations depict curves of deformation resistance of the above alloys as a function of the size and amount of deformation at various temperatures. The fourth figure shows change in values of ψ and δ of these heat-resistant alloys as a function of temperature and rate of deformation.

The article contains four illustrations and 3 bibliographic references.

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- 47 -

Foundry

USSR

UDC 669.18-147-412:621.746.73

ASEYEV, R. E. (Engineer), ZHUCHIN, V. N. (Cand. of Techn. Sciences), and
KONDRASHIN, V. M. (Engineer)

"Continuous Pouring of Iron-Nickel Alloys on a Radial Unit and the Surface
Quality of Thin-Section Castings"

Moscow, Stal', No. 4, Apr 72, pp 313-316

Abstract: The paper deals with the causes of shrinkage cavities in iron-nickel alloy castings (55 x 270 mm) made on continuous radial pouring equipment. It is shown that the thermal stresses in the crystallizing crust which increase due to uneven cooling (separation of crust from the ingot mold wall), reaching the yield point of the material, are the principal cause. The growth of these stresses is governed by the temperature dependence of the yield point. The process of shrinkage cavitation ceases when the thermal stresses level off with the formation of a plastic articulation in the form of a fold or localized sag. Tests on various shapes of ingot molds indicate rippled ingot molds to be the only solution for preventing the formation of shrinkage cavities. (3 illustrations, 8 bibliographic references).

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USSR

UDC 621.771.064

NIKITIN, G. S., ZHUCHIN, V. N., KAPUSTIN, V. A., YEVSTROPOV, G. M., and
TSVETKOV, A. I., Moscow Higher Technical School imeni Bauman, and the
"Elektrostal'" Plant

"Rolling Deformation-Resistant Steels and Alloys in a Planetary Mill"

Moscow, Stal', No 2, Feb 71, pp 142-144

Abstract: This paper describes planetary mills which are now being combined with ingot-producing mills for continuous and integrated casting and rolling processes. The input to the planetary mill, used for the rolling part of the combined operation, can be fed in a continuous ingot from the crystallizer at the rate of 2.0-3.5 meters per minute. Among other advantages, the planetary mill can be fully automated, requiring no complex control system for regulating the production rate, and can be used for rolling deformation-resistant steels in a narrow temperature interval. Several of these mills are in operation in foreign countries but are used only for rolling. In the VNIMETMASH (All-Union Scientific Research and Planning Design Institute of Metallurgical Machine Building)
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USSR

NIKITIN, G. S., et al, Stal', No 2, Feb 71, pp 142-144

a basically new planetary mill has been developed in which the metal is compressed from four sides. Known as the Tselikov-Nosal' system, the machine can result in substantial economies.

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USSR

UDC: 681.325.3

ZHUCHKOV, A. G., MOCHALOV, V. D.

"Magnetic Integrating Code-to-Analog Converters"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 187-189 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B461 by B. K.)

Translation: The authors examine schemes of using magnetic cores with rectangular hysteresis loop as magnetic integrating code-to-analog converters. The operating principle of the proposed devices is based on the irreversible change of magnetic fluxes in transformer cores under the effect of voltages applied to record windings over a certain time period in accordance with definite code digits. The analog equivalent of the converted code is the time interval required to reverse magnetization of the cores under the effect of a standard voltage.

The converter consists of a line of series-connected, two-winding transformers, each corresponding to a certain code digit. The primary winding

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USSR

ZHUCHKOV, A. G., MOCHALOV, V. D., Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl., 1972, pp 187-189

of each transformer is connected to a voltage source whose magnitude corresponds to the weight of the given digit, and all secondary windings are connected in series into the standard voltage circuit. Equations are presented which describe the operation of the converter. The authors discuss questions of designing the proposed converters and methods of regulating and monitoring them.

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ZHUCHKOV, I. I.

DESIGN AND PRE-REACTOR TESTING OF CONTROL UNITS OF THE BN-350 REACTOR

Paper by V. I. Yevseyev, I. I. Zhuchkov, I. A. Fodetechnikov, O. B. Semakova and V. I. ...
Belokhramnaya, ...
Specialists Meeting, Dniprograd, 4-8 June 1973]

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20 Aug 73
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In this paper, the basic principles of the design and testing of rods for a fast-neutron reactor with sodium coolant of type BN-350, are explained. The basic requirements imposed upon the control units are formulated, their characteristics are given, and also attention is directed to the design features of the control units of the BN-350 reactor. The features of the designing of control units are considered, and data concerning materials applied for the absorbent and the rod jacket are reported. The design of the control units of the BN-350 reactor is given. Brief data on the test of the rods are reported. A list of test stands intended for the testing of control units and drive mechanisms of the SUZ (reactor control and safety) devices is given. A tentative volume of the work conducted at the test stands in the testing of the rods is indicated, and also the results of the experiments obtained. The role of tests of the SUZ units on the stand is evaluated, in the selection of the optimum design of them for application in the BN-350 reactor.

Features of the designing of control units for the BN-350 fast reactor

The selection of the method of regulating reactivity of a fast power reactor is determined by the efficiency of this

USSR

UDC 541.183.12

ROGOZHIN, S. V., DAVANKOV, V. A., and ZHUCHKOVA, L. YA., Institute of
Element-Organic Compounds, Academy of Sciences USSR

"Asymmetric Anion Exchange Sorbents Based on the Optical Isomers
of 1-p-Nitrophenyl-2-aminopropanediol-1,3 and its Derivatives"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2,
Feb 71, pp 459-461

Abstract: Optimal conditions were found for synthesis of asymmetric anion exchange resins from chloromethylated styrene copolymer with divinylbenzene and (-)-threo-1-p-nitrophenyl-2-aminopropanediol-1,3 (I) and some of its derivatives. The synthesis consists of the treatment of chloromethylated crosslinked styrene copolymers with (I) in presence of NaI catalyst. To increase the basicity of the primary amino group, (I) was dimethylated. The anion exchange sorbents obtained showed good swelling not only in water but also in organic solvents. D-mandelic acid was successfully separated into optical isomers by chromatography on (-)-threo-1-p-nitrophenyl-2-dimethylaminopropanediol based anion exchange resin.

