3/3   020   UNCLASSIFIED   PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0132719
ABSTRACT/EXTRACT--THUS, THERE IS A REGULAR CHANGE IN THE DIRECTION OF THE
PCL POLARIZATION AXIS DURING THE DAY WITH INTERVALS OF ROTATION OF THE
SIGN OF THE ANGLE (BETWEEN THE AXIS OF POLARIZATION AND THE MAGNETIC
MERIDIAN) AT 0500-0800 AND 1700-1800, COINCIDING IN TIME WITH THE
MAXIMUM AND MINIMUM FREQUENCY OF APPEARANCE OF PCL IN THE MIDDLE
LATITUDES.   FACILITY: SIBERIAN INSTITUTE OF TERRESTRIAL
MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

Acc. Nr.: _AP0044051_

Ref. Code: _UR0387_

JPRS 5005 -2

Energy of Elastic Impulses in the Destruction of Samples

(Abstract: "On the Energy of Elastic Impulses Accompanying the Destruction of Samples of Inhomogeneous Materials," by S. D. Vinogradov and K. M. Mirzoyev, Institute of Physics of the Earth; Moscow, Izvestiya Akademii Nauk SSSR, Fizika Zemli, No. 1, 1970, pp. 37-45)

Samples of cubic form measuring 10 x 10 x 10 cm of cement with granite inclusions were destroyed. Two types of inhomogeneities were investigated: samples with a large (1,500) number of small inclusions of irregular angular configuration with linear dimensions of about 3 mm (samples with fine gravel) and samples with a small (20-25) number of inclusions measuring 25-30 mm, also of angular configuration (samples with coarse gravel). Samples were destroyed with a constant rate of deformation under conditions of unilateral compression under a press with a "dry" contact between the sample and the press plates. The detector of elastic oscillations was a piezo-electric sensor mounted on the lateral surface of the sample. The elastic impulses forming in the course of destruction of the sample were registered on magnetic tape. Four series of experiments (8-10 samples in each series) were run for samples with

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AP0044051

these two types of inhomogeneities. The records of destruction processes
and data on stresses and strains made it possible to compute the seismic
energy, elastic energy accumulated in a sample by the time of its destruc-
tion and the work and mean energy expended on deformation of the sample.
All these data are summarized in tables. It was found that with a change
in the rate of deformation there is a considerable change in the quantity
of released seismic energy. Despite the same rate of deformation, dif-
ferent energies are expended on the deformation of samples of different
inhomogeneity. The seismic energy is quite dependent on the rate of the
deformation process. The maximum impulse and the frequency of strong
impulses increase considerably with an increase in the rate of the defor-
mation process. The ratio of the released seismic energy to the stored
elastic energy is dependent to a high degree on the rate of the deforma-
tion process or on the energy expended on deformation of the material.

19770513

USSR   UDC 621.762.4.001.669

VINOGRADOV, S. Ye.

"Study of the Regularities of the Lateral Pressure of Metal Powders"

Tr. Leningr. politekhn. in-ta [Works of Leningrad Polytechnical Institute],
No 315, 1970, pp 10-15 (Translated from Referativnyy Zhurnal-Metallurgiya,
No 2, 1971, Abstract No 2 G387 by the author)

Translation: Data are presented on the change in lateral pressure and
pressing of powdered materials in a split matrix. The relationship between
lateral pressure and degree of compaction and pressing pressure is estab-
lished. 4 figures; 5 biblio. refs.

1/1

USSR   UDC 621.762.4.001:669

SMIRNOV, V. S., PAVLOV, N. N., and VINOGRADOV, S. Ye.

"Application of the Lagrange Variational Principle in Pressure Working of
Metallic Powders"

Translation: The possibility is studied of applying methods of the
solution of problems of elasticity and plasticity for solid bodies to
discrete bodies. A criterion is developed allowing the applicability of
such methods to be evaluated. Formulas are produced for solution of the
planar problem of pressing of powders by variational methods. 3 figures;
6 biblio. refs.

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USSR

BUDAGOV, YU. A., VINOGRADOV, V. B., VOLOD'KO, A. G., DZHELEPOV, V. P.,
KLADNITSKIY, V. S., KUTSIDI, N. K., Tbilisi State University, LOMAKIN, YU. F.,
MAKSIMENKO, V. A., MARTINSKA, G., FLYAGIN, V. B., KHARZHEYEV, YU. N., and
SHANDOR. L.

"Possible Existence of $\pi^- \eta'$-Resonance With a Mass of 270 MeV"

Abstract: The preliminary results of this experiment were presented in
1970 at the Fifteenth International Conference on High-Energy Physics in
Kiev. The authors find experimental signs of the possible existence of a
new meson resonance. They observe a narrow peak when M = 270 MeV in the
spectrum of effective masses of the system $\pi^- \eta'$, which forms in the
reaction $\pi^- p \to \pi^- p + (2.3)\eta'$ at 5 GeV/c. The authors study
events of the type $\pi^- p \to \pi^- p + (2.3)\pi$ which satisfy the following
conditions: (1) the protons are identified by ionization and stopping in
the camera, and the impulses of the protons do not exceed 900 MeV/c; (2)
the length of the tracks of secondary charged particles from the star is
no less then 2 cm, and the impulses of these particles are measured with an
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accuracy no worse than 30%; (3) the γ-quanta have impulses greater than
30 MeV/c, measured with an accuracy no worse than 25%; (4) the scattering
angles between the two γ-quanta do not exceed 2^{c}. As a result of the
experiment, the authors find that the effect which they observed is caused
by the existence of a new meson resonance. The figures depict the distri-
bution by effective mass of quanta. The article contains 2 figures and a
bibliography of 7 entries.

