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UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--EFFECT OF ZINC CONTENT ON THE TENDENCY OF BRASS TOWARDS CORROSION
CRACKING -U-
AUTHOR-(03)-GLIKMAN, L.A., LOBOV, A.F., RUDIN, L.YE.

R

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 109-110

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BRASS, SOLID SOLUTION, CORROSION CRACKING, ZINC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0222

STEP NO--UR/0369/70/006/001/0109/0110

CIRC ACCESSION NO--AP0129478

UNCLASSIFIED

013
CIRC ACCESSION NO--AP0129478 UNCLASSIFIED PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TENDENCY OF VARIOUS TYPES OF
BRASS TOWARDS CORROSION CRACKING WAS STUDIED AS A FUNCTION OF ZN
CONTENT. SOME REFINEMENTS WERE ACCORDINGLY INTRODUCED INTO THE EXISTING
VIEWS, I.E. THAT INCREASING ZN CONTENT LEADS TO INCREASED CORROSION
CRACKING. THIS IS IN FACT ONLY VALID FOR ALPHA AND BETA BRASSES. IN
BRASSES RICHER IN ZN, PARTICULARLY THOSE WITH THE STRUCTURE OF THE GAMMA
SOLID SOLUTION, THE TENDENCY TOWARDS CORROSION CRACKING IS GREATLY
REDUCED. IN PURE AN THE TENDENCY VANISHES ENTIRELY.

UNCLASSIFIED

KUDKO, A. P.

TECHNICAL TRANSLATION

FSIC-RT-23-735-72

ENGLISH TITLE: Determining Heat Heat Transfer Coefficients with Built in
Alphacolorators

FOREIGN TITLE: *Определение коэффициентов теплообмена
встроенными альфахроматографами*

AUTHOR: V. M. Kapinos, V. N. Pustovalov, and A. P. Kudko

SOURCE: *Inzhenerno-Fizicheskiy Zhurnal*, Volume 19, No. 2, 1970, pp 236-242

Translated for FSIC by Eric Pesbody, Leo Kanner Associates

NOTICE

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Computers: Digital

USSR

UDC 681.323

RAYKHMAN, Ya. A., RUDKO, V. A., BUTKOV, Yu. G., FURMAN, N. A., and KOZLOV, V. A.

"A Specialized Digital Computer for Calculating the Interconnections of Integrated Systems"

Moscow, Oktrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

Translation: This Author's Certificate introduces: 1. A specialized digital computer for calculating the interconnections of integrated systems. The computer contains a memory device, address registers for given and current coordinates, comparison circuits, registers for points, an analysis circuit, a recording circuit, and an input/output module. As a distinguishing feature of the patent, speed is increased and the device is simplified by adding a block for transfers along X and Y and a circuit grouping block with its output connected to the first inputs of the address register for current X and Y coordinates, whose second inputs are connected to the first outputs of the blocks for transfers along X and Y respectively. The first outputs of the current coordinate registers are connected through a converter

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USSR

RAYKHMEN, Ya. A., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

to the input of the memory device, and the second outputs are connected to the first inputs of the first and second comparison circuits respectively. The second inputs of these comparison circuits are connected to the outputs of the address registers for the given X and Y coordinates, and the outputs are connected to the first inputs of the modules for transfers along X and Y. The second output of the module for transfers along X is connected to the second input of the module for transfers along Y and vice versa. The third inputs of both transfer modules are connected to the corresponding outputs of the point analysis circuit, and the third outputs are connected to the inputs of the point recording circuit, whose output is connected to the first input of the point register, which is connected to the memory device and to the circuit grouping block whose output is connected to the point analysis input. 2. A modification of this computer distinguished by the fact that the functional possibilities of the machine are extended by adding a coordinate register, boundary decoder, logic operations module and circuit suitability decoder to the circuit grouping block. The first output of the

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USSR

RAYKHMAN, Ya. A., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, Aug 72, Author's Certificate No 298936, filed 8 Aug 68, published 14 Jul 72, p 249

suitability decoder is connected to the first input of the logic operations module whose outputs are connected to the corresponding inputs of the coordinate register, while the second inputs are connected to the outputs of the boundary decoder. The inputs of the boundary decoder are connected to the outputs of the coordinate register, and the second output of the suitability decoder is connected to the input of an element counter whose outputs are connected to the address register of the memory device.

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UNCLASSIFIED

PROCESSING DATE- 09OCT70

TITLE--KINETICS OF TRIMETHYLPROPANE SYNTHESIS ON THE ANION EXCHANGE
RESIN AV-17-8 -U-
AUTHOR--(03)--KETSLAKH, M.M., RATANOVA, A.I., RUDKOVSKIY, D.M.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 88-95

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION KINETICS, CHEMICAL SYNTHESIS, PROPANE, ANION EXCHANGE
RESIN, METHANOL/ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1888

STEP NO--UR/0204/70/010/001/0088/0095

CIRC ACCESSION NO--AP0112668

UNCLASSIFIED

013
 CIRC ACCESSION NO--AP0112868
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TITLE SYNTHESIS PROCEEDS IN 3
 STEPS: PRCHO (I) PLUS CH SUB2 O (QH PRIME NEGATIVE) YIELDS ETCH(CH SUB2
 OH)CHG (III); II PLUS CH SUB2 O (QH PRIME NEGATIVE) YIELDS ETC(CH SUB2
 OH) SUB2 CHO (III); III PLUS CH SUB2 O PLUS OH PRIME NEGATIVE YIELDS
 ETC(CH SUB2 OH) SUB3 (IV) PLUS HCO SUB2 PRIME NEGATIVE (RATE DETG.; V
 SUB1 EQUALS D (IV)-DT EQUALS K SUB1 (III) (CH SUB2 O) (ANEX)),
 ACCOMPANIED BY: 2CH SUB2 O PLUS OH PRIME NEGATIVE YIELDS MECH PLUS HCO
 SUB2 PRIME NEGATIVE (V SUB2 EQUALS D(MEOH)-DT EQUALS K SUB2 (CH SUB2 O)
 PRIME2 (ANEX)), AND OTHER MINOR SIDE REACTIONS. OPTIMUM STATIC
 CONDITIONS WERE: 50DEGREES, 30 MIN CONTACT TIME, MOL. RATIO 1: ANEX
 EQUALS 1-1.58 (ANEX EQUALS ANION EXCHANGE RESIN). THE KINETICS WERE
 MEASURED AT 20-50DEGREES AND FOLLOWING EQUATIONS WERE DERIVED: K SUB1
 EQUALS 7.62 TIMES 10 PRIME11 EXP (MINUS 17230-RT), AND K SUB2 EQUALS
 8.74 TIMES 10 PRIME16 EXP (MINUS 25900-RT). FACILITY: VSES.
 NAUCH. ISSLED. INST. NEFTEKHIM. PROTSESSOV, LENINGRAD, USSR.

UNCLASSIFIED

PROCESSING DATE--09OCT70

UNCLASSIFIED

USSR

RUDKOVSKAYA, A. I.

UDC: 681.322.06:65.012.122

"Selection of Excessive Limits in Problems of Large-Scale Linear Programming"

Tr. Mosk. ekon. stat. in-ta (Transactions of the Moscow Economics Statistics Institute) Part 1, 1973, pp 146-158 (from RZh--
Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1973, Abstract No 12B110)

Translation: Some methods permitting a reduction in the dimensions of a linear programming problem and exposing excessive limitations whose exclusion has no effect on the optimal plan are considered. The performance of this procedure under conditions and computation leads to a reduction in the matrix of conditions and solved leads to a reduction in the dimensions of the original problem on the electronic computer. Practical use of the described methods has reduced the dimensions of the original problem by as much as 1.5-2 times in some cases. The algorithm is given in the "ALGOL-60" language. Bibliography of two. A. M.

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USSR

UDC: 681.322.06:65.012.122

RUDKOVSKAYA, A. I.

"Selection of Excessive Limits in Problems of Large-Scale Linear Programming"

Tr. Mosk. ekon stat. in-ta (Transactions of the Moscow Economics Statistics Institute) Part 1, 1973, pp 146-158 (from RZh--Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1973, Abstract No 12B110)

Translation: Some methods permitting a reduction in the dimensions of a linear programming problem and exposing excessive limitations whose exclusion has no effect on the optimal plan are considered. The performance of this procedure until the problem is solved leads to a reduction in the matrix of conditions and computation time on the electronic computer. Practical use of the described methods has reduced the dimensions of the original problem by as much as 1.5-2 times in some cases. The algorithm is given in the "ALGOL-60" language. Bibliography of two. A. M.

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USSR

RUDKOVSKAYA, A. I.

"Compression of Information in Large-Dimensionality Linear Programming Problems"

Materialy Mezhevuz. Konf. po Mat. Obespecheniyu Avtomatizir. Sistem Upr. [Materials of Inter-University Conference on Software for Automatic Control Systems -- Collection of Works], Moscow, 1972, pp 196-202 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V526).

Translation: At the present time, planning and control of the national economy require the solution of linear programming problems of great dimensionality. Their solution, even using the most powerful computers, involves significant difficulties. This article presents one possible approach for compression of information in problems of high dimensionality. Application of this method allows the dimensionality of a model to be reduced by comparatively simple formal conversions performed on the basis of machine analysis of the matrix of conditions. A numerical example is presented.

The author notes that analysis of the rows and columns eliminated requires that an economic foundation be provided for the possibility of their elimination; otherwise, valuable information may be lost. Practical utilization of the algorithm presented in the work has shown its relative simplicity and

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USSR

Rudkovskaya, A. I., *Materialy Mezhevuz. Kong. po Mat. Obespecheniyu Avtomatizir. Sistem Upr.*, Moscow, 1972, pp 196-202.

effectiveness for elimination of balance-type limitations from a matrix. This type of limitation is common in models of continuous production (chemical and oil refining operations, etc.). They are usually limitations on semi-finished goods: the entire intermediate product is consumed in the same production process. The program is written in ALGOL 60.

