Mechanical and Optical

USSR

UDC 534

BRAGINSKIY, V. M.

"Problem of Autooscillations of a Vibroshock System with Two Degrees of Freedom"

Translation: A study was made of a vibroshock system the housing of which rotating with constant angular velocity is connected to the striker by a twisted tension-compression-torsion spring. A releasing coupling is put on the striker in the form of a stationary limiter which resists the rotation of the striker. Point transformations were used to study the periodic movements of the system under the following assumptions: energy dissipation takes place only on collision; the collision time is appreciably less than the time of movement of the striker between impacts; dry friction exists between the striker and the limiter, and the impact momentum of the dry friction is proportional to the longitudinal impact momentum.
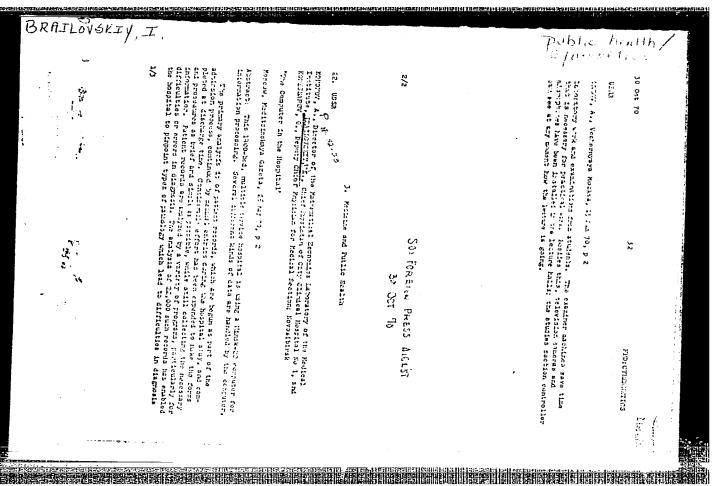
1/1

USSR

UDC 627.81:551.48(47+57)

BRAGTSEV, A. P.

"Water Balance of the Northeastern European USSR (1966)"

Izuch. i ispol'z vodn. resursov SSSR. 1966-1967 -- V sb. (Study and Use of USSR River Resources. 1966-1967 -- Collection or Works), Moscow, Nauka Press, 1970, pp 55-56 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D17)

Translation: This article contains an analysis of the water balance components -- precipitation, runoff and evaporation -- the distribution of these elements with respect to territory and a procedure for calculating them. The water balance is calculated for the natural subzones of the Northeastern European USSR and for the entire region as a whole on the basis of the data obtained. There is 1 table.

1/1

BRAILOVSKIY, I.

Public health/
[illegible]

30 Oct 70   52   PUB:CYBERNETICS

SO: FOREIGN PRESS DIGEST
30 Oct 70

3. Medicine and Public Health

22. USSR

"The Computer in the Hospital"

Moscow, Meditsinskaya Gazeta, [illegible] 70, p 2

KONDROV, A., Director of the [illegible] Economics Laboratory of the Medical
Institute, [illegible], Chief Physician of City Clinical Hospital No 1, and
KOVALEV, G., Deputy Chief Physician for Medical Section, Novosibirsk

Abstract: This 1400-bed, multiple service hospital is using a think-[illegible] computer for
information processing. Several different kinds of data are handled by the computer.
The primary analysis is of patient records, which are begun as part of the
admission process, continued by manual entries during the hospital stay, and com-
pleted at discharge time. Considerable effort has been expended to take the forms
and procedures as brief and simple as possible, while still collecting the necessary
information. Patient records are analyzed by a variety of programs, particularly for
difficulties or errors in diagnosis. The analysis of 21,000 such records has enabled
the hospital to pinpoint types of patients which lead to difficulties in diagnosis

USSR

UDC: 621.315.592

BRAILOVSKIY, Ye. Yu., BRUDNYY, V. N., KRIVOV, M. A., and RED'KO,
V. B.

"Optical Absorption Spectra of n-GaAs Irradiated by Large Integral
Electron Beams"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 2075-
2077

Abstract: A description is given of experiments in which the opti-
cal absorption spectra of n-GaAs in the region of 0.5-1.5 ev, bom-
barded by electrons of energy 1.6-1.8 mev at temperatures of 80-
100° C, were measured. The original specimens were alloyed with
tellurium and had electron concentrations of 1-2·10^{18}/cm^3 at T =
300° K. Transmission spectra were obtained at temperatures of 80
and 300° K, and the absorption spectra were calculated from them
with the reflection coefficient taken at 0.3. As a result of the
irradiation, the electron concentration in the specimens dropped,
and the Fermi level tended toward the middle of the forbidden zone.
Curves are plotted for the specific electron conductivity of the
specimens and for the characteristic absorption spectra of the n-
GaAs irradiated with electrons at a dosage of 3.4·10^{18} electrons
per cm^2.
1/1

USSR

BRAILOVSKIY, YE.YU., KONOZENKO, I.D.

UDC 621.382

"On The Participation Of Doping Impurities In The Formation Of Radiation De-
fects In Gallium Arsenide"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Non-Metallic
Crystals--Collection Of Works), Minsk, "Nauka i tekhn.," 1970, pp 91-96 (from
RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B36)

Translation: The effect is investigated of Co^{60} Gamma irradiation on the
electrical properties of single crystals of n-type GaAs, doped with Te and non-
doped, and single crystals of p-type GaAs doped with Mo, Ni, Co. The rate of
introduction of defects and the energy position of the levels in the forbidden
band are determined and annealing of the defects is conducted. It is shown that
in n-type GaAs the atoms of the doping impurity Te do not participate in the
formation of radiation defects responsible at room temperature for a change of
the concentration of carriers and conversely in p-type GaAs, the kind of doping
impurity has an effect on the type of radiation defects. 5 ill. 1 tab. 6 ref.
Summary.
1/1

USSR

BRAKHIN, V., KARGALOV, B., KUZ'MIN, K.

"Interpreting System for the 'Ural-14' Computer Oriented for the Diur-14-1 Controller"

V sb. Elektronno-vychisl. tekhn. i programmir. (Electronic Computer Technology and Computer Programming--collection of works), vyp. 4, Moscow, "Statistika", 1971, pp 5-18 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1011)

Translation: The paper describes the purpose and structure of the IS DIUR-14-1 interpreting system, requirements for standard programs, and the organization of the standard program board. It is noted that the DIUR-14-1 controller-monitor has a modular structure; the operating order of the modules in the IS DIUR-14-1 interpreting system is indicated, and a list of possible troubles in operation of the interpreting system is given. Authors' abstract.

1/1

USSR

UDC 615.9.092:54-162.2

BRAKHNOVA, I. T., Candidate of Medical Sciences, and BAZHENOVA, L. N.,
Institute of Labor Hygiene and Occupational Diseases and Polytechnical Institute,
Kiev

"Structure of the Crystal Lattice of Simple Substances and Compounds as an
Indicator of Their Toxicity"

Abstract: The structure of the crystal lattice of a substance which is deter-
mined by the nature of its electronic structure is clearly correlated with its
biological activity. High toxicity is associated with a low degree of symmetry
of the crystal lattice. Substances possessing a body-centered cubic lattice
have little pneumoconiotic effect. Substances with a face-centered cubic lat-
tice have a chronic general toxic effect mostly involving the parenchymatous
organs. Substances with a hexagonal close-packing or other less symmetrical
structures (rhombic, rhombohedral, tetragonal) are markedly toxic and can
cause both acute and chronic intoxication. The characteristics of the crystal
lattice of inorganic substances can be used for preliminary evaluation of the
toxicity of new chemical compounds. It is recommended that the provisional
maximum permissible concentration of substances with a body-centered cubic
structure be set at 6 to 10 mg/m^3, those with a face-centered cubic lattice
1/2

USSR

BRAKHNOVA, I. T., and BAZHENOVA, L. N., Gigiyena i Sanitariya, No 10, 1971, pp 95-100

at 3 to 5 mg/m^3, and those with a hexagonal close-packing lattice at 1 to 2 mg/m^3. The maximum permissible concentration of other substances with less symmetrical crystal lattices (rhombic, rhombohedral, tetragonal, monoclinic, etc.) should not exceed 0.5 mg/m^3.

2/2

Acc. Nr.: AP0029512

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 1, pp 42-45

COMPARATIVE ASSESSMENT OF THE EFFECT PRODUCED
ON THE BODY BY SILICIDES OF THE TRANSITION METALS

L. T. Brakhnova, G. V. Samsonov

A high fibrogenic activity and dystrophic changes were detected in the parenchyma tous organs of albino rats under the action of disilicides of titanium, molybdenum and tungsten. Their maximum permissible concentrations are recommended. The toxicity proved to diminish starting from titanium silicide to molybdenum and tungsten silicides; it was inversely related to the increase of static weight of stable electronic d^{6}- and Sp^{3}-configurations formed in the interaction of silicon atoms and transitory metal; and besides it depended on the symmetry of crystallic lattice.

REEL/FRAME

1/3 - 029   UNCLASSIFIED   PROCESSING DATE--09OCT70

TITLE--EMISSIVITY AND REFLECTIVITY OF ICE IN IR SPECTRUM -U-

AUTHOR-(03)-BEZVERKHNIY, SH.A., BRAMSON, M.A., MOISEYEVA, YE.V.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR. FIZIKA ATMOSFERY I OKEANA, VOL VI,
   NO 3, 1970, PP 314-317

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ICE, IR SPECTRUM, EMISSIVITY, LIGHT REFLECTION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/0725   STEP NO--UR/0362/70/006/003/0314/0317

CIRC ACCESSION NO--AP0110434
                          UNCLASSIFIED

CFRC ACCESSION NO--AP0110454
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE IR REGION OF THE SPECTRUM
  ICE IN SMALL THICKNESSES COMPLETELY ABSORBS THE REFRACTED FLUX AND
  THEREORE FOR CASES OF PRACTICAL IMPORTANCE THE EMISSIVITY IS E GAMMA
  EQUALS 1 MINUS P LAMBDA, WHERE THE REFLECTION COEFFICIENT FOR
  UNPOLARIZED RADIATION IS DETERMINED BY THE FRESNEL FORMULA. THE COMPLEX
  NATURE OF THE REFRACTION COEFFICIENT OF ICE RELATIVE TO AIR IN THE IR
  REGION MAKES IT DIFFICULT TO USE THE FRESNEL FORMULA. ACCORDINLY, AN
  ELECTRONIC COMPUTER WAS USED IN TABULATING THE COMPLEX VALUES. THE
  COMPLEX REFRACTICE INDEX IS DETERMINED AS N LAMBDA EQUALS N LAMBDA MINUS
  JX LAMBDA, WHERE X LAMBDA EQUALS ALPHA LAMBDA PRIME LAMBDA-4 PI IS THE
  ABSORPTION INDEX, ALPHA LAMBDA IS THE ABSORPTION COEFFICIENT, N IS THE
  REFRACTIVE INDEX. THE N 2 AND XCHI ALMBDA VALUES ARE ESSENTIALLY
  DEPENDENT ON WAVELENGTH AND THEIR VALUES ARE FOUND EXPERIMETNALLY. THE
  STUDIES OF THE RADIATION OF ICE IN THE IR SPECTRUM REVEAL THAT: 1. THE
  GREATEST CHANGES ARE OBSERVED WITH AN INCREASE IN THE ANGLE OF SIGHT OF
  THE S COMPONENT; THE P COMPONENT INCREASES TO A BREWSTER ANGLE (OMICRON
  RHO APPROXIMATELY EQUAL TO 1), FOLLOWED BY A DROPOFF, BUT SLOWER THAN
  FOR THE UNPOLARIZED FLUX OR THE S COMPONENT. 2. THE UNPOLARIZED
  RADIATION IN THE SIGHTING ANGLES FROM 0 TO 40DEGREES AND THE P COMPONENT
  IN THE RANGE FROM 0 TO 60-70DEGREES ARE EXTREMELY CLOSE TO UNITY. THE
  GREATEST SPATIAL STABILITY IS EXHIBITED BY THE P COMPONENT OF RADIATION
  IN THE RANGE OF CHANGE OF SIGHTING ANGLES PSI PLUS OR MINUS
  10-15DEGREES.   3.