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1/2 012
UNCLASSIFIED
TITLE--DISLOCATION STRUCTURE OF ALUMINUM ANTIMONIDE SINGLE CRYSTALS -U-
PROCESSING DATE--11SEP70
AUTHOR--MILEVSKIY, L.S., ZARIFYANTS, Z.A., ZHUCHKOVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(1), 119-24
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SINGLE CRYSTAL, CRYSTAL LATTICE DISLOCATION, ALUMINUM ANTIMONIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0115
STEP NO--UR/0070/70/015/001/0119/0124
CIRC ACCESSION NO--AP0054911
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--A00054911

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINGLE CRYSTALS OF ALSB WITH A LOW DISLOCATION D. (10^{-10} , 000 CM PRIME²NEGATIVE) WERE USED TO STUDY THEIR DISLOCATION STRUCTURE; 4 TYPES OF DISLOCATIONS WITH AXES PARALLEL TO THE (112) DIRECTION WERE OBSD.: EDGE AND 30DEGREES DISLOCATION IN THE (111) GLIDE PLANE, A 54DEGREES DISLOCATION IN THE (110) GLIDE PLANE, AND A 73DEGREES DISLOCATION IN THE (113) GLIDE PLANE, AS WELL AS 2 TYPES OF SIMPLE DISLOCATION: AN EDGE DISLOCATION IN THE (100) GLIDE PLANE AND A 60DEGREES DISLOCATION ALONG THE (110) DIRECTION. ALL INVESTIGATED AT. DISLOCATIONS HAD THE BURGERS VECTOR B EQUALS A-2 (110) EQUALS 4.35 . . . ANGSTROMS. MACRODISLOCATIONS WERE OBSD. AT THE TWINNING BOUNDARIES. THE PHOTOELASTIC CONSTS. OF THE MATERIAL WERE DETD.

UNCLASSIFIED

USSR

UDC 621.791.927:621.921

YUZVENKO, Yu. A., ZHUDRA, A. P., FRUMIN, Ye. I., and GAVRISH, V. A., Ye. O.
Paton Electric Welding Institute

"Features of Gas-Abrasive Wear of Composite Alloys"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 1972, pp 35-38

Abstract: Composite alloys were studied which were produced by a method involving separate introduction of hard particles of ground eutectic alloy of tungsten monocarbide and semicarbide into the multicomponent binder. Solidification produces a single or multiple-phase alloy, cementing the particles introduced before crystallization. The gas-abrasive wear of composite alloys consisting of a matrix and specially introduced grains of cast tungsten carbide occurs selectively and depends linearly on the test time. Wear of alloys decreases with increasing wear-resistant phase grains. With low and moderate angles of attack (10-30°), wear of the alloys decreases as matrix hardness increases to HV 350-400, while further increases in hardness have little influence on wear. With cast tungsten carbide grain diameters of about 2 mm, wear depends little on properties of the matrix or angle of attack.

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UDC 577.4

USSR

ZHUGULIN, L. P., POPOV, O. V., AFANAS'YEV, V. B.

"Increasing Transmission Reliability in a System with Interrogation without Increasing the Permanent redundancy"

V sb. Peredacha diskret. soobshch. po kanalakh s gruppirovushchimi oshibkami
(Transmission of Digital Messages over Channels with Group Errors -- collection of works), Moscow, Nauka Press, 1972, pp 56-58 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V457)

Translation: A version of a system for two-way transmission of digital data with interrogation is described according to which the necessary condition of decoding the combination is the absence of the detected errors not only in it but also in a number of subsequent combinations. It is demonstrated that for the given code the described version permits a significant reduction of the probability of the undetected error in a number of cases at the price of an insignificant increase in the variable redundancy.

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1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CHARACTERISTICS OF LOW FREQUENCY OSCILLATORY CONVECTION IN A STRONG
MAGNETIC FIELD -U-
AUTHOR--ZHUGZHDA, YU.D.
COUNTRY OF INFO--USSR
SOURCE--ASTRONOMICHESKII ZHURNAL, VOL. 47, NO. 2, 1970, P. 340-350
DATE PUBLISHED--70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES
TOPIC TAGS--ATMOSPHERIC CONVECTION, STRONG MAGNETIC FIELD, LINEAR
APPROXIMATION, NONADIABATIC PROCESS, TEMPERATURE GRADIENT, SUNSPOT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1773 STEP NO--UR/0033/70/047/002/0340/0350
CIRC ACCESSION NO--AP0125389
UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0125389
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS, IN A LINEAR APPROXIMATION, OF LOW FREQUENCY OSCILLATORY CONVECTION IN A POLYTROPIC ATMOSPHERE IN THE PRESENCE OF A STRONG MAGNETIC FIELD. A DISCUSSION OF NONADIABATIC OSCILLATIONS IN THE GENERAL CASE SHOWS THAT THE LARGEST INCREMENT CORRESPONDS TO OSCILLATIONS WITH CONVECTIVE CELLS OF A SIZE FOR WHICH THE FREQUENCY IS ROUGHLY EQUAL TO THE INVERSE COOLING TIME OF TEMPERATURE DISCONTINUITY OF THE SAME CROSS SECTIONAL DIMENSIONS. INSTABILITY CRITERIA FOR QUASI DIABATIC AND QUASI ISOTHERMAL OSCILLATIONS ARE OBTAINED, AND THEIR DEPENDENCE ON THE TEMPERATURE GRADIENT AND TEMPERATURE RATIO AT THE ATMOSPHERIC BOUNDARIES IS DETERMINED. FORMULAS FOR THE THERMAL CONVECTIVE FLUX AND THE WAVE ENERGY FLUX TRANSPORTED BY OSCILLATORY CONVECTION ARE DERIVED. THE CHARACTERISTICS OF OSCILLATORY CONVECTION ARE DISCUSSED ON THE BASIS OF SUNSPOT THEORY. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT ZEMNOGO MAGNETIZMA, IONOSFERY I RASPROSTRANENIIA RADIOVOLN, KRASNAYA PAKHRA, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--090CT70

1/2 018

TITLE--TIME VARIATIONS IN THE DENSITIES OF FLUXES FROM DISCRETE SOURCES
IN THE DECA-METER WAVELENGTH RANGE -U-

AUTHOR--(OSI)-BRAUDE, S.YA., ZHUK, I.M., LEBEDEVA, U.M., MEN, A.V., RYABOV,
S.P.

COUNTRY OF INFO--USSR

SOURCE--UKRAINS'KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970, P. 177-190

DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--ELECTRON FLUX, RADIO EMISSION, CRITICAL WAVELENGTH, SIGNAL
ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1991/0323

STEP NO--UR/0185/70/015/000/0177/0190

CIRC ACCESSION NO--AP0110211

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--090CT70
CIRC ACCESSION NO--AP0110211
ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. THEORETICAL AND EXPERIMENTAL STUDY
OF THE TIME VARIABLE INTENSITIES OF RADIATION FLUXES FROM RADIO EMISSION
SOURCES IN THE DECAMETER WAVELENGTH RANGE. THE STUDY IS BASED ON
OBSERVATIONS OF THE FLUCTUATIONS IN RADIO SIGNAL SEQUENCES AND ON LONG
PERIOD OBSERVATIONS OF THE MEAN VALUES OF THE DENSITIES OF RADIO
EMISSION FLUXES FROM A LARGE GROUP OF DISCRETE RADIO SOURCES. THE RADIO
EMISSION SPECTRA OF MOST OF THESE SOURCES SHOWED ONLY SLIGHT VARIATIONS
WITH TIME, WITH THE EXCEPTION OF 3084, 30144 AND 30461. THE TIME
VARIABLE FLUCTUATIONS IN THE RADIO EMISSION SPECTRA OF THESE SOURCES ARE
FOUND TO BE GREATER AT LOWER FREQUENCIES. POSSIBLE PHYSICAL CAUSES OF
THESE TIME DEPENDENT FLUCTUATIONS ARE DISCUSSED. FACILITY:
AKADEMIIA NAUK UKRAINS'KOI RSR, INSTITUT RADIOFIZIKI I ELEKTRONIKI,
KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

Acc. No: **046564**
APD

Abstracting Service: 5/70
INTERNAT. AEROSPACE ABST.