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1/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--SATURATED ALIPHATIC ALDEHYDES -U-

AUTHOR--(05)-ALEKSEYEVA, K.A., DELNIK, V.B., YEFIMOVA, N.I., RUDKOVSKIY,
D.M., TRIFEL, A.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,102

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

R

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALIPHATIC ALDEHYDE, ORGANIC SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1759

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136999

UNCLASSIFIED

2/2 008

CIRC ACCESSION NO--AA0136999

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SATD. ALIPHATIC ALDEHYDES ARE
PREPD. BY CONDENSING LOWER ALDEHYDES OVER CO NAPHTHENATE OR STEARATE,
AND HYDROGENATING THE UNSATD. ALDEHYDES OVER THE SAME SALTS WITH
SYNTHESIS GAS (CO-H SUB2 1:1) AT 100-80DEGREES TO 150-250 ATM.

UNCLASSIFIED

1/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70
-U-

TITLE--CATALYST FOR THE SYNTHESIS OF ALCOHOLS BY THE REPPE METHOD
AUTHOR--(03)-BOGORADOVSKAYA, N.M., IMYANITOV, N.S., RUDKOVSKIY, D.M.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(3), 584-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC ORGANIC SYNTHESIS, ALCDHOL, ALKENE, ION EXCHANGE
RESIN, TERTIARY AMINE, CATALYST, CHEMICAL REACTION RATE/(U)KUZ ION
EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/003 STEP NO--UR/0195/70/011/003/0584/0587

CIRC ACCESSION NO--AP0140286

UNCLASSIFIED

2/2 015

CIRC ACCESSION NO--AP0140286
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. THE REAL CATALYST FOR REPPE
SYNTHESIS OF ALCS. FROM OLEFINS IS THE STRONG ACID H SUB2 FE SUB3 (CO)
SUB11 (I). I WAS PREPD. FROM (HNET SUB3) (HFE SUB3 (CO) SUB11) USING
ION EXCHANGE RESIN KU,2. THE EXPT. REVEALS THAT THE PRESENCE OF A
TERTIARY AMINE IN HTE REACTION MIXT. (OLEFIN CO,H SUB2,CATALYST) CAUSES
A 3000 TIMES LOWER RATE OF ALC. SYNTHESIS. I SYNTHESIS IS REPORTED.
FACILITY: VSES. NAUCH.-ISSLED. INST. NEFTEKHIM. PROTSESS.,
LENINGRAD, USSR.

UNCLASSIFIED

USSR

KLIMOV, G. P., RUDLOVCHAK, V.

"Invariant Randomized Estimate for Linear Regression Model"

Upravlyayemye Sluchayn. Protsessy i Sistemy [Controlled Random Processes and Systems -- Collection of Works]. Kiev, 1973, pp 197-204 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V175, by A. Rukhin).

Translation: A group theory statement of the problem is used to indicate the form of the optimal invariant randomized estimate of the matrix of coefficients in a linear regression model.

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UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--RELIEF WELDING OF BEARING CAGES -U-

AUTHOR--(02)--PIKOVSKIY, A.M., RUDMAN, M.D.

R

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, VESTNIK MASHINOSTROYENIYA, NO 3, 1970, PP 69-70

DATE PUBLISHED--70

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

TOPIC TAGS--BEARING MANUFACTURING PLANT, WELDING, BIBLIOGRAPHY, AVIATION INSTITUTE, TRACTOR, MECHANICAL TEST, R AND D COOPERATION, R AND D COORDINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1469

STEP NO--UR/0122/70/000/003/0069/0070

CIRC ACCESSION NU--AP0115396

UNCLASSIFIED

CIRC ACCESSION NO--AP0115396
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT. THE FOURTH STATE BEARING PLANT,
JOINTLY WITH THE KUYBYSHEV AVIATION INSTITUTE CARRIED OUT A PROJECT
CONCERNED WITH THE REPLACEMENT OF SERIES PRODUCED BEARINGS WITH RIVETED
CAGE CONNECTIONS BY A DESIGN IN WHICH THE CAGES ARE CONNECTED UPON
ASSEMBLY BY RELIEF WELDING. MECHANICAL TESTS CONFIRMED THE HIGH STATIC
STRENGTH OF THE POINT WELDING CONNECTIONS. THE ACTUAL EFFICIENCY OF
THE WELDED CAGES WAS ESTABLISHED BY STAND AND OPERATIONAL TESTS OF THE
BEARINGS. TEST UNDER IDENTICAL OPERATING CONDITIONS SHOWED THAT
BEARINGS WITH A WELDED CAGE HAVE A CONTROL LONGEVITY 1.83 TIMES HIGHER
THAN DO BEARINGS WITH A RIVETED CAGE, AND AN AVERAGE LONGEVITY 2.4 TIMES
HIGHER. EXPERIMENTAL LOTS OF BEARINGS WITH WELDED CAGES WERE DELIVERED
TO TRACTOR PLANTS AND WERE TESTED IN AGRICULTURAL AND TRANSPORT
OPERATIONS. THE TESTS WERE FULLY SATISFACTORY.

UNCLASSIFIED

USSR

UDC: 621.9.014:669.14.018.8
BELOV, B. KH., Candidate of Economic Sciences, RUDNEV, A. V., Candidate of
Technical Sciences, and CHEREMISIN, V. T.

"Machinability of Precipitation Hardened Stainless Grades of Steel"
Moscow, Mashinostroitel', No 5, May 73, p 29

Abstract: Studies were conducted at the All-Union Scientific-Research Instrument Institute (VNII) on determining the optimal conditions for machining the most characteristic representatives of precipitation hardened, stainless grades of steel. These studies made it possible to determine the most rational tool material, geometric parameters for tool sharpening, cutting regimes, and other effective conditions involved in machining operations such as turning, milling, drilling, and cutting threads with taps. The cutters subjected to stability testing were made from the VK6 and T14K8 hard alloys and the R10K5F5 high-speed cutting steel designated for turning Kh17N5M3 grade steel of various hardness and Kh15N9Yu grade steel with an HB of 170 at various cutting regimes. The results show that the stability of hard-faced cutters is reduced as cutting speed and hardness of the machined grades of steel are increased. An insignificant increase in stability was obtained by machining with cutters made from the T14K8 hard alloy, in comparison with cutters made from the VK6 hard alloy for machining steel with an HB of 300. In machining the Kh17N5M3 grade of steel (HB 444),

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USSR

BELOV, B. KH., et al, Mashinostroitel', No 5, May 73, p 29

it was determined that cutters made from the VK6 grade hard alloy were most stable. Data on milling are also given. The results show that optimal results are obtained at a cutting speed of 21-27m/minute, at a feed of 0.04-0.05mm/tooth, and a cutting depth of up to 6mm.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--LUBRICANT COOLANT FOR COLD WORKING OF METALS --U-

AUTHOR--(05)--SOKOLOVSKAYA, V.V., RUDNEV, A.V., GARIBOV, V.R., LEYN, YU.I.,
BARINOV, V.YE.

COUNTRY OF INFO--USSR

R

SOURCE--U.S.S.R. 264,581

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI, 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METALWORKING LUBRICANT, CHEMICAL PATENT, HEAT TRANSFER FLUID,
GLYCEROL, ETHYLENE GLYCOL

CONTRL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/0093

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NU--AA0127720

UNCLASSIFIED

CIRC ACCESSION NO--AA0127720
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE TITLE LIQ. CONTAINS CALCINED
SODA 0.3-0.4, NANO SUB2 0.12-0.14, NA TARTRATE 0.14-0.16, NAOH
0.03-0.05, GLYCEROL OR ETHYLENE GLYCOL 0.002-0.005, AND H SUB2 O TO MAKE
100PERCENT.
FACILITY: VSESOYUZNYY NAUCHNO, ISSLEDOVATEL'SKIY
INSTRUMENTAL'NYI INSTITUT.

UNCLASSIFIED

USSR

UDC 536.46+662.311

VILYUNOV, V. N., RUDNEV, A. P., Tomsk

"Concerning Necessary Conditions of Stable Burning of Powder in a Semi-closed Chamber"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 6, Nov/Dec 72, pp 90-98

Abstract: An investigation is made in the linear approximation of low frequency stability of the stationary mode of burning of powder in a semiclosed chamber with regard to incomplete combustion, thermal losses to the walls and dynamic erosion. Necessary conditions are found for stability of combustion. Qualitative conclusions are drawn to the effect that incomplete chemical reactions, thermal losses and erosion exercise a destabilizing influence on the combustion process. Of three possible stationary modes, only two are stable. The existence of combustion limits with respect to pressure is observed.

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SOME PECULIARITIES OF ECOLOGY OF CARPOCAPSA POMONELLA L. WINTERING
IN SOIL -U-
AUTHOR--(02)--RUDNEV, D.F., GRODSKIY, V.A.
COUNTRY OF INFO--USSR *R*
SOURCE--VESTNIK ZOOLOGII, 1970, NR 3, PP 42-46
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--INSECTA, HIBERNATION, GEOGRAPHIC LOCATION, ECOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1135 STEP NO--UR/0575/70/000/003/0042/0045
CIRC ACCESSION NO--AP0130164
UNCLASSIFIED

PROCESSING DATE--04DEC70

UNCLASSIFIED

2/2 020

CIRC ACCESSION NO--AP0130164
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THERE ARE CONTRADICTIONARY DATA IN THE PROBLEM OF CARPOCAPSA POMONELLA L. CATERPILLAR PLACE OF PUPATION AND WINTERING. AS A RESULT OF INVESTIGATIONS, CARRIED OUT IN 1964-1965 IN THE GARDENS OF ZAPOROZHIE REGION OF THE UKRAINE, IT WAS ESTABLISHED THAT IN THE STEPPE ZONE OF THE UKRAINE CATERPILLARS HIBERNATE NOT ONLY ON THE TREES BUT ALSO IN SOIL (27-36PERCENT), BOTH IN CULTIVATED AND UNCULTIVATED ONE; THE MAIN QUANTITY OF CATERPILLARS IN SOIL (43-57PERCENT) ARE ARRANGED NEAR THE ROOT COLLAR, 26-29PERCENT OF CATERPILLARS AT A DISTANCE UP TO 0.5 M FROM THE TRUNK. COCOONS LIE IN THE SOILS AT THE DEPTH OF 1-5CM; THE DEATH RATE OF CATERPILLARS, WINTERING ON TREES, FROM ENTOMOPHAGES AND UNFAVOURABLE CONDITIONS REACHES 35PERCENT WHEREAS IN SOIL THE CATERPILLARS ARE ALMOST COMPLETELY PRESERVED. SO, SOIL IS A VERY FAVOURABLE PLACE FOR WINTERING OF CATERPILLARS OF CARPOCAPSA POMONELLA L.

