

USSR

UDC 519.21

NAGORNYI, V. N.

"Interpolation of Random Processes. II"

Teoriya veroyatnostey i mat. statis, Mezhdved. nauch. sb. (Probability Theory and Mathematical Statistics; Interdepartmental Scientific Collection), No 3, 1970, pp 97-104 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V147)

Translation: Cf. Abstract No 8V146 for part I.

A generalized interpolational theory is considered for a certain class of random processes and the presentation of random processes by Newton, Abel and Abel-Goncharov interpolational theories, which are particular cases of generalized interpolational theories. Author's abstract.

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UDC 519.21

NAGORNYI, V. N.

"Interpolation of Random Processes. I"

Teoriya veroyatnostey i mat. statis. Mezhd. nauch. sb. (Probability Theory and Mathematical Statistics: Interdepartmental Scientific Collection), No 3, 1970, pp 93-96 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V146 by G. Molchan)

Translation: Different interpolational formulas are presented for second-order random processes with the covariance function

$$B(t, s) = \int_{\Lambda} \int_{\Lambda} f(t, \lambda) \overline{f(s, \mu)} F(d\lambda, d\mu),$$

where $F(d\lambda, d\mu)$ is a complexly-valued positively-defined measure with bounded variance, and $f(z, \lambda)$ is an integral function of z bounded on $\{ |z| < \infty \} \times \Lambda$. The results of the study are based on work done by Ibragimov and Keldysh on the interpolation of integral functions (Mat. sb. [mathematics collection], 1947, Vol 20 (62), No 2).

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USSR

UDC: 519.2

BREY, V. V., NAGORNYI, V. N., POGORELYI, L. V., YADRENKO, M. I.

"On Modeling Some Classes of Random Processes"

Vychisl. i prikl. mat. Mezhd. nauch. sb. (Computational and Applied Mathematics. Interdepartmental Scientific Collection), 1972, vyp. 17, pp 39-50 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V199 [authors' abstract])

Translation: Computational formulas are presented for digital computer modeling of Gaussian stationary processes with correlation functions

$$B(x) = e^{-\alpha|x|}, \quad B(\tau) = e^{-\alpha|\tau|} \cos b\tau,$$

$$B(\tau) = e^{-\alpha|\tau|} \left(\cos b\tau + \frac{a}{b} \sin b|\tau| \right).$$

USSR

KORBUT, B. A.; NAGORNYI, Yu. I. (Zaporozh'ye Machine Building Institute)

"Stability of a Spherical Shell with an Elastic Core"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR: Mekhanika; November-December, 1972; pp 26-31

ABSTRACT: In the article the authors study the stability of a closed, spherical shell with a core under a uniform external pressure. An exact model making use of the general equations of elasticity theory and an approximate model making use of one equation in elasticity theory are presented. The cases of a solid core, a core with a cavity, and a core having a shell or solid body inside of it are examined.

The calculations indicate that the deformation of the core is satisfactorily described by the approximate model.

The article includes 21 equations and two figures. There are six bibliographic references.

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USSR

UDC: 8.74

ANDREYEV, V. L., NAGORSKIY, A. A., SHAPIRO, A. P.

"Modeling the Population of Fish With a Two-Year Life Span and a Single Spawning Period"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works), vyp. 25, Moscow, "Nauka", 1972, pp 167-175 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V603)

Translation: The paper gives some information on construction of models, estimation of parameters, and also on the results of modeling the dynamics of numbers of an industrial breed of fish (the prototype of the models considered is the population of the South Kuril gorbusha [a member of the salmon family]). The algorithms were realized on the "Minsk-22" computer. Authors' abstract.

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1/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--SURFACE DECARBURIZATION OF STEEL IN THE PRODUCTION OF ROLLED MATERIALS -U-

AUTHOR--(04)-POTENKIN, K.D., NAGOVITSIN, V.V., ZAKHAROV, V.D., FEDOROVA, Z.N.

N

COUNTRY OF INFO--USSR

SOURCE--METALLURG, FEB. 1970, (2), 36-39

DATE PUBLISHED-----70

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

TOPIC TAGS--METAL ROLLING, METAL DECARBURIZATION, STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0918

STEP NO--UR/0130/70/000/002/0036/0039

CIRC ACCESSION NO--AP0124579

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13/10/70

CIRC ACCESSION NO--AP0124579

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SURFACE DECARBURIZATION OF STEEL IN THE PRODUCTION OF ROLLED SHEET AND STRIP WAS STUDIED. FACTORS AFFECTING DECARBURIZATION INCLUDE THE FACT THAT THE ORIGINAL BILLETS UNDERGO STRUCTURAL CHANGES AND THAT THESE ARE DISTRIBUTED IN A NON UNIFORM MANNER AROUND THE PERIMETER AND ALONG THE LENGTH. SIMILAR CHANGES ALSO TAKE PLACE WHILE HEATING THE MATERIAL BEFORE ROLLING. IN SOME CASES FURTHER DECARBURIZATION OCCURS WHILE COOLING THE ROLLED MATERIAL.

UNCLASSIFIED

USSR

UDC 541.183

KIROVSKAYA, I. A., MAYDANOVSKAYA, L. G., KNYAZEVA, E. I.,
MURZINA, G. D., NAGOMITSINA, V. N., Tomsk State University imeni
V. V. Kuybyshev, Tomsk, Ministry of Higher and Secondary Specialized
Education RSFSR

"Adsorption of CO on Semiconductors of the Zinc Blend Type"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 5, May 70,
pp 1260-1266

Abstract: A study is reported on the adsorption of carbon monoxide on semiconductors of the isoelectronic series of germanium: Ge, GaAs, ZnSe, and CuBr. Kinetics of the adsorption on all of these compounds was studied as well as the desorption kinetics of CuBr. Heats of adsorption of CO were calculated for several temperatures by the Clayperone-Clausius equation of the Bering-Sperpinski type, using empirical functions determined by the authors. A relationship was found between the chemosorptive activity and the width of forbidden zone ΔU of the above semiconductors: with the increase of ΔU the heat of adsorption is decreased, the temperature of the beginning of activated adsorption is increased as is the energy of $1/2$

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KIROVSKAYA, I. A., et al, Zhurnal Fizicheskoy Khimii, Vol 44, No 5,
May 70, pp 1260-1266

activation. Relative adsorption coefficients were determined for several temperatures. An assumption was made that the adsorption of CO occurs on one of the lattice atoms of given semiconductors forming surface structures of the type of linear structure carbonyls. In the case of binary compounds the active center becomes the atom which is included in the lattice in the form of a negatively charged ion.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--A COMPARATIVE EVALUATION OF EFFICACY OF HYDROCORTISONE INJECTIONS
AND PHONOPHORESIS IN TREATMENT OF DISEASES OF THE SUPPORTING MOTOR
AUTHOR--NAGOVITSYN, YE.S.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP
54-55

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDROCORTISONE, MUSCULOSKELETAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0633

STEP NO--UR/0589/70/104/003/0054/0055

CIRC ACCESSION NO--AP0102619

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11 SEP 70

CIRC ACCESSION NO--A0102619

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPARATIVE ESTIMATION OF THE RESULTS OF TREATMENT IN 175 PATIENTS WITH VARIOUS DISEASES OF THE SUPPORTING MOTOR APPARATUS IS GIVEN. HYDROCORTISONE INJECTION WAS EMPLOYED IN 90 PATIENTS, PHONOPHORESIS OF HYDROCORTISONE IN 85 PATIENTS. THE INJECTION METHOD OF TREATMENT PROVED TO BE LESS EFFECTIVE THAN HYDROCORTISONE PHONOPHORESIS. THE MOST FREQUENT COMPLICATION IN LOCAL INJECTION OF HYDROCORTISONE WAS PURULENT NECROTIC INFLAMMATION AT THE SITE OF INJECTION OF THIS AGENT (4 CASES). HYDROCORTISONE INJECTIONS SHOULD BE PERFORMED ONLY UNDER STATIONARY CONDITIONS, AND INDICATIONS TO ITS LOCAL USE SHOULD BE STRICTLY LIMITED. THERE WERE NO COMPLICATIONS IN USING HYDROCORTISONE PHONOPHORESIS.

UNCLASSIFIED

1/2 018

TITLE--COMPARATIVE BIOCHEMICAL ASPECTS OF THE STRUCTURE AND CATALYTIC
FUNCTION OF PROTEIN -U- UNCLASSIFIED PROCESSING DATE--27NOV70

AUTHOR--NAGRADOVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--USP. SOVREM. BIOL. 1970, 69(1), 3-25

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROTEIN, BIOCHEMISTRY, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3008/0450

STEP NO--UR/0221/70/069/001/0003/0025

CIRC ACCESSION NO--AP0137541

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH MANY REFS. THE COMPARATIVE STUDY OF THE STRUCTURE AND CHARACTERISTICS OF D GLYCERALDEHYDE 3 PHOSPHATE DEHYDROGENASE ORIGINATING FROM PHYLOGENETICALLY DIFFERENT SOURCES AFFORDS A POSSIBILITY TO STUDY THE MOL. BACKGROUND OF EVOLUTION AND ITS INFLUENCE ON THE ENZYME ACTIVITY. AN OPPORTUNITY IS ALSO PROVIDED TO STUDY THE CONNECTION BETWEEN PROTEIN STRUCTURE AND PROTEIN FUNCTION. FACILITY: LAB. BIOORG. KHM., MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 666.1/.2.074.4

NAGULEVICH, K. V., SMIRNOV, I. K., and KOLESOV, Yu. I.

"Installations for the Determination of the Gas Content in Glass"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 1, 1973, pp 108-110

Abstract: A method and the installation for the analysis of dissolved gases in glass are reported which are free from deficiencies of the at first discussed vacuum smelting method. The installation and the extractor are described by reference to schemata. The extraction of water, carbon dioxide, sulfur dioxide, oxygen, and nitrogen is discussed. The ending gas extraction was determined visually and from the reading of LT-2 lamp, the total gas volume was resolved from the sum of constituent components. Three figures.

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USSR

UDC 619.616.988.43-022.39:636.29

KINDYAKOV, V. I., NAGUMANOV, F. M., BALGANBAYEV, Ye. Kh., ZINOV'YEV, B. S.,
PANKRATOV, L. D., and CHUFARIN, A. M., Kazakh Scientific Research Veterinary
Institute

"The Epizootiological Role of Wild Even-Toed Ungulates in Foot-and-Mouth
Disease"

Moscow, Veterinariya, No 9, Sep 70, pp 52-53

Abstract: Experiments conducted with roe deer, saiga antelopes, and Caspian
deer (marals) showed that these animals are highly susceptible to infection
with foot-and-mouth disease. An outbreak of foot-and-mouth disease caused by
the A₂₂ virus variant occurred in 1967 among cattle that were isolated from
contact with other cattle. The virus was introduced by a hunter who had brought
the carcass of an infected saiga antelope into the locality. Mass infections
of saiga antelope with foot-and-mouth disease occur. The animals showed
typical symptoms of the disease and the A₂₂ virus was isolated from them.
Under the conditions prevalent in Kazakhstan, saiga antelope form one of the
principal sources of transmission of foot-and-mouth disease to farm animals;
the antelope becomes infected with this disease from cattle and transmit it to

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KINDYAKOV, V. I., et al., Veterinariya, No 9, Sep 70, pp 52-5.

other cattle. Measures taken by the veterinary service to prevent transmission of foot-and-mouth disease by saiga antelopes involve constant observation of the antelope herds to check for the presence of infection, tracing of the routes of migration of these herds, and prevention of infection of the antelope themselves. Similar measures should be taken with respect to other wild even-toed ungulates in Kazakhstan.