UNCLASSIFIED

CIRC ACCESSION NO--AP0110454   PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--THE SPECTRAL VARIATION OF THE EMMISSIVITY OF ICE IS
CHARACTERIZED BY THE PRESENCE OF EXTERNAL POINTS, FOR THE MOST PART
CORRESPONDING TO THE SIMILAR N LAMBDA AND CHI LAMBDA MAXIMA AND MINIMA.
HOWEVER, THE EXTREMA ARE MANIFESTED CONSIDERABLY MORE WEAKLY,
PARTICULARLY FOR LARGE SIGHTING ANGLES. 4.   THE SHARPEST CHANGES ARE
EXHIBITED BY THE SPECTRAL CHARACTERISTICS OF THE P COMPONENT OF
REFLECTION NEAR BREWSTER ANGLES 50 SMALLER THAN PSI SMALLER THAN
60DEGREES. SINCE THE BREWSTER ANGLE IS ALSO A SELECTIVE CHARACTERISTIC,
THEN P LAMBDA YIELDS 0 FOR DIFFERENT WAVELENGTHS FOR DIFFERENT VALUES OF
THE PSI ANGLE. AS A RESULT, THE SHAPES OF THE SPECTRAL CURVES ARE
IMPAIRED AND ADDITIONAL MAXIMA AND MINIMA APPEAR ON THE CURVES PSI
EQUALS 50 AND 60DEGREES. THERE IS A RELATIVE COINCIDENCE OF THE
SPECTRAL DISTRIBUTION OF EMISSIVITY AND REFLECTIVITY OF ICE AND WATER.
HOWEVER, THE QUANTITATIVE DIFFERENCE ARE CONSIDERABLE, PARTICULARLY IN
THE LONGWAVE PART OF THIS SPECTRAL REGION.

UNCLASSIFIED

AR0044735

(c) BIOLOGICAL ABSTRACTS

BRANCHEVSKIY L. L.

2647. BRANCHEVSKII, L. L. Vllyanie amilnitrita na fenomen
salureza, soprovozhdayushchii ostruyu ishemiyu miokarda i
okklyuziyu karotid. [The effect of amyl nitrite on the phenomenon
of saluresis accompanying acute myocardial ischemia and carotid
occlusion.] TR KUIBYSHEV MED INST 43: 40-46. 1967.
Translated from REF ZH OTD VYP FARMAKOL KHIMIOTER
SREDSTVA TOKSIKOL, 1968, No. 11.54.364.--Acute experimental
ischemia of the myocardium and constriction of both carotid
arteries in dogs for 20 min caused a change in diuresis and an
increase in the excretion of Na and K.   These changes in kidney
function are related to an increase in the peripheral resistance of
the vessels, and with changes in the blood pressure (pressor effect).
In the absence of the pressor effect under experimental conditions,
no intensification of saluresis was noted. Inhalation by the animal
of amyl nitrite (I) for 20 min with occlusion of both carotid
arteries somewhat reduced the usual saluretic and pressor effect.
The inhalation of I with acute ischemia of the myocardium reduced
saluresis and its appearance was delayed.--J. G. S.

19771482

USSR UDC: 51

BRANDMAN, E. I.

"On Some Methods of Solving Problems in Long-Range Intrasectoral Distribution of Capital Expenditures"

Tr. 4-y Zimn. shkoly po mat. programmir. i smezh. voprosam, 1971, vyp. 1 (Works of the Fourth Winter School on Mathematical Programming and Related Problems, 1971, No 1), Moscow, 1971, pp 149-157 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V436)

Translation: A linear model with Boolean variables is written out. Two approaches to solution of the problem are mentioned (ordered sorting and an iterative method).

1/1 - 26 -

USSR

UDC 669.721.41

VYATKIN, I. P., KECHIN, V. A., MUSHKOV, S. V., BRANDMAN, O. I., BONDAREVA, E. P.

"Composition and Structure of Highly Pure Primary Magnesium"

Metalloved. splavov legkikh met -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 185-189 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G220)

Translation: A new procedure has been developed and introduced for purifying Mg by treating the Mg with Ti-containing additives. The dependence of the Mg structure on its composition has been studied in special samples with Ti and Be additives. The Be additive used to decrease the oxidizability of highly pure Mg does not lead to enlargement of the Mg macrograin in the presence of Ti admixture. There are 4 illustrations, 1 table, and a 7-entry bibliography.

1/1

TITLE--ADOPTION OF A FOUNDRY COMPLEX FOR REFINING AND TEEMING MAGNESIUM
-U-
AUTHOR-(05)-VYATKIN, I.P., KANAYEV, I.YE., MUSHKOV, S.V., USHAKOV, V.D.,
   BRANDMAN, O.I.
COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(1) 53-4

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL REFINING, MAGNESIUM, METALLURGIC FURNACE, ELECTROLYTE,
   MAGNESIUM CHLORIDE, POTASSIUM CHLORIDE, SODIUM CHLORIDE, MAGNESIUM
   OXIDE, ECONOMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0748   STEP NO--UR/0136/70/043/001/0053/0054

CIRC ACCESSION NO--AP0107290
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0107290
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TEEMING COMPLEX HAS BEEN ADOPTED
  FOR PRODUCTION OF PIG MG, INCLUDING A CONTINUOUSLY OPERATING FURNACE
  WITH SALT HEATING, ELECTROMAGNETIC CONDUCTION PUMP, AND A TEEMING
  CONVEYER OF DOMESTIC CONSTRUCTION. THESE PARTS ARE DESCRIBED. THE
  CONSTRUCTION OF THE FURNACE PRECLUDES MG FROM BEING IN CONTACT WITH THE
  LINING AND THE ATM., PROVIDES FOR FAST AND UNIFORM HEATING OF MG TO THE
  REQUIRED TEMP., AND MAKES IT POSSIBLE TO MAINTAIN THAT TEMP. WITH A MIN.
  OF ENERGY LOSSES. AS COMPARED TO THE LAB. FURNACE, THE COM. PROTOTYPE
  COULD TAKE 1.5 TIMES AS MUCH MG. THE OPERATING TEMP. OF THE ELECTROLYTE
  AND MG IS 700-10DEGREES; THE CURRENT IS 5 KA, AND THE VOLTAGE IS 30-60
  V; THE CAPACITY FO THE HOPPER IS 6 TONS, AND THE AMT. OF THE ELECTROLYTE
  (MGCL $USB2$ 10, KCL 60-70, NACL 10-15, AND BA CL SUB2 5-10PERCENT) IN THE
  FURNACE IS 13 TONS. THE TEEMING OF THE REFINED MG CAN BE CARRIED OUT
  DURING THE PURING IN OF THE MG RAW MATERIAL. THE ESSENCE OF THE
  REFINING OPERATION CONSISTS IN SETTLING DOWN OF THE FREE, OR COMBINED
  WITH MGO, CHLORIDE PARTICLES. IN THE REFINED MG THERE IS LESS THAN
  0.003PERCENT CL PRIME NEGATIVE. DURING THE SETTLING DOWN, THE EXCESS
  MAT. OF FE, RELATIVE TO THE EQUIL. AMT., ALSO SETTLES DOWN. THE
  ADOPTION OF THE TEEMING COMPLEX MADE IT POSSIBLE TO REDUCE THE SP.
  CONSUMPTION OF ELEC. ENERGY BY 2.5 TIMES; IT ALSO MADE IT POSSIBLE TO
  REDUCE THE WASTE OF THE METAL AS WELL AS OF LABOR.

                              UNCLASSIFIED

USSR

UDC 669.721

VYATKIN, I. P., KECHIN, V. A., MUSHKOV, S. V., BRANDMAN, O. I., and BONDAREVA, E. P.

"Composition and Structure of High-Purity Initial Magnesium"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 185-189, resume

Translation: A new method of refining magnesium by processing magnesium with titanium-containing additives has been developed and introduced. The composition dependence of the magnesium structure was investigated on special specimens with titanium and beryllium additions. It is shown that the addition of beryllium with a view to decreasing the oxidizability of high-purity magnesium does not affect an enlarging of the macrograin in presence of a titanium admixture. Four figures, one table, seven bibliographic references.

1/1

Magnesium

USSR

UDC 669.715

VYATKIN, I. P., KECHIN, V. A., BRANDMAN, O. I., and MUSHKOV, S. V.

"Variation of Iron Content in Refining and Holding Magnesium Melts in Industrial Furnaces"

Moscow, Tsvetnyye Metally, No 5, May 70, pp 47-48

Abstract: A study was made of the variation of iron content in magnesium melts. It is noted that the variation of iron content probably depends not only on the magnesium cooling rate, but also on its state and on the nature of impurities. The dispersion of iron content in magnesium in SMT-1 furnaces is explained by the wide range of magnesium temperature variation and the related iron solubility in magnesium. The magnesium temperature stabilization in continuous refining furnaces with capacities of 6 to 15 tons of Mg made it possible to obtain a constant iron content in magnesium.