Ref. Code:
UR0185

A70-23189 # Spectra of discrete radio sources in decametric wavelength range (Spektry diskretnikh dzherel v dekametrovomu diapazoni dovzhin khvil'). S. Ia. Braude, L. M. Zhuk, O. M. Lebedeva, A. V. Men', and B. P. Riabov (Akademiia Nauk Ukrain's'koj RSR, Institut Radiofiziki i Elektroniki, Kharkov, Ukrainian SSR). *Ukrains'kii Fizichnii Zhurnal*, vol. 15, Jan. 1970, p. 1-32. 118 refs. In Ukrainian.

The analysis was carried out of the spectra measurements of discrete sources of cosmic radio waves in a decametric wavelength range. The spectral indices are presented of 113 discrete sources measured at the Radio Observatory of the Institute of Radiophysics and Electronics of the Academy of Sciences of the Ukrainian SSR in Grakovo. A new classification of decametric spectra of discrete sources was introduced. According to this classification 59 sources were related to type I (linear spectra), 8--to type II (negative curvature), 29--to type III (positive curvature) and 3 sources--the type IV (variable curvature). Different problems connected with generation and absorption of radio waves in the discrete sources were discussed and used to interpretation of various types of spectra. The analysis of preliminary data on the radio wave absorption of remote metagalactic hydrogen was discussed together with the question on possible values of temperature and density of the latter. (Author)

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REEL/FRAME
19781828

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USSR

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UDC 523.164.42

BRAUDE, S. YA., ZHUK, I. N., LEBEDEVA, O. M., MEN', A. V. and RYABOV, B. P.,
Institute of Radiophysics and Electronics, Academy of Sciences UkrSSR, Khar'kov

"Time Changes in the Flux Densities of Discrete Sources in the Decameter Range"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol. 15, No. 2, Feb 70, pp 177-190

Abstract: Two series of experiments were conducted to clarify the problem of the flux variability of sources in the decameter range. The purpose of the first series of experiments was to determine the type of fluctuations in signals occurring in 5-10 consecutive measurements of sources with first and third types of spectra. The second group of experiments was to determine the change in the average flux density with time for 30 sources, each of which was measured for several months. The first group of experiments indicated that fluctuations in signals received from the sources are associated with the ionosphere and not with processes occurring in the sources. The following sources were selected for the second series of experiments to determine whether the average flux densities of different sources vary over time: 3C10, 3C111, 3C196, 3C218, 3C274, 3C353, 3C123, 3C405, 3C461, 3C84, 3C98, 3C144, and 3C348 in Cassiopeia-A. Experiments show that spectra of the majority of these sources were stable and independent of time. Some typical results of measurements made during 1966-1968

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USSR

BRAUDE, S. YA., et al., *Ukrainskiy Fizicheskii Zhurnal*, Vol 15, No 2, Feb 70, pp 177-190

are given for several of these sources. The data showed, however, that as distinct from the majority of discrete sources where the average spectra remained unchanged over a considerable time period within the accuracy of measurement, time changes in intensity exceeding the natural spread of data and error of measurement were observed in the spectra of three discrete sources: 3C84, 3C144, and 3C461. The data were insufficient to establish the period of variability of these sources. A discussion of the question indicates that this variability cannot be explained within the framework of existing models, and the physical processes responsible for this flux variability at low frequencies remain an open question. It was concluded that since a systematic increase in the flux of Cassiopeia-A at low frequencies was not observed, one would expect that in an injection of particles with a total energy of $W_e = 10^{47}$ ergs, which is about 10% of the relativistic particles of the entire Cassiopeia-A, the variability observed during 1966-1967 must be a relatively rare phenomenon. Further systematic studies of these and other sources in the decameter range are recommended.

2/2

ZHUK, I.P.

RND / 18-1160 / 5-11-11-12
Kun 72

The value of α is definitely affected by the gas physical properties. Experimental results show that the greater the H_2 content the higher is the α , particularly with regard to the process of methane vapor converting a steam with increased temperature. With a mean temperature rise in the layer from 300 to 900° C, the absolute value of α increases by a factor of 2.4-2.7. The relationship of the rise of α with increased pressure is valid at each temperature layer. At temperatures above 300° C, the increase of the difference between the apparatus surface temperature and the mean layer temperature becomes more pronounced. Data obtained during investigation of the surface heat transfer to a fluidized layer, with nitrogen as the carrier gas, were generalized by the relationship $Nu = f(Ra)$. An equation for calculation of the total (convective and radiative) heat transfer coefficient was derived on the basis of the experimental data:

$$Nu = 42.17 Ra^{0.9} T_{\text{layer}} / 250,$$

where T_{layer} is the mean temperature of the fluidized layer; 250° C is the lowest value of T_{layer} adopted in the calculation of α .

Chernyshevich, I. V., and I. P. Zhuk.
Three-dimensional problems of non-
stationary thermal conductivity of solids
under thermal destruction. IAN B, no. 2,
 1972, 101-106.

A solution is presented to a boundary-value problem for heat conduction in solids with boundaries moving in accordance with an arbitrary law. The problem arises in surface breakdown by intense heat flux and gas ablation, and is related to the protection of structures and

USSR

UDC 62-50

ZHUK, K. D. and GANIYEV, S. K.

"Computer Devices in Automatic Multicoupled Systems"

Tashkent, Izdatel'stvo FAN, Uzbek SSR, 1971, p 2

Translation of Annotation: The book presents some new results in the theory of multicoupled systems; demonstrates the basic characteristics of the mathematical procedures used by the authors; explains the engineering developments in automatic multicoupled systems, including computer controlling devices; and considers problems in the structure of information and control systems.

The monograph is aimed toward a broad group of scientific personnel, engineers, graduates, and students interested in the automatic control of complex objects.

Chief editor, Academician of the Uzbek SSR V. K. Kabulov.

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ZHUK, K. D. and GANIYEV, S. K., Izdatel'stvo FAN, Uzbek SSR, 1971, p 2

Chapter 1. Problems of the Control of Multicoupled Objects and Systems

1. Mathematical description of multicoupled objects and systems
2. Graphs of signal currents (reactions) of multicoupled objects and systems
3. Some principles in the construction of automatic multicoupled systems

Chapter 2. Synthesizing Optimal Systems of Controlling Linear Multicoupled Systems

4. Solving a problem in the synthesis of linear optimal multicoupled systems in statistical dynamics
5. A synchronous-autonomous optimal control system

Chapter 3. Nonlinear Automatic Multicoupled Systems

6. Nonlinear automatic multicoupled systems
7. An automatic multicoupled system for controlling a horizontal tube extrusion process
8. Constructing a system for controlling the electrical mode of an electric arc furnace

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USSR

ZHUK, K. D. and GANIYEV, S. K., Izdatel'stvo FAN, Uzbek SSR, 1971, p 2

Chapter 4. Some Structural Characteristics of Information-Control Systems

9. The concept of information regarding control of an object in the form of a multiquantitative model
10. Multiquantitative production model as a multicoupled information system.
11. The problem of controlling complex mutually coupled operations.