2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ESOPHAGEAL LEIOMYOMAS -U-
AUTHOR--(04)--KISS, J., SENTKERESTI, B., ZAKO, Z., NAGY, M.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 93-95
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIGESTIVE SYSTEM, TUMOR, STOMACH, SURGERY, ARTERIAL ANASTOMOSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1737 STEP NO--UR/0475/70/000/005/0093/0095
CIRC ACCESSION NO--AP0129105
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE—30DCT70

CIRC ACCESSION NO--AP0129105

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESOPHAGEAL LEIOMYOMA IS A RATHER RARE DISEASE. UP TO NOW ABOUT 200 CASES OF ESOPHAGEAL LEIOMYOMAS HAVE BEEN DESCRIBED IN THE LITERATURE. THE AUTHORS OPERATED UPON TWO PATIENTS WITH ESOPHAGEAL LEIOMYOMA. IN A 46 YEARS OLD WOMAN THE TUMOUR WAS SITUATED IN THE LOWER PART OF THE ESOPHAGUS AND INVOLVED THE UPPER PART OF THE STOMACH. ESOPHAGOGASTECTOMY WAS PERFORMED WITH END TO SIDE ANASTOMOSIS. IN A 30 YEARS OLD MAN THE TUMOUR WAS AT THE TRACHEAL BIFURCATION LEVEL AND IT WAS ENUCLEATED AT OPERATION. THE RESULT WAS FAVOURABLE. THE CLINICAL PICTURE AND COURSE OF ESOPHAGEAL LEIOMYOMAS ARE PRESENTED.

UNCLASSIFIED

USSR

MAISHTUT, YU. S. N

"One Method of Calculating Plates with Apertures and Its Numerical Realization"

Moscow, Mekhanika Tverdogo Tela, No 1, 1970, pp 80-90

Abstract: The possibility of application of the Newman method for calculation of plates with apertures in the flat stressed state is studied. Convergence of the system suggested, based on potential theory and singular integral equations, is proved. A method is suggested for improving convergence of the process. Numerical realization of the algorithm on an M-20 computer is performed, showing the effectiveness of calculation of a broad class of plates with apertures using this system. As examples, the results of calculation of stresses in a plate weakened by pairs of closely located, circular and elliptical apertures are presented. Use of modern computers (such as the BESM-6) would allow calculations to be performed for plates with practically any number of apertures without increasing the length or complicating the development of the program. It is noted that the length of the program is decreased somewhat if the apertures are circular.

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USSR

UDC 547.836:542.942.4

2

PROSTAKOV, N. S., GAYVORONSKAYA, L. A., URBINA, G. A., EMERUVA, P. D., and
NAKANISI, T., Friendship Between Peoples University imeni Patris Lumumba,
Moscow

"2- ω -Hydroxyalkyl-3-Methylindano[2,1-c]Piperidine"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 5, 1972, pp 666-668

Abstract: In order to obtain physiologically active preparations of partially hydrogenated azafluorenes for systematic stereochemical studies, investigations were commenced on sodium reduction of 3-methyl-2-azafluorene (I) in an alcoholic solution. Of the four possible isomers of 3-methylindano[2,1-c]piperidine (II) that could have been expected, only two were actually formed: one isomer was a liquid (IIa) with a b.p. of 115°C, and the other a crystalline substance (IIb) with a m.p. of 81.5-83°C. IR spectra confirmed the structure of II and indicated hydrogen bonding between the molecules involving the -NH group. This mixture of the II isomers was employed for the synthesis of 2- ω -hydroxyalkyl-3-methylindano[2,1-c]piperidines which are of pharmacological interest. Ethylene and butylene chlorohydrins were used for the alkylation of II in the presence of KI and K_2CO_3 , and chromatographic analysis of the products revealed the formation of 2- β -hydroxyethyl-3-methyl-indano[2,1-c] piperidine (III) and 2- δ -hydroxybutyl-3-methylindano[2,1-c]piperidine, respectively.

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PROSTAKOV, N. S., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 5, 1972, pp 666-668 ①

Each of the latter two compounds existed in the form of two isomers which apparently corresponded to the two isomers of II. The IR spectra of III showed a wide absorption band at 3420 cm^{-1} which represents the involvement of the -OH group in intermolecular hydrogen bonds, and an intense absorption at 1600 cm^{-1} corresponding to the C-O bond of the primary alcohol. Subsequent communication shall deal with the stereochemistry of the geometric isomers of II.

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USSR

UDC: 621.382.002

CHAGULOV, V. S., GOYKHMEN, I. E., BLAGIDZE, Yu. M., ~~WAKASHIDZE, G. A.~~, ELIZ-
BARASHVILI, O. A., Institute of Cybernetics, Academy of Sciences of the
Georgian SSR

"An Optron"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 7, Mar 72, Author's Certificate No 329602, Division H, filed 26 May 70,
published 9 Feb 72, p 210

Translation: This Author's Certificate introduces an optron which contains
a photoreceiver, an emitter and a shell. As a distinguishing feature of
the patent, sealing is improved and optical coupling is provided between
the receiver and the emitter by making the shell from transparent copolymers
with a low index of refraction, and by filling the space between the photo-
receiver and emitter with a polymerized copolymer with a high index of re-
fraction.

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Acc. Nr:

APC053448

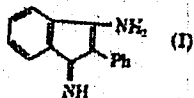
Abstracting Service:
CHEMICAL ABST.

579

Ref. Code:

418 0366

111132a Cyclic β -aminovinylimines. X. Synthesis of unsymmetrical 2-substituted 1-imino-3-aminoindenes. Usay, V. A.; Nakele, V.; Freimanis, I. (Inst. Org. Sin., Riga, USSR). *Zh. Org. Khim.* 1970, 6(2), 384-9 (Russ). The reaction of 2-(R-substituted)-1-amino-3-ethoxyindene salts (R is Ph or Me) with PhNH_2 gave unsym. 2-(R-substituted)-1-imino-3-anilinoindene salts, which on basification are converted to the corresponding bases. The amine exchange (B. Eistert, *et al.* 1955) between PhNH_2 and 1-imino-2-phenyl-3-aminoindene (I) gave 1-imino-2-phenyl-3-anilinoindene and 1-phenylimino-2-phenyl-



3-anilinoindene (II). Heating II with AcONH_2 gave 3-amino-2-phenylindone and a small amt. of I. The alkylation of II or I with triethyloxonium fluoroborate gave 1-phenylimino-2-phenyl-3-ethylphenylaminoindene or 1-imino-2-phenyl-3-ethylaminoindene. CPJR

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1/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--MELTING OF SILICOCHROMIUM BY A TWO STAGE PROCESS IN A CLOSED FURNACE -U-

AUTHOR--(05)--NAKHABIN, V.P., KOROLEV, A.A., KRYLOV, I.A., SCHCHERBIN, A.N., SHATOV, YU.I.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(3), 239-40

N

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON ALLOY, CHROMIUM ALLOY, METALLURGIC FURNACE, METAL MELTING, CARBON ALLOY, MANGANESE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FIGHE NO----FD70/605019/009 STEP NO--UR/0133/70/030/003/0239/0240

CIRC ACCESSION NO--AP0140929

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140929

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OPERATIONAL STEPS EMPLOYED IN SHIFTING ARC FURNACE OPERATION FROM MAKING FERROCHROMIUM TO MAKING SILICOMANGANESE AND THEN OPERATING IT ON A CHARGE CONTG. QUARTZITE 300, COKE BREEZE 126-134, FERROCHROMIUM 130-135, AND STEEL TURNINGS 25-30 KG TO PRODUCE SI 48.8PERCENT, CR 29.7, C 0.05 ALLOY ARE DESCRIBED. FACILITY: ZAVOD FERROSPLAVOV, SEROV, USSR.

UNCLASSIFIED

USSR

UDC: 621.372.061

NAKHALOV, V. A.

"Using the Barrier Capacitance of a p-n Junction in Shock Excitation Circuits"

Sb. tr. Khabarovsk. in-t inzh. zh.-d. transp. (Collected Transactions of the Khabarovsk Institute of Railroad Transport Engineers) 1970, No. 41, pp 310-314 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3a132)

Translation: The problem of using junction diodes in shock excitation circuits for forming phase-modulated pulses is considered. An estimate is made of the effect of the barrier capacitance nonlinearity on the steepness of the formed pulse's leading edge. It is proved that the pulse formed at the barrier capacitance has a leading edge twice or three times steeper than that of a sinusoidal pulse.

Resume

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1/2 018

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--PREPARATION FOR TREATING DISEASES OF ORAL CAVITY MUCOSA -U-

AUTHOR--(03)-NAKHIMOVSKAYA, Z.I., SMILTENA, A.K., GRIKETIS, E.YA.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,014

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORAL DISEASE, PATENT, DRUG, FREON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3004/1080

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

CIRC ACCESSION NO--AA0131627

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0131627

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PREPN. FOR TREATING DISEASES OF ORAL CAVITY MUCOSE CONTAINED A SOLN. OF PROPOLIS IN 95PERCENT ETOH. GLYCEROL, FREON 12, AND FREON 114 WERE ADDED. THE COMPONENTS OF THE PREPN. WERE TAKEN IN THE FOLLOWING WT. RATIOS: SOLN. OF PROPOLIS IN ALC. AND GLYCEROL 55-60, MIXT. OF FREON 12 WITH FREON 114 40-5PERCENT. THE COMPONENTS IN THE SOLN. OF PROPOLIS IN ALC. AND GLYCEROL WERE TAKEN IN THE FOLLOWING WT. RATIOS: PROPOLIS 5-7, 95PERCENT ETOH 78-82, GLYCEROL 13-15PERCENT. THE MIXT. OF FREONS CONTAINED FREON 12 SIMILAR TO 40 AND FREON 114 SIMILAR TO 60PERCENT. FACILITY: SPECIAL CONSTRUCTION BUREAU OF CHEMIZATION OF THE NATIONAL ECONOMY, LATVIAN S.S.R.

UNCLASSIFIED

Marine and Shipbuilding

USSR

UDC 629.12-815.585.2-193.002.237

NAKHIMOVSKIY, M. A. and DYSKIN, A. Ya.

"Investigation of the Cooling of Marine Steam-Turbine Casings"

Leningrad, Sudostroyeniye, No 10, Oct 72, pp 29-31

Abstract: The Scientific Research Institute of the Merchant Marine has investigated the thermal state of the turbines of the main TS-2 turbogear unit installed on the tanker "Khassi Messaud," built at the Baltiyskiy shipyard for Algiers, in order to determine the course of the cooling process taking place in the turbine when the ship is temporarily halted. The obtained data can be of use in designating the method for maintaining the turbogear unit in a state of readiness, during a temporary halt, in order to increase its reliability and maneuverability. 6 figures, 3 references.