1/1

1/2   027   UNCLASSIFIED   PROCESSING DATE--11DEC70
TITLE--ULTRA HIGH FREQUENCY PLASMA MULTIPLIER WITH EXTERNAL IGNITION -U-

AUTHOR-(04)-BRANDT, A.A., REZNIKOV, I.I., BOVIN, S.V., TIKHOMIROV, YU.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK MOSKOVSKOGO UNIV. FIZ. ASTRON. (USSR), NO. 2, P. 235-6
    (1970)
DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ULTRAHIGH FREQUENCY, PLASMA BEAM, FREQUENCY MULTIPLICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/002 STEP NO--UR/0188/70/000/002/0235/0236

CIRC ACCESSION NO--AP0141716
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0141716
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF MEASUREMENTS OF
  PARAMETERS OF A PLASMA FREQUENCY MULTIPLIER WITH AN ESTERNAL DIRECT
  CURRENT IGNITION. THE OUTPUT POWER AND HARMONIC CONTENT ARE
  INVESTIGATED.

1/2   019   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--EFFECT OF SURFACE ACTIVE AGENTS ON THE HYDROGEN ION DISCHARGE
   REACTION ON ZINC, COPPER, AND ANTIMONY ELECTRODES IN SULFURIC ACID
AUTHOR-(02)-KIRYAKOV, G.Z., BRANDT, A.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 70-2

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN ION, SURFACE ACTIVE AGENT, ELECTRODE POTENTIAL,
   SULFURIC ACID, COPPER, ANTIMONY, ZINC, ELECTRODE DESIGN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1264   STEP NO--UR/0360/70/020/002/0070/0072

CIRC ACCESSION NO--AP0136670
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0136670
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF SOME SURFACE ACTIVE
 ACETYLENE DERIVS. (ESP. THOSE WITH UNSYM. STRUCTURE) TO 2N H SUB2 SO
 SUB4 SOLNS. IS FOLLOWED BY AN INCREASE OF H OVERVOLTAGE ON CU AND SB
 CATHODES AT 25DEGREES. THE H OVERVOLTAGE ON ZN REMAINS PRACTICALLY
 UNCHANGED.   FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

1/2   008   UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--CALCULATION OF NONISOTHERMAL DESORPTION WITH A HEAT SUPPLY -U-

AUTHOR-(03)-BRANDT, B.B., VERANYAN, R.S., LEBEDEV, O.L.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(2) 196-203

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCULATION, DESORPTION, POTASSIUM CARBONATE,
  MONOETHANOLAMINE, SOLVENT, VAPOR PRESSURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1584   STEP NO--UR/0455/70/004/002/0196/0203

CIRC ACCESSION NO--AP0112578
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0112578
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GENERAL METHOD IS GIVEN FOR THE
CALCN. OF COUNTER CURRENT NONISOTHERMAL DESORPTION OF GAS FROM SOLNS.
CONTG. A NONVOLATILE ABSORBING AGENT (E.G. K SUB2 CO SUB3,
MONOETHANOLAMINE). THE EFFECTIVE TEMP. IN DIFFERENT CROSS SECTIONS OF
THE APP. AND THE MEAN DEVIATION OF THE SOLVENT VAPORS PARTIAL PRESSURE
FROM THE EQUIL. PRESSURE WERE CONSIDERED. FORMULAS AND DIAGRAMS ARE
GIVEN FOR THE OPTIMALIZATION OF THE PROCESS CONDITIONS WITH RESPECT TO
MIN. HEAT CONSUMPTION. THE ANAL. OF THE RECOVERY OF AQ. SOLN. OF
NOMOETHANOLAMINE SATD. WITH CO SUB2 IS PRESENTED AS AN EXAMPLE.

UNCLASSIFIED

USSR

BRANDT, I. S. (Moscow)

"Some Properties of Surfaces With Slowly Varying Negative External
Curvature in a Riemannian Space"

Abstract: The article considers surfaces of negative external curva-
ture in a Riemannian space with nonpositive curvature. It is proved
that on a surface which is complete in the sense of the intrinsic
metric the following inequality takes place:

$$\sup_{\Sigma}\left\{\left|\operatorname{grad}\frac{1}{k}\right|+\frac{\Lambda-\lambda}{2k^{2}}\right\}=q>\frac{1}{\sqrt{3}},$$

1/2

USSR

where Σ is the complete surface of negative external curvature $K_e (K_e < 0)$ lying in the space R of nonpositive Riemannian curvature, $k = \sqrt{-K_e}$, Λ and λ are the maximum and minimum of the Riemannian curvature of the space R at the point of the surface Σ where the quantity k is calculated. This theorem is a generalization of N. V. YEFIMOV's theorem on q-metrics. It is shown that further significant generalization of this theorem, similar to what occurred in the Euclidean case, is impossible in a Riemannian space. An example is given of a complete surface of negative external curvature and the enveloping space of nonpositive curvature, for which q = 4.5.

2/2

1/2   006   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--DATA ON ANALYSES OF STANDARD GEOCHRONOLOGICAL SAMPLES -U-

AUTHOR-(05)-AFANASYEV, G.D., BRANDT, S.B., BAGDASARYAN, G.P., GOROKHOV,
  I.M., GUKASYAN, R.KH.
CCUNTRY OF INFO--USSR   B

SOURCE--IZV. AKAD. NAUK SSSR, SER. GEOL. 1970, (4), 104-11

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOCHRONOLOGY, POTASSIUM ARGON DATING, LEAD ISOTOPE, ABSOLUTE
  AGE, EARTH CRUST AGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0411   STEP NO--UR/0011/70/000/004/0104/0111

CIRC ACCESSION NO--AP0137502
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0137502   UNCLASSIFIED   PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ARE GIVEN ON ANAL. OF GEOCHRONOL. STDS. OF THE SOVIET UNION FOR K-AR AND RB-SR METHODS AND SEVERAL MINERALS OF PRECAMBRIAN PEGMATITE USES AS STD. FOR THE PB ISOTOPIC METHOD OF ABS. AGE DETN. THEY SHOWED A GOOD AGREEMENT WITH CONTROL ANAL. MADE IN VARIOUS LABS. OF THE U.S.S.R. AND BY THE LAB. AT BERN, SWITZERLAND. THE RESULTS OF STUDY OF GEOCHRONOL. STD. BY VARIOUS METHODS INDICATE THAT THE VALUES OF CONSTS. OF PRIME40 K AND PRIME87 RB DECAY APPROVED BY 13 SESSIONS OF THE COMMISSION ON ABS. AGE DETN. (FOR K: LAMBDAK EQUALS 0.0557 TIMES 10 PRIME NEGATIVE9 PER YR AND LAMBDABETA EQUALS 0.472 TIMES 10 PRIME NEGATIVE9 PER YR; FOR RB LAMEDABETA EQUALS 1.39 TIMES 10 PRIME NEGATIVE11 PER YR), SHOULD BE USED IN PRACTICAL WORK UNTIL MORE CERTAIN VALUES FOR THESE CONSTS. ARE DETD. EVERY WORK ON THE ABS. AGE DETN. SHOULD BE ACCOMPANIED BY PRIMARY ANAL. DATA ON THE CONTENT OF PARENTAL AND DERIVATED DECOMPN. PRODUCTS AND BY THE VALUES OF CONSTS. USED DURING AGE CALCN.   FACILITY: INST. GEOL. RUD. MESTOROZHD., PETROGR., MINER. GEOKHIM., MOSCOW, USSR.

UNCLASSIFIED

TITLE--STATE AND PERSPECTIVES OF RADIOLOGIC STUDIES -U-

AUTHOR-(03)-AFANASYEV, G.D., BRANDT, S.B., GARRIS, M.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR. SER. GEOL. 1970, (4), 69-84

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, NUCLEAR SCIENCE AND
   TECHNOLOGY
TOPIC TAGS--NUCLEAR GEOPHYSICS, RADIOACTIVE DECAY, GEOLOGY, POTASSIUM
   ARGON DATING, RADIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0568   STEP NO--UR/0011/70/000/004/0069/0084

CIRC ACCESSION NO--AP0137653
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0137653
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS PRESENTED WITH 35
REFS. IT INCLUDES THE DATA ON CONSTS. OF RADIOACTIVE DECAY, CHARACTER
OF GEOL. INFORMATION OBTAINED BY K-AR DATING AS DEPENDENT ON
GEOSTRUCTURAL ENVIRONMENT, AND PLOTTING OF ISOCHRON FOR RB-SR METHOD AND
CONCORDANCE CURVE FOR U-PB METHOD.   FACILITY: INST. GEOL. RUD.
MESTOROZHD., PETOGR., MINER. GEOKHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2   009
TITLE--TANNING OF LEATHER -U- UNCLASSIFIED   PROCESSING DATE--30OCT70

AUTHOR-(03)-YAREMCHUK, N.A., LEVITAS, I.E., BRANDYBURA, I.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,601
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TANNING MATERIAL, LEATHER, PATENT, FORMALDEHYDE, UREA,
   CHROMIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1087   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116553
                     UNCLASSIFIED

CIRC ACCESSION NO--AA0116553   UNCLASSIFIED   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO EXCLUDE THE SOFTENING PROCESS
  AND IMPROVE LEATHER QUALITY, IT IS TANNED BY DECALCIFYING AND WASHING;
  THEN THE CLEAN RAW HIDES ARE TANNED WITH CR SALTS IN THE PRESENCE OF
  HCHO CONDENSATION PRODUCTS OF THE HYDROLYZATE OF COLLAGEN, UREA, AND NH
  SUB4 SALTS.   FACILITY: LVOV POLYTECHNIC INSTITUTE.

UNCLASSIFIED

USSR

BRANETS, V. N. and SHMYGLEVSKIY, I. P.

"A Kinematic Problem of Orientation Within a Rotating System of Coordinates"

Abstract: The conditions of stability of the process of orientation in a rotating system of coordinates are investigated. A study is made of the kinematic problem of orientation, it being assumed that control is obtained due to a change of the angular-velocity components of the oriented system of coordinates. An investigation is made of the processes of transformation when the operation is conducted on the basis of two control signals. 3 references.

1/1

USSR

BRANETS, V. N. and SHMYGLEVSKIY, I. P., Moscow

"Application of Quaternions to Solid Body Position Control Problems"

Abstract: The kinematic problem of bringing a certain system of coordinates
to the reference system of coordinates by imparting a certain correction
angular velocity to the former is considered. The object of the article is to
establish the control methods to achieve the correction process and also to
establish the control stability. The Rodrig-Hamilton parameters are used as
the quarternion components. It is shown that the quarternion components can
be used directly as control signals. Also it is convenient to use the quarternions
as criterions of correction process stability.

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USSR

BEZHKO, A. P., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela,
No 1, January-February 1971, pp 123-134

this case, and for this reason the Rodrig-Hamilton parameters are advantageous.
These parameters do not degenerate for any position of the solid state and
they are convenient for use in a control system; there is only one coupling
equation when these parameters are used, which simplifies the numerical solu-
tion of the kinematic equations. Use of the quaternions follows from use of
the Rodrig-Hamilton parameters.