FACILITY: INSTITUTE OF PLANT PROTECTION, KIEV.

UNCLASSIFIED

UDC 632.95

USER

RUDNEV, G. K., and KHASKIN, I. G.

"A Method of Synthesizing Oxime Esters of Chlorocinnamic Acid"

USSR Author's Certificate No 264396, filed 15 Jan 68, published 11 Jun 70
(from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N598 P)

Translation: Compounds of the general formula $\text{PhCh}=\text{CClC}(\text{O})\text{ON}=\text{CR},\text{R}'$ (I) (R, R' = alkyl, Ph, R+R' = cycloaliphatic radical) -- intermediate products of organic synthesis and potential insecticides -- are produced by interacting α,β -dichlorocinnamic aldehyde or a mixture of the initial products of synthesis of the aldehyde -- α,β,β -trichloro- β -phenylpropionic aldehyde and the corresponding oxime -- with bases such as tertiary amines in an organic solvent. A mixture of 1.27 g of α,β,β -trichloro- β -phenylpropionic aldehyde, 0.25 g of $\text{Me}_2\text{C}=\text{N}-\text{OH}$ and 20 ml of PhMe is agitated for 1 hour at approximately 20°C while simultaneously bubbling N_2 through the reaction mass, and a solution of 0.51 g of Et_3N in 5 ml of PhMe is then added to the mixture. The reaction mass is agitated for 1 hour at 20-25°C, filtered, the residue is washed in 5 ml of PhMe, the mother liquor is evaporated with isolation of 0.75 g of compound I (R = R' = Me), melting point 70-1°C

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USSR

RUDNEV, G. K., and KHASKIN, I. G., USSR Author's Certificate No 264396, filed 15 Jan 68, published 11 Jun 70 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N598 P)

(from petroleum ether), yield 94%. The following compounds (I) are analogously produced (given are R, R' or R+R'+C, yield in %, melting point in °C): Ph, Me, 97.9, 89-90; cyclo-C₆H₁₀, 99.6, 97-8.

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UDC 632.95

USSR

ABRAMOVA, K. A., KHASKIN, I. G., RUDNEV, G. K., SHIRANKOV, D. F.,
SHOMOVA, YE. A., GRIB, O. K., KUPRINA, ZH. S.

"Pesticide"

USSR Author's Certificate No 252756, filed 10 Jul 68, published
12 Feb 70 (from RZh-Khimiya, No 18, 25 Sep 70, Abstract No 18N665 P,
by P. V. Popov)

Translation: Esters of alpha-chlorocinnamic acid with general
formula $\text{PhCH}=\text{CClC}(\text{O})\text{OR}$ (I) (R = Me, Et, or Ph) exhibit fungicidal
and herbicidal properties. In toxicological experiments I (R = Me
or Et) suppressed development of colonies of *Alternaria*, *Botrytis*,
Cladosporium, *Penicillium*, *Rhizoctonia*, and *Verticillium* on potato-
dextrose agar in most cases no less vigorously than did figon and
TMTD / tetramethylthiuram disulfide. As herbicides, I (R = Me or
Ph) act selectively on dicotyledonous plants (beans, sunflower,
buckwheat, beet, and mustard); winter wheat and oats of the cereal
crops are resistant, corn is the most sensitive.

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UDC 632.95

USSR

SHIRANKOV, D. F., RUDNEV, G. K., and KHASKIN, I. G.

"A Herbicide"

USSR Authors' Certificate No 249845, filed 19 Apr 68, published 4 Jan 70
(from Referativnyy Zhurnal Khimiya, No 17, 10 Sept 70, Abstract No 17 1641 P)

Translation: As a herbicide for combatting dicotyledonous weeds in cereal
crops, use is made of $\alpha, \alpha, \beta, \beta$ -tetrachloro- β -phenylpropionic aldehyde,
which acts in a dose of 10 kg/ha when applied to vegetation.

N. A. Gruzinskaya

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1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--OXIMINO ESTERS OF A, CHLOROCINNAMIC ACID -U-
AUTHOR--(02)-RUDNEV, G.K., KHASKIN, I.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,396
REFERENCE--OTKRYTIYA, IXOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--OXIME, CHLORINATED ORGANIC COMPOUND, ALDEHYDE, CARBOXYLIC ACID
ESTER, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0856 STEP NO--UR/0482/70/000/000/0000/0000
CIRC. ACCESSION NO--AA0136290
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 008

CIRC ACCESSION NO--AA0136290

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

ABSTRACT. THE TITLE COMPS. ARE PREPD. BY
TREATING ALPHA, BETA, DICHLOROCINNAMALDEHYDE OR A MIXT. OF THE STARTING
PRODUCTS OF ITS PREPN., ALPHA, BETA, BETA, TRICHLORO, BETA
PHENYLOPROPIONALDEHYDE AND THE APPROPRIATE OXIME, WITH A BASE, E.G. A
TERTIARY AMINE, PREFERABLY IN AN INERT ORG. SOLVENT.

UNCLASSIFIED

1/2 009 UNCLASSIFIED
TITLE--1,1,3,TRICHLOROACETONE -U-

PROCESSING DATE--04DEC70

AUTHOR--(05)-BUGROVA, L.V., RUDNEV, G.K., RADCHENKO, V.I., KHRISTICH, A.I.,
DRAKINA, N.V.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,385.
REFERENCE--OTKRYTIYA, IZJBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETONE, CHLORINATED ORGANIC COMPOUND, CHEMICAL PATENT,
CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0841

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136275

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136275
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,1,3,TRICHLOROACETONE IS PREPD.
BY CHLORINATING ACETONE WITH GASEOUS CL IN THE PRESENCE OF A SUBSTITUTED
AMINE CATALYST NR PRIME1 R PRIME2 R PRIME3 (R PRIME1 EQUALS H, ET, PH; R
PRIME2 EQUALS H, ME, ET; R PRIME3 EQUALS ME, ET, PH. THE CL IS FED
INITIALLY AT A RATE OF 0.8-1 G-MIN (OPTIMUM 0.983 G-MIN) AND AT THE END
AT A RATE OF 162 G-MIN FOR 1 G ACETONE. THE END PRODUCT IS SEPD. BY H
SUB2 O EXTN. WITH THE RATIO 1:2 CHLORINATED PRODUCT, H SUB2 O AT
15-16DEGREES.

UNCLASSIFIED

UNCLASSIFIED **R** PROCESSING DATE--C3JUL79

TITLE--THE IMPORTANCE OF GLUCOCORTICOID METABOLISM IN THE TREATMENT OF VIRAL HEPATITIS -C-
AUTHOR--~~BLONEN, G. P.~~ SHEYKMAN, M.B., LATSINIK, G.YE.

28
5
33

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 1, PP 72-79

DATE PUBLISHED-----7C

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, VIRAL DISEASE CORTICOID, METABOLISM, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1978/0570

STEP NO--UR/C497/70/C46/C01/C072/C079

CIRC ACCESSION NO--APCC45593

UNCLASSIFIED

Acc. Nr: AP0045593

Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48,
Nr 1, pp 72-79

THE IMPORTANCE OF GLUCOCORTICOID METABOLISM
IN THE TREATMENT OF VIRAL HEPATITIS

Rudnev, G. P.; Sheykman, M. B.; Latsinik, G. Ye.

Under study was the state of processes of glucocorticoid conversion in 95 patients suffering from viral hepatitis of diverse severity. There was found a reduced excretion of reduced tetrahydrometabolites, testifying to a disturbance of enzymatic processes of cortisol inactivation, impairment of processes of binding of corticosteroids with glucuronic and sulfuric acids, decrease of the binding capacity of blood plasma transcortin, diminished excretion of 11-oxy-17-ketosteroids and increased excretion of 6-beta-oxycortisol. There was established a relationship between metabolic disturbances of cortisol and the severity of the disease. The authors analyze the pathogenetic importance of disclosed metabolic disturbances of glucocorticoids, as well as the possibility of using indices of cortisol metabolism for assessing the severity of the disease, for prognosis and for control over the effectiveness of treatment.

REEL/FRAME
19780570

4/6

1/4 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--RUDNEV OUTLINES NEED FOR COMPUTERS IN PRODUCTION -U-

AUTHOR--RUDNEV, K. R

COUNTRY OF INFO--USSR

SOURCE--MOSCOW PRAVDA 24 MAR 70 P 3 1

DATE PUBLISHED--24MARTO

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--AUTOMATIC CONTROL SYSTEM, MINISTERIAL CONTROL, INDUSTRIAL PRODUCTION, INDUSTRIAL MANAGEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1986/0157

STEP NO--UR/9012/70/000/000/0003/0003

CIRC ACCESSION NO--AN0102242

UNCLASSIFIED

274 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0102242

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MAN'S PHYSICAL CAPACITIES ALLOW HIM TO DIRECTLY TAKE IN AND COMPREHEND ONLY A LIMITED AMOUNT OF INFORMATION, WHICH, IN THE MAJORITY OF CASES, IS CLEARLY INSUFFICIENT TO SELECT THE OPTIMUM DECISION. THE ONLY WAY OUT IS TO FIND AN ASSISTANT. SUCH AN ASSISTANT IS COMPUTER AND ORGANIZATIONAL EQUIPMENT, WHICH CAN BE GIVEN THE JOB OF COLLECTING, PROCESSING, AND MAKING PRELIMINARY ANALYSIS OF MUCH OF THE INCOMING INFORMATION. THIS EQUIPMENT PROVIDES US WITH THE NECESSARY AND RELIABLE FACTS FOR MAKING DECISIONS. CONSEQUENTLY, COMPUTERS AID MAN TO SOLVE HIS TASKS MORE QUICKLY AND CORRECTLY. WORK IS NOW BEING CARRIED OUT IN THE MAJORITY OF MINISTRIES AND DEPARTMENTS TO CREATE AUTOMATED CONTROL SYSTEMS BOTH FOR INDIVIDUAL PLANTS AND BRANCHES AS A WHOLE. THUS, IN OUR MINISTRY, A PROGRAM HAS BEEN DRAWN UP TO CONSTRUCT AN AUTOMATED CONTROL SYSTEM FOR THE INSTRUMENT BUILDING BRANCH NAMED "ASUPRIBOR". THE PROGRAM OF CONTROL AUTDMATION IS BEING IMPLEMENTED AT 13 OF THE BRANCH'S ENTERPRISES. EXPERIENCE HAS DEMONSTRATED THAT THE PREPARATION OF ENTERPRISES FOR INTRODUCING AUTOMATED SYSTEMS TAKES NO LESS THAN BETWEEN 1 AND A HALF AND 2 YEARS. HDWEVER, PRIOR TO THIS, IT IS NECESSARY TO OVERCOME THE UNIQUE PSYCHOLOGICAL BARRIER WHICH MANY LEADERS ERECT: "WE HAVE WORKED WITHOUT THESE SYSTEMS FOR ALL THESE YEARS, AND WE WILL MANAGE WITHOUT THEM IN THE FUTURE".