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USSR

UDC 621.165.533.6

ZIL'BERMAN, A. S., Candidate of Technical Sciences, LOPATITSKIY, A. O., Candidate of Technical Sciences, NAKHMAN, Yu. V., Candidate of Technical Sciences, VOL'FSON, I. M., Engineer, OZERNOV, L. A., Engineer, and PAKHOMOV, V. A., Engineer, Leningrad Metal Plant, Higher Technical Educational Institution at Leningrad Metal Plant

"Additional Energy Losses Through Periodical Unsteadiness of the Flow in Rotor Blades of Turbine Stages"

Moscow, Teploenergetika, No 10, Oct 73, pp 55-59

Abstract: The quantitative coupling of additional unsteady profile losses of energy in rotor blades with normal operation turbine stage parameters was experimentally investigated on stage models with more than twenty combinations of nozzle and rotor lattices of various types. A complex of factors affecting the change of profile energy losses in rotor lattices was analyzed. Based on generalized experimental data, a functional dependence of additional unsteady profile losses in rotor lattices ($\Delta \xi_r$) on a derived criterion of unsteadiness (γ) is suggested. The

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USSR

ZIL'BERMAN, A. S., et al., Teploenergetika, No 10, Oct 73, pp 55-59

function $\Delta\zeta_r=F(Y)$ for all investigated stages is shown with and without accounting for deviations from the calculated regime. The additional losses increase essentially (from 0 to 7.5 %) within the limits $0.4 \cdot 10^{-2} < Y < 1.2 \cdot 10^{-2}$ and remain practically constant at further increase of Y. The derived functional dependence encompasses typical cases of stages of modern stationary turbines in the zone of moderate hub ratios. Two figures, one table, fifteen formulas, fourteen bibliographic references.

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USSR

UDC 547.739.3'362'385.1

NAKHMANOVICH, A. S., YELOKHINA, V. N., and KARNAUKHOVA, R. V., Institute of Organic Chemistry, Siberian Branch, Acad. Sc., USSR, Irkutsk

"Acetylene Derivatives of Selenophene. I. Synthesis and Some Reactions of Selenienylacetylene Alcohols and Ketones"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 7, Jul '71, pp 920-923

Abstract: 2-Selenophenecarbaldehydes react with alkylacetylene and acetylenemagnesium bromide under the Iotsich reaction conditions and with sodium acetylenide in liquid ammonia yields new selenienylacetylene alcohols which can be easily converted to respective ketones by oxidation with MnO_2 in ether. Selenienylacetylene ketones upon reaction with hydrazine and hydroxylamine in aqueous ethanol undergo intramolecular cyclization forming respective selenienyl substituted pyrazoles and isoxazoles.

1/1

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1/2 011 UNCLASSIFIED PROCESSING DATE--040870
 TITLE--KINETICS OF CONTINUOUS ALCOHOLIC FERMENTATION -U-
 AUTHOR--(021)-YAROVENKO, V.L., NAKHMANDVECH, B.H.
 COUNTRY OF INFO--USSR
 SOURCE--FERMENT. SPIRIT. PROM. 1970, 36(2), 14-17
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--STARCH, HYDROLYSIS, FERMENTATION, SACCHAROMYCES, ALCOHOL
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY FICHE NO----FD70/605007/E06 STEP NO--UR/0071/70/036/002/0014/0017
 CIRC ACCESSION NO--AP0139904
 UNCLASSIFIED

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2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STARCH WAS HYDROLYZED AT 100DEGREES WITH 2PERCENT HCL FOR 2.5 HR AND THE REDUCING SUGARS OBTAINED WERE SUBJECTED TO CONTINUOUS FERMENTATION, AND WHEAT STARCH ALSO WAS SACCHARIFIED, UNDER THE ACTION OF A CULTURE OF ASPERGILLUS SATATAE STRAIN 61 AND THEREAFTER FERMENTED BY SACCHAROMYCES CEREVISIAE, STRAIN 12, AT 29-30DEGREES. IRRESPECTIVE OF THE FERMENTATION METHOD IS WAS ASCERTAINED THAT THE FERMENTATIONS WHICH OCCURRED IN 2 BATTERIES OF FERMENTERS ARE FIRST ORDER REACTIONS. IT THEREFORE IS POSSIBLE TO CALC. THE AV. RATE CONST. WHICH IS VALID FOR EACH FERMENTER WHICH IN TURN ALLOWS CALCN. OF THE AMT. OF SUGAR REACTING PER M³ PRIME3 OF EACH BATTERY.

UNCLASSIFIED

22 GLORIA

117

1-3448

VOENNO-MEDITSINSKIY ZHURNAL, No. 4, 1970, pp. 95-96

SCIENTIFIC CONFERENCE ON CLINICAL TOXICOLOGICAL PROBLEMS

by

Doctor Med. Sci., Col. of Med. Serv.,
F. A. Kolesnik
Capt. Med. Sci., Col. of Med. Serv.,
S. Yu. Nokol'manson

1-689

In December 1969, a joint scientific conference was held by specialists of the military medical faculty of the S. M. Kirov Medical Institute in Gorky and of the Gorky Scientific Research Institute of Work Hygiene and Professional Diseases. The conference was devoted to problems of clinical toxicology. The participants in the work of the conference included unit physicians and medical establishment doctors, representatives of the S. M. Kirov Military Medical Academy, of military medical faculties, scientific research institutions, chief specialists of military districts and fleets.

In the reports special attention was paid to diagnosis, clinical aspect and emergency aid in various poisonings (carbon monoxide, technical fluids, nitrogen oxides, barbiturates, diluted vinegar, chlorophos and so on). Prof. A. I. Akhbul' remarked that in connection with the wide use of various technical fluids and toxic chemicals in industry and agriculture the cases of serious poisonings increased in frequency. Unskillful use of medicinal preparations, especially of vitamin B₁ and of alcoholate acid, also results in serious complications. Prof. G. I. Puzofayev, Colonel of Medical Service, Yu. F. Shilov, Lt. Col. of Medical Service, S. A. Sabinova, Capt. Med. Sci., and others talked about observations of patients subjected to intoxication with substances of irritating effect.

N. M. Rogozov, Colonel of Medical Service, talking of chronic poisoning with fumes of nitric acid and nitrogen oxides, called attention to the combination of general disturbances (disorders of the central nervous and cardiovascular systems, injury of the liver and so on) with local lesions (cavities of the upper respiratory pathways, destruction of teeth). The communication of V. V. Larion, Colonel of Medical Service, and of A. F. Yel'shoy, Major of Medical Service, was devoted to the treatment of acute CO poisoning. In these cases the authors recommend the more intensive use of exchange blood transfusions, and the administration of large amounts of magnesium sulfate (60-70 ml during 6 hours) as well as further penicillin. B. E. Murashov, Major of Medical Service, M. B. Sobolev, and N. B. Reznak, candidates of Medical Science and others talked about the clinical aspects and treatment of poisoning with technical fluids.

The reports of L. N. Chumov and I. S. Poyarkov, M. S. Golubev, V. P. Puzofayev, candidates of Medical Science, and of others presented data on poisonings with some industrial and domestic poisons (ethylmercaptan, SO₂, chlorophos, distilled vinegar, and so on). In their reports the authors remarked that the need to strengthen preventive work: stricter control of fulfilling the rules of technical safety at factories, clearer marking of bottles containing toxic substances, wide spreading of enlightening work, and so on.

Med. Serv.

Great interest was produced by the communication of a group of researchers under the leadership of K. M. Kalinin, Colonel of Medical Service, on searching for and eliminating methods of hemodialysis in acute renal failure. They suggest temporary extra-corporeal attachment of a cadaveric homo- or hetero-kidney to the organism of the recipient. I. F. Popov, Lieutenant Colonel of Medical Service, and collaborators told of their experience of resuscitation in poisonings complicated with acute renal failure (transfusion therapy, hemodialysis, paraneuronal novocaine block and so on).

V. N. Petrov, leader of the Department of artificial kidney of the Gorkiy Military Clinical Hospital, remarked that methods of hemodialysis are generally effective in the next hours after poisonings. He recommended that in the complex of resuscitation measures peritoneal dialysis and exchange blood transfusion should be more widely used.

Talking of acute lesions by electromagnetic waves of ultrahigh frequencies of great power, E. A. Kolesnik finds appropriate to introduce the term "acute radio wave sickness". He considers it necessary to deploy more widely the investigation for the study of acute lesions by UHF field, to improve the organization of emergency aid in such cases. In the report on toxic-allergic reactions of medicinal origin, the possibility of the development of an anaphylactic shock was noticed after the primary administration of ACTH (S. Ya. Nishchanson).

A. S. Ivanov, Colonel of Medical Service, taking part in the discussions, mentioned the considerable current interest which problems of acute and chronic intoxications have for military surgeons, and he also pointed to the need of a more distinct organization of emergency aid in hospitals in group poisonings. The prevention of poisonings should be also more effective.

G. Y. Borofayev, Colonel of Medical Service, called the attention of the participants in the conference to the importance of searching for methods of rapid diagnosis of acute poisonings.

Participants of the Conference got acquainted with the clinics and laboratories of the Military Medical Faculty and of the Scientific Research Institute of Work Hygiene and Professional Diseases.

1/2 009

UNCLASSIFIED

PROCESSING DATE--27NOV70/

TITLE--IONIZING RADIATION INCREASES THE YIELD OF MUST -U-

AUTHOR--(02)-FRUMKIN, M.L., NAKHMEDOV, F.G.