Bibliography

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ZHUK, K. D.

Cybernetics

500 Jms 22993
23 Nov 72

60674

UDC 62-51681.3:007
PROGRAMS OF AXIOMATIC APPROACH TO THE CONSTRUCTION OF THE
THEORY OF LOGIC-DYNAMIC CONTROL SYSTEMS, PART II
Article by ~~K. D. Zhuk~~ K. D. Zhuk, Kiev, Avtomatika, Upravleniye, No 6,
1971, pp 23-37

On the Existence and Uniqueness of the Solution of Linear
Differential Equations

A rigorous proof of the existence and uniqueness of
the solution of a system of n differential equations of
first order with primary values [2] is widely used for the
axiomatic construction of models of dynamic systems [3].
The properties of the solution of the system of linear
differential equations that are made apparent from these
proofs are investigated below. For the linear case, more
rigorous proofs are introduced.

For a system of n continuous functions

$$\dot{x} = A(t)x + f(t), \quad x(0) = x_0$$

which performs the transformations $A, x \in R_n(T)$ into $A, f \in R_n$, there exists a function $x(t)$ with the components $x_1(t), x_2(t), \dots, x_n(t)$ which is the solution of the system

$$x(t) = \Phi(t, 0)x_0 + \int_0^t \Phi(t, \tau)f(\tau) d\tau$$

with such limitations. Functions like

$$\Phi(t, \tau) = \exp \int_{\tau}^t A(s) ds$$

which transform $A, x \in R_n(T)$ into R are the continuous and limited functions

USSR

ZHUK, K.D. (Kiev)

"On the Theory of Logic-Dynamic Control Systems"

Kiev, Avtomatyka, January-February 1971, pp 5-9

Abstract: The article concerns problems of the formal description of automatic control systems the operation of which is expressed in a complicated manner as a change in states. The mathematically complex character of the changes in the states is expressed by generalized coordinates on a continual set and transitions on a finite set. Conditions for the transitions are formalized in the form of logic functions, on the basis of which the finite set is ordered in the form of a (0, 1)-matrix, joined with an operator matrix. The properties of logic-dynamic systems in a general form as well as systems of a closed form and of programmed control are considered. The above-mentioned structural properties of logic-dynamic systems are interpreted by the categories of logic-operator matrices and predicate systems. It is shown that logic-dynamic control systems are a general case of systems as related to continuous systems, pulse systems, and automatic control systems with finite automata.

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USSR

UDC 62-50

ZHUK, K. D., and GANIYEV, S. K.

Vychislitel'nyye Ustroystva v Avtomaticheskikh Mnogosvyaznykh Sistemakh
(Computer Devices in Automatic Multiply-Connected Systems), Tashkent, "Fan,"
1971, 170 pp

Translation: Annotation: This book discusses several new results in the theory of multiply-connected systems and gives the basic characteristics of the mathematical apparatus used by the authors; the engineering developments are given for automatic multiply-connected systems, including computer control devices, and questions of structural designs are examined for information control systems. The monograph is intended for a wide group of scientific workers, engineers, graduate students, and students who are interested in the automatic control of complex units.

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1. Mathematical Description of Multiply-Connected Units and Systems
 2. Graphs of Signal Flows (Effects) of Multiply-Connected Units and Systems

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ZHUK, K. D., and GANIYEV, S. K., Vychislitel'nyye Ustroystva v Avtomaticheskikh Mnogosvyaznykh Sistemakh (Computer Devices in Automatic Multiply-Connected Systems), Tashkent, "Fan," 1971, 170 pp

3. Several Principles in the Design of Automatic Multiply-Connected Systems

Chapter II. Synthesis of Optimal Systems of Control of Linear Multiply-Connected Units

4. Solution to the Problem of Synthesis of Linear, Optimal, Multiply-Connected Systems in Statistical Dynamics

5. Synchronous-Autonomous Optimal Control System

Chapter III. Nonlinear Automatic Multiply-Connected Systems

6. Nonlinear Automatic Multiply-Connected Systems With Control Models

7. Automatic Multiply-Connected System of Control of the Process of Horizontal Drawing of Tubes

8. Construction of a Control System for an Electric Mode of an Arc Electrofurnace

Chapter IV. Several Structural Designs of Information-Control Systems

9. Reception of Information About a Control Unit in the Form of a Multiperformance Model

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USSR

ZHUK, K. D., and GANIYEV, S. K., Vychislitel'nyye Ustroystva v Avtomaticheskikh Mnogosvyaznykh Sistemakh (Computer Devices in Automatic Multiply-Connected Systems), Tashkent, "Fan," 1971, 170 pp

10. A Multiperformance Model of Production as a Multiply-Connected Information System
11. Problem of Controlling Groups of Interconnected Operations

Bibliography

3/3

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--AUTOMATION OF SCIENTIFIC EXPERIMENT -U-
AUTHOR--ZHUK, K.D. Z
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR, VISNIK, VOL. 34, 1970, P. 34-46
DATE PUBLISHED----MAR70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR., MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--BASIC SCIENCE PLANNING, AUTOMATIC CONTROL SYSTEM, ALGORITHM, MATHEMATIC MODEL, CONTROL SYSTEM DESIGN
CONTROL MARKING--NO RESTRICTIONS
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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116371

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OUTLINE OF POSSIBLE APPROACHES TO THE DEVELOPMENT OF AUTOMATIC CONTROL SYSTEMS FOR SCIENTIFIC EXPERIMENTS. THEORETICAL CONSIDERATIONS ARE GIVEN TO THE DEVELOPMENT OF CONTROL SYSTEM INGREDIENTS SUCH AS CONTROL ALGORITHMS, MATHEMATICAL MODELS AND SYSTEM DESIGNS. THE RESULTS ATTAINED IN THIS FIELD BY CONCERTED EFFORTS OF LARGE TEAMS OF RESEARCHERS FROM VARIOUS BRANCHES OF SCIENCE ARE ASSESSED.

UNCLASSIFIED

USSR

UDC 51

ZHUK, K. D., KORNEYEVA, G. P., TIMCHENKO, A. A.