UNCLASSIFIED

3/4 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

SIRC ACCESSION NO--AN0102242

ABSTRACT/EXTRACT--KAZAN TEPLOKONTROL PLANT DIRECTOR N. S. IVANSHIN: AS YET OUR MINISTRY IS OBVIOUSLY CARRYING OUT AN INSUFFICIENT VOLUME OF WORK ON AUTOMATED CONTROL SYSTEMS, JOINTLY WITH OTHER MINISTRIES AND DEPARTMENTS, AND WE ARE STILL TOO SLOW IN GENERATING THE NECESSARY CAPACITIES AND, THEREFORE, REFUSE MANY CLIENTS' CONTRACTS. CAPACITIES FOR THE PRODUCTION OF COMPUTER AND ORGANIZATIONAL EQUIPMENT ARE DEVELOPING AT INSUFFICIENT RATES. MINISTRY WORKERS AND LEADERS OF ASSOCIATIONS AND ENTERPRISES ARE CALLED UPON TO DEVOTE MORE ATTENTION TO ACCELERATING CAPITAL CONSTRUCTION IN THE BRANCH AND SHOW MORE CONCERN FOR SOLVING LONG TERM QUESTIONS. TODAY THERE IS NO DOUBT ABOUT THE NEED FOR THE WIDESPREAD DEVELOPMENT OF WORK CONNECTED WITH TRANSFERRING THE NATIONAL ECONOMY TO A HIGHER AND QUALITATIVELY NEW STAGE OF CONTROL. WHAT MAIN AND SPECIFIC DIRECTIONS SHOULD BE SEEN AS A PROGRAM FOR THE FUTURE. THE FIRST IS THE DEVELOPMENT OF ORGANIZATIONAL FORMS OF CONTROL WHICH INSURE THE INTEREST OF ALL AND EVERYONE IN THE MOST EFFECTIVE USE OF RESOURCES. THE SECOND IS THE EXPANSION OF THE FRONT OF SCIENTIFIC RESEARCH AND PLANNING AND DESIGN DEVELOPMENT OF BOTH THE SYSTEMS THEMSELVES AND COMPUTER MEANS AND OTHER EQUIPMENT. THIRD IS THE TRAINING OF CADRES AND TEACHING THEM TO OPERATE THE SYSTEMS. WHEN SPEAKING OF CONTROL, PEOPLE OF THE MOST DIVERSE PROFESSIONS OFTEN USE THE WORD "CONTROL" COMBINED WITH THE WORD "SCIENCE". THIS APPROACH IS CORRECT AND JUSTIFIED INsofar AS CONTROLLING SCIENCE IS ONE OF THE FINEST EXAMPLES OF THE ORGANIC COMBINATION OF THEORY AND PRACTICE.

UNCLASSIFIED

4/4 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0102242

ABSTRACT/EXTRACT--IT IS PRECISELY OUR ELECTRONIC AIDS, COMPUTER MEANS,
WHICH GIVE US THE OPPORTUNITY TO PLACE THE CONTROL OF PRODUCTION ON A
TRULY SCIENTIFIC BASIS.

UNCLASSIFIED

89

USSR

Rpt 1 Jun 73

In the Radio Guide for 1 Jun 73 it is noted that the First Program includes at 18:40 the program "Unification -- Progressive Form of Industrial Management," featuring an interview with RUDNEV, K. N., Minister of Instrument-Making, Automation Equipment, and Control Systems USSR.

Mskovskaya Pravda, 1 Jun 73, p 4, col 5

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USSR

Rpt 17 Dec 72

RUDNEV, K. , Min, Instrument-Making, Automation Equipment, and Control Systems, USSR, is the author of an article entitled "Effect of Automation."

Moskovskaya Pravda, 17 Dec 72, p 2, col 4

(1)

USSR

UDC 533.0

R
ZYKOV, V. G., KARPUKHIN, V. I., RUDNEV, N. I., TOLOK, V. T., Physicotechnical
Institute, Academy of Sciences, Ukrainian SSK, Khar'kov

"Investigation of the Motion Stability of a Plasma Stream in the Magnetic Field
of a Diverter"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 15, No 7, July 1970, pp 1135-1141

Abstract: Research has shown that the plasma in a longitudinal magnetic field is in a state of unstable equilibrium. Placing a diverter on a straight-line sector of the racetrack brings about considerable changes in the topology of the magnetic field of the track. The article deals with an experimental investigation of the motion stability of the plasma stream in the magnetic field of the diverter, which is an important unity of a race-track stellarator. It is shown that the magnetic field of the diverter is effective in stabilizing plasma motion in a longitudinal magnetic field.

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AM0037532

NUCLEAR SCI. ABST. 1/70 UR 0000

3334 (NP-tr-1859) INTERACTION OF PLASMA FLUXES
 WITH THE PLASMA CYLINDER IN THE MAGNETIC FIELD OF
 THE DIVERTOR. Zikov, V. G.; Karpukhin, V. I.; Rudnev,
 N. I.; Tolok, V. T. (Akademiya Nauk Ukrainskoi SSR; Kharkov,
 Fiziko-Tekhnicheskii Institut). Translated for Culham Lab.,
 Abingdon, Eng., from report FTI-169. 10p. (CTO-657). Dep.
 CFSTI (U. S. Sales Only).

The penetration of the plasma fluxes across the divertor mag-
 netic field into the hollow plasma cylinder formed near the di-
 vertor surface from the injected plasma, is investigated with
 electric probes, a plasmascop, and a Thomson mass spectro-
 graph. It is shown that the leading portions of the plasma fluxes
 enter the divertor aperture. The tail ends are retarded at the
 periphery because of their polarization at the plasma cylinder.
 (auth)

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USSR

UDC 533.92:621.039.61

ZUKOV, V. G., KARPUKHIN, V. I., RUDNEV, N. I., TOLOK, V. G.

"Study of the Stability of a Plasma Jet in the Magnetic Field of a Divertor"

Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion.
Republic Interdepartmental Collection), 1972, No. 3, pp 213-220 (from
RZh-Fizika, No 11, Nov 72, Abstract No 11G296)

Translation: The stability of plasma motion in the magnetic field of a divertor was studied. Observations with the aid of a plasmascope and measurements of radioelectrical fields in the plasma showed that the instability of the rotating plasma occurring in the longitudinal magnetic field of the solenoid is effectively stabilized by the divertor magnetic field.

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USSR

UDC: 533.92:621.039.61

ZYKOV, V. G., KARPUKHIN, V. I., LONIN, Yu. F., RUDNEY, N. I., TOLOK, V. T.,
Physicotechnical Institute of the Academy of Sciences of the UkrSSR, Khar'kov

"Investigation of Plasma Containment in the Magnetic Field of a Racetrack
With Diverter"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, pp 939-945

Abstract: An experimental study is made of the time of containment of plasma particles in a racetrack with a diverter. The trap was filled with plasma by injection from a coaxial source through magnetic slits in the diverter. It was found that the diverter configuration ensures plasma equilibrium in a toroidal magnetic field without rotational transformation of the lines of force of the magnetic field. Two traps can be distinguished in the system: a corkscrew trap in the diverter, and a toroidal trap. The particles drift more rapidly in the diverter magnetic field because of plasma drift in the magnetic slits. The lifetime of the plasma in the diverter τ_1 is independent of the magnetic field H . In the toroidal magnetic field the lifetime $\tau_2 \sim H$, losses being due both to drift in the diverter and the development of instabilities. Since in this experiment a classical diverter with a continuous metal barrier between the central coil and the wall of the

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USSR

ZYKOV, V. G., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72,
pp 939-945

chamber was used, all charged particles which drift into the magnetic
slits of the diverter are neutralized by this barrier. To reduce plasma
losses in the diverter, the central diverter coil should be held by local
supports with a minimum cross sectional area. Plasma losses on the toroidal
sections can be reduced by increasing the number of diverter cells.

2/2

- 69 -

Pulse Techniques

USSR

UDC 621.376.54

RUDNEV, O. V.

"Impulse Duration Modulation Signal Demodulator"

Tekhn. tereggi ugrunda, Za tekhn. progress (For Technical Progress), 1970, No 12, pp 4-6 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D31)

Translation: A pulse duration modulation pulse converter is described. The converter has good conversion linearity. It is part of a pulse duration modulation demodulator operating by the area detection principle. The bibliography has 4 entries.

1/1

USSR

UDC: 621.317.7.087.92-932

RUDNEV, O. V., Azerbaydzhan Affiliate of the All-Union Scientific Research Institute of Geophysical Prospecting Methods

"A Device for Converting Duration-Modulated Pulses to DC Voltage"

USSR Author's Certificate No 253459, filed 30 May 68, published 24 Feb 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A153 P)

Translation: This Author's Certificate introduces a device for converting duration-modulated pulses to DC voltage. The device contains a storage capacitor whose charging circuit is made in the form of a transistor with a resistor in the emitter circuit, while the discharging circuit is made in the form of a controlled diode connected in parallel with the capacitor. To improve conversion accuracy, the device contains a current amplifier based on a transistor with a resistor in the collector circuit. Also incorporated into the device is a network made up of a resistor and a stabilivolt connected in series. Two illustrations. N. S.