USSR

BEZHKO, A. P., BRANETS, ..., ..., ..., I. P., MOSCOW

"Application of Quaternions in the Theory of Finite Rotation of a Solid State"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 1, January-
February 1971, pp 123-134

Abstract: In this article the basic results of the theory of finite rotation
of a solid state obtained in the form of formal operations on hypercomplex
numbers (quaternions) are presented. New results are obtained for the addition
formulas of finite rotations defined by the Rodrig-Hamilton parameters. A
generalization of the known theorems of finite rotation theory is presented,
and the correctness of the form of addition of rotations when summing relative
motions is demonstrated. The application of quaternions makes it possible
easily to obtain all the basic results of the theory of finite rotations and,
in addition, to describe the position of the solid state in terms of nonde-
generate kinematic parameters.

       In a number of problems the angular position of the solid state is
defined by solving the kinematic equations on a digital computer. The selec-
tion of the kinematic parameters affects the calculations significantly in

USSR

BRANOVER, G. G. and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred, Moscow, 1970

USSR

BRANOVER, G. G., and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred, Moscow, 1970

3/8

USSR

BRANOVER, G. G., and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred, Moscow, 1970

Chapter VI. Magneto-Hydrodynamic Stokes and Oseen Flows.

5/8

USSR

BRANOVER, G. G. and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred, Moscow, 1970

6/8

USSR

BRANOVER, G. G., and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred. Moscow, 1970

USSR

BRANOVER, G. G. and TSINOBER, A. B., Magnitnaya Gidrodinamika Neszhimayemykh Sred. Moscow, 1970

1/2   058   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--SOME COMMON PROPERTIES OF MAGNETOHYDRODYNAMIC TURBULENCE IN TUBES
  AND THEIR INVESTIGATION WITH THE AID OF CONDUCTION ANEMOMETERS -U-
AUTHOR-(04)-BRANOVER, G.G., GELFGAT, YU.M., KIT, L.G., TSINOBER, A.B.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA,
  MAR.-APR. 1970, P. 35-44
DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETOHYDRODYNAMIC FLOW, TURBULENT FLOW, ANEMOMETER, MAGNETIC
  FIELD EFFECT, REYNOLDS NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1188   STEP NO--UR/0421/70/000/000/0035/0040

CIRC ACCESSION NO--AP0124842
                    UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124842

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL CONSIDERATIONS CONCERNING THE MECHANISM RESPONSIBLE FOR THE SUPPRESION MHD TURBULENCE BY A MAGNETIC FIELD. THE PRINCIPAL TENDENCIES CHARACTERISTIC OF THE REARRANGEMENT OF PERTURBED MOTION UNDER THE INFLUENCE OF A MAGNETIC FIELD ARE STUDIED ON THE BASIS OF RESULTS OF INVESTIGATIONS OF MHD TURBULENCE BY METHODS IN SPECTRAL THEORY. IT IS ASSUMED THAT TURBULENCE IS UNIFORM AND THAT THE MAGNETIC REYNOLDS NUMBER IS MUCH SMALLER THAN UNITY. THE THEORETICAL RESULTS OBTAINED ARE VERIFIED BY EXPERIMENTS PERFORMED BY MEANS OF A CONDUCTION ANEMOMETER. THE THEORY OF THIS DEVICE IS REVIEWED.

UNCLASSIFIED

USSR

BRANOVITSKAYA, S. V., GORACHEV, V. A., LOPATIN, A. P., POLOV-
NIKOV, V. S.

"Analysis of Technological Algorithms"

[No abstract]

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USSR   UDC512.25/.26+519.3:330.115

BRANOVITSKAYA, S. V.

"Algorithm for Determination of Promising Schedules for City Passenger Transport"

Mat. Metody Issled. I Optimiz. Sistem. Vyp. 3, [Mathematical Methods of Studying and Optimizing Systems, No 3--Collection of Works], Kiev, 1970, pp59-63, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V522 by I. Romanovskiy).

Translation: A method is described similar to the method of G. V. Sheleykhovskiy (RZHMat., 1967, 6V286).

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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

processing information (including programming information) provided in the algorithm for solution of a problem; this processing takes place after input of the initial data and the program for solution of the problem. An auxiliary processor is understood to mean a device designed for some kind of auxiliary data processing: editing input and output data, solving central control problems, etc. Computer systems are subdivided into: 1) indivisible computer facilities, and 2) systems of computers. Indivisible computer facilities are systems constructed on the basis of several processors (including auxiliary processors), none of which is capable of independent operation separate from the system. Systems of computers are computer facilities constructed on the basis of separate computers in which each of the machines making up the system is capable of autonomous operation. Each of these groups, in turn, is divided into: homogeneous systems and heterogeneous systems. A homogeneous system is defined as a computer facility made up of several identical processors (or computers), not counting auxiliary machines. A heterogeneous system is understood to mean a computer facility comprised of several processors (or computers) of different types, not counting auxiliary machines. Systems of homogeneous computers are divided into: a) systems of

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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

computers with uniform software; b) systems of computers with differing software. Complexes are divided into two subclasses: a) complexes with computers oriented toward solution of problems of definite classes; b) complexes with computers oriented for different operating modes. All systems of computers are divided into two classes: multiprocessor (multicomputer) systems and single-processor systems. Single-processor systems are computer facilities with a single central processor or computer and one or more auxiliary processors (or computers which handle auxiliary data processing). On the next stage of classification, all systems are divided into two groups: with centralized access to the system by means of collectivized I/O devices; and with access to the system only through the external devices of the computers which comprise the system. The following groups of computer systems are differentiated with respect to the kinds of connections between computers (processors): 1) computer facilities with data-coupled computers (processors) in which the computers (processors) of the system can exchange only functional information; 2) computer facilities with computers (processors) connected only with respect to control. The first group is subdivided

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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. sistemy, vyp. 48, 1971, pp 3-15

into: oriented computer facilities if transmission of information is possible only on one side -- from one computer (processor) to another; centralized computer facilities if transmission of functional information is possible both ways; partially oriented computer facilities if the system includes both oriented and unoriented subsystems. The second group is subdivided into: directional computer facilities if control coupling is always oriented; nondirectional computer facilities if control connections are unoriented. Depending on the constancy of their make-up as well as functional and controlling connections, computer facilities are divided into: 1) computer facilities with a fixed structure (if the make-up, all connections, and their orientation remain unchanged during operation of the system); 2) computer facilities with variable structure (if the make-up of the system, the functional and controlling connections, and their orientation may vary during operation of the system). Bibliography of ten titles.

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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L.

"Problems of Classification of Computer Systems"

Vychisl. Sistemy [Computer System -- Collection of Works], No 48, Novo-
sibirsk, 1971, pp 5-15 (Translated from Referativnyy Zhurnal, Kibernetika,
No 1, 1973, Abstract No 1 V780 by V. Mikheyev).

Translation: A classification of computer systems (CS) is studied, in
which three "levels," are distinguished, divided, in turn, into stages.
At the first level, all CS are classified according to their interdepen-
dence, as well as their structural (and program) homogeneity. At the
middle level, stages of community of various computer devices included
in the system are separated. At the lower level, all computer systems
are divided as a function of the connections between the devices included
in their composition. A computer system refers to any set of computer
devices with more than one processor (including supplementary processors),
connected by information transmission lines and controlled in a centralized
manner. The processor means a set of computer equipment (in the simplest
case, a portion of a digital computer) designed for processing of informa-
tion (including program information) as called for by problem solving al-
gorithms; this processing occurs after the initial data and problem solv-
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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosibirsk, 1971, pp 3-15.

ing algorithm are input. A supplementary processor means a device designed for supplementary processing of information, such as: editing of input and output information, solution of dispatchers problems, etc. Computer systems are divided into: 1) indivisible CS; 2) systems of computers. Indivisible CS refer to systems based on several processors (including supplementary processors), when it is impossible for any of the processors to operate separately from the rest of the system. Systems of computers refer to CS based on individual computers, when independent operation of each machine included in the composition of the system is possible. Each of these groups in turn is divided into: homogeneous systems and heterogeneous systems. A homogeneous system refers to a CS, the composition of which includes several identical processors (or computers), not including supplementary processors. A heterogeneous system refers to a CS, including several processors (or computers) of different types, not counting supplementary processors. In systems of homogeneous computers, we distinguish: a) systems of computers with homogeneous software; b) systems of computers with heterogeneous software. Complexes include two subclasses: a) complexes with computers oriented toward the performance of tasks of definite types; b) complexes with computers oriented toward

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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosi-
birsk, 1971, pp 3-15.

various operating modes. All computer systems are divided into two classes:
multiprocessor (multi-machine) and single-processor systems. Single-pro-
cessor systems consist of CS with central processor (or computer) and one
or more supplementary processors (or machines performing supplementary
information processing). In the next stage of classification, all systems
are divided into two groups: with centralized access to the system through
general input-output devices; with access to the system only through the
computers included in the system. Systems can be divided into the follow-
ing groups of computer systems according to types of connections between
computers (processors): 1) CS with information connections between machines
(processors), when the machines (processors) of the system can exchange
only functional information; 2) CS with machines (processors) coupled only
by control. The first group, in turn, is subdivided into: oriented CS,
if transmission of functional information is possible only in one direction
-- from one machine (processor) to another; nonoriented CS, if transmission
of functional information is possible in both directions; partially oriented
CS, if the system has both oriented and unoriented subsystems. The second
group is divided into: directed CS, if the control couplings are always
oriented; undirected CS, if the control couplings are oriented. Depending
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USSR

BRANOVITSKIY, V. I., RABINOVICH, E. L., Vychisl. Sistemy, No 48, Novosi-
birsk, 1971, pp 3-15.

on the constancy of the composition, as well as the functional and control
connections, CS are divided into: 1) CS with constant structure (if in
the process of functioning of the system, its compositions, all couplings
and their orientation remain unchanged); 2) CS with variable structure
(if the composition in the system and the functional and control couplings,
as well as their orientations, can change during the functioning of the
system). 10 Biblio. Refs.

4/4

USSR

UDC 8.74

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

"Some Forms of the Man-Computer Dialog"

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

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

1/1

USSR

UDC 615.747/.779

MOLOZHANOVA, YE. G., REMIZOVA, L. B., and BRANTSEVICH, L. G., All Union
Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers,
and Plastic Masses, and Kiev State University

"Detoxification of Chlorophos by Soil Microorganisms"

Abstract: It has been established that chlorophos may be decomposed in soil by
exoenzymes of soil microorganisms. The negligible amount of the agent that
remains in the soil up to two weeks may be explained by microbiological detoxi-
fication.