"Construction of Mathematical Models of Multiconnected Logical-Dynamic Control Systems"

V sb. Sistemotekhnika (Systems Engineering--collection of works), Kiev, 1971, pp 188-207 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V382)

No abstract

1/1

1/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--EFFECT OF NUTRITION CONDITIONS ON BIOCHEMICAL FEATURES AND CULINARY QUALITIES OF POTATO TUBERS -U-

AUTHOR--ZHUK, L.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. BIOKHIM. KUL'T. RAST. 1970, 2(1), 68-72

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE CROP, POTASSIUM COMPOUND, MINERAL FERTILIZER, MANURE, FOOD STORAGE, FOOD TECHNOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605001/E06 STEP NO--UR/0654/70/002/001/0068/0072

CIRC ACCESSION NO--AP0139373

UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--AP0139373

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAVORABLE EFFECTS ON THE TASTE, EASE OF COOKING, AND STORAGE OF COOKED POTATOES WITHOUT DARKENING WERE OBTAINED BY FERTILIZING WITH K SUB2 SO SUB4, INSTEAD OF KCL, AND N-K-P EQUALS 1:1:2 PLUS MANURE OR PEAT. THE DETERIORATION IN TASTE PARALLELED A HIGH CONTENT OF SUGAR AND FREE AMINO ACIDS IN THE TUBER AND IS MOSTLY AN EFFECT OF CL, HIGH N, AND HIGH P DOSES WITH WET PEAT IN FERTILIZERS. THE EASE OF OBTAINING A SOFT, BOILED PRODUCT IS HINDERED BY AN INCREASE OF PECTINS, CA, AND MG; DARKENING IS ENHANCED BY LOW CONTENTS IN K AND CITRIC ACID (NECESSARY TO CHELATING OF FE).
 INST., ZHITOMIR, USSR. FACILITY: AGR.

UNCLASSIFIED

USSR

UDC 616.981.553

AKIMOV, G. A., LOBZIN, V. S., GAREMIN, Ye. M., ZHUK, L. N., and ZUBIK, T. M.,
Chair of Nervous and Infectious Diseases, Military Medical Academy imeni
Kirov, Leningrad

"Data on the Diagnosis and Pathogenesis of Botulism"

Moscow, Zhurnal Nevropatologii i Psikhatrii imeni S. S. Korsakova, Vol 71,
No 7, 1971, pp 1,033-1,038

Abstract: Observation of six patients with botulism showed that gastro-intestinal disorders developed in only three of them; three patients exhibited only disturbances of the nervous system expressed primarily in oculomotor and bulbar disorders. In order to investigate changes in the nervous system during botulism, 24 dogs were given intramuscular injections of botulinus toxin type A in a dose of 2,500 MLD for mice per kg. Various branches of the nervous system of 12 of the dogs were subjected to a pathohistological examination after the dogs were sacrificed on the 3d to 12th day after administration of the toxin. No signs of selective action of the toxin on the central motor structures were detected. There was evidently selective action on peripheral motor neurons. Correlation of clinical and morphological data indicated that the determining factor in the pathogenesis of paralytic syndromes

1/2

USSR

AKIMOV, G. A., et al, Zhurnal Nevropatologii i Psikhatrii imeni S. S. Kor-sakova, Vol 71, No 7, 1971, pp 1,033-1,038

was disturbance of neuromuscular transmission. All branches of the nervous system were involved in the pathological process, but the morphological changes in the nervous system, which were of the type of an acute swelling, were generally reversible. Although slow recovery of the dogs that had not been sacrificed began on the 10th - 12th day after administration of the toxin, muscular weakness persisted for one month. The most active systems with the highest metabolism (the oculomotor apparatus and the bulbar system) were apparently affected first, but they also recovered fastest.

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Pathology

6

USSR

UDC 616.981.553-092.9

MATKOVSKIY, V. S., TSYBULYAK, G. N., ZUBIK, T. M., ZHUK, L. N., AKIMOV, G. A., GAREMIN, Ye. M., GOGLOZHA, R. L., KUSTOV, N. A., PASHKOVSKIY, E. V., and TIMOFEYEV, V. V., Chair of Infectious Diseases, Chair of Military Field Surgery, and Chair of Nervous Diseases, Military Medical Academy imeni S. M. Kirov, Leningrad

"The Pathophysiology of Experimental Botulism"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, 1971, pp 16-19

Abstract: A study was carried out of the disturbance of external respiration, gas content and acid-base state of blood, and of hemodynamic shifts with severe experimental intoxication with botulinus toxin. Fifty dogs were intoxicated with type A botulinus toxin. At the time of administration and at the peak of intoxication, the gas content of arterial and venous blood, hemoglobin, hematocrit, specific weight of blood and plasma, and content of sodium, potassium, lactic and pyruvic acid were determined. External respiration was studied by means of a type T35 spiromstabilograph and circulation by the modified mechanical cardiographic method. Biocurrents of the cerebral cortex were recorded on a four-channel electroencephalograph. At the peak of

1/2

USSR

MATKOVSKIY, V. S., et al, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, 1971, pp 16-19

intoxication, a reduction of per minute respiration with a resulting lowered level of oxyhemoglobin in arterial blood, and respiratory acidosis were noted. EKG data revealed predominantly hypoxic shifts in the myocardium, and the EEG data -- inhibitory processes in the cerebral cortex. Intensified cardiac activity served as a compensatory mechanism for respiratory insufficiency. The secondary shifts in the function of organs and systems in connection with disturbances of a metabolic and functional nature played a vital role in the pathogenesis of botulinus intoxication. Morphological shifts in the CNS were apparently caused largely by disturbances in the microcirculation and were reversible. In treating severe botulinus intoxication, special attention should be paid to timely correction of external respiratory insufficiency, with artificial ventilation of lungs most expedient.

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Corrosion

USSR

UDC 620.197(075.8)

TOMASHOV, N. D., ZHUK, N. P., TITOV, V. A., and VEDENEYEVA, M. A.

"Laboratornyye raboty po korrozii i zashchite metallov" (Laboratory Studies on Corrosion and Protection of Metals), Moscow, Izd-vo "Metallurgiya," 1971, 280 pp

Translation of Annotation: An account is given of 34 laboratory works on the course of corrosion and protection of metals. Each work contains a brief theoretical introduction, a description of equipment and work methods, and a discussion of methods of data processing. The reference data necessary for calculations and a recommended bibliography are presented at the end.

The book is intended for students at schools of higher technical education as a handbook of laboratory studies, and may be used by corrosion laboratory personnel. 72 figures, 50 tables, 10 references.

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TOMASHOV, N. D., et al., "Laboratornyye raboty po korrozii i zashchite metallov" (Laboratory Studies on Corrosion and Protection of Metals), Moscow, Izd-vo "Metallurgiya," 1971, 280 pp

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TOMASHOV, N. D., et al., "Laboratornyye raboty po korrozii i zashchite metallov" (Laboratory Studies on Corrosion and Protection of Metals), Moscow, Izd-vo "Metallurgiya," 1971, 280 pp

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USSR

TOMASHOV, N. D., et al., "Laboratornyye raboty po korrozii i zashchite metallov" (Laboratory Studies on Corrosion and Protection of Metals), Moscow, Izd-vo "Metallurgiya," 1971, 280 pp

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Thermomechanical Treatment

USSR

UDC 539.4.014.2:539.56

BERNSTEYN, M. L., ZHUK, N. P., and PLAVICH, L. A. Moscow

"The Effect of High-Temperature Thermomechanical Treatment on Hydrogen Embrittlement of Steels"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun '71, pp 54-58

Abstract: The tendency of steels D and 36G2S to hydrogen embrittlement after high-temperature thermomechanical treatment (HTMT) and control thermal treatment (by the same method, but without squeezing) was investigated. The HTMT of steels reduces their tendency to hydrogen embrittlement, if compared with the control thermal treatment. The main source of this reduction is the uniform distribution of dislocations in the volume of the metal (lower stress concentration), which, on the one hand, decreases the tendency of the steel to a brittle breakdown and, on the other hand, reduces the hydrogen absorption of steel. The possibility of a braking effect of the growth of martensitic plates, having a high dispersibility, is indicated. The latter factor decreases the distortion of near-boundary volumes which are the main locations of embrittlement. Four figures, one table, two bibliographic references.