COUNTRY OF INFO--USSR

SOURCE--VINODEL. VINOGRAD. SSSR 1970, 30(1), 53-4

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--COBALT ISOTOPE, GAMMA IRRADIATION, IONIZING RADIATION BIOLOGIC
EFFECT, FOOD IRRADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/0371

STEP NO--UR/0505/70/030/001/0053/0054

CIRC ACCESSION NO--AP0127952

UNCLASSIFIED

3/2 009

CIRC ACCESSION NO--AP0127952

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. EXPTS. WERE CARRIED OUT WITH
 KABERNE, SAPERVI, MORASTEL', AL'BIL'D, AND KOKUR SPECIES OF GRAPES WITH
 OR WITHOUT TREATMENT WITH PRIME60 CO GAMMA RAYS. IRRADN. SIGNIFICANTLY
 INCREASED THE YIELD OF MUST (9.2PERCENT), EVIDENTLY BY REDUCING THE
 FIRMNESS OF THE SKIN OF THE GRAPES, DISRUPTED THE CONTACT BETWEEN THE
 SKIN AND THE PULP, DESTROYED PECTIN AND PROTOPECTIN PLASTIDS, AND
 CHANGED THE STRUCTURE OF PROTOPLASM, THUS INCREASING IN CELL PENETRATION
 AND THE EXIT OF JUICE. ACCORDING TO ORGANOLEPTIC ANALYSES, WINES FROM
 IRRADIATED GRAPES WERE AS GOOD AS OR BETTER THAN CONTROL WINES, ESP.
 THEIR AROMA AND COLOR. FACILITY: VSES. NAUCH.-ISSLED. INST.
 KONSERV. OVOSCHCHESUSH. PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDO 537.533-8:539.216.2

KRYN'KO, YU.N., KOVAL', I.F., MEL'NIK, P.V., NAKHODKIN, N.G., SHALDERVAN, A.I.
"Effect Of Film Structure On The Characteristics Of Secondary Electron Emission"
Vol. 17, p. 12, 1972 [sic] (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7A12)

Translation: The paper studies the effect of the structure of Ge and Be films, condensed at oblique and normal incidences of an atomic beam at a substrate, on the coefficient of secondary electron emission σ and the inelastic reflection η . With the aid of an electron microscope it is shown that the profile of Ge and Be films consists of needle-like crystals, the axes of which are directed to the side of the beam incidence. Such a structure effects the dependence of σ and η on the angle of incidence of the primary electron beam. The absolute values of σ and η for oblique-deposited films are smaller than for normally deposited films. The greatest difference is observed in the case when the primary electrons are incident upon the target along the direction of the needle. With an increase of the energy of the primary beam, the difference of σ and η normally and of oblique-deposited films is decreased. 4 ill. 7 ref. Author's abstract.

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USSR

UDC 681.84.089.8

NAKHODKIN, N. G.

"Thermoplastic Recording as Electrons of Moderate Energies Interact With Polymer Thin Films"

Izv. AN SSSR. Ser. fiz. (News of the Academy of Sciences of the USSR. Physics Series), 1971, 35, No 2, pp 427-433 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7V151)

Translation: A survey of experimental and theoretical works dealing with thermoplastic recording; principal attention is given to papers written at Kiev University. Consideration is given to the peculiarities of developing the latent image, the sensitivity of the thermoplastic layer, obtaining the latent image, and the use of thermoplastic recording to produce optical holograms. Three illustrations, bibliography of thirty-five titles. N. S.

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1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EXPANSION OF THE SPECTRAL REGION OF LIGHT SENSITIVE VARIATION IN
THE VOLUME OF THIN COLOPHONY FILMS -U- \$
AUTHOR--(05)-KUVSHINSKIY, N.G., TANTSYURA, L.YA., FEDOROVA, L.N.,
~~NAKHODKIN, N.G., POCHINOK, V.YA.~~ N
COUNTRY OF INFO--USSR
SOURCE--ZH. NAUCH. PRIKL. FOTOGR. KINEMATOGR. 1970, 15(1), 57-9
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT
TOPIC TAGS--DYE, SPECTRUM, PHOTSENSITIVITY, PHOTOGRAPHIC FILM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRGX REEL/FRAME--1983/1485 STEP NO--UR/0077/70/015/001/0057/0059
CIRC ACCESSION NO--AP0054341
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054341

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRAL SENSITIVITY REGION OF ROSIN (I) ABIETIC ACID (II) FILMS WAS EXPANDED BY PHOTSENSITIZED O TRANSFER WITH EOSIN, METHYLENE BLUE, OR CHLOROPHYLL (III). THE FILMS WERE EXPOSED TO FILTERED LIGHT FROM AN INCANDESCENT LAMP AND WERE SENSITIZED ONLY IN THE PRESENCE OF O, THE DYE PRESUMABLY CATALYZING THE PHOTSENSITIZED TRANSFER OF O WHICH CAUSED IRREVERSIBLE CHANGES IN II, THUS INCREASING THE VOL. OF THE IRRADIATED FILMS ON HEATING. THE SENSITIVITY WAS EXTENDED TO INCLUDE THE ENTIRE VISIBLE REGION; FILMS CONTG. III WERE SENSITIVE TO LAMBDA GREATER THAN 630 NM.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--CHANGE OF THE GEOMETRIC PROFILE ON THE SURFACE OF A THERMOPLASTIC
CARRIER AS A FUNCTION OF THE WIDTH OF A SINGLE ELECTRON TRACE -U-
AUTHOR--NAKHODKIN, N.G., NEMTSEV, V.P., SHEVLYAKOV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOTEKH. ELEKTRON. 1970, 15(1), 212-13
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT
TOPIC TAGS--THERMOPLASTIC MATERIAL, ELECTRON BEAM, SURFACE PROPERTY,
RECORDING EQUIPMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0671 STEP NO--UR/0109/70/015/001/0212/0213
CIRC ACCESSION NO--AP0055374

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0055374

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN RECORDING INFORMATION ON THERMOPLASTICS BY MEANS OF AN ELECTRON BEAM, GROOVES ARE FORMED ON THE SURFACE. THE DEFORMATION PROFILE OF COLOPHONY SUPPORTS WAS STUDIED BY A MICRO INTERFEROMETRIC METHOD AS A FUNCTION OF THE SLIT WIDTH. THE WIDENING OF THE GROOVES WAS ATTRIBUTED TO VISCOUS FLOW OF THE SUPPORT, SWELLING OF SPACE CHARGE DUE TO COULOMB REPULSION FORCES, AND DIFFRACTION OF THE ELECTRON BEAM; THE LAST PROCESS WAS LESS IMPORTANT.

UNCLASSIFIED

USSR

UDC: 681.34

N
MAKHODKIN, N. G., KUVSHINSKIY, N. G., SHEVLYAKOV, YU. A., NEMTSHEV, V. P.,
NEJIZHIY, S. A., BORODKINA, M. S., USEPENKIY, V. I., SHEBDESTOV, V. I., Kiev
State University imeni T. G. Shevchenko and the All-Union Scientific Research
Institute of the Chemical and Photographic Industry

"A Photothermopolymerization Data Recording Method"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzy, Tovarnyye Znaki, No 3,
1970, p 48, patent No 259961, filed 25 Jan 67

Abstract: This Author's Certificate introduces a photothermopolymerization data recording method based on the cross-linking response of polymers when they are exposed to radiation such as light. As a distinguishing feature of this method, the resolving power of the recording is improved and permanent recordings are made by converting the latent image to a three-dimensional relief with subsequent fixation through the process of heating the carrier material to its softening temperature and then cooling it.

1/1

USSR

UDC 547.241:536.423.15

NAKHUTIN, I. Ye., SMIRNOVA, N. M., KRIVENKO, V. I. and LOSHAKOV, G. A.

"Vapor Pressure of Di-n-heptylphosphoric Acid and Tri-n-Octylphosphine Oxide and the Solubility of Iodine in These Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 940-943

Abstract: Data on the vapor pressures of di-n-heptylphosphoric acid and tri-n-octylphosphine oxide are provided, in addition to boiling points and isosteric temperatures of evaporation from the liquid phase. The compensation method was used to plot vapor pressure curves. The solubility of iodine in the liquid phase of both compounds was studied. Although organophosphorous compounds rarely act as acceptors in a chemical reaction, the specific compounds considered show characteristics of electrophilic bonding with iodine. In the case of di-n-heptylphosphoric acid, iodine solubility increases with rising temperatures within the range of 80-180°, while for tri-n-octylphosphine oxide, it remains constant over the same range.

1/1

USSR

UDC 620.194.8:678.5.05 - 419.8

CHERVATYUK, V. F., KOSTENKO, A. YE., NAKONECHNAYA, A. A., PLYSYUK, A. K.,
SHAMRAY, R. YA., and YAZON, Z. P., Severodonetsk

"Study of the Corrosive Resistance and Atmospheric Stability of Fiberglass
Produced From the Composition 311 TKhS"

Kiev, Khimicheskaya Tekhnologiya, No 2 (62), Mar-Apr 72, pp 22-23

Abstract: Fiberglass material studied was resistant to hydrochloric acid, dilute and concentrated acetic and formic acids, acetic anhydride, aniline, trichlorobenzene, toluene, and gaseous Cl_2 , HCl , and SO_3 . Prolonged usage of this material shows considerable wear due to the action of light, temperature and moisture. With aging the firmness of the plastic deteriorates at an increasing rate. The laboratory results were fully corroborated by experiments carried out in the field.

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USSR

UDC 669.891.5.71.725.018.8(088.8)

STROGANOVA, V. F., TEREKHOVA, V. F., SAVITSKIY, Ye. M., STRELITSOV, Ye. I.,
IGNATOVA, L. I., NAKONECHNIKOV, A. I., ZAV'YALOV, A. I. [Institute of Metallurgy
imeni A. A. Baykov, Physics and Energy Institute]

"Calcium-Based Alloy"

USSR Author's Certificate No. 276422, Filed 17/12/68, Published 16/10/70.
(Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5,
I761P).

Translation: In order to increase the corrosion resistance of binary Ca-Al alloys, it is suggested that they be additionally alloyed with Be with the following relationships of components (in %): Al 0.5-1.5, Be 0.3-0.8, remainder Ca. The new alloy, while retaining high mechanical properties, has corrosion resistance defined by the weight gain of specimens of 0.003 g/cm^2 per 100 hours, i. e., is practically not oxidized in air (in an atmosphere with normal relative humidity). The melting point of the alloy is $580-600^\circ$, the specific gravity $\leq 1.7 \text{ g/cm}^2$. It is suggested for use in atomic power engineering.

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USSR

UDC 615.31.547.564.47.099

VASILENKO, N. M., VOLODCHENKO, V. A., NAKONECHNYI, A. A., and SADOKHA, YE. R.,
Industrial Toxicology Laboratory, Kharkov Scientific Research Institute of
Labor Hygiene and Occupational Diseases

"Comparative Toxicological Evaluation of para-Phenetidine and Cyanoethyl-para-Phenetidine"

Moscow, Farmakologiya i Toksikologiya, Vol 35, No 3, May/Jun 72, pp 367-369

Abstract: Albino rats and rabbits were used in the tests. Para-phenetidine was injected as a 5% emulsion and cyanoethyl-p-phenetidine as a 25% suspension in a 3% starch gel. Subacute toxicity was induced by injection of the material into the stomach with 0.1 LD₅₀ six times a week for one month. No cumulative effects were observed. The hemoglobin content, the erythrocyte, reticulocyte, and leukocyte content and leukocyte formula were determined. The Heinz bodies were also calculated. At the end of the tests the animals were sacrificed and the weight coefficient of the internal organs determined. Methemoglobin and sulfhemoglobin contents were also determined. The high toxicity of para-phenetidine is due to its high methemoglobin-forming activity. The introduction of the cyanoethyl group weakens this activity, but does not exclude the

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USSR

VASILENKO, H. M., et al., Farmakologiya Toksikologiya, Vol 35, No 3, May/Jun 72, pp 367-369

possibility of the combined formation of methemoglobin and cyanohemoglobin which in its turn contributes to the inhibition of the cyano group in the brain, preventing its transfer to the tissue and consequently blocking respiratory cytochromoxidase.

2/2

USSR

UDC 624.07:534.1

KSCHUK, A. I., NAKONECHNYI, P. S., KARPENKO, B. K., MATVEYEV, V. V.