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1/2   039   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--EFFECT OF PLASTIC DEFORMATION AND RECOVERY ON THE MAGNETIC
  PREPERTIES OF TRANSFORMER STEEL CRYSTALS -U-
AUTHOR-(05)-BRASHEVAN, G.A., VEKSLER, A.Z., DRUZHININ, V.V., MOLOTILOV,
  B.V., NOVIKOV, V.F.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34 (2), 322-8

DATE PUBLISHED-------70

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

TOPIC TAGS--PLASTIC DEFORMATION, TRANSFORMER STEEL, METAL CRYSTAL, SHEET
  METAL, MAGNETIC PROPERTY, MAGNETOSTRICTION, CRYSTAL DISLOCATION, ALLOY
  COMPOSITION, METAL ROLLING, SILICON STEEL, HYDROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1529   STEP NO--UR/0048/70/034/002/0322/0328

CIRC ACCESSION NO--AP0120310
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0120310
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LARGE CRYSTALS CUT OUT FROM
   TRANSFORMER METAL SHEET, 0.35 MM THICK, REFINED IN H (850DEGREES, 4 HR)
   AND UNDER VACUUM (1100DEGREES, 4 HR) WERE STUDIED. AFTER REFINING, THE
   STEEL CONTAINED SI 2.9, C 0.004, N 0.005, AND S 0.003PERCENT. STUDIES
   OF THEIR MAGNETIC STRUCTURE (BY THE POWDER METHOD), AS WELL AS OF
   DISLOCATION DS. WERE MADE AT THE SAME SPOT OF THE SAMPLE. SP. CORE
   LOSSES, COERCIVE FORCE, H SUBC, AND MAGNETOSTRICTION WERE MEASURE.
   ROLLING IN THE (001) DIRECTION PRODUCED A STRUCTURE WITH A MUCH LOWER
   DISLOCATION D. THAN ROLLING IN THE (110) DIRECTION. HOWEVER, WITH
   SMALL DEFORMATIONS H SUBC (001) LARGER THAN H SUBC (110). THE
   SIMULTANEOUS ACTION OF STRESSES AND DISLOCATION DS. LED TO A CHANGE IN
   DELTA H SUBC. A LINEAR CORRELATION WAS NOTED BETWEEN H SUBC AND SP.
   CORE LOSSES.   FACILITY: TSNIICHM IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

3

USSR

UDC 66.085.3/.5:678.742.2

P'YANKOV, G. N., KABAKCHI, A. M., GOLODNYY, YU. F., BRASHKIN, M. A., LOPATIN, I. P., YARMILKO, YE. G., and BORODIKOVA, A. N., Institute of Physical Chemistry, Acad. Sc. UkrSSR

"Experimental Line for the Production of Radiation Modified Polyethyelene Tubes UR-0.4T"

Abstract: An experimental line has been constructed for the production of radiation modified polyethylene tubes. The novelty of this process is in the irradiation method. The tubes pass repeatedly through the irradiation zone in a spiral pattern, with alternating directions of the rotation, so that exposure is uniform to the radioactive source, and damage due to the radiation heat is minimal. As an example, a tube 6 mm in diameter, wall thickness up to 0.5 mm, moving at a velocity of 2m/min, after 6 passages through the chamber picks up a dose of 45 Mrads.

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USSR

UDC 51

BRASLAVETS, M. YE., KRAVCHENKO, R. G.

"Mathematical Simulation of Economic Processes in Agriculture. Textbook for the Departments of Economic Cybernetics of the Agricultural Institutions of Higher Learning"

Matematicheskoye modelirovaniye ekonomicheskikh protsessov v sel'skom khozyaystve. Uchebnik dlya fak. i otd. ekon. kibernet. s.-kh. vuzov. (cf. English above), Moscow, Kolos, 1972, 589 pp, ill., 1 r. 56 k. (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V404K)

No abstract

1/1

USSR

UDC: 624.131.43+539.21.084-492.3

VUL'F, A. R., BRATASHCHUK, A. I., GORBANOV, A. S., VOLYNSKIY, V. V.

"Experimental Studies of the Interaction between Piles and Horizontally Moving Ground"

Sb. Nauchn. tr. Gos. proyektn. i n.-i. in-t Donetskiy PromstroyNIIproyekt (Collection of Scientific Works of the Donetsk PromstroyNIIproyekt State Scientific Research and Planning Institute), 1970, No 9, pp 170-174 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9V570)

Translation: This paper gives the results of experimental studies of the interaction between a piling and the soil into which it is driven, where the soil moves horizontally. A description is given of the construction of a stand which simulates the conditions of lateral pressure of the soil on a piling when the head is securely fastened in a grillage foundation. Expressions are derived for the contact stresses on the lateral surface of the piling at various depths, and deflections of the piling as functions of the soil pressure and the magnitude of its compression with respect to the length of the piling. A basis is given for application of the Winkler model to calculation

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USSR

VUL'F, A. R., et al., Sb. Nauchn. tr. Gos. proyektn. i n.-i. in-t Donetskiy PromstroyNIIproyekt, 1970, No 9, pp 170-174

of a piling in the case of lateral pressure, and studies are carried out in this connection on the change in the bed factor with depth where there is lateral pressure, using a special installation, and the corresponding relationship is found. Authors' abstract.

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USSR

UDC: 539.166.074

BRATANOVSKIY, V. V., GENERALOVA, V. V., GURSKIY, M. N., and TYLTAYEV, A. V.

"Metrologic Verification of the State of Measuring Gamma-Radiation Doses in the $1 \cdot 10^3 - 10 \cdot 10^8$ Rad Interval With Liquid Chemical Detectors"

V sb. Dozimetriya i radiats. protsessy v dozimetr. sistemakh (Dosimetry and Radiation Processes in Dosimetric Systems -- collection of works), Tashkent, "Fan", 1972, pp 100-103 (from RZh-32.Metrologiya i Izmeritel'naya Tekhnika, No 5, 1973, Abstract No 5.32.1321)

Translation: The metrologic verification of the state of measuring gamma-radiation doses in the $1 \cdot 10^3 - 10 \cdot 10^8$ rad interval with liquid chemical detectors showed that nearly one fourth of the digital values of an exposure dose diverge with the assigned value to magnitudes which exceed the measurement error. The number of overestimated results is nearly twice that of the underestimated. This attests to the presence of systematic error. Ways of improving the state of measuring gamma-radiation doses are indicated. Original article: one illustration and one table.

1/1

USSR

BATASHLVSKII, __ ... __ __ ___ ___, and _____
Technical Institute of the _____ of Sciences USSR

"EPR on Cylidrir_____ Crystals of Zinc in ____ and ____ _____

Moscow, Izvestiya _____ Nauk SSSR, _eorganicheskiye _____, __ __ ___
Jun 70, p ____

Abstract: ___ EPR spectrum _____ on irradiated _____ __ __ ___ _____ __
cubic ZnS with Zn vacancies is analyzed. The sample was _____ ___ _____
(a) and in Zn vapor (b). ___ intensity of the EPR spectrum of ____ __ _____
ably lower than that of (a). This indicates an existing _____ ___ ___
character of the spectrum and the presence of a Zn vacancy. The _____
data seem to indicate that the Zn vacancy in the ZnS _____ __ ____ __ __
photoionized center at the expense of electrons pertaining to their atoms of
sulfur.
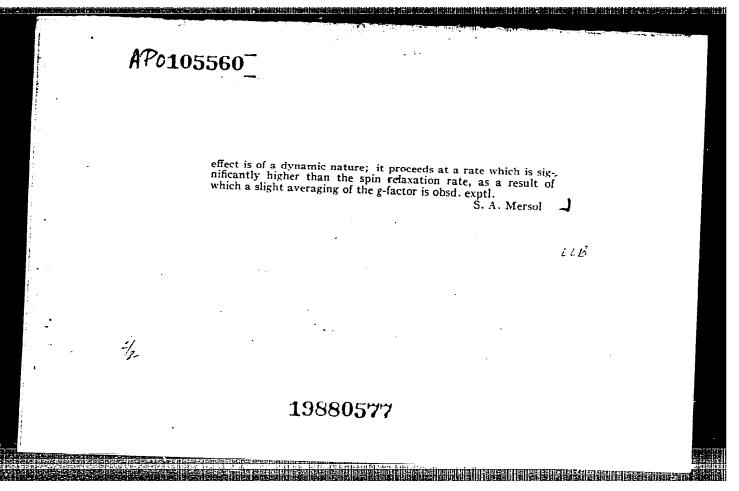
1/1

127137s Electron paramagnetic resonance in lattice defects in synthetic diamonds. Bratashevskii, Yu. A.; Litvin, Yu. A.; Samsonenko, N. D.; Sobolev, E. V. (Donets. Fiz.-Tekh. Inst., Donetsk, USSR). Izv. Akad. Nauk SSSR, Neorg. Mater. 1970, 6(2), 368–9 (Russ). A new type of EPR spectra obtained in nonirradiated synthetic diamonds is discussed. In synthetic diamonds which had been synthesized with various amts. of solvents (Ni, Co, Mn, Fe, Cr) present, at <150°, a spectrum is obsd. consisting of a central narrow isotropic line with one and the same g-factor, equal to 2.0324, and of 2 satellites with the very same g-factor and a distance between them of 2.7 Oe. The intensity of the spectrum significantly increases for those diamonds, which have probably been grown at a higher rate. A similar spectrum has not been obsd. in nonirradiated natural diamonds. These facts make one assume that this spectrum is caused by lattice defects arising during growth of these crystals. The most probable defect can be interstitial C atoms, the concn. of which can increase with increasing growth rate of the diamonds. The presence of the 2 satellite lines can be assocd. with the hyperfine interaction between electrons with unpaired spins. There is absence of anisotropy in the g-factor because the deformation of the surrounding cell by virtue of the Jahn-Teller

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19880576

APo105560

effect is of a dynamic nature; it proceeds at a rate which is sig-, nificantly higher than the spin relaxation rate, as a result of which a slight averaging of the g-factor is obsd. exptl.

S. A. Mersol

19880577

USSR   UDC 621.397.778.534.2

BRATCHENKO, V.N., and ALEKSEYEVA, N.V.

"The Connection Between Subtractive and Colorimetric Color Coordinates"

Moscow, Tekhnika Kino i Televideniya, No 7, Jul 72, pp 38-43

Abstract: The establishment of a quantitative connection between color separa-
tion and standard colorimetric characteristics is discussed. A transition
method from color separation to colorimetric characteristics is suggested by
which the characteristics of standard colors are calculated according to
known color separating data. Functional coefficients for a simplified calcu-
lation of color coordinates were determined. It is demonstrated that the
errrors in calculating colorimetric characteristics from simplified formulas
do not exceed 2-3 color thresholds. A method of comparing different systems by
color separating characteristics was developed, included are systems with
taking the logarithm of primary signals and their subsequent linear transfor-
mation. This method makes it possible to compare the color reproduction of real
systems for which the correct spectral characteristics are unknown, but the
experimentally determined color separating characteristics are known. Three
illustr., one table, twenty formulas, four biblio. refs.