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PROPARGYL ETHERS FROM 9,10,DIHYDRO,EXO,DICYCLOPENTADIENE -U-
AUTHOR--(04)-YASHINA, D.G., GAVRILOVA, L.D., RUDNEV, S.A., VERSHCHAGIN,
L.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 971-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CONDENSATION REACTION, ALKYNE, AROMATIC HYDROCARBON, ETHER,
CARBOXYLIC ACID CHLORIDE, FORMALDEHYDE, BROMINATED ORGANIC COMPOUND,
CHLORINATED ORGANIC COMPOUND, AMINE DERIVATIVE, HYDROGENATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY ROLL/FRAME--3000/1319 STEP NO--UR/0366/70/006/005/0971/0975
CIRC ACCESSION NO--AP013493
UNCLASSIFIED

2/2 010

CIRC ACCESSION NO--AP0134993

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) CP-O- ABSTRACT. IN THE PRESENCE OF RE SUB3. ET
 SUB2 O, HC TRIPLE BOND CCH SUB2 OH CONDENSED WITH DICYCLOPENTADIENE
 GIVING 9,PROPARGYLOXY,7,10,DIIHYDRO,EXG,DICYCLOPENTADIENE (I). THE
 HYDROGENATION OF I GAVE 9,PROPOXY,I ANALOG. THE REACTION OF I WITH
 ACCL GAVE 9,CHLORO ANALOG OF I. I WAS ALSO PREPD. FROM ITS 9 HYDROXY
 ANALOG BY THE REACTION WITH BRCH SUB2 C TRIPLE BOND CH IN THE PRESENCE
 OF NA. THE CONDENSATION OF I WITH ALKYLAMINES AND HCHO GAVE THE 9,(RR
 PRIME NCH SUB2 C TRIPLE BOND CCH SUB2 O, SUBSTITUTED) ANALOG OF I.
 FACILITY: INST. NEFTE UGLEKHIM. SIN., IRKUTSK, USSR.

UNCLASSIFIED

Acc. Nr: **AP0052098**

Ref. Code: **UR0246**

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii imeni
S. S. Korsakova, 1970, Vol 70, Nr 3
pp **361-365**

**THE RESTITUTION OF MOTOR FUNCTIONS IN PATIENTS
WITH RESIDUAL SYMPTOMS OF AFFECTION OF THE CENTRAL
MOTOR PATH BY MEANS OF RHYTHMIC TRAINING
ACCOMPANIED BY PHONO AND PHOTO REINFORCEMENT**

V. A. Rudakov

The author reports of a new method of restituting walking by exogenic stimulation of the movements by light and sound after an affection in the mechanism of central regulation. The method is based on the elaboration of conditioned reflexes to a temporary symptom (interval), which makes possible to regulate the desintegrated unconditioned synergia of walking. The experience of the author has shown that the restitution of the act of walking in patients with lesions of the cerebellar system and subcortical structures gives good results in a rhythmic plan. This coincides with the well known tendency of such patients to walk in periodicized spaces (on steps, on repeated ornaments on the floor, side-walk, etc.). Of the 40 patients taken for such therapy all of them gave improvement. The author gives a technical description of the arrangement, its electrical scheme, as well as the theoretical basis of the main working regimen. Control of the therapy is maintained by electromyographic and electroencephalographic methods.

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19820636

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USSR

RUDNEV, V. D., Tomsk

"Conference on the Problem of Fatigue of Metal Materials During Cyclical Impact Loading"

Kiev, Problemy prochnosti, No 1, Jan 71, pp 121-122

Abstract: A conference on the problem of fatigue of metal materials during cyclical impact loading was held at the Tomsk Construction Engineers Institute from 1-3 April, 1969. A report by G. P. Toporov listed the range of problems involved in the investigation of the fatigue of metallic materials, including: analytic and experimental method of determination of stress; the study of the mechanism of impact fatigue rupture; methodology of testing materials for impact fatigue; the influence of external and internal factors on the resistance to impact fatigue rupture; and analytic solution of the problem of selecting optimal parameters of impact systems, with limitations on contact and volumetric stresses in certain parts. Many reports discussed methodological problems of testing for impact fatigue. A design for a new universal fatigue impact test machine was described. A method was suggested for studying the endurance of steels under both harmonic and impact loadings. The influence of external factors on the fatigue

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USSR

RUDNEV, V. D., Problemy prochnosti, No 1, Jan 71, pp 121-122

rupture resistance and notch sensitivity with cyclical impact loading was discussed in many reports. Other reports discussed: the influence of deformation rate of steels on notch sensitivity; new criteria for evaluating sensitivity of metals to stress concentrators with cyclical loading; the influence of composition, structure, properties, and technology of heat treatment on fatigue rupture resistance; the influence of the structure of graphite inclusions in various types of cast iron on fatigue impact resistance; selection of the optimal composition and heat treatment mode for improved impact fatigue resistance; the influence of steel mechanical properties on contact strength during cyclical impact loading; the resistance of chrome-plated parts to fatigue rupture; a formula for determination of critical aging temperature of parts after chrome plating; the selection of optimal parameters of impact systems; and studies of the fatigue of bronze strip specimens during cyclical and pulsating impact loading.

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USSR

UDC 621.315.592.3

RUDNEV, V. V., MASLENNIKOV, P. N., NAZAROV, V. A., ZOLOTAREVA, R. V.,
~~ANTROPOV, V. D.~~

"Ion Implantation -- New Method of Alloying Semiconductors"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Engineering,
Scientific and Technical Collection. Materials), 1979, vyp. 5, pp 148-149
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G433)

Translation: Results are presented of studying ion alloying of semiconductors on the basis of materials published in Soviet and foreign literature. The basic areas of application of ion beams in the technological process for manufacturing semiconductor instruments are investigated. The effect of penetration of the ions into amorphous and crystalline substrates is described in detail. The effect of the energy of the incident ions, the atomic mass of the substrate, and its crystallinity and orientation on the magnitude of the ion path in the solid state is investigated. A procedure for calculating the mean ion path is presented.

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Acc. Nr: APC106266

Ref. Code: VR0103

PRIMARY SOURCE: Avtomatika i Telemekhanika, 1970, Nr 3, pp 96-101

APPLICATION OF EQUIVALENCY RELATIONS FOR DESCRIPTION OF EVENTS REPRESENTED BY FINITE AUTOMATA

Y. V. RUDNEV. A. A. TAL

It is shown that: 1. for any regular event it is possible to make such a k -set K (a finite ensemble consisting of words equivalent to their origins) as well as a certain finite ensemble of words K_0 which fully describe this event; and 2. the ensemble, determined by the arbitrary given correct k -set K and a certain finite ensemble K_0 , is always regular. The algorithms of the analysis and the synthesis of the finite automata that correspond to these results are presented.

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REEL/FRAME
19881510

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USSR

UDC: 512.25/.26+519.3:330.115

VAKHUTINSKIY, I. Ya., RUDNEV, Yu. A.

"Use of a Priori Information on the Optimum Basis in Solving Problems of Linear Programming"

Tr. 3-y Zimney shkoly po mat. programir. i smezhnym vopr., 1970. Vyp. 1
(Works of the Third Winter School on Mathematical Programming and Related Problems, 1970, No 1), Moscow, 1970 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V602)

[No abstract]

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USSR

UDC 512.25/.26+519.3:330.115

YAKHUTINSKIY, I. Ya., RUDNEV, Yu. A.

"One Method of Solving Problems in Linear Programming Using Preliminary Information on the Basis"

Tr. Spets. Konstrukt. Byuro po Avtomatike v Neftepererabotke i Neftekhimii [Works of the Special Design Bureau for Automation in Oil Processing and Petrochemistry], No 3, 1971, pp 169-173, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V680, unsigned).

Translation: A reproduction of a work by the author's (RZhMat, 1971, 7V602).

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- 28 -

USSR

UDC: 517.946

RUDNEV, Yu. V.

"Some Particular Solutions of a Class of Differential Equations"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Transactions of the Moscow Institute of Railroad Transport Engineering) 1970, No. 361, pp 5-6 (from RZh-Matematika, No. 3, March 71, Abstract No. 3E231)

Translation: Some particular solutions of partial differential equations of a definite form, encountered in the solution of several applied problems, are considered. Author's abstract.

1/1

RUDNEVA, I. A.

UDC 551.524.3
EFFECT OF CONVECTIVE CLOUDS ON THE TEMPERATURE GRADIENT IN THE GROUND LAYER
OF THE AIR

Article by I. A. Rudneva, Candidate of Geographic Sciences K. F. Utkina,
Institute of Applied Geophysics, Moscow, *Meteorologiya i Gidrometeorologiya*, Russian,
No 2, 1972, submitted 21 April 1971, pp 32-37

The statistical characteristics were obtained for the behavior of the air temperature gradient in the 1-4 meter layer and the turbulent heat fluxes corresponding to various gradations of intramass convective cloudiness were also obtained. It is demonstrated that on changing the radiation conditions of the underlying surface, clouds essentially decrease the turbulent heat flux in the ground layer of the air and, at the same time, create prerequisites for variation of the conditions of its development.

It is known that clouds significantly change the radiation conditions of the underlying surface [5]. This cannot but be felt in the energy conditions of the ground layer of the atmosphere, which, in turn, must have an effect on further development of the clouds. Thus, an interaction of the regulator type with feedback must be set up between the clouds and the underlying surface. The possibility of such interaction has been noted, in particular, in reference [6]. The clearest example of the occurrence of feedback in atmospheric processes is intramass cumulus cloudiness since its development is directly related to the heat flux from below, and consequently, to the radiation conditions of the underlying surface.

The relation of cumulus clouds to the solar radiation fluxes at the Earth's surface is obvious, and it has been investigated in detail in a number of papers, for example, in [7]. We have secured as our goal the pursuit of a further discovery of the effect of cumulus clouds on the state of the ground layer of the atmosphere and, namely, the effect of cumulus clouds on the variation of the temperature and turbulent heat flux gradients in the 1-4 meter layer which can serve as an approach to solving the problem of feedback in the system made up of convective clouds and the underlying surface.

SPRS 55893
4 May 72

1/2 024

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--GENETIC MARKERS OF HERPES SIMPLEX VIRUS COMMUNICATION 1: SOME
GENETIC MARKERS OF K STRAIN OF HERPES SIMPLEX VIRUS OF THE SECOND
AUTHOR--(03)-GERMANOV, A.G., RUDNEVA, I.A., SOKOLOV, N.I.