"Method for the Automatic Determination of the Amplitude-Frequency Characteristics of a Mechanical System Over a Wide Spectrum of Its Natural Frequencies"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering Under Vibrations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 292-296 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V290)

Translation: A device with electronic synchronization of processes for the recording and measurement of frequency of the master oscillator is described that has many advantages as compared with mechanical synchronization. The device is designed to determine amplitude-frequency characteristics of complex mechanical systems over a wide range of natural frequencies and provides a quantitative analysis of these systems and the resonance zones when slight departures in the master oscillator and the distortion in the shape of the amplitude-frequency characteristics associated with them do not have a considerable value. A block diagram of one of the versions of the device is given. The operating principle is described. Yu. A. Nalyayev.

1/1

USSR

Converters

UDC: 621.317.725

SHRAMKOV, A. Ya. and MAKONECHNYI, T. T.

"Design of Quadrature Converter Circuits With Semiconductor Rectifiers"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryanit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 11-20 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A348)

Translation: This article indicates the importance of reducing the effect of the shape of the measurable voltage or current curve on the indications of the rectifier system instruments. A method is considered for synthesizing approximately quadrature rectifier circuits based on the use of a piecewise linear approximation of a quadratic function. This is realized through a semiconductor diode operating in a situation of large loads and having successively switched-in additional resistors. Circuits of quadrature converters with stabilitrons are given, and a graph of the error of a quadrature circuit (synthesized by the method of tangents) is shown. Bibliography of six. E. L.

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NAKOR CHEVSKIY, A. I.

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ARM/PTC / HT-205-2001

In Reply, Refer to:
FSTC/HT-23, 248-73
DIA TAA No. 770.13.01

Date: November 3, 1972

TRANSLATION

ENGLISH TITLE: RHEOLOGICAL CHARACTERISTICS OF GREASES AND THE MAIN PRINCIPLES OF THEIR HOVERING IN TUBES

RUSSIAN TITLE: РЕОЛОГИЧЕСКИЕ ХАРАКТЕРИСТИКИ ПЛАСТИЧНОГО СМАЗКИ И ОСНОВНЫЕ ЗАКОНЫ ВОЗДУШНОГО ПОДЪЕМА ИЛИ ПЛЫВЕНИЯ В КОЛОДЦЕ ЖИДКОСТИ

AUTHOR: A. I. NAKORCHEVSKIY, S. A. LANGUAGE: Russian

Source: *Энциклопедия химии нефти*
НЕФТЕХИМИКАТОLOGY I НЕФТИ-ТРАНСЛЯТОР: Универсал Language Services, Inc.
РЕЗЮМЕ ИЛИ ПОСЛЕДОВАТЕЛЬНОСТИ ЗАКАЗЧИКА
No. 4, 1971, Kiev, Naukova Dumka Pub. House, pp. 61-68

Creases are classified as non-heterogeneous fluids with the simultaneous manifestation of properties of a firm plastic and a pseudo-elastic fluid, in terms of their main rheological characteristics. In this respect, the Swedlow-Bingham equation

$$\tau = \tau_0 + \mu \dot{\gamma}$$

(1)

is the applicable rheological equation of Creases, where τ is the tangential stress corresponding to the velocity and shear $\dot{\gamma}$; τ_0 is the creep limit; and μ is the so-called plastic viscosity, which in the general case is not constant, but depends on the shear rate.

There are nearly no specific proposals on the analytic expression of the relation $\mu = \mu(\dot{\gamma})$. If we follow the approach of obtaining the simplest approximating function for the rheological curve of Creases (an essential advantage), then the power function

$$\tau = \tau_0 + k \dot{\gamma}^n$$

(2)

where k, n are the rheological constants, wholly corresponds to this requirement.

The objections formulated by N. Kerner [1, 2] and called by him objections of "dimensionality", "infinity", and "zero" characterize functions (2) as power functions in general. As for the objections of "dimensionality" (the dimension of k is a function of the exponent n), for engineering applications it is not of substantial importance. Since movement in practical conditions is related at relatively small shear rates, the "infinity" objection is related at relatively small shear transformation of the rheological equation (that is, the requirement of the is not restricting for formula (2)). Let us dwell in somewhat closer detail on the "zero" objection.

If one determines the plastic viscosity according to functions (1) and (2)

USSR

UDC 532.593:532.529

KUTATELADZE, S. S., Associate Member of the Academy of Sciences of the USSR, BURDUKOV, A. P., KUZNETSOV, V. V., NAKORYAKOV, V. Ye., POKUSAYEV, B. G., SHREYBER, I. R., Institute of Thermal Physics, Siberian Department of the Academy of Sciences of the USSR, Novosibirsk

"Concerning the Structure of a Weak Shock Wave in a Gas-Liquid Medium"

Moscow, Doklady Akademii Nauk SSSR, Vol 207, No 2, 1972, pp 313-315

Abstract: Experiments were done as a qualitative check on theoretical concepts of a shock wave propagating in a liquid containing gas bubbles. The piezoelectric method of measurement was used to investigate the structure of the shock wave front. The LKh609 pressure gauge was used with frequency independence from 20 to 50 kHz and sensitivity of 6.3 V/bar. Nitrogen was blown into the liquid through a porous plate at the lower end of a transparent plastic tube 6 cm in diameter and 100 cm long. Signals from pressure gauges on the inner walls of the tube were sent to a cathode-ray oscilloscope. It was found that increasing the intensity of the shock wave increases the frequency and relative amplitude of oscillations in the shock wave front. Reducing the bubble diameter increases the frequency and reduces the ampli-

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USSR

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KUTATELADZE, S. S. et al., Doklady Akademii Nauk SSSR, Vol 207, No 2, 1972, pp 313-315

tude of oscillations in the shock wave front. Pressure oscillograms of the shock wave front in a gas-liquid mixture with artificially increased viscosity show a monotonic pressure profile, which confirms the theoretical conclusion of a nonoscillating process in this case.

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USSR

KERNERMAN, E. YA., NAKORYAKOV, V. Ye. (Novosibirsk)

"Flow and Heat Exchange in Slit Channels With Obstructions"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1971,
pp 115-118

Abstract: A study is made of the flow conditions in narrow channels behind obstructions of various shape at low and medium values of the Reynolds number. The observed flow conditions are compared with experimental data on heat transfer in a channel behind an obstruction. 4 figures, 9 bibliographic entries.

1/1

- 67 -

USSR

UDC: 532.72

AGEYEV, S. G., DOLGIKH, V. I., MOROZOV, I. I., NAKOZIN, V. N.

"Investigation of Mass Exchange Between a Gas and a Liquid in a Hermetically Sealed Vessel When it is Vertically Oscillated"

V sb. Materialy XXIII Nauch.-tekhn. konferentsii Chelyabinsk. politekhn. in-ta. Sekts. Avtotrakt. fak. i Fak. dvigateley, priborov i avtomatov (Materials of the Twenty-Third Scientific and Technical Conference of Chelyabinsk Polytechnical Institute. Section of the Tractor Department and the Department of Engines, Instruments and Automatic Facilities), Chelyabinsk, 1970, p 118 (from RZh-Mekhanika, No. 7, Jul 71, Abstract No 7B831)

Translation: The paper is a report on the results of experiments on determining the parameters of mass exchange in a vertical cylindrical vessel. Various mechanisms of mass exchange are analyzed which can be realized in a liquid-gas system subjected to longitudinal vertical oscillations of various frequencies: mass exchange through the flat phase interface; and

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AGEYEV, S. G. et al., Materialy XXIII Nauch.-tekhn. konferentsii Chelyabinsk. politekhn. in-ta Sekts. Avtotrakt. fak. i Fak. dvigateley, priborov i avtomatov, Chelyabinsk, 1970, p 118

through bubbles located in the liquid or introduced through the surface of the liquid. It is shown that at low frequencies (a few Hz to dozens of Hz), mass exchange in thin-walled vessels is determined chiefly by the system of vortexes formed in the liquid.

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USSR

UDC 536.532.08

KRASIL'NIKOVA, I. N., NAKS, YU. V., KHARLAMOV, N. I.

"Thermocouples for Measuring Temperatures in a Medium of Dry and Moist Hydrogen"

Elektrotermiya. Nauchno-tekhn. sb. (Electrothermics--scientific and technical collection of works), 1970, vyp 93, pp 7-8 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract No 8.32.609)

Translation: The description, circuits of installation in the furnace and short technical features of thermocouples TVR-0877 and TVR-1338, designed by the L'vov SKB [Spetsial'noye konstruktorskoye byuro--Special Design Bureau] "Termopribor" for measuring high temperatures in electrical furnaces in the atmosphere of dry and moist hydrogen, are given. The range of temperature measurements in ($^{\circ}\text{C}$) is 300-1800; calibration -- VRN010/20; maximum time lag (sec) TVR-0877 -- 10, TVR-1338 -- 180; the length of submersible part (mm) -- 160, 200, 250, 320, 400 and 500; useful life (hr) 4000; weight of the thermocouple (kg) -- TVR-0877 -- 3, TVR-1338 -- 3.5. The allowable deviations of the thermoelectromotive force of the thermocouple at the temperature of free ends 0°C does not exceed $\pm 1\%$. Change in the $1/2$

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USSR:

KRASIL'NIKOVA, I. N., et al., Elektrotermiya. Nauchno-tekhn. sb. 1970, v. 93, pp 7-8

thermoelectromotive force from the initial value according to the calibration table during the useful life of the thermocouple at 1800° C over a period of 200 hr does not exceed $\pm 1.5\%$. The junction of the thermocouple after 200 hr operation at 1880° C is restored. The junction of thermocouples is shielded by molybdenum sleeve. 2 ill.

V. S. K.

2/2:

Acc. Nr.: AP0029101

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii, 1970,
Vol 70, Nr 1, pp 87-93

A CLINICO-ELECTROENCEPHALOGRAPHIC CORRELATION
IN THE AMENTIVE SYNDROME

A. G. Naku, V. M. Mikhlia, D. M. Griaberg

The authors report of a study on the bioelectrical brain activity in 65 patients with amnesia. Among the studied patients 25 of them were repeatedly observed from 4 months to 4 years after clinical recovery. It was possible to establish and describe the dependency between the type of bioelectrical activity and the EEG reactivity on the one hand and the severity of amnesia, the character of the prevalent syndrome, etiological factors and the supplementary clinical features on the other. The authors discuss the possible pathogenetical mechanisms of amnesia and the essence of predisposition to amentive changed consciousness.

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USSR

UDC: 535.51

ZAMKOV, V. A., ~~NALBANDOV, I. V.~~ All-Union Scientific Research Institute
of Metrology imeni D. I. Mendeleev

"Theoretical Basis of an Absolute Method of Measuring the Kerr Constant"

Leningrad, Issledovaniya v Oblasti Opticheskikh i Svetovykh Izmereniy,
Trudy Metrologicheskikh Institutov SSSR, No 114(174), 1970, pp 38-44

Abstract: An absolute method is proposed for measuring the Kerr constant of liquids without comparison with a standard. The procedure is based on the property of a $\frac{1}{4}$ -wave plate to produce circularly polarized light which does not vary in intensity as the analyzer is rotated. Analysis of measurement errors shows that use of the proposed method would increase the precision of measurement of the Kerr constant by nearly an order of magnitude, which would enable more precise measurement of the optical properties of organic materials which might be used as standards for relative measurements. Two figures, bibliography of seven titles.