1/1

USSR

UDC: 8.74

BALUYEV, A. N., BRATCHIKOV, I. L.

"Some Peculiarities of the Intermediate Translation Language of ALGOL-68"

Teoriya Yazykov i Metody Postroyeniya Sistem Programmir. [Theory of Languages
and Methods of Construction of Programming Systems], Kiev-Alushta, 1972,
pp 391-396 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972,
Abstract No 11V555, by V. Mikheyev)

Translation: The structure of an arbitrary machine is studied to determine
some of the peculiarities of the intermediate translator language of ALGOL-68.
The result of translation of the program from ALGOL-68 to the intermediate
language is a program for an arbitrary machine. It has the following parts:
1) the program itself; 2) the table of identifiers; 3) the table of routines;
4) special tables (table of connections with input program, etc.). The program
itself is a sequence of instructions for the arbitrary machine. Each instruc-
tion consists of the operation and operand parts. The operands are divided
into explicit and implicit. An explicit operand may be only a value of an
identifier or a tag marking one of the instructions of the arbitrary machine.
An explicit operand identifier indicates a reference to a corresponding rou-

1/2

USSR

Baluyev, A. N., Bratchikov, I. L., Teoriya Yazykov i Metody Postroyeniya Sistem
Programmir., Kiev-Alushta, 1972, pp 391-396

in the table of identifiers. An implicit (understood) operand may be one or
more values at the top of the service register, or the value in the service
register of the arbitrary machine (for example, at the top of the service
register). The nature of the instructions of the arbitrary machine is such
that running of the program can be reduced to successive performance of instruc-
tions of the program itself in the sequence in which they occur, broken only by
jumps called for by explicitly indicated original or service tags. The table
of identifiers for translation from ALGOL-6S to the intermediate language is
only partially filled. A table of routines is completely formed upon transla-
tion of the program to the intermediate language. During operation of the
arbitrary machine, it does not change. Each row of this table contains the
equivalent of a certain terminal generation of the metaconcept TYPE. In case
of a multiple value, a row may contain additional information on the properties
of the boundaries necessary to check the agreement of the formal and actual
parameters. The connection table to the input program is also fully formed upon
translation to the intermediate language.

2/2

USSR

UDC 8.74

BRATCHIKOV, I. L.

"A Procedure for Formal Description and Analysis of the Context Conditions of ALGOL-60 Type Languages"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 381-390 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V441)

Translation: A study was made of some classes of grammars represented in the form of context-free grammers with restrictions on the output. They permit formal assignment of a number of the context conditions used when describing the syntax of the ALGOL-60 type language. The characteristic features of this approach to the formal description of context conditions are as follows: 1) simplicity of constructing a grammar of the proposed type; 2) possibility of utilizing the methods already developed for context-free grammars.

1/1

1/2   041

UNCLASSIFIED

TITLE--COMBUSTION IN A SINTERING LAYER -U-

PROCESSING DATE--04DEC70

AUTHOR-(04)-BRATCHIKOV, S.G., GROSHEV, M.YA., KHUDOROZHKOV, I.P., TUMASHEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 46-50

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS, MATERIALS

TOPIC TAGS--IRON ORE, SINTERING FURNACE, COMBUSTION KINETICS, CARBON, CARBON DIOXIDE, GAS ANALYSIS, COMBUSTION TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0803

STEP NO--UR/0148/70/013/004/0046/0050

CIRC ACCESSION NO--AT0132901

UNCLASSIFIED

CIRC ACCESSION NO--AT0132901   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMONG THE COMPLEX PROCESSES GOING ON DURING SINTERING OF AN IRON ORE BATCH, THE COMBUSTION OF C AND THE REDN. OF FE OXIDES ARE SIGNIFICANT. BOTH PROCESSES EXERT AN EFFECT ON THE COMPN. OF THE GAS PHASE. THE COMBUSTION OF FUEL IN THE LAYER DILD. BY INERT MATERIAL WAS INVESTIGATED 1ST. THE CHANGE IN THE GAS COMPN. IN THE O ZONE IS ANALOGOUS TO THE CHANGE IN THE GAS COMPN. DURING THE COMBUSTION OF THE FUEL IN A DENSE LAYER WITHOUT INTERT MATERIALS BEING PRESENT. THE INTERACTION BETWEEN C AND THE GAS TERMINATES SOONER THAN THE REDN. REACTION OF CO SUB2 GAS DEVELOPS. .THE COMBUSTION OF C IN THE LAYER OF A BATCH CONTG. FE OXIDES IS ACCOMPANIED BY OXIDN. REDN. REACTIONS, THE EFFECT OF WHICH ON THE COMPN. OF THE GAS AT VARIOUS C YIELDS IS KNOWN. AT LOW C CONSUMPTION, FAVORABLE CONDITIONS ARE CREATED FOR THE OXIDN. OF LOWER FE OXIDES OF THE BATCH, AS A RESULT OF WHICH A LOSS IN CO SUB2 CAN TAKE PLACE. IF FEO IS NOT PRESENT IN THE BATCH, THEN THE COMPN. OF THE GAS IS STABILIZED. DECREASING THE FUEL CONTENT IN THE BATCH RESULTS IN A DECREASE IN THE TOTAL SURFACE OF INTERACTION OF C AND O. THE START OF COMBUSTION DOES NOT ALWAYS COINCIDE WITH THE INSTANT OF ATTAINMENT OF THE TEMP. CORRESPONDING TO THE INFLAMMATION POINT OF THE SOLID FUEL. A COINCIDENCE IS OBSD. ONLY AT LOW C CONTENTS (LESS THAN OR EQUALS TO 3.0-3.3PERCENT) IN THE BATCH. AT HIGHER C CONTENTS (4.0-5.0PERCENT), THE COMBUSTION COMMENCES LATER. TO THE LOW C CONTENT CORRESPONDS A HIGHER CONTENT OF RESIDUAL O IN THE GAS. UNDER THESE CONDITIONS, THE COMBUSTION OF THE FUEL COMMENCES AT LOWER TEMPS. FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC: 620.197.620.193

GERASIMOV, V. V., PAVLOVA, F. S., KUZNETSOVA, V. N., and BRATCHIKOV, V. N.

"Effect of Protective Metallic Coatings on the Corrosion Cracking of Stainless Steel"

Abstract: In a steam-air medium at about 100°C, OKh18N10T steel may become subject to corrosion cracking. The objective of this study was to determine an optimum coating providing long-term protection of OKh18N10T steel against corrosion cracking at high temperatures in steam and steam-air media containing chlorides. The coatings tested were aluminum, nichrome, and alumel. Specimens spray-coated with aluminum exhibited the highest electrochemical protection of the steel. Annealing the aluminum coating at 510, 700, and 870°C increases corrosion cracking resistance at least twofold. However, a heavy (over 3 microns) and brittle layer of intermetallic compounds which is formed in the process of heat treating the aluminum coating at temperatures above the melting point of aluminum appears to fail even at minor deformations. The cracks which result in the aluminum layer impair the protective properties of the coating against those provided by a 510°C annealing.
1/1

1/2   009   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--STABILIZATION OF 1,1,1,TRICHLOROETHANE -U-

AUTHOR-(03)-BRATOLYUBOV, A.S., ALESHINA, G.F., TSIBULSKAYA, G.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,381
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL STABILITY, CHLOROETHANE, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0845   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136279
                          UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136279

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. METHYLCHLOROFORM IS STABILIZED BY ADDING GUAIACOL, NITROANISOLE, OR THEIR MIXT. (30-50PERCENT NITROANISOLE) IN A QUANTITY OF 3-5PERCENT.

UNCLASSIFIED

.1/2 -   035   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--PHOTOCHEMICAL CHLORINATION OF METHYLENE CHLORIDE USING LIGHT
   FILTERS -U-
AUTHOR--BRATOLYUBOV, A.S., VASILKOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGARD) 1970, 43(1), 199-202

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATION, CHEMICAL REACTION RATE, METHANE, METHYL
   CHLORIDE, FILTERATION, PHOTOSYNTHESIS, RADIATION EFFECT/(U)PRK2
   RADIATION LAMP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1218   STEP NO--UR/0080/70/043/001/0199/0202

CIRC ACCESSION NO--AP0104584
                       .   UNCLASSIFIED

UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CHLORINATION WAS CARRIED
OUT IN A CONTINUOUS FLOW 27 TIMES 400 MM REACTOR KEPT AT MINUS 30DEGREES
AND IRRADIATED BY A PRK-2 LAMP. THE PRODUCTS WERE WASHED WITH 1PERCENT
NAOH, DRIED WITH K SUB2 CO SUB3, AND ANALYZED BY GAS LIQ. CHROMATOG. AND
IODOMETRY. THE DEGREE OF CHLORINATION DEPENDED ON THE MATERIAL OF THE
REACTOR AND FILTER AND DECREASED IN ORDER: QUARTZ, PYREX, MOLYBDENUM
GLASS.

UNCLASSIFIED

0123

TITLE--PHOTOCHEMICAL CHLORINATION OF 1,1,DICHLOROETHANE -U-

AUTHOR-(02)-BRATOLYUBOV, A.S., ALESHINA, G.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENININGRAD) 1970, 43(3) 651-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATION, CHLOROETHANE, CHEMICAL REACTOR, PHOTOCHEMISTRY,
    CHLORINATED ALIPHATIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0340   STEP NO--UR/0080/70/043/003/0651/0656

CIRC ACCESSION NO--AP0111534
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0111534
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOTOCHLORINATION OF MECHCL SUB2
(I) AT MINUS 10 TO PLUS 60DEGREES IN A FLOW REACTOR INTO WHICH CL AT A
RATE OF 3 L.-L. HR WAS ADMITTED IN A RATIO TO I OF 0.18-0.6:1 YIELDED
MECCL SUB3 (II) AND CL SUB2 CHCH SUB2 CL (III) IN A CONST. RATIO OF
3.3:1. WHEN THE CL-I RATIO WAS INCREASED IN THIS RANGE, THE YIELD OF II
ROSE FROM 21.1 TO 43.7PERCENT. AS THE YIELD OF POLYCHLORIDES ROSE FROM
1.2 TO 6.0PERCENT. WITH INCREASING TEMP. FROM 20 TO 60DEGREES, THE
CHLORINATION RATE FELL BECAUSE OF REDUCED CL SOLY. AND THE POLYCHLORIDE
YIELD ROSE FROM 3.3 TO 4.4PERCENT. THE MAX. PERMISSABLE VOL. OF O IN
THE CL AND WT. OF FE IN I WERE 0.1 AND 0.001PERCENT, RESP., AND THE
OPTIMAL CONCNS. WERE 0.02 AND 0.005PERCENT. UNDER OPTIMAL CONDITIONS
(20DEGREES AND A CL-I RATIO OF 0.33:1), THE PRODUCT CONTAINED
55.6PERCENT L, 32.0PERCENT II, 9.7PERCENT III, AND 2.7PERCENT
POLYCHLORIDES. PYREX, MO, AND TRANSPARENT QUARTZ GLASS WERE EQUIV. FOR
USE IN THE REACTOR AND IN THE QUARTZ HG LAMP FILTER.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--PHOTOCHEMICAL CHLORINATION OF METHYLENE CHLORIDE USING LIGHT
FILTERS -U-