R

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 166-170

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERPES SIMPLEX VIRUS, TISSUE CULTURE, MICROORGANISM GENETICS,
ANTIGEN, DRUG RESISTANCE, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1990/0726

STEP NO--UR/0402/70/000/002/0166/0170

CIRC ACCESSION NO--AP0108932

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0108932
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--18SEP70

HERPES SIMPLEX VIRUS PRODUCING OPAQUE PLAQUES IN CHICK EMBRYO FIBROBLAST CULTURES WERE ISOLATED. THESE CLONES JUST AS THE ORIGINAL STRAIN SHOWED NO CYTOPATHIC EFFECT IN CHECK EMBRYO FIBROBLAST CULTURES. MARKED AUTOINTERFERENCE OF PLAQUE FORMATION IN THE CLONES UNDER STUDY WAS DEMONSTRATED. THESE CLONES WERE FOUND TO INDUCE SYNTHESIS OF A SIGNIFICANT AMOUNT OF INTERFERON IN CHICK EMBRYO FIBROBLAST CULTURES. INVESTIGATION OF OTHER PROPERTIES, INCLUDING RESISTANCE TO 5-BROMODEOXYURIDINE AND CAPACITY FOR REPRODUCTION AT HIGH TEMPERATURE, PERMITS TO CHARACTERIZE THE ISOLATED CLONES OF THE K STRAIN AS ATYPICAL VARIANTS OF HERPES SIMPLEX VIRUS.

UNCLASSIFIED

1/2 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--GENETIC MARKERS OF HERPES SIMPLEX VIRUS COMMUNICATION 2:
INVESTIGATION OF GENETIC MARKERS OF THE US STRAIN OF HERPES SIMPLEX
AUTHOR--(04)--RUDNEVA, I.A., GERMANOV, A.G., MYASNIKOVA, I.A., SOKOLOV, M.I.

R

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 182-186

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERPES SIMPLEX VIRUS, TISSUE CULTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAF--1990/0729

STEP NO--UR/0402/70/000/002/0182/0186

CIFC ACCESSION NO--AP0108935

UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--AP0108935
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--18SEP70

HERPES SIMPLEX VIRUS PRODUCING A CYTOPATHIC EFFECT IN HUMAN EMBRYO AND CHICK EMBRYO FIBROBLAST CULTURES WAS STUDIED. DIFFERENT SENSITIVITY OF THE US STRAIN TO SULFATED AGAR POLYSACCHARIDES DEPENDING ON THE TYPE OF CELL CULTURE WAS DEMONSTRATED: COMPLETE INHIBITION OF PLAQUE PRODUCTION WAS OBSERVED ONLY IN CHICK EMBRYO FIBROBLAST CULTURE BUT NOT IN HUMAN EMBRYO FIBROBLASTS. THE VARIANT UNDER STUDY WAS FOUND TO BE SENSITIVE TO 5,BROMODEOXYURIDINE AND TO BE INCAPABLE OF REPRODUCTION AT HIGH TEMPERATURE.

UNCLASSIFIED

USSR

MEL'NIKOV, N. N., SHVETSOV-SHILOVSKIY, N. I., LYALYAKINA, N. P., and RUDNEVA, N. I.

"Synthetic Method for β -Substituted Hydrazides of 2,3-Dihydro-6-methyl-1,4-oxathiolincarboxylic Acid"

USSR Author's Certificate No 364615, filed 20 Jul 70, published 20 Feb 73
(from RZh-Khimiya, No 19, Oct 73, Abstract No 19N540 P)

Translation: Title compounds with the general formula $R'NHN(R)COCSCH_2CH_2OCO(Me)$ (I), exhibiting biological activity are obtained by reacting 2,3-dihydro-6-methyl-1,4-oxathiolincarboxylic acid chloride with a hydrazine or β -acylhydrazine in presence of an HCl (gas) acceptor, for example excess of the starting hydrazine (R, R', yield of I in %, m.p. in $^{\circ}C$ being reported): H, H, 99, 184; H, Ph, 86.5 - (oil); Ph, Ac, 26.8, 138-9; Ph, iso-ProCo, 99, 108-9; Ph, EtCO, 67.2, - (oil); Ph, PhCO, 44.3, - (oil).

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009

TITLE--POSSIBLE REASON FOR THE DEPENDENCE OF THE DISTANCE TO THE
MAGNETOSPHERE BOUNDARY ON GEOGRAPHICAL LONGITUDE -U-
AUTHOR--RUDNEVA, N.M. UNCLASSIFIED PROCESSING DATE--16OCT70

R

COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIIA, VOL. 10, NO. 2, 1970, P. 312-315

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--MAGNETOSPHERE, GEOGRAPHIC LONGITUDE, GEOMAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0153

STEP NO--UR/0203/70/010/002/0312/0315

CIRC ACCESSION NO--AP0119149

UNCLASSIFIED

2/2 009

CIRC ACCESSION NO--AP0119149
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. DISCUSSION OF CERTAIN PECULIARITIES OF THE MAGNETOSPHERE BOUNDARY REVEALED IN SOME MEASUREMENTS OBTAINED BY MEANS OF SATELLITES EXPLORER 12 AND 13. THESE PECULIARITIES CONSIST IN THAT THE DISTANCE TO THE MAGNETOSPHERE BOUNDARY DIFFERS AT VARIOUS LONGITUDES. THIS DISTANCE MAY DEPEND ON THE ENERGY LEVELS OF THE ELECTRIC CURRENTS FLOWING IN THE MAGNETOSPHERE ALONG THE LINES OF FORCE OF THE GEOMAGNETIC FIELD. THE MAIN GEOMAGNETIC FIELD DIFFERS AT VARIOUS LONGITUDES. THESE DIFFERENCES MAY BRING ABOUT VARIATIONS AT DIFFERENT LONGITUDES IN THE DIRECTION OF THE ELECTRIC CURRENT ARISING IN THE MAGNETOSPHERE ALONG ITS LINES OF FORCE. THE COMPARATIVELY MODERATE DENSITY OF THESE ELECTRIC CURRENTS MAY BE THE CAUSE OF THE DEPENDENCE OF THE DISTANCE TO THE MAGNETOSPHERE BOUNDARY ON GEOGRAPHICAL LONGITUDE.

FACILITY: AKADEMIIA NAUK SSSR, INSTITUT ZEMNOGO MAGNETIZMA, IONOSFERA I RASPROSTRANENIIA RADIOVOLN, KRASNAYA PAKHRA, USSR.

UNCLASSIFIED

USSR

UDC 529.786

YEREMINA, N. M., MISHAKOV, G. A., PIKHITELEV, A. I., and RUDNEVSKIY, N. K.
"Method and Results of Measuring the Lorentzian Dislocation and Widening of
Hyperfine Components of the Major Doublet of Rubidium Caused by Buffer Gas"

V Sb. "VII Ural'sk. Konf. po Spektroskopii, 1971. Vyp 1" [In the Collection
"Seventh Ural Conference on Spectroscopy, 1971. No 1".], Sverdlovsk, 1971,
pp 139-141 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i
Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.549)

Translation: In basic elements of the quantum frequency standard based on
rubidium vapors - absorption section, filter section, and spectral lamp -
the fillers used are rubidium vapors and a buffer gas. For the analysis
and investigation of characteristics of this type of standards, e.g. the
parameter of quality and filtration of superfine components of the major Rb
doublet, it is necessary to know the coefficient of dislocation and of
widening of the rubidium lines caused by the buffer gas. A method is sug-
gested for the investigation of indicated constants for the major doublet
of rubidium. The coefficients of dislocations and of line widenings of the
major doublet of rubidium (780 nm and 794.7 nm) were measured with a relative
error of 15% for argon, xenon, nitrogen, and neon. The results of measure-
ments are shown in a table. Two illustrations, one table, seven bibliographi-
cal references.

1/1

USSR

UDC 593.42

RUDNEVSKIY, N. K., MAKSIMOV, D. YE., and SHABANOVA, T. M.

"Investigation of the Sensitivity Increase of Spectral Determination of Micro-impurities Using a Discharge With Hollow Cathode in the Magnetic Field"

V Sb. "VII Ural'sk. Konf. po Spektroskopii, 1971. Vyp.1" [In the Collection "Seventh Ural Conference on Spectroscopy, 1971. No 1".], Sverdlovsk, 1971,

pp 12-14 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.993 by V. S. K.)

Translation: An investigation was made of a series of spectroscopic characteristics of a discharge with a hollow cathode in an axial magnetic field, and the possibility of using this field for increasing the sensitivity in analyzing microadmixture of elements was determined. Results of carried out investigations showed that the discharge with a hollow cathode in the magnetic field can be used as excitation source in spectral determination of elements according to curved lines with low excitation potentials, as 45 among the 70 elements located in the upper part of the periodic system, have the last lines of atoms with excitation potentials less than 5 ev. The sensitivity in determining elements in a hollow cathode, when superimposing a magnetic field, exceeds by a factor of one the sensitivity achieved under similar conditions without field.

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USSR

RUDNEVSKIY, N. K., et al, V Sb. "VII Ural'sk. Konf. po Spektroskopii, 1971,
Vyp. 1"

The reproductiveness of the analysis, rated according to the magnitude of the
mean square error, is similar in both cases and amounts to 15-35%. Two illustr.,
one table, eleven biblio. refs.

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USSR

GOLITSYN, G. I.; RUDNEVSKIY, N. K.

"Study of the Temperature of Electrodes Made of Simple Alloys as a Function of Their Composition during the Action of an AC Arc"

Minsk, Zhurnal Prikladnoy Spektroskopii; March, 1971; pp 359-63

ABSTRACT: A study was made of the temperature, at the heated surfaces, of electrodes made of Cu-Ni, Cu-Mn, Cu-Zn, and Cd-Zn alloys as a function of their composition during the action of an AC arc discharge (in a state of stationary thermal equilibrium). Using the data obtained, the authors determined the temperature distribution along the axis of the electrodes studied near the region affected by the arc discharge. By means of distribution curves and data on the melting points of the alloys an evaluation was made of the size of the melting areas at the heated surfaces of the electrodes as a function of their composition. It was established that at electrodes with a greatly varying thermal conductivity heat builds up in different ways near their heated surfaces; the smaller the thermal conductivity, the greater the depth of the high-temperature region. As a consequence of this, enlargement of the melting area leads

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USSR

GOLITSYN, G. I., et al, Zhurnal Prikladnoy Spektroskopii, March, 1971, pp 359-63

to great damage to the electrodes affected by the discharge. The results obtained make it possible to give a qualitative explanation of certain well-known peculiarities in the behavior of the materials of simple alloys in an AC arc discharge and, in a number of cases, to establish the decisive role of thermal conductivity in the erosion of alloys.