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USSR

UDC 621.317.727.1.024

VOROB'YEV, A. V., NALBANDOV, L. V.

"Precision High Constant Voltage Divider for Measuring the Kerr Constant"

Tr. metrol. in-tov SSSR (Works of the USSR Metrology Institute), 1971, No 115 (175), pp 107-112 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 10, Oct 71, Abstract No 10.32.1556)

Translation: Experience in the development and study of the characteristics of a precision high voltage divider based on the series manufactured MVSG-1 resistors is presented. The error of the divider when measuring voltages up to 20 kilovolts is $\pm 0.002\%$. Designed for measuring the Kerr constant, it can also be used for other electrical measurements to expand the measurement limits of class 0.001 compensators, for example, type R345. There are 3 illustrations and a 7-entry bibliography.

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USSR

UDC 537.228.4

VOLKOVA, Ye. A., ZAMKOV, V. A., NALBANDOV, L. V.

"Precision Measurements of the Absolute Value of Kerr Constants"

Leningrad, Optika i Spektroskopiya, No. 3, Mar 71, pp 556-561

Abstract: A device is described for the exact measurement of Kerr constants by an absolute method. It is pointed out that the double refraction of light in a substance placed in an electric field (the Kerr effect) is being more widely applied in science and technology and in investigating structures of complex organic compounds, developing modulators and Q-regulators for laser resonators, and for developing devices for the precision measurement of high and ultrahigh voltages. The development of these fields required precise methods for measuring electric double refraction and determining the electro-optical parameters of substances used in science and technology. A method for measuring phase distances proposed in 1968 by Kaymakh and Kudryavtsev and the possibilities of applying it for absolute measurements of electric double refraction with an error of the order of 0.1% was studied at the All-Union Scientific Research

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USSR

VOLKOVA, Ye. A., et al, Optika i spektroskopiya, No. 3, Mar 71, pp 556-561

Institute of Metrology imeni D. I. Mendeleev. The structure of a Kerr cell for making precision measurements of the constants is described, the optical system of the device is given, and the errors of the method are discussed. Measurements of Kerr constants for carbon bisulfide and chloroform are given and discussed and their variation with temperature in the interval 20-30°C for carbon bisulfide and 20-37°C for chloroform are also given. It is concluded that carbon bisulfide is still the most suitable standard material for relative measurements of the Kerr constant. However, it is very desirable to replace it with chloroform from the aspects of the electrooptics of the device and also from the aspect of flammability and toxicity; methods for refining and deionizing chloroform, however, are still poorly developed and the problem requires further research.

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USSR

UDC 621.317.761(088.8)

NALBANDOVA, Z. A., TARASOVA, M. M., FABRIK, M. A.

"Frequency Meter"

USSR Author's Certificate No 251029, Filed 20 Aug 66, Published 11 Feb 70 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A385 P)

Translation: This author's certificate introduces a frequency meter containing a pulse counter connected via a switch to the inputs of the standard and measured frequency meter. The frequency meter is distinguished by the fact that uniqueness of the reading is insured in it with a multiple ratio of the standard and measured frequencies. For this purpose, a frequency divider is included between the input of the measured frequency meter and the switching device. An auxiliary pulse counter with a capacitance equal to the division coefficient of the frequency divider is connected to the input of the pulse counter. Before the measurement, the auxiliary pulse counter is set to a number equal to half of its capacity.

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1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF DIETHYL AND TRIETHYLAMINES ON HYDROGEN COMBUSTION AT LOW
PRESSURES. RATE CONSTANTS OF THE H PLUS ET SUB2 NH AND H PLUS ET SUB3 N
AUTHOR--(03)--NALBANDYAN, A.B., MKRYAN, T.G., OGANESYAN, K.T.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(2), 114-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TRIETHYLAMINE, COMBUSTION RATE, ACTIVATION ENERGY,
DIETHYLAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0801

STEP NO--UR/0426/70/023/002/0114/0118

CIRC ACCESSION NO--AP0119708

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119708

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF ET SUB2 NH AND ET SUB3 N ON THE COMBUSTION RATE OF 4:1 H₂O WAS STUDIED IN A STATIC APP. AT 580-670 DEGREES--SMALLER THAN 9 MM. AT CONCNS. 0-1 PERCENT, BOTH AMINES WERE INHIBITORS OF THE PROCESS, BUT ET SUB3 N WAS 1.3 TIMES AS ACTIVE AT ET SUB2 NH. THE ARRHENIUS PARAMETERS OF THE ELEMENTARY REACTIONS H PLUS ET SUB2 NH AND H PLUS ET SUB3 N WERE: ACTIVATION ENERGY 9.2 AND 10.5 KCAL-MOLE, AND PREEXPONENTIAL FACOTR 0.57 TIMES 10 PRIME NEGATIVE 10 AND 1.44 TIMES 10 PRIME NEGATIVE 10 CM PRIME 3-SEC, RESP.

UNCLASSIFIED

USSR

UDC 631.847.2

NALBANDYAN, A. D., AVETISYAN, V. A., and MELIKSETYAN, R. G., Institute of Microbiology, Academy of Sciences Armenian SSR

"Lyophilization of Pea Nodule Bacteria"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 24, No 3, Mar 71, pp 24-29

Abstract: Study of the lyophilization of nodule bacteria for the purpose of preparing dry nitrargin was initiated at the Moscow Department of the All-Union Scientific Research Institute of Agricultural Microbiology. Recently work on the subject was also conducted at the Laboratory of Biological Fixation of Atmospheric Nitrogen, Institute of Microbiology, Academy of Sciences Armenian SSR. In the work carried out there, nodule bacteria of pea plants (strain 144) were cultivated in a medium containing (in %) molasses 1 (sucrose content \geq 45%), corn extract 0.3, $(\text{NH}_4)_2\text{SO}_4$ 0.05, K_2HPO_4 0.05, NaCl 0.02, MgSO_4 0.02 (pH 7-7.2). Shake culturing was carried out for 48 hrs. After 24 hrs of culturing, molasses 1, corn extract 0.3, $(\text{NH}_4)_2\text{SO}_4$ 0.05, K_2HPO_4 0.05% were added to the medium. Biomass in the amount of 15-18 g/l. accumulated, which was separated by centrifuging. To reduce the drop in the bacterial titer during lyophilization, in the course of which the temperature increased from minus 20 to + 8-16°C, protective agents

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NALBANDYAN, A. D., et al., Biologicheskii Zhurnal Armenii, Vol 24, No 3, Mar 71, pp 24-29

were added before freezing to the paste obtained on centrifuging. The most effective combination of protective agents was molasses 20%, bentonite 30%, upon the addition of which the drop in bacterial titer at 1-8°C during lyophilization decreased significantly. Freezing of the paste consisting of bacteria and protective agents was carried out with solid CO₂ + isopropyl alcohol at minus 75 - minus 80°C for 1 hr. The frozen mixture was stored at minus 40 - minus 50°C for a period \leq 24 hrs and then subjected to lyophilization in vacuo. A bacterial preparation with a residual water content of 2.03% was obtained on drying. This preparation could be stored at 4-5°C for 6-7 mos in vacuo and 4-5 mos at atmospheric pressure without a significant decrease of the bacterial titer.

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USSR

WDC 632.95.028

NALBANDYAN, R. A., Azerbaydzhan Scientific Research Institute of Plant Protection

"Dynamics of Rogor Residues in Grape Vines"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 12, 1972, pp 35-36

Abstract: The dynamics of disappearance of rogor /O,O-dimethyl S-(N-methyl-carbamoylmethyl) dithiophosphate/ contained in the leaves, stalks, flower clusters, grapes, grass, and soil after multiple spraying of grape vines of the varieties Shasla and Riesling with this insecticide in the form of an 0.2% emulsion as a measure for the control of the mealy bug were studied. The insecticide disappeared rapidly from the vines during the growing season. Residual amounts of the insecticide were detected only on Riesling grapes, but they were below the USSR maximum permissible level of 1.5 mg/kg.

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1/2 CC8 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF CHLORIDE IONS ON THE REACTION OF HYDROQUINONE WITH COPPER
IONS UNDER ANAEROBIC CONDITIONS -U-
AUTHOR--(02)-KIRPICHNIKOVA, N.P.; NALBANDYAN, R.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 294-300

DATE PUBLISHED-----70

SUBJECT ARFAS--CHEMISTRY

TOPIC TAGS--CHLORIDE, HYDROQUINONE, COPPER COMPLEX, EPR SPECTRUM, HYDROGEN
ION CONCENTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0064

STEP NO--UR/0062/70/000/002/0294/0300

CIRC ACCESSION NO--AP0132359

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132359

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. UNDER ANAEROBIC CONDITIONS THE PRESENCE OF CL PRIME NEGATIVE IN THE REACTION OF HYDROQUINONE WITH CU PRIME POSITIVE POSITIVE, FOLLOWED BY EPR SPECTROMETRY, AFFECTS THE REACTION COURSE DIFFERENTLY DEPENDING ON CONDITIONS. AT PH 5-6 CU PRIME POSITIVE POSITIVE DO NOT OXIDIZE HYDROQUINONE ALONE BUT WITH NAOL ADDED THE INTENSITY OF THE EPR SIGNAL OF CU PRIME POSITIVE POSITIVE DECLINES AND ACIDITY OF THE SOLN. INCREASES. THUS, CL PRIME NEGATIVE ALLOW CU PRIME POSITIVE POSITIVE TO EFFECT THIS OXIDN. EVIDENTLY THE COMPLEXES CUCL SUB2 AND CUCL SUB3 PRIME NEGATIVE REACT WITH HYDROQUINONE AND YIELD CUCL SUB2 PRIME NEGATIVE, 2H PRIME POSITIVE, AND QUINONE. THE QUINONE AND CU PRIME POSITIVE FORM A COLORED COMPLEX THAT IS STABLE AT PH 3-7. IT WAS SUGGESTED THAT THE ACTION OF CHLORIDES ON ACTIVITY OF CU BEARING OXIDASES MAY BE RELATED TO THE EFFECT DESCRIBED ABOVE. FACILITY: INST. KHIM. FIZ., MCSCW, USSR.

UNCLASSIFIED

USSR

UDC: 681.2:(546.265.1+661.723.2)

NALBANDOV, I. V.

"Photoelectric Device for Measuring Absolute Kerr Constants"

Moscow, Izmeritel'naya tekhnika, No. 11, 1970, pp 11-12

Abstract: The Kerr cell in the equipment described by this paper is in the form of a glass cylinder containing electrode plates made of 4Kh13 stainless steel; the deviation from the plane of the inner electrode surfaces is no more than 0.1 microns. The inter-electrode distance is maintained by quartz plates 0.15 cm thick with a deviation of less than 0.1 microns from the parallel. Windows which are plane-parallel plates are placed in optical contact with the ends of the cylinder. The cylinder has connecting sleeves for the introduction of the fluid to be investigated. Platinum wires are soldered into these sleeves for conducting the voltages to the electrodes. Two separate sleeves are used for the thermostat in the cylinder. The thermostat error is less than $\pm 0.02^{\circ}$ C. A diagram showing the optical system of the device is given.