AUTHOR--BRATOLYUBOV, A.S., VASILKOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGARD) 1970, 43(1), 199-202

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATION, CHEMICAL REACTION RATE, METHANE, METHYL
CHLORIDE, FILTERATION, PHOTOSYNTHESIS, RADIATION EFFECT/(U)PRK2
RADIATION LAMP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1218   STEP NO--UR/0080/70/043/001/0199/0202

CIRC ACCESSION NO--AP0104584
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0104584
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CHLORINATION WAS CARRIED
   OUT IN A CONTINUOUS FLOW 27 TIMES 400 MM REACTOR KEPT AT MINUS 30DEGREES
   AND IRRADIATED BY A PRK-2 LAMP. THE PRODUCTS WERE WASHED WITH 1PERCENT
   NAOH, DRIED WITH K SUB2 CO SUB3, AND ANALYZED BY GAS LIQ. CHROMATOG. AND
   IODOMETRY. THE DEGREE OF CHLORINATION DEPENDED ON THE MATERIAL OF THE
   REACTOR AND FILTER AND DECREASED IN ORDER: QUARTZ, PYREX, MOLYBDENUM
   GLASS.

UNCLASSIFIED   0123

Acc. Nr.: *AP0042566*   Ref. Code: *UR0293*

Gamma Quanta with Energy Greater than 50 MeV in Cosmic Radiation

(Abstract: "Measurements of Fluxes of Gamma Quanta with Energies Greater
than 50 MeV in Primary Cosmic Radiation on the 'Kosmos-208' Artificial
Earth Satellite," by L. S. Bratolyubova-Tsulukidze, N. L. Grigorov, L. F.
Kalinkin, A. S. Melioranskiy, Ye. A. Pryakhin, I. A. Savenko and V. Ya.
Yufarkin; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp
136-139)
        The artificial earth satellite "Kosmos-208" carried a telescope of
Cerenkov counters with radiators of Plexiglas and lead glass, surrounded
by a scintillator for protection against the background of charged parti-
cles, for measuring the fluxes of cosmic γ-quanta with energies greater
than 50 MeV. There is a dependence between the counting rate of γ-quanta
and geographic latitude, probably related for the most part to imitations
of γ-radiation by charged particles. The article gives the values of the
total intensities of γ-quanta for the high and equatorial latitudes. The
latter data, interpreted as the upper limits of the fluxes of primary
γ-rays, are $(1.0\pm0.4)\cdot10^{-4}$, $(6\pm3)\cdot10^{-5}$ and $(1.0\pm1.0)\cdot10^{-5}$ $(cm^2\cdot sec\cdot
sterad)^{-1}$ for $E\gamma \geqslant 50$, 90 and 146 MeV respectively. Within the limits
of error these results agree with the data obtained using the artificial
satellite OSO-III.

Reel/Frame
19760544   *12*

USSR
RYZHKOV, V.A., BRATOV, A.M., KOLESNIKOVA, I.A., KORNEYEV, V.N.

UDC 621.52:533.59.539.23

"Study Of The Composition Of Residual Gases In Deposition Units Under Industrial Conditions"

Sb. nauch.tr. po probl. mikroelektron. Mosk. in-t elektron.tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1971, Issue 7, pp 13-18 (from RZh:Elektronika i yeye primeneniye, No 6, June 1972, Abstract No 6A57)

Translation: The results are presented of an analysis with the aid of a KM-1 quadrupole mass spectrometer of the composition of residual gases in the vacuum chambers of various types of deposition units. Under industrial conditions, and in the types of deposition units considered, the composition of residual gases differs but little and is determined by the technological process in progress and the individual condition of the unit. Vapors of water, nitrogen and oxygen and various hydrocarbons are the principal components of residual gases in deposition units. Substantial changes of the composition of the residual gases occur during heating of the substrates and deposition. The composition of the residual gases during deposition of thin films depends on the form of the material which is vaporized. The KM-1 mass spectrometer showed its usefulness for conducting qualitative analyses of residual gases under industrial conditions. A.F.
1/1

USSR

BRATOV, K. B., BABAYEV, I. I.

"Determination of Organic Chloride Pesticides by Thin-Layer Chromatography with Some Modifications"

Publikatsiya Dushanbin. In-ta Epidemiol. i Gigiyeny [Publications of Dushanbe Institute of Epidemiology and Hygiene, No 44, 1971, pp 37-38, (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N609 by T. A. Belyayeva).

Translation: In order to determine residual quantities of DDT and HCCH in water, they are extracted by $CHCl_3$, the extract is dried over Na_2SO_4 for 1 hour, evaporated, the residue is dissolved in hexane and chromatographed on a plate with Al_2O_3, preliminarily activated with UV rays, moving phase hexane, then re-irradiated with UV. The sensitivity of the method is 0.005 mg/l.

1/1

USSR   •   UDC 621.52:539.23:621.315.592

YAROVYKH, B.YA., BRATOVA, G.S.

"Preparation Of The Surface Of Pyroceramic Substrates Before Vacuum Deposition"

Sb.nauch. tr. po probl. mikroelektron. Mosk. in-t elektron.tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1971, Issue 7, pp 43-48 (from RZh:Elektronika i yeye primeneniye, No 6, June 1972, Abstract No 6A61)

Translation: Effective methods were developed and tested for increasing adhesion in film-substrate systems as the result of an improvement of the cleansing of the surface of the latter. In order to obtain comparative quantitative character- istics, a method was used of measuring the contact angle (wetting angle) of drops of oil. Methods for checking cleansing of the surface and for evaluation of the sensitivity of these methods are developed. The new methods of cleansing substrates before deposition of thin-film coverings on them were introduced into industry; equipment used at present in production was designed. 3 ref.Ye.G.

1/1

BRATOVANOV, D.

SO: JPRS 53272
2 June 71

UDC: 613/614

THE OBJECT AND SUBJECT OF HYGIENE, GENERAL AND SOCIAL HYGIENE, AND OF EPIDEMIOLOGY

[Article by D. Bratovanov (Medisana?) (Plovdiv); Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 4, April 1971, pp 32-38]

Some gnosiological positions. Every science has its subject which is investigated by the appropriate method. In the last few years, due to the rapid development of cognition an increasing number of new sciences is appearing which deal with different areas of objective reality (differentiation of science) as well as new sciences emerging on the boundary of the old ones (integration of science). These mutually opposite processes are at times interwoven. Quite often the same object of reality becomes the subject of investigation of different scientific disciplines dealing with it from different aspects. Differentiation of the object and subject of a science becomes particularly important at this time when the number of so-called border sciences is gradually increasing. "The subject of investigation differs from the object in that it implies a specific aspect, a point of view from which a given object is investigated."* For example, man is the object of investigation of many sciences: anatomy, physiology, pathology, hygiene, and others, each of which investigates man from its point of view.

The following is typical for each science: 1) definition of the subject of investigation from the corresponding object; 2) creation of concepts (or laws) inherent to this subject and object; 3) establishment of the chief law of the theory that would permit explaining a set of facts (B. Kedrov and A. Spirkin).

In spite of the distinct criteria of formation of the different branches of science, in practice, at the present level of development of scientific cognition, some fundamental difficulties emerge since reality is dialectical

*V. V. Martynov, Kibernetika, Semiotika, Lingvistika (Cybernetics, Semiotics, Linguistics), Nauka i Tekhnika Publishing House, Minsk, 1966, p 22.

- 45 -

USSR

UDC 669.15.018.44:669.782

BRATUKHINA, V. A., DYN'KOVA, YU. V., MARKOV, V. G.

"Effect of Silicon on the Properties of Pearlitic Steels Designed for Opera-
tion at High Temperatures"

Metallovedenive -- V sb.(Physical Metallurgy -- collection of works), No 14,
Leningrad, Sudostroyeniye Press, 1970, pp 130-139 (from RZh-Metallurgiya, No
4, Apr 71, Abstract No 41630)

Translation: A study was made of the effect of Si on the mechanical and
corrosion properties of steel 10 (1.16-3.43% Si), 15Kh (1.22-3.24% Si), 15Kh2
(2.25-3.31% Si), 15Kh1M (0.74-1.71% Si), 15Kh1MF (0.37-1.90% Si), Kh2M (0.25-
1.47% Si). It was demonstrated that steel containing up to 1.8% Si has a
satisfactory combination of mechanical properties. A higher content of Si in
pearlitic class steel is inexpedient as a result of developing brittleness of
the material. There are 7 illustrations, 5 tables,and a 9-entry bibliography.

1/1

USSR

UDC 513.812

BRATUKINA, Yu. P.

"Expansion of the Concept of a Spherical Representation in Lobachevski Space"

Translation: The convex surface F and the surface of constant curvature Σ in a Lobacheski space are considered. A set M is taken on F and through each one of its points are drawn all reference planes of surface F. The cluster of axes of Σ, perpendicular to the reference plane, intersects Σ along the so-called cyclic representation of set M. Several properties of cyclic representations of the specific figures of a hyperbolic plane are studied.
                                    V. Koba

1/1

Acc. Nr: AP0052316

Ref. Code: UR0A08

PRIMARY SOURCE: Fiziologichnij Zhurnal, 1970, Vol 16, Nr.3 ,
pp 257-264

ON AFFERENT INTERCENTRAL CONNECTIONS OF CEREBELLAR CORTEX

N. V. Bratus, G. V. Yanchik

Department of Physiology, Medical Institute, Vinnitza

Summary

Evoked potentials (EP) of cerebellar cortex were studied in cats anaesthetized with thyopental on stimulation of spinal cord (rostral spino-serebellar tract), n. ruber, hypothalamus posterior (corpus mammilaris).

EP occurred on stimulation of spinal cord at a depth of 500 μ and more, the threshold reached 1 V. In focus maximal activity (FMA) of cerebellar cortex (culmen, l. simplex, tuber vermis) EP were expressed by a monophasic electropositive wave with latency of $7.5 \pm 1.6 - 10.8 \pm 1.3$ msec (in dependence on the stimulation level C_1 or T_6) when stimulating deeper structures, to 2000 μ, EP augmented in amplitude and duration with appearance of additional components complicating an electropositive phase. Around FMA EP were expressed with augmented latency and unconstant form.