1/1

Transformation and Structure

USSR

UDC: 537.29:669.15

VEDENEYEVA, M. A., ZHUK, N. P., KRASIKOV, K. I., and MEGAY, L. L.

"Effect of the Structure of Kh18N10T Steel on Its Anodic Behavior"

Moscow, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70,
pp 128-131

Abstract: This paper deals with the effect of the structure of Kh18N10T steel subjected to electromagnetic (maximum strain rate) and explosive forming on its anodic behavior. Hydrostatic forming (a low-rate strain) was selected for correlation with the high-rate strain types. A metallographic examination of the structure of steel deformed by various methods indicates no size reduction of the grain. There were a great number of twins in the steel following explosive and electromagnetic forming than after hydrostatic forming, which points to the contribution of twinning to the plastic flow of the material under these methods of strain. X-ray diffraction examination has shown that following either electromagnetic or explosive forming, there is a greater widening of interference lines, with an increase in deformation rate, than after hydrostatic forming.

1/2

USSR

VEDENEYEVA, M. A., et al, Fizika i Khimiya Obrabotki Materialov, no 6,
Nov-Dec 70, pp 128-131

The analysis of the anodic polarization curves for Kh18N10T steel indicates that both the type of forming and the rate of deformation have an insignificant effect on the curve shape in both the transition and repassivation regions and have hardly any effect on the total passivity potential; however, they significantly affect the current density with the total passivity region. With an increase in deformation rate, the current density in the total passivity region in the specimens after explosive and hydrostatic forming increases; in specimens with an equal extent of deformation after hydrostatic forming, the current density in the total passivity region is much greater than that in specimens after explosive forming. It is also shown that the capacity of Kh18N10T steel to change to a passive state in H_2SO_4 solutions is independent of the number of defects and the type of their distribution in the structure of the metal but does depend on the amount of the α -phase, which increases the heterogeneity of the structure and impairs the protective properties of the film on steel in the passive state.

2/2

USSR

2
UDC: 620.193.47

MIKHAYLOVA, N. A., ZHUK, N. P., TURKOVSKAYA, A. V., ADLER, Yu. P., and
RATNER, A. I., Moscow Institute of Steels and Alloys

"Corrosion Resistance of Aluminum in the Ternary Mixture: Acetic Acid -
Formic Acid - Water"

Moscow, Zashchita Metalloy, Vol. 6, no. 4, Jul-Aug 70, pp 387-396

Abstract: The high corrosion resistance of aluminum in acetic acid, its low cost and good technological properties were the determining factors in selecting aluminum as the test object. The study involved A97, A6, and A6 aluminum grades, all differing in purity. Use was made of Scheffe's method of mathematical planning involving composition-property diagrams to obtain data for deriving equations of the relationship between the reaction rate of corrosion and the composition of the three-component mixture acetic acid-formic acid-water at temperatures of 22, 50, 70, and 90°C. Lines of equal corrosion rates in concentration triangles of the mixture were constructed for the tested aluminum grades and temperatures. The plotted equal corrosion rate lines in the concentration triangles demonstrate areas of various corrosion resistance and, consequently, areas of potential application of the tested aluminum grades in the ternary mixture.

1/1

USSR

UDC: 539.374

ZHUK, N. P., SHABLIY, O. N., Ternopol'

"Limiting Equilibrium of a Circular Plate Considering Shear Stresses"

Kiev, Prikladnaya Mekhanika, Vol 9, No 6, Jun 73, pp 47-53.

Abstract: The limiting state of a circular plate under the influence of a load distributed evenly over a concentric area is studied on the basis of the hypothesis of S. P. Timoshenko. The linearized creep condition of Mises, altered considering the reduction in shear creep limit, is accepted. Conditions are studied under which shear hinges appear in the plate. It is demonstrated that the plate may lose the shear load-bearing ability, at which point a certain central concentric area drops out of the plate.

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USSR

UDC 620.193.5

BALAKIN, E. I., ZHUK, N. P., MEYERSON, G. A., OFARA, B. K., and PASHKOVA, O. A.,
All Union Scientific Research Institute of Hard Alloys, Moscow Institute of Steel
and Alloys

"The Method of Producing Ni + ThO₂ Composites and Its Hardening Oxide Content
and Their Effect on Heat Resistance"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya,
No 3, 1973, pp 130-133

Abstract: The heat resistance of Ni with 2, 3.5, and 4.5% by vol ThO₂ was
investigated on specimens of dispersion-hardened Ni produced by the method of
joint precipitation of Ni and Th from its salt solutions (1) and by the method
of precipitation of Ni salt on particles of preliminarily prepared ThO₂ sol (2).
Subsequently, the mixes of precipitates were subjected to filtration, drying,
and NiO calcination up to Ni in a hydrogen stream followed by compression of the
powder-like material and burning of the brquettes. The baked billets were hot-
extruded at 1000° in one operation with 94% reduction. The composition Ni+3.5%
by vol ThO₂ produced by method 1 was found to possess a heat resistance 1.1-
2.0 times higher than the same composition produced by method 2. The stability
decrease of ThO₂ in Ni with increasing temperature is demonstrated. Method 2,
1/2

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USSR

BALAKIN, E. I., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 130-133

characterized by a slowly developing process of coagulation, is recommended as the most effective method from the standpoint of heat resistance. Two figures, six bibliographic references.

2/2

ZHUK, N.P.

HEAT RESISTANCE OF PRECIPITATION-HARDENED NICKEL

Article by Ye. I. Balakin, N. P. Zhuk, G. A. Boyarskii, S. K. Goria and O. A. Yashina, Department of Technology, Moscow Institute of Steel and Alloys; Opatovskiy, Izv. Vsesoyuzn. Nauchno-Issled. Inst. Tsvetn. Metallurgiya, Moscow, No. 3, 1971, translated in June 1970, pp. 181-183.

UDC 620.193.5

TABLE 53999
18 APR 1973

(5)

The contradictions found in literature data on the residual strength of precipitation-hardened materials reduce the practical significance of these data and hamper understanding of the oxidation mechanism of these materials. On the basis of the data it is still not possible to reverse the effect of heat resistance change in nickel while hardening it with different oxides. Table 1 gives the materials and their characteristics as investigated in this work.

Table 1. Composition and characteristics of initial materials.