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USSR

UDC 577.1:615.7/9

KIRICHEK, L. T., KARAMYSHEV, A. N., NALBAT, A. S., KOSENKO, P. I.,
KHARCHENKO, N. S.

"Some Aspects of the Systemic Toxic Action of Metaphos"

Farmakol. i toksikologiya. Resp. mezhved. sb. (Pharmacology and Toxicology. Republic Interdepartmental Collection of Works), 1970, No 5, pp 205-208 (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct 70, Abstract No 19 F1803 by A. Ignat'yev)

Translation: After a single injection of rats, cats, and rabbits with metaphos at doses of 1-1/2 LD₅₀, there are not only the specific toxic effects produced by the insecticide but changes in liver function: decrease in total serum protein, dysproteinemia, decreased cholinesterase activity in serum and liver tissue, positive thymol test, change in duration of prothrombin time, decrease in glycogen level of the liver, increased amount of protein in urine, decreased diuresis after a water load, and histologic changes in all organs.

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UDC 621.171.237

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TRET'YAKOV, A. V., ZINOV'YEV, YE. G., ZUYEV, B. P., SHEBANITS, E. N., and
NAICHA, G. I., Scientific Research Institute of Heavy Machine Building of the
Urals Machine Building Plant and the Zhdanov Metallurgical Plant imeni Il'ich

"Increasing the Quality of Strip During Coiling Using an Electrohydraulic
System of Working Rolls Bending"

Moscow, Stal', No 7, Jul 73, pp 628-632

Abstract: The graphic relationship of corrected height of nonplaneness to the relative difference of elongation along the strip width, having a parabolic nature, was determined. It was established that strip and sheet dimensions affect the height of the wave forming the non-planeness. Effectiveness of the action of additional bending of the working rolls on the relative difference of elongations and strip non-planeness surpasses the effectiveness of the action of the pressure device (with the exception of narrow and thin strip). Hydroshaping of the working rolls promotes improvement of the mechanical properties of low-carbon steel during finishing owing to an insignificant change of the average relative reduction along the strip width in the limits of 0.8-1.4%. Adjustment of the hydroshaping system for the initial non-planeness of strip leads to producing heterogeneous mechanical properties along the width. Therefore, it is 1/2

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TRET'YAKOV, A. V., et al., Stal', No 7, Jul 73, pp 628-632

advantageous to equip continuous cold rolling mills with electrohydraulic systems of forced roll bending. Operation of the system of hydraulic shaping of the working rolls on a 1700 finishing mill made it possible to, along with a 1.5-3.0-fold reduction of rejection of cold-rolled sheet for roughness and waviness, substantially stabilize the mode of reductions and to increase the output of 1.5-2.0 mm thick sheet for very deep drawing by 10%. Six figures, two tables, six bibliographic references.

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- 23 -

USSR

UDC 621.317.422.001.5

KHOTOMLYANSKIY, A. L., NALCHA, G. I., and BOGDANOVA, I. I.

"Study of Irregularities of Mechanical Properties and Liqutation of Chemical Elements in Low-Carbon Sheet Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, Jul-Aug 70, pp 34-36

Abstract: Results are presented from studies performed on transverse templets taken from hot-rolled strips of O8KP steel. The studies indicated significant heterogeneity of mechanical properties and liqutation of chemical elements across the width of the strip, with good reliability of the calculated correlation coefficients. Analysis of the correlation coefficients between strength and content of each of the chemical elements C, Mn, S, P, and Al indicates significant positive dependence between strength and content of carbon, manganese, and aluminum. The dependence between the strength and the content of sulfur and phosphorus was found to be statistically unreliable. The dependence of yield point and relative elongation on the content of the chemical elements was found to be unreliable. A method is presented for calculating contact elastic flattening of rolls in one particular case of distribution of specific pressure over the width of a strip.

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USSR

UDC 617-001.34-07:616-008.921.4-074

NAICHA, I. F., Medical Institute, Voroshilovgrad

"Bromine Metabolism and Vibration Disease"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 43-44

Abstract: Relationships between blood bromine level, responses to bromine stress (intravenous administration of 10 ml 10% sodium bromide) over time, and different severities of vibration disease were studied on 140 vibration disease patients in order to determine the effectiveness of bromine level data in diagnosis. Bromine levels were found to be somewhat reduced among patients, though the range of values was close to that of controls. In the response to bromine stress (the bromine curve), maximum bromine concentration and absolute quantities in serum were attained sooner by controls than by patients. Only 32.4% of the patients exhibited a normal bromine curve. As patient condition improved the bromine curve became normalized, while a worsening of condition was accompanied by its further deviation from normal. Thus vibration disease has a direct effect on bromine metabolism, and bromine levels may be used to diagnose vibration disease.

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USSR

UDC 616-001-035.322:582.892

NALCHA, I. F., Chair of Nervous Diseases, Voroshilovgrad Medical Institute

"Treatment of Vibration Disease with Eleutherococcus Extract"

Kiev, Vrachebnoye Delo, No 6, 1972, pp 135-137

Abstract: One group of workmen exposed to "local" vibration for 3 to 20 years and suffering from stage 1 or stage 2 of the disease was treated with eleutherococcus extract (25 drops 3 times daily for 2 weeks), while another comparable group received vitamins, ganglion-blocking agents, heat, massage, etc., in addition to eleutherococcus extract. Both groups showed improvement but the results were better in those given eleutherococcus along with other agents, and the stage 1 patients all recovered completely. In those treated with eleutherococcus extract alone, mostly the neurotic symptoms diminished or disappeared along with pain in the heart; vascular reactions to functional tests rarely became normal. Nor did eleutherococcus have any effect on pain and sensitivity to vibration. Thus, eleutherococcus has a therapeutic effect in the treatment of vibration disease, especially when combined with other agents, whose action it apparently potentiates.

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USSR

UDC 617-001.34-06:616.13/:14

NALCHA, I. F., Chair of Neurologic Diseases, Voroshilovgrad Medical Institute

"Vascular Disorders and Their Pathogenesis in Vibration Disease"

Moscow, Sovetskaya Meditsina, No 9, 1971, pp 11-14

Abstract: Neurologic examination of 190 patients suffering from vibration disease of various degrees caused by local vibration showed that impairment of the tone of the peripheral blood vessels was related to the frequency characteristics of the vibration and severity of the disease. In the initial stages (I and II) and regardless of the frequency of vibration, the vascular disorders were manifested by spasm of the skin vessels, the capillaries in particular, which in the case of individuals exposed to medium-frequency vibration gave way to angioparesis in stage III. In stage III patients exposed to high-frequency vibration, spasm persisted and sometimes became more intense. These shifts in vascular reactivity are ascribed to disturbance of the excitability of the reflex centers.

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USSR

UDC 617-001.34-07:612.015.3

NALCHA, I. F., Chair of Nervous Diseases Voroshilovgrad Medical Institute

"Metabolic Disorders in Vibration Sickness"

Kiev, Vrachebnoye Delo, No 7, Jul 70, pp 119-122

Abstract: A study was made of 142 persons aged 25 to 49 who were afflicted with vibration sickness of varying degree as a result of exposure to local vibration. In most cases the examinations revealed a number of neurological and vascular changes, chiefly in the form of autonomic polyneuritis, peripheral angiospasm, and autonomic vascular dystonia, as well as asthenic manifestations and bone disorders (enostosis, arthritis deformans, osteoporosis, spondylosis, etc.). Biochemical tests showed the concentration of serum bromine and calcium to be virtually the same as in healthy persons. The copper level was substantially higher and the phosphorus level lower. These levels varied significantly according to the stage of the disease. There was also a clear-cut correlation between the nature of the bromine curve (a sharp rise in blood bromine 30 min after intravenous injection of 10% sodium bromide, followed by a slow fall) and the severity of neurovascular disorders.

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USSR

UDC 617-001.34-07:616.152-074

NALCHA, I. F., Medical Institute, Lugansk

"Potassium, Calcium, and Phosphorus Content in the Blood Serum of Patients with Vibration Sickness"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 47-48

Abstract: A study was made of patients with vibration sickness produced by exposure to medium- and high-frequency local vibrations. Of 142 patients, 53 were in stage I, 74 in stage II, and 15 in stage III (according to the E. A. Drogichina classification). Capillary, oscillographic, dermothermometric, plethysmographic, and rheoencephalographic tests were conducted. Potassium content was determined by the Kramer-Tidall method, calcium content by the De Vaard method, and phosphorus content by the Briggs method. The potassium/calcium and the calcium/phosphorus ratios were calculated. Similar data were collected from a group of healthy persons. The mean potassium level in the blood serum of the patients was 18.3 ± 0.38 mg%, a level considerably below that of the control group (19.9 ± 0.5 mg%). Differences in the mean value observed for the three different stages of the disease were insignificant. The calcium/phosphorus ratio was elevated, whereas the inorganic phosphorus level in the blood serum was reduced. This observation indicated a link between

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NALCHA, I. F., Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70,
pp 47-48

disruption of phosphorus level and the extent of osseous changes, and it is thus assumed that there is a relationship between the disturbance in phosphorus metabolism and changes in the bones. This conclusion is in agreement with literature data, which indicates that enhanced phosphatase activity leads to a reduction in inorganic phosphorus in the blood.

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Public Health, Hygiene and Sanitation

USSR

UDC 616.073.731-073.96:(616.831-005):617-001.34-07

NALCHA, I. F., Department of Nervous Diseases, Voroshilovgrad Medical Institute

"Cerebral Circulation in Vibration Sickness, According to Rheographic Data"

Kiev, Vrachebnoye Delo, No 6, 1970, pp 123-126

Abstract: Rheography has been successfully used in the study of circulation and for diagnosis of cerebrovascular diseases. It has also been used in connection with the study of patients with vibration sickness. Sixty-seven such patients, 56 men and 11 women 25 to 45 years of age, who had been working with vibrating devices for 5 to 18 years, were included in a rheoencephalographic study. All patients were carefully examined clinically and their rheoencephalograms recorded. The data obtained were statistically evaluated and compared with those obtained from healthy persons. The character of the curves was different for different stages of the illness. For instance, the mean amplitude of patients in the first and second stage was lower (0.077 ± 0.005 and 0.077 ± 0.008 , respectively) than for healthy persons. The data indicated a considerable drop in the hyperemia of brain vessels. Symptoms of dystonia of the cerebral blood vessels were found in patients with advanced stages of the illness as well as in half of the patients who were in the initial stages, when no clinical signs of any disorder of cerebral hemodynamics are observed. The data indicated that most of the patients had a

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NALCHA, I. F., Vrachebnoye Delo, No 6, 1970, pp 123-126

pronounced and continuous spasm of cerebral vessels. Also, a high frequency of vessel tonus changes in the brain was found in those patients who had vibration sickness as a result of local vibration, Rheoencephalography is recommended for early diagnosis of vibration sickness.