REEL/FRAME
19820897

AP0052316

When stimulating of n. ruber EP occurred in these regions of cerebellar cortex with better expressions on contralateral side to stimulation. The threshold reached 3— 6 V. A two-phase potential was a basis of EP, probably, with additional components in FMA. EP of paramedian lobes were characterized by initial negativity. The latency reached $5.1 \pm 1.7 - 9.3 \pm 0.5$ msec in dependence on the region of leading.

On stimulation of corpora mammillares EP occurred in paleocerebellar areas of cerebellum and are absent in hemispheres. The threshold reached 3—6 V. FMA coincided with one in preceeded series, but EP were expressed equally bilaterally, except for paramedian lobe, where EP expressed better on ipsilateral side. The peculiarity of these EP consisted in improvement of expression of distinctive electropositive components and even electronegative ones. Latency reached $6.3 \pm 0.3 - 8.3 \pm 0.4$ msec.

A conclusion was drawn, that peculiarities of cerebellopetal intercentral connections manifested on timed characteristics of EP and expression of its components only, but not the form of EP.

19820898

+2

USSR   UDC 612.13:797.22

GUREVICH, M. I., IL'CHEVICH, N. V., KARTSEVA, BRATUS', V. V., and DUKHIN, E. O.,
Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences, Ukrainian
SSR, Kiev

"Effect of Underwater Activity on the Human Cardiovascular System"

Abstract: Hemodynamic shifts were studied in 10 aqualungers age 18 to 29 after
submersion, while exercising under water, and while swimming with an oxygen
apparatus. Immediately after submerging to a depth of 5 to 10 m in a No 2
outfit the men exhibited an increase in arterial pressure, decrease in pulse
pressure, slowing of the heart rate, reduction in the cardiac output, and
increase in resistance of the peripheral blood vessels. The performance of
graduated physical exercise under water elevated arterial pressure, slowed
the pulse rate, increased the resistance of the peripheral blood vessels,
but had little effect on the cardiac output or heart rate. Underwater swim-
ming elevated arterial pressure, slowed the heart rate, decreased the cardiac
output, and increased the resistance of the peripheral vessels.

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USSR   UDC 546.185-325+54-1454

KRUPATKIN, I. L., and BRATUSHCHAK, A. N., Kalinin Polytechnical Institute

"Physico-chemical Analysis of Binary Systems of Phosphoric Acids and Some Ketones"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 1, Jan 71, p 177

Abstract: Binary systems of phosphoric acid with benzophenone, methyl-ethylketone, and cyclohexanone were studied by density, viscosity, surface tension and specific electroconductivity at 25, 35, and 45° C. In all systems, a 1:1 composition of the compounds formed was postulated on the basis of experimental data, except in the phosphoric acid-methylethylketone system, where a small amount of a 2:1 compound forms. Analysis of electroconductivity data showed that addition products of phosphoric acid and benzophenone or cyclohexanone are weakly disproportioned; with methylethylketone, H_3PO_4 forms nonconductive compounds. The compounds studied may be placed in the following order of decreasing basicity: methylethylketone, cyclohexanone, benzophenone.

1/1

USSR

YERMOL'YEVA, Z. V., VAYSBERG, G. YE., URAUDE, A. T., TARANENKO, L. A.,
LUSHINA, L. A., GIVENTAL', N. I., and SHCHERBAKOVA, E. G., Laboratory of
Medical Pathology and Laboratory of New Antibiotics, Chair of Microbiology,
TsIU [Central Institute for the Advanced Training of Physicians], Moscow

"The Effect of Prodigiozan Inhalation on the Immunological Reactivity of the
Human Body"

Abstract: Inhalation of prodigiozan promotes immune reactions in the human
body. Thus, in a group of 78 subjects aged 19 to 59, a single inhalation of
5 ml of a 0.04% prodigiozan aerosol (obtained under 0.5-0.8 atm at a rate of
12-15 L/min) increased the number of active neutrophils from 53 to 74% in 24
hrs in all subjects, and the increased phagocytic activity was maintained at
least up to the 48th hr after inhalation. At the same time, the inhaled
prodigiozan increased alkaline phosphatase activity in the neutrophils of
peripheral blood from 42 to 115 conventional units in 35 out of 39 subjects,
raised lysozyme concentration from 2.7 to 3.5 mcg/ml of blood serum in 12 out
of 27 subjects, and induced formation of interferon in titers of 7-13 units/
ml serum in 10 out of 10 subjects. It is concluded that a single inhalation of
1/2

USSR

YERMOL'YEVA, Z. V., et al., Antibiotiki, Vol 18, No 1, 1973, pp 76-79

prodigiozan aerosol significantly stimulates humoral and cellular components
of human immunological reactivity.

2/2

USSR   UDC 629.78.015.017.2

BOBTSOV, V. A., BRAUDE, A. Z., KUZMAK, G. Ye.

"Approximate Synthesis of Optimal Control in Variational and Games Problems of Flight Mechanics with Free End of the Trajectory"

Translation: The task of synthesis of optimal control is studied in variational and games problems for cases when there are no conditions at the end of the trajectory except for the conditions defining the end of the trajectory. An approximate method is suggested for solution of this problem, representing a development of the method of local optimization, which is convenient for computer realization. Using this method, it is often possible to find simple approximate analytic solutions of the synthesis problem. Three examples are studied as illustrations: the problem of flight to maximum range, the problem of climbing to an assigned altitude in the minimum time and the problem of the game of two persons controlling the planar motion
1/2

USSR

BOBTSOV, V. A., BRAUDE, A. Z., KUZMAK, G. Ye., Uch. zap. Tsentr. Aerogidro-
dinam. In-ta, Vol 3, No 3, 1971, pp 61-71

of two material points. Results are produced in the first two examples which
have simple physical sense. 3 figures; 7 bibliographic references.

Television

USSR   UDC: 681.14.523.8

BRAUDE, G. V., BONCH-BRUYEVICH, A. M., GEL'FANDBEYN, Ya. A., GULIN, I. N.,
KRIVOSHEYEV, M. I., MIRSKIY, G. Ya., TISHCHENKO, I. M., TEL'NYKH, O. A.,
KHESIN, A. Ya.

"A Television Device for Determining the Coordinates of Point Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 26, Sep 71, Author's Certificate No 313210, p 165

Translation: This Author's Certificate introduces a television device for
determining the coordinates of point objects. The device contains a tele-
vision transmitting tube with memory, an output scanning unit, a video
signal processing unit, an erasure unit, a synchronizing unit, a cadence
pulse generator, an optical shutter, and a data input module. As a dis-
tinguishing feature of the patent, the accuracy of coordinate determi-
nation is improved by tying series-connected horizontal and vertical in-
terrogation counters to the output of the cadence pulse generator. The
counter outputs are connected through shaping matrixes for horizontal and
vertical deflection to the input of the output scanning unit. At the same
time, a second output of the vertical interrogation counter is connected
through a decoder to the data input module.
1/1

1/2   020   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--EXPERIMENTAL INVESTIGATION OF THE EFFECT OF IMPURITY ATOMS AND
   DISLOCATIONS OF X RAY DIFFUSE SCATTERING INTENSITY -U-
AUTHOR-(02)-BRAUDE, I.S., STARTSEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ, ZH. (RUSS, ED.) 1970, 15(2), 224-7

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANGULAR DISTRIBUTION, SINGLE CRYSTAL, X RAY SCATTERING,
   CRYSTAL DISLOCATION PHENOMENON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0550   STEP NO--UR/0185/70/015/002/0224/0227

CIRC ACCESSION NO--AP0121222
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0121222

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE ANGULAR DISTRIBUTION OF THE
   INTENSITY OF X RAY DIFFUSE SCATTERING BY SINGLE CRYSTALS OF NAI AND TL
   AND "PURE" NONANNEALED AND ANNEALED CRYSTALS, WAS MEASURED.   THREE TYPES
   OF CHARACTERISTIC DEPENDENCES OF THE INTENSITY OF THE NAI SMAPLE WITH
   VARYING STRUCTURE WERE OBSD.   AN INCREASE IN THE DISLOCATION D. TO THE
   ORDER OF 1.5 CAUSES AN INCREASE IN THE INTENSITY BY A FACTOR OF 1.5.
   THE INTRODUCTION OF IMPURITIES (EVEN UP TO 0.1 WT. PERCENT TL) CAUSES AN
   INCREASE IN THE INTENSITY BY A FACTOR COMPARABLE TO THAT OF THE "PURE"
   SAMPLES.   FACILITY: FIZ.-TEKN. INST., KHARKOV, USSR.

UNCLASSIFIED

1/2   010   UNCLASSIFIED   PROCESSING DATE   04/03/70

TITLE--2,6,BIS,2,HYDROXY,5,CHLOROBENZYL,4,CHLOROPHENOL, A SUBSTANCE WITH
   ANTHELMINTHIC ACTION -U-

AUTHOR-(03)-BEKHLI, A.F., BRAUDE, M.B., KOSHELEVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM.-FARM. ZH. 1970, 4(3), 32-5

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--WORM, PARASITOLOGY, CHEMICAL SYNTHESIS, GASTROINTESTINAL DRUG,
   DRUG PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0541   STEP NO--UR/0450/70/004/003/0032/0035

CIRC ACCESSION NO--AP0137630
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0137630
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE NONTOXIC ANTHELMINTIC
(I) WAS ISOLATED DURING THE COURSE OF DICHLOROPHEN (II) SYNTHESIS. A
MIXT. OF 60 G P-CLC SUB6 H SUB4 OH AND 21.4 G 32PERCENT HCHO-MEOH IN THE
PRESENCE OF H SUB2 SO SUB4 GAVE 76 G II, M. 172-2.5DEGREES. A BY
PRODUCT RECRYSTD. FROM AQ. ETOH GAVE 2.7 G COMPD., M. 227-8DEGREES;
FURTHER CRYSTN. FROM 115 ML PHME YIELDED 1.5 G I, M. 235-6DEGREES. A
MIXT. OF 128.5 G P-CLC SUB6 H SUB4 OH, 46.5 G NAOH IN 185 ML H SUB2 O,
AND 265 ML 37PERCENT HCHO WAS STIRRED 5 HR AT 50-60DEGREES AND KEPT 3
DAYS AT ROOM TEMP. TO YIELD 68.9PERCENT
4,CHLORO,2,6,BIS(HYDROXYMETHYL),PHENOL (III), M. 164DEGREES (H SUB2 O).
A MIXT. OF 151.2 G III AND 15.6 ML HCL WAS ADDED TO 800 G MOLTEN P-CLC
SUB6 H SUB4 OH AND THE MIXT. HEATED 4.5 HR AT 40DEGREES TO YIELD
70.7PERCENT I, M. 235-6DEGREES (ETOH).   FACILITY: INST. MED.
PARAZITOL. TROP. MED. IM MARTSINOVKOGO, MOSCOW, USSR.