(a)	(b)		(c)	(d)			(e)	(f)	(g)
	Chemical composition, wt. %	Structure		Number of grains, 100 μm ²	Grain size, μm	Grain boundary width, μm			
Ni 100%	0	0	100	100	100	100	0.25	0.25	
Ni 99%	0	0	100	100	100	100	0.25	0.25	
Ni 98%	0	0	100	100	100	100	0.25	0.25	
Ni 97%	0	0	100	100	100	100	0.25	0.25	
Ni 96%	0	0	100	100	100	100	0.25	0.25	
Ni 95%	0	0	100	100	100	100	0.25	0.25	
Ni 94%	0	0	100	100	100	100	0.25	0.25	
Ni 93%	0	0	100	100	100	100	0.25	0.25	
Ni 92%	0	0	100	100	100	100	0.25	0.25	
Ni 91%	0	0	100	100	100	100	0.25	0.25	
Ni 90%	0	0	100	100	100	100	0.25	0.25	
Ni 89%	0	0	100	100	100	100	0.25	0.25	
Ni 88%	0	0	100	100	100	100	0.25	0.25	
Ni 87%	0	0	100	100	100	100	0.25	0.25	
Ni 86%	0	0	100	100	100	100	0.25	0.25	
Ni 85%	0	0	100	100	100	100	0.25	0.25	
Ni 84%	0	0	100	100	100	100	0.25	0.25	
Ni 83%	0	0	100	100	100	100	0.25	0.25	
Ni 82%	0	0	100	100	100	100	0.25	0.25	
Ni 81%	0	0	100	100	100	100	0.25	0.25	
Ni 80%	0	0	100	100	100	100	0.25	0.25	
Ni 79%	0	0	100	100	100	100	0.25	0.25	
Ni 78%	0	0	100	100	100	100	0.25	0.25	
Ni 77%	0	0	100	100	100	100	0.25	0.25	
Ni 76%	0	0	100	100	100	100	0.25	0.25	
Ni 75%	0	0	100	100	100	100	0.25	0.25	
Ni 74%	0	0	100	100	100	100	0.25	0.25	
Ni 73%	0	0	100	100	100	100	0.25	0.25	
Ni 72%	0	0	100	100	100	100	0.25	0.25	
Ni 71%	0	0	100	100	100	100	0.25	0.25	
Ni 70%	0	0	100	100	100	100	0.25	0.25	
Ni 69%	0	0	100	100	100	100	0.25	0.25	
Ni 68%	0	0	100	100	100	100	0.25	0.25	
Ni 67%	0	0	100	100	100	100	0.25	0.25	
Ni 66%	0	0	100	100	100	100	0.25	0.25	
Ni 65%	0	0	100	100	100	100	0.25	0.25	
Ni 64%	0	0	100	100	100	100	0.25	0.25	
Ni 63%	0	0	100	100	100	100	0.25	0.25	
Ni 62%	0	0	100	100	100	100	0.25	0.25	
Ni 61%	0	0	100	100	100	100	0.25	0.25	
Ni 60%	0	0	100	100	100	100	0.25	0.25	
Ni 59%	0	0	100	100	100	100	0.25	0.25	
Ni 58%	0	0	100	100	100	100	0.25	0.25	
Ni 57%	0	0	100	100	100	100	0.25	0.25	
Ni 56%	0	0	100	100	100	100	0.25	0.25	
Ni 55%	0	0	100	100	100	100	0.25	0.25	
Ni 54%	0	0	100	100	100	100	0.25	0.25	
Ni 53%	0	0	100	100	100	100	0.25	0.25	
Ni 52%	0	0	100	100	100	100	0.25	0.25	
Ni 51%	0	0	100	100	100	100	0.25	0.25	
Ni 50%	0	0	100	100	100	100	0.25	0.25	

- Key:
- a--Material;
 - b--Content of hardening oxide, volume %;
 - c--Relative density, ρ ;
 - d--Quantity of particles (X) with size (R);
 - e--Average distance between particle centers, microns;
 - f--Less than;
 - g--Greater than;
 - h--Average particle size, \bar{X} .

USSR

UDC 620.193.41

TORGOVITSKAYA, S. B., and ZHUK, N. P., Zhdanos Metallurgical Institute

"Influence of Arsenic in Steel on its Corrosion Behavior in Hydrochloric Acid"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 170-174

Abstract: The dependence of the mean corrosion rate of steel in 0.2n HCl on the arsenic content in steel has a maximum. Steel with 0.60% As is corroded more slowly with a test duration of over 9 hours than steel without arsenic. In 6n HCl, the mean rate of corrosion of steels is decreased with increasing arsenic content. The As contained in steels is dissolved in the HCl as they are corroded and, depending on the concentration of As and HCl in the solution, either facilitates or hinders the cathode and anode processes of steel corrosion.

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USSR

UDC 620.193.47

MIKHAYLOVA, N. A., ZHUK, N. P., BARTEN'YEVA, I. A., and TURKOVSKAYA, A. V.,
Moscow Institute of Steel and Alloys

"Corrosion Mechanism of Aluminum in Acetic and Formic Acids and Their Mixtures"

Moscow, Zashchita Metallov, Vol 7, No 5, 1971, pp 575-578

Abstract: The corrosion mechanism of aluminum in acetic and formic acids and their mixtures was investigated. Grade A97 aluminum was studied in 43% HCOOH, 50% CH₃COOH and in a ternary mixture: 33% CH₃COOH + 27% HCOOH + 40% H₂O at several temperatures. Electrochemical and corrosion characteristics were examined on aluminum specimens 20 x 20 x 2 mm in size. When the potential of aluminum is shifted from its stationary value toward the positive side, passivation of Al commences quite rapidly, a small passivity region is observed, and, finally, a region of disturbance in the passivated state. Comparison of the flows of aluminum dissolution in the region of potential-independence and for the steady-state potential permits an approximate estimate of the contribution of electrochemical and chemical mechanisms to the total rate of spontaneous corrosion of aluminum. A comparison of the three dissolution situations showed that acetic acid is the mixture component increasing the proportion of metal dissolved by the chemical mechanism. This can be explained in the lower

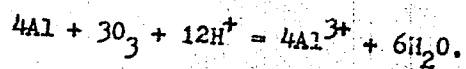
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USSR

MIKHAYLOVA, N. A., et al., Zashchita Metallov, Vol 7, No 5, 1971, pp 575-578

(by one order of magnitude) dissociation constant of acetic acid compared with that of formic acid. When acetic acid is diluted with water, the role of the electrochemical mechanism becomes greater. This can be related to the increased degree of acid dissociation with increased dilution of the acid. The chemical corrosion of aluminum in acetic and formic acids is suggested to be due to the interaction of metal with ambient oxygen and is not accompanied by the evolution of hydrogen:



Accordingly, when the amount of solute oxygen is reduced, the corrosion rate of aluminum decreases and in 50% CH₃COOH saturated with oxygen, air, and nitrogen is 0.300, 0.097, and 0.022 g/m².hour, respectively at 22°.