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1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CEREBRAL BLOOD FLOW IN VIBRATION DISEASE AFTER RHEOGRAPHIC DATA -U-

AUTHOR--NALCHA, I.F.

COUNTRY OF INFO--USSR *N*

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 123-126

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC VIBRATION EFFECT, CEREBRUM, BLOOD CIRCULATION,
HEMODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/1958

STEP NO--UR/0475/70/000/006/0123/0126

CIRC ACCESSION NO--AP0127359

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127359

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VARIOUS RHEONCEPHALOGRAPHIC INDICES INDICATED CHANGES OF THE CEREBRAL HEMODYNAMICS IN 67 PATIENTS WITH VIBRATION DISEASE. SYMPTOMS OF DYSTONIA OF THE CEREBRAL BLOOD VESSELS WERE FOUND NOT ONLY IN PATIENTS WITH ADVANCED STAGES OF THE DISEASE BUT ALSO MORE THAN IN A HALF WITH INITIAL STAGES OF VIBRATION DISEASE, WHEN CLINICAL SIGNS OF DISORDERS OF THE CEREBRAL HEMODYNAMICS WERE STILL ABSENT. FACILITY: KAFEDRA NERVNYKH BOLEZNEY VORGSHILOVGRADSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

NALCHADZHYAN, A. A.

Nekotoryye Psikhologicheskiye i Filosofskiy Problemy Intuitivnogo Poznaniya
(Some Psychological and Philosophical Problems of Intuitive Knowledge), Moscow,
1972, "Mysl'," 272 pp

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USSR

NALCHADZHIAN, A. A., Nekotoryye Psikhologicheskiye i Filosofskiy Problemy Intuitivnogo Poznaniya, Moscow, 1972, "Mysl'," 272 pp

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1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ORIGIN OF CARBIDE INCLUSIONS IN MOLYBDENUM AND ITS ALLOY WITH
CARBON -U-
AUTHOR-(04)-AGEYEV, N.V., IGNATOV, D.V., KANTOR, M.M., NALETOV, A.M.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHAPE AND DISTRIBUTION OF CARBIDE INCLUSIONS WAS STUDIED IN MO-C ALLOYS CONTG. 2 LEVELS OF C: (1) BELOW THE SATN. LIMIT IN MO AT THE EUTECTIC POINT (0.014-0.108 WT. PERCENT) AND (2) HIGHER THAN THE EUTECTIC CONC. (0.05-0.07 WT. PERCENT). THESE ALLOYS WERE SOLIDIFIED ACCORDING TO 2 PROCEDURES AFTER MELTING: (A) WITH HIGH RATE OF CRYSTN., AND (B) AT A CONSIDERABLY SLOWER CRYSTN. RATE; MELTING WAS DONE IN AN ELECTRON BEAM. THIN SPECIMENS WERE PREP. AND STUDIED BY ELECTRON MICROSCOPY. THE MO-C 0.05PERCENT ALLOY, WHEN CRYSTD. ACCORDING TO (A), SHOWED COLONIES OF DISTINCT EUTECTIC ORIGIN BETWEEN CRYSTALS OF SOLID SOLNS.; WHEN CRYSTD. ACCORDING TO (B) THE ALLOY SHOWED THE MO-C EUTECTIC WITH INCLUSIONS OF COARSE, IRREGULAR HEXAGONAL PRISMS OF MO SUB2 C. THE ALLOY MO-C WITH C CONC. (0.014-0.018 WT. PERCENT), CRYSTD. ACCORDING TO (ALPHA), HAD A SOLID SOLN. STRONGLY SUPERSATD. WITH C WITHOUT ANY EUTECTIC. THE SAME ALLOY CRYSTD. ACCORDING TO PROCEDURE (B) HAD SOME EUTECTIC. BY CHANGING THE CRYSTN. CONDITIONS IT IS POSSIBLE TO CHANGE THE CHARACTER OF SOLID SOLN. DECOMP. DURING SOLIDIFICATION.

BAIKOVA, MOSCOW, USSR.

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NALETOV, B. G., PETROV, N. P., Scientific Research Institute of Vegetable Farming, TRUBRIKOVA, T. I., TIMOFEYEVA, T. A., KIRYUKHINA, N. N., Saratov Scientific Research Institute of Farm Hygiene

"Application of Semeron in Cabbage Fields"

Moscow, Khimiya v sel'skom Khozyaystva, No 8, 1972, pp 39-41

Abstract: Optimal doses of semeron for soddy alluvial soils of different mechanical composition were established, and the economic advantage of applying semeron to white cabbage was demonstrated. In medium-weedy cabbage fields of medium loamy and light loamy soils in flood plain areas, the optimal dosage of semeron is 0.5 kg/hectare. In heavy, very weedy ground the dosage should be increased to 0.7 kg/hectare. Chemical analysis of the cabbage demonstrated that semeron does not lower the quality or the food value. A study was also made of the hygienic conditions of labor of workers applying the herbicide and the effect of the compound on the organism of the workers. No deviations from the norm in the functional state of the organism was discovered for a semeron concentration in the respiratory zone of 0.003-0.42 mg/m³, on the clothes, 0.001-0.33 and on the skin, 0.001-0.073 mg/dm².

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1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--DYNAMICS OF A CHANGE IN GRANULOMETRIC COMPOSITION DURING THE
DEHYDRATION OF SOLUTIONS IN A FLUIDIZED BED -U-
AUTHOR--(03)-NALIMOV, S.P., KAGANOVICH, YU.YA., KOZLOVSKIY, V.V.

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FLUIDIZED BED, AQUEOUS SOLUTION, ZINC COMPOUND, SULFATE, SOLUTION
CONCENTRATION

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARTICLE SIZE DISTRIBUTION STUDIES WERE CONDUCTED ON ZNSO SUB₄ POWDERS PRODUCED BY DEWATERING (DRYING) OF AQ. SOLNS. CONTG. 12-25PERCENT ZNSO SUB₄ IN FLUIDIZED BEDS, 360-560 MM DEEP, AT TEMPS. OF 210 AND 260DEGREES AND WATER REMOVAL RATES OF 1100 AND 1600 KG-M PRINE2 HR, RESP. DRYING AT 260DEGREES YIELDED 0.44-4.0 MM PARTICLES WITH A LARGE FRACTION OF 1.4 AND A SMALLER FRACTION OF 2.5 MM DIAM. PARTICLES; 210DEGREES DRYING YIELDED LARGER PARTICLES IN LARGER FRACTIONS. LOW RESIDENCE TIMES (LOW BED HEIGHTS) YIELDED LARGE FRACTIONS OF 2.5 MM DIAM. PARTICLES AND SMALL ANTS. OF 1.4 MM DIAM PARTICLES. AT LONG RESIDENCE TIMES (560 MM DEEP BEDS) THE NO. OF SMALL 1.4 MM DIAM. PARTICLES PRODUCED WAS 3.5 TIMES LARGER THAN IN 360 MM DEEP BEDS. REDUCING THE ZNSO SUB₄ CONCN. FROM 25 TO 21PERCENT INCREASED THE RESIDENCE TIME AND PRODUCED A 4 FOLD INCREASE IN THE YIELD OF SMALL PARTICLES.

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NALIMOV, V. V., MUL'CHENKO, Z. M.

"The Problem of Logic-Linguistic Analysis of the Language of Science"

Probl. Strukt. Lingvistiki 1971 [Problems of Structural Linguistics 1971 -- Collection of Works], Moscow, Nauka Press, 1972, pp 534-554
(Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V893 by A. Muchnik).

Translation: When science is studied as an information process together with the scientological approach, the authors emphasize the role of a new approach, based on the study of the language of science. They indicate the difficulties arising due to the great differentiation of scientific disciplines, the large number of local languages, hindering information exchange between sciences and particularly between science and technology. A tendency is also noted toward the creation of metalanguages, i.e., languages used in narrow areas of knowledge. Their peculiarities, advantages and disadvantages are noted. (examples include the "meta-language" of mathematical statistics, information theory, etc.). It is suggested that heuristicity be used as a criteria for selection of a meta-language (but not adequacy, which does not allow new phenomena to be predicted).

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USSR

NALIMOV, V. V., MUL'CHENKO, Z. M., Probl. Strukturn. Lingvistiki 1971, Moscow, Nauka Press, 1972, pp 534-554.

Polymorphism is studied (i.e., ambiguity and uncertainty, approximate-ness) as represented in human language and scientific language which should overcome the limits of strictly deductive thinking related to the theorem of incompleteness. Polymorphism itself is related to ambiguity and approximate-ness in the models used for complexly organized systems (in contrast to physical models). The philosophical prerequisites of these concepts lie in the fact that "science is a developing system," allowing the existence of a hierarchy of forms of thinking: 1) prelogical pattern thinking; 2) logical and 3) superlogical thinking (in which a complex system of limitations and selection rules plays a significant role).

Ambiguity of representation of results of observations stimulates development of computer technology, which is illustrated by an example from statistics. A tendency is noted toward increased semantic capacity of special languages -- systems of codes, facilitating the exchange of information in narrow areas of knowledge, but still more hindering exchange across the broad front of science.

The final section is dedicated to problems of construction of a linguistic theory of information, informatics, called upon to overcome the information crisis in science. It is noted that, together with problems of storage and retrieval of information, "a more complex and important problem is assimilation of publications on a given theme" and "consultation"

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NALIMOV, V. V., MUL'CHENKO, Z. M., Probl. Strukturn. Lingvistiki 1971, Moscow, Nauka Press, 1972, pp 534-554.

using computers in the dialogue mode. New forms of information service are suggested -- creation of specialized consultation centers, as well as preparation of polyglots of science. 26 Biblio. Refs.

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Cybernetics

NAKIMOV, V. V.

31 Mar 71

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26. USSR

NAKIMOV, V. V., SHELICHENKO, Z. N.

"Comparative Study of Two Self-Organizing Systems -- Science and the Biosphere"

Adaptatsiya, samorganizatsiya, [adaptation, self-organization -- Collection of papers] Moscow, Nauka Press, 1970, pp 279-301. (Translated from *Ann Khimicheskaya*, No 12, 1970, Abstract No 120630).

Translational science is studied as a self-organizing system or better as a macro-organism developing according to a certain system of rules. These rules are themselves developing and changing together with the development of the macroorganism itself. During performance of the investigation, a comparison is drawn with another developing macroorganism -- the biosphere of the earth.

Sov. Foreign Press Digest
31 Mar 71

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ZT. USSR

YUDIN, B. G.

"The Concept of Completeness in the Structure of Scientific Knowledge"

Koncept, Voprosy Filosofii, No 12, 1970, pp 81-92

Abstract: Problems related to the principles of the investigation of complete objects are one of the points of intersection of the interests of the concrete sciences and philosophy. The problem of completeness has been broadly discussed in the Soviet philosophical and biological literature. In the present article, the author analyzes some problems arising in the process of investigation of complete objects. Primary interest is in the influence of acceptance or rejection of the assumption of completeness on the course of investigation.

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