The article includes 5 illustrations. There are 11 bibliographic references.

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- 110 -

UNCLASSIFIED
TITLE--USE OF ATOMIC ABSORPTION SPECTRA FOR DETERMINING EXCESS QUANTITIES
OF SELENIUM AND ZINC IN ZINC SELENIDES -J-
AUTHOR--(03)--RUDNEVSKIY, M.K., DEMARIN, V.T., NYROKOVA, O.A.
PROCESSING DATE--18SEP70

COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(1), 156-8
DATE PUBLISHED-----70

R

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ATOMIC SPECTRUM, ABSORPTION SPECTRUM, SELENIUM, SELENIUM,
SELENIUM COMPOUND, ZINC, ZINC COMPOUND, VACUUM DISTILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/0929

STEP NO--UR/0368/70/012/001/0156/0158

CIRC ACCESSION NO--AP0053853
UNCLASSIFIED

2/2 014

CIRC ACCESSION NO--AP0053853
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT. SE EXCESS IS SEPD. FROM THE MAIN COMPONENT ZNSE BY VACUUM DISTN. IN A SEALED TUBE. AT 600DEGREES SE DISTILLS OFF AND IT IS CONDENSED IN THE COLDER PART OF THE TUBE. THE TUBE IS OPENED, SE IS DISSOLVED IN HNO SUB3, AND THE SOLN. IS EVAPD. THE SAMPLE IS PLACED IN A CELL WITH AN AR ATM. (3 ATM) AND HEATED TO 1900DEGREES. THE ABSORBANCE AT 207.4 NM IS MEASURED. THE SENSITIVITY IS 0.01PERCENT SE AND RELATIVE STD. DEVIATION IS 10PERCENT. ZNSE EVAPS. AT IS GREATER THAN OR EQUAL TO 800DEGREES, THE EXCESS OF ZN FROM THIS CO4PD. CAN BE VAPORIZED AT 760DEGREES IN A CELL WITH AN AR ATM. THE AT. ABSORPTION AT 307.6 NM IS MEASURED. SENSITIVITY AND RELATIVE STD. DEVIATION ARE 10-3PERCENT AN AND 15PERCENT. THE DETN. OF ZN AND SE BY AT. ABSORPTION IS SIMILIAR TO 10 TIMES MORE SENSITIVE THAN THE SPECTROGRAPHIC DETN., THEIR PRECISION HAS THE SAME ORDER OF MAGNITUDE.

UNCLASSIFIED

USSR

UDC 621.181.5:669.15.293-196

KALININA, L. T., KRIVOSHEYEV, V. A., and RUDNITSKAYA, V. I., Dnepropetrovsk Metallurgical Institute

"Phase Transformations in Additionally Alloyed Chrome-Nickel Roll Cast Iron in Isothermal Holdings"

Kiev, Metallofizika, No 32, 1970, pp 98-100

Translation: Curves of an isothermal decomposition of austenite in chrome-nickel roll cast iron alloyed with niobium (2.9% C, 0.4% Si, 0.8% Mn, 0.15% P, 0.02% S, 0.8% Cr, 3.9% Ni) were obtained. The mechanism of formation of anomalous structures in cast iron during high supercooling was examined.

It was established that during low supercooling (600-450°C) niobium lowers the stability of austenite, and during high supercooling (350-200°C), increases it.

The study made reveals a picture of the phase transformations in chilled cast iron alloyed with 0.3% niobium under isothermal conditions, which is important to know for the selection of the optimum conditions for cooling rolls in molds.

Bibliography: 7 entries, 2 illustrations

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USSR

RUDNITSKIY, A.S., KHAPALYUK, A.P.

UDC 621.372.413

"Natural Types Of Oscillations In The Form Of Superposition Of Uniform Plane Waves Of A Two-Dimensional Dielectric Resonator With Fresnel Reflection"

Vestn. Belorus. un-ta (Bulletin Of Belorussian University), 1971, Series I, No 2, pp 48-53 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9B122)

Translation: Natural types of oscillations are considered in the form of the sum of uniform plane waves of a two-dimensional resonator with Fresnel reflection. Characteristic systems of equations are obtained and investigated, as well as the conditions for the existence of such modes with various values of the optical density of the medium of the resonator. Expressions are presented for the characteristics of the oscillations. 1 ill. 9 ref. Summary.

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AA0044814

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 2/70

243712 INCREASING THE RESOLVING POWER OF A MEASURING BRIDGE without higher requirements from sensing elements can be achieved thus. The bridge is fed with bipolar impulses of potential with positive and negative impulses equal in amplitude and duration. The energy, carrying information on the parameter under control (e.g. light beam) is commutated in step with the feeding potential. Therefore, the useful output signal of the bridge does not change the sign, and the signal resulting from the drift of parameters of bridge elements will be changing the sign in step with the feeding potential. Averaging the output signal for the period of feeding potential allows to separate the useful signal and thus to eliminate the influence of the drift in bridge elements on its metrological performance.

24.7.67 as 1175104/18-10.B.L.RUDNITSKII et al.
 (26.9.69) Bul 17/14.5.69. Class 2le. Int.Cl.G 01 r.

AUTHORS: Rudnitskiy, B. L.; Burtov, Ya, L.; Didenko, D. A.

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g.c.

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--THERMOELECTRON AND THERMIONIC EMISSION OF IRON CATALYSTS OF AMMONIA
 SYNTHESIS STUDIED AS A METHOD FOR EXPOSING THE SPOTLINES OF THE CATALYST
 AUTHOR-(02)-RUDNITSKIY, L.A., IVANOV, M.M.
 COUNTRY OF INFO--USSR R
 SOURCE--KINET. KATAL. 1970, 11(1), 207-14
 DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--THERMIONIC EMISSION, IRON, CATALYST, AMMONIA, POTASSIUM,
 CHEMICAL SYNTHESIS, ACTIVATION ENERGY, WORK FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1997/0526

STEP NO--UR/0195/70/011/001/0207/0214

CIRC ACCESSION NO--AP0119445
 UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

2/2 037

CIRC ACCESSION NO--AP0119445
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. "SPOTTINESS" (DEGREE OF
NONUNIFORMITY OF THE SURFACE OF A CATALYST) WAS DETD. FROM THE
THERMOELECTRON WORK FUNCTION (PHI PRIME NEGATIVE) AND THE ACTIVATION
ENERGY OF THERMIONIC EMISSION (PHI PRIME POSITIVE). THE EXPT. CONSIDERS
THERMOEMISSION OF A SERIES OF FE CATALYSTS (FOR NH SUB3 SYNTHESIS)
PROMOTED BY K. VALUES OF PHI PRIME NEGATIVE, PHI PRIME POSITIVE, AND
THE PREEXPONENTIAL COEFF. A OF K PRIME POSITIVE EMISSION ARE GIVEN FOR A
SERIES OF FE CATALYSTS HAVING DIFFERENT K SUB2 O CONC. PRESENCE OF AN
ANOMALOUS SCHOTTKY EFFECT IMPLIES "SPOTTINESS" OF THE CATALYST SURFACE.
ON INCREASING THE K SUB2 O CONC., THE VALUES OF PHI PRIME POSITIVE AND
A DECREASED. SURFACE REGIONS HAVING HIGH PHI PRIME NEGATIVE CONTRIBUTE
MAINLY TO THE EMISSION OF K PRIME POSITIVE. FACILITY: GOS.
NAUCH.-ISSLED. PROEKT. INST. AZOTN. PROM. PROD. ORG. SIN., MOSCOW, USSR.

UNCLASSIFIED

UDC 621.771.07

USSR

TROFIMOVSKIY, V. A., RUDNITSKIY, L. S., BERKOVSKIY, V. S., YELIZAROV, I. I.,
and AVRUNIN, P. M., Lutuginskiy Plant of Rolling-Mill Rolls; Moscow Insti-
tute of Steels and Alloys; "Dneprospetsstal' Plant," Dnepropetrovsk Metal-
lurgical Institute

"Rolls for Rolling Hard-to-Work Steels"

Moscow, Metallurg, No 1, Jan 71, pp 31-34

Abstract: Rolling-mill rolls from both low-alloy and plain carbon cast iron steels with lamellar graphite, which have been used in the past did not provide proper-quality rolling stock or make possible rhythmic operation of the mills. In recent years extensive use has been made of alloyed quality steels having a higher hardness value and a low rolling temperature range. As a result, the industry faces higher requirements with respect to the wear resistance of passes and over-all service strength. This study involves rolls from cast iron injected with magnesium and cerium with a lower content of chromium, silicon, and phosphorus. Spheroidal graphite and a compact-grained structure stemming from reduced contents of chromium and silicon as well as from injection with magnesium have given the rolls good wear resistance, low

USSR

TROFIMOVSKIY, V. A., et al, Metallurg, No 1, Jan 71, pp 31-34

uniform frictional wear, and surface finish. Low phosphorus (up to 0.28%) and chromium (up to 0.3%) contents provide the required strength since the number of brittle components (carbides) is reduced. The new rolls have been introduced on all break-down and prefinishing stands of the Dnepros-petsstal' Plant. Tables in the original article cite test results of mechanical properties of rolls from magnesium cast iron and cast iron with lamellar graphite as well as comparative data on the resistance of both experimental and ordinary rolls.