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USSR

UDC 620. 193.41

TORGOVITSKAYA, S. B., and ZHUK, N. P., Zhdanos Metallurgical Institute

"Influence of Arsenic in Steel on its Corrosion Behavior in Hydrochloric Acid"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 170-174

Abstract: The dependence of the mean corrosion rate of steel in 0.2n HCl on the arsenic content in steel has a maximum. Steel with 0.60% As is corroded more slowly with a test duration of over 9 hours than steel without arsenic. In 6n HCl, the mean rate of corrosion of steels is decreased with increasing arsenic content. The As contained in steels is dissolved in the HCl as they are corroded and, depending on the concentration of As and HCl in the solution, either facilitates or hinders the cathode and anode processes of steel corrosion.

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- 15 -

Entomology

USSR

ZHUK, N. S., NI, A. S., MIROSHNICHENKO, N. I., KIM, V. YU., OVCHINNIKOV, N. A., and YUGAY, YU. M., Kazakh Institute of Epidemiology and Microbiology, Karatal'sk Rayon Sanitary Epidemiological Station, and Taldy-Kurgalsk Oblast' Sanitary Epidemiological Station

"Control of Blood-Sucking Insects in the Paddies of the Karatal'sk Rayon Rice-Growing System"

Alma-Ata, Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71, pp 14-15

Abstract: Favorable conditions for the propagation of mosquitoes exist in the rice paddies of Karatal'sk Rayon. Large amounts of larvae of *Anopheles maculipennis*, *An. hyrcanus*, and *Culex modestus* are present in the paddies. Application of chlorophos in 0.5-0.6% solutions was effective in the control of mosquito larvae. Extermination of the larvae to the extent of 100% was obtained when these solutions were applied in amounts \approx 100 l./ha. The solutions were either sprayed from an aircraft or released into the paddies on the ground level. The first method sometimes resulted in inadequate spraying because of misses due to improper signaling while the second method had the drawback that the solution did not spread in a sufficient concentration to areas distant from the point of release. Organophosphorus compounds can be

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ZHUK, N. S., et al., Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71,
pp 14-15

used on rice crops only before flowering of the plants. Sound agricultural methods including lack of inclines in the system of paddies, dense planting of rice, and drainage of water from the paddies, dense planting of rice, and drainage of water from the paddies also proved effective in the control of mosquitoes.

2/2

- 9 -

1/2 031
UNCLASSIFIED
TITLE--CONTROL OF BLOOD SUCKING DIPTERA (GNATS) IN THE NORTHERN PRIKASPYI
PROCESSING DATE--18SEP70
-U-
AUTHOR--ZHUK, N.S. Z
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 1, PP 62-66
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--INSECTA, ECOLOGY, INSECT CONTROL, DDT INSECTICIDE, CHLOROPHOS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0085 STEP NO--UR/0358/70/039/001/0062/0066
CIRC ACCESSION NO--AP0103765
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103765

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING 1965, 1966 A SYSTEM OF ERADICATION MEASURES WAS DEVELOPED AND TESTED IN THE NORTHERN PRIKASPY ON THE BASIS OF ECOLOGO FAUNISTIC CHARACTERISTICS OF LOCAL POPULATIONS OF BLOOD SUCKING DIPTERA. BREEDING PLACES OF BLOOD SUCKING INSECTS IN THE NORTHERN PRIKASPY MAY BE CONDITIONALLY DIVIDED INTO 5 TYPES: (1) WATER RESERVOIRS OF THE PRIKASPIAN LOWLAND; (2) WATER RESERVOIRS OF FLATWATERSHED TERRITORIES; (3) WATER RESERVOIRS OF RIVER FLOOD LANDS; (4) WATER RESERVOIRS OF IRRIGATED LANDS; (5) ARTIFICIAL WATER RESERVOIRS. THE COMPLEX OF PROTECTIVE ERADICATING MEASURES DIRECTED TOWARDS MAXIMUM REDUCTION OF THE POPULATION DENSITY OF GNATS IN AN IMPORTANT INDUSTRIAL OBJECT CONSISTED OF LARVAE CONTROL AND IMAGO CONTROL MEASURES. DIFFERENT METHODS WERE APPLIED: AVIATION CHEMICAL, AERODISPERSION, DILING, FOAMY GAS, GROUND AND VEGETATION DUSTING. BOTH WELL KNOWN (DUSTS AND EMULSIONS OF DDT, BHC, CHLOROPHOS) AND RELATIVELY NEW INSECTICIDES (BENTOX 10, 10PERCENT GRANULATED DDT, ROGOR, SEVIN) WERE USED FOR DIPTERA CONTROL.

UNCLASSIFIED

Instrumentation and Equipment

USSR

UDC 621.384.8

VASIL'YEV, M. A., ZHUK, O. V., IVASHCHENKO, YU. N., and CHEREPIN, V. T.,
Institute of Metal Physics, Academy of Sciences Ukr SSR

"High-Speed Automatic Switching of Potentiometer Bands"

Kiev, Metallofizika, No 39, 1972, pp 118-122

Abstract: A small-scale electronic device has been developed making it possible to fully automate the switching of bands on self-recording potentiometers according to a previously given program. The use of contact-free elements provides a fast switching rate which is determined by the type of output commutating element. 4 figures, 1 table, 3 bibliographic references.

1/1

1/2 Q25 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--AN EFFECTIVE MIXTURE OF INSECTICIDES ON THE BASIS OF PIRETROIDES
AND DDVF -U-
AUTHOR--(05)-BESSONOVA, I.V., VASHKOV, V.I., VOLKOV, YU.P., ZHUK, YA.B.,
TSETLIN, V.M.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 1, PP 78-80
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECTICIDE, AEROSOL, TOXICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1987/0082

STEP NO--UR/0358/70/039/001/0078/0080

CIRC ACCESSION NO--AP0103762

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103762

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE ACTIVITY OF INSECTICIDE MIXTURES IN AEROSOL FORM AGAINST HOUSE FLIES EVALUATED BY THE COEFFICIENT OF COMBINED TOXICITY DEMONSTRATED MAXIMUM ACTIVITY IN MIXTURES WITH PIRETRINE TO DDVF RATIO OF 7:3 AND PIRETRINES TO DIMETRINE 3:7. A TRIPLE MIXTURE BASED ON DDVF, PIRETRINES AND DIMETRINE TAKEN IN OPTIMAL PROPORTIONS (3:7:16) SHOWED GREATER EFFECTIVENESS THAN DOUBLE MIXTURES, PERMITTING TO REDUCE THE CONCENTRATION OF DDVF 7.77 FOLD, PIRETRINES 5.58 FOLD AND DIMETRINE 27.4 FOLD AS COMPARED WITH THE SAME DRUGS USED SEPARATELY.

UNCLASSIFIED

1/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--SOME PROBLEMS CONCERNED WITH THE PATHOGENESIS OF ACUTE PANCREATITIS

-U-

AUTHOR--(03)-ARUIN, L.I., VAYNSHTEYN, T.YA., ZHUK, YE.A.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 5, PP 42-46

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PANCREATITIS, EDEMA, HEMORRHAGE, TRYPSIN, CLINICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0067

STEP NO--UR/0219/70/069/005/0042/0046

CIRC ACCESSION NO--AP0120767

UNCLASSIFIED