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Foundry

UDC 669.185.1

USSR

NIKIFOROV, B. V., SMOKTIY, V. V., GUL'YEV, G. F., ORLOV, V. S.,
SIZENKO, A. S., SAFRONOV, YU. YA., KOLESNIK, V. D., BASIZEROV,
YU. V., RUDNITSKIY, YA. N., FAYERSHTEYN, A. D., KAGAN, I. I.,
Institute of Ferrous Metallurgy in Dnepropetrovsk and Krivoy
Rog Metallurgical Plant

"Operating Experience With a 55-Ton Converter With Increased
Blowing Rate"

Moscow, Stal', No 3, Mar 70, pp 215-218

Abstract: Metallurgists of the Institute of Ferrous Metallurgy
in Dnepropetrovsk and Krivoy Rog Metallurgical Plant have
developed a technique for smelting in 55-ton converters with
the oxygen feed rate almost doubled from 2.8-3 to 5-6 cu m/t
per minute. A new-type tuyere is used, the nose of which has
two rows of concentrically arranged nozzles with independent
oxygen feed to each row. The increased blowing rate improves
slag formation. The yield of acceptable product and the degree
of improvement in slag formation are determined by the struc-
tural characteristics of the noses. Nose No. 5 was found to be
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USSR

NIKIFOROV, B. V., et al., *Stal'*, No 3, Mar 70, pp 215-218

the most effective of all those tested. The use of a tuyere with nose No. 5 reduces the blowing time by 40 percent and increases converter productivity by 20.5 percent. Steels K St. 5sp, K St. 3sp, 3SGS, K St. 5 ps, K St. 3ps, K St. 0m, 08ip, 10kp, K2, K3, KExp., K3khr, T, and Sv-08A were obtained without any decrease in the yield of acceptable product, deterioration of metal quality, or decrease in refractory lining resistance. In newly designed shops provision should be made for a gas circuit capacity and oxygen feed system sufficient for the operation of converters with a blowing rate of 5-6 cu m/(t. min).

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UDC 539.374

USSR

BERNSHTEYN, M. L., LYUTSAU, V. G., PLATOVA, S. N., LYUTSAU, A. Y., and
RUDNITSKIY, YE. N., Moscow Institute of Steel and Alloys

"Mechanism of Hardening of Steel as a Result of High-Temperature Thermo-
mechanical Treatment"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 2, 1973,
pp 394-399

Abstract: The austenite substructure formed upon hot deformation under conditions of high-temperature thermomechanical treatment, defining the change in the composition of the martensite, is quite stable and is retained for a long period of time after completion of deformation and after secondary heat treatment. Achievement of the optimal combination of mechanical properties as a result of high-temperature Thermomechanical treatment requires that the substructure-formation process develop in such a way that most of the initial high-angle boundaries disappear, so that the entire volume of the metal is filled with subgrains which grow with time. There is a stage of the process (a duration of holding after deformation) such that as the new recrystallized structure is formed by coalescence of subgrains, the old high-angle boundaries disappear completely, while no new high-angle boundaries are yet formed.

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Acc. Nr.

AA0034466

Abstracting Service:
CHEMICAL ABST.

R-70

Ref. Code

UK 0000

73098; Glass for laser generators and laser amplifiers. Buzhinskii, I. M.; Zhabotinskii, M. E.; Kudnitskii, Yu. P.; Tsapkin, V. V.; Tsapkina, I. V.; Ellert, G. V. (Institute of Radio Engineering and Electronics, Academy of Sciences, U.S.S.R.) Brit. 1,177,731 (Cl. C 09k), 14 Jan 1970, Appl. Of Jan 1968; 5 pp. A laser generator or amplifier glass is described which is composed of 1 or more alkali metal oxides, Nd oxide, 20 to 90% by wt. P₂O₅, and an additive consisting of an Al halide and/or a Sn halide. The total wt. percentage of the additive is ≤20. To illustrate, a glass is obtained from an original stock composed of a mixt. of finely crushed LiPO₃ 39, NaPO₃ 46, AlPO₃ 7, AlF₃ 4.7, and Nd₂O₃ 3.3% by wt. by melting in a quartz crucible at 850 to 1056° during 3 to 6 hr and under const. stirring with a quartz agitator. Discharge of finished glass and its annealing are carried out in accordance with the production techniques usually adopted in the silicate-glass manufacturing art. The product, capable of emitting light energy on the 1060 nm wavelength, is composed of Li₂O 8.2, Na₂O 17, Al₂O₃ 4.0, AlF₃ 7.7, P₂O₅ 60, and Nd₂O₃ 3.1%. Its specific wt. is 2.52 g/cm³ and n 1.524. The spectral-luminescent characteristics of the glass are: half-width of the luminescent band at 1060 nm ~16 nm; life-

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time of Nd^{3+} when excited 250×10^{-6} sec; quantum yield of luminescent energy at 1060 nm, 0.4 ± 0.05 ; inactive absorption at 1060 nm $>10^{-3} \text{ cm}^{-1}$. The generation threshold of a light quantum generator employing the proposed material is substantially lower than in the case of silicate glass. The spectrum of a laser based on phosphate glass is practically independent of the pumping level equalling 6 Å in a strip-line resonator and 3 Å in a spherical-cavity resonator. The above-described method of obtaining the glass allows emission at 1060 nm for pumping sources at 7000°K. Ramona Mayer

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19711141

Acc. Nr: **AP0046160**

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Ref. Code: **UR 0646**

PRIMARY SOURCE: Teoreticheskaya i Matematicheskaya Fizika, 1970,
Vol 2, Nr 1, pp 129-148

STATISTICAL VARIATIONAL PRINCIPLE
OF N. N. BOGOLYUBOV AND GREEN FUNCTION METHOD
IN HEISENBERG - ISING MODEL

Rudnoy, Yu. G.

Connection between statistical variational principle due to N. N. Bogolyubov for free energy with partial diagram summation of the thermodynamic perturbation theory and variational theorem of Luttinger and Ward [21] is established. On the basis of Matsubara's Green function method with effective potential approximation for full vertex part, the nonlinear integral Dyson equation is approximately solved by introducing the polarization operator and a new implicit equation of magnetic state is obtained.

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REEL/FRAME
19781237

DI 21

Acc. Nr: **AP0040312**

Ref. Code: **UR0481 3**

R

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,
1970, Nr 1, pp 3-10

ON THE STATE AND PERSPECTIVES IN DEVELOPMENT OF CRYOSURGERY

Sirotkina, M. G.; Gol'dina, B. G.; Gutkin, Y. S.;
Komarov, B. A.; Kondrat'yeva, N. I.; Mikhaloyts, S. N.;
Rudnya, P. G.

The trends of development and practical evaluation of cryosurgical methods of treatment in the last two decades are presented. Their use being of pure empiric nature it has been decided to use canine palate tonsils as a suitable model for scientific optimization of demands applied to cryosurgical apparatuses and rationalization of their application. The dynamics of general and local changes after tonsillectomy in the fluid nitrogen (-196°C) as a cold source have been studied by clinical, haemathological and pathomorphological investigations. By lowering the temperature in the tissue under tonsil to -7°C a subsequent expressed destructive effect can be anticipated. Complete disappearance of the tonsil tissue was observed in 51.8 per cent of cases, partial destruction—in 35.1 per cent. The authors believe that along with an intensive biological search for complex evaluation of the method a simple cryogen technique for a number of surgical fields to be equipped with must be developed.

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REEL/FRAME
19741743

USSR
Aerospace Medicine

UDC 613.693

USSR

RUDNYI, N. M., Maj Gen Med Serv, Candidate of Medical Sciences

"The Effects of Some Flight Factors on the Work Ability of Flight Personnel"

Moscow, Voenno-Meditsinskiy Zhurnal, No 6, 1973, pp 51-55

Abstract: In flight, a number of environmental factors which may be harmless when acting separately often act simultaneously or successively, thus producing cumulative and dangerous effects. Hypoxia may be caused by unforeseen failure of the equipment or its improper use due to negligence or discomfort. Gradually developing hypoxic hypoxia is probably the most tricky factor since it induces euphoria with the subjective and deceptive feeling of increased efficiency, lack of critical judgment, and hastiness in the performance of various operations. At other times, the same degree of hypoxia causes apathy, headache, fatigue, sleepiness, and a reversal of motor activities to the uncoordinated, pre-training pattern. Visual acuity may begin to deteriorate at an altitude of 1,500 m. The diurnal fluctuations in metabolism become an aggravating factor when the hypoxia coincides with the metabolic trough. The second most important factor is rapid decompression. By causing pain in muscles and joints and occasionally severe meteorism, it may totally incapacitate the pilot. Rapid acceleration, even when it

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is not nauseating, exerts a negative effect on the autonomic nervous system and circulation. This effect is cumulative, as evidenced by deteriorating flight precision on successive days. The situation becomes critical when circulatory hypoxia is compounded by hypoxic hypoxia. Prolonged noise and vibration decrease the pilot's ability to read flight instruments properly. Other important factors to be considered by the aviation physician include the pilot's activities and food intake prior to flight, intake of drugs, especially self-medication, and his personal idiosyncrasies.

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PUBLICATIONS

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ISAKOV, P. K., IVANOV, D. I., POPOV, I. G., ~~RUZHSKIY, N. M.~~ RUDNYY, N. M., SAKSONOV, P. P.,
and YUGANOV, Ye. M.

Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of
Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp.

Translation: Annotation: This monograph elucidates theoretical and practical questions of aviation medicine. It presents brief information on the physiology, hygiene, pharmacology, toxicology, radiology, internal medicine, surgery, psychology, and other disciplines which make up the theoretical basis of aviation medicine. Questions of the medical flight examination for flight personnel, medical checks on flight safety, evacuating sick and wounded persons by air, and medical support for various types of aviation are considered.

The book is intended for aviation doctors and students at academies and aviation institutes and faculties.

Preface

The development of aviation medicine began with the introduction of aircraft into practical use. At the present time, representatives of practically all
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medical specialization devote attention to questions of aviation medicine. Furthermore, biologists and psychologists participate extensively in developing the scientific propositions which are used in aviation medicine.

In comparison with other occupations, flying activity involves a very high degree of action by various extreme factors on the organism. Even a slight emergency, similar to one which on the ground could be eliminated without danger to the crew, may end in disaster in the air if a set of special measures is not envisioned. For this purpose, aviation doctors participate in evaluating each new type of airplane, beginning with its design and ending with flight testing, and they conduct medical and psychological selection of candidates for flight schools. All activity by flight personnel is under constant observation by aviation doctors who regulate the flying load and participate in evaluating the pilot's readiness to perform the flight assignment.

In this book the first attempt is made to show, along with a presentation of the theoretical aspects of aviation medicine, the possibilities for applying this knowledge in the aviation doctor's practice.

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The authors made no attempt to present all questions of aviation medicine without exception. In order to carry out such an attempt at the present time, a multi-volume publication would be needed. This refers particularly to the clinical aspects of aviation medicine. The specific etiological condition for the development and course of deviations in health caused by flight factors, analyzing the possibility of performing flights after suffering diseases, and the system and methods for medical monitoring of the state of health of flight personnel are all clinical aspects of aviation medicine which are elucidated in appropriate publications and, naturally, are treated in a limited manner here.

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