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1/2   014   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--STUDY OF THE MASS SPECTRUM OF THE LAMBDA K SYSTEM IN PI PRIME
   NEGATIVE P INTERACTIONS AT 4 AND 5.1 GEV-C -U-
AUTHOR-(05)-BUDAGOV, YU.A., VINOGRADOV, V.B., VOLODKO, A.G., DZHELEPOV,
   V.P., KIRILLOVUSRYUMOV, V.G.
COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 1, P.31-5 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PROPANE BUBBLE CHAMBER, SYNCHROTRON, PROTON, MASS SPECTRUM,
   PION PION INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY RECL/FRAME--3005/1778   STEP NO--US/0000/70/011/001/0031/0035

CIRC ACCESSION NO--AP0133683
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0133083

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REPORTS THE RESULTS OF THE STUDY OF THE EFFECTIVE MASS SPECTRUM OF THE LAMBDA K SYSTEM, OBTAINED IN AN INVESTIGATION OF PI PRIME NEGATIVE PI INTERACTIONS IN THE 24 LITER AND THE METER PROPANE BUBBLE CHAMBERS IRRADIATED BY 4 AND 5.1 GEV-C PION BEAMS, RESPECTIVELY, FROM THE JINR PROTON SYNCHROTRON. (10 REFS.).

UNCLASSIFIED

1/2   013   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--PRODUCTION OF XI HYPERSONS IN TAU P INTERACTIONS AT 5.1 GEV-C -U-

AUTHOR-(05)-BUDAGOV, YU.A., VINOGRADOV, V.B., VOLODKO, A.G., DZHELEPOV,
V.P., DUSHENKO, V.F.
COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, P. 28-31 (JAN. 1970)

DATE PUBLISHED-----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYPERON, CASCADE, PROPANE BUBBLE CHAMBER, PARTICLE PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1795   STEP NO--US/0000/70/011/001/0028/0031

CIRC ACCESSION NO--AP0133700
                          UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0133700

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REPORTS THE OBSERVATION OF THE DECAYS OF THE CASCADE HYPERON XI YIELDS ALPHA PLUS PI PRIME NEGATIVE AND A DETERMINATION OF ITS PRODUCTION CROSS SECTION IN PI P INTERACTIONS AT 5.1 GEV-C IN A METER PROPANE BUBLE CHAMBER.

UNCLASSIFIED

1/2   015   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--MEASUREMENT OF TOTAL AND PARTIAL CROSS SECTIONS OF THE 5.1 GEV-C PI
  PRIME NEGATIVE MESON INTERACTION IN A PROPANE BUBBLE CHAMBER -U-
AUTHOR-(05)-BUDAGOV, YU.A., VINOGRADOV, V.B., VOLODKO, A.G., DZHELEPOV,
  B.P., MARTINSKA, G.
COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(2), 395-8

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MESON INTERACTION, PION, PROTON, NEUTRON, CARBON, BUBBLE
  CHAMBER, PROPANE, INTEGRAL CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1033   STEP NO--UR/0367/70/011/002/0395/0398

CIRC ACCESSION NO--AP0110723
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0110723
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOTAL CROSS SECTION OF THE 5.1
 GEV-C PI PRIME NEGATIVE MESON INTERACTION WAS MEASURED IN A C SUB3 H
  SUB8 BUBBLE CHAMBER.   YIELDS OF REACTIONS WITH DIFFERENT MULTIPLICITIES
 OF CHARGED PARTICLES WERE DETD. FOR THE INTERACTION OF PI PRIME NEGATIVE
 MESONS WITH P, N, AND C ATOMS, AND THE CROSS SECTIONS FOR GENERATIONS OF
 0-10 PRONG EVENTS IN COLLISIONS WITH P WERE OBTAINED.   FACILITY:
 OB'EDIN, INST. YAD. ISSLED., DUBNA, USSR.

UNCLASSIFIED

1/2   013   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--PRODUCTION OF XI PRIME NEGATIVE HYPERONS IN PI PRIME NEGATIVE P
   INTERACTIONS AT 5.1 GEV-C -U-
AUTHOR-(05)-BUDAGOV, YU.A., VINOGRADOV, V.B., VOLODKO, A.G., DZHELEPOV,
   V.P., DUSHENKO, V.F.
COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(1), 28-31

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--HYPERON, PION PROTON INTERACTION, RADIOACTIVE DECAY, PARTICLE
   PRODUCTION, PARTICLE CROSS SECTION, BUBBLE CHAMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0678   STEP NO--UR/0386/70/011/001/0028/0031

CIRC ACCESSION NO--AP0105654
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0105654
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   ANAL. OF 230,000 PHOTOGRAPHS TAKEN
  IN A C SUB3 H SUB8 BUBBLE CHAMBER OF PI PRIME NEGATIVE P INTERACTIONS AT
  5.1 GEV-C SHOWED 28 NUCLEAR EVENTS WHOSE SECONDARY NEG.   TRACKS COMING
  OUT THE INTERACTION STARS HAD THE CHARACTER OF THE XI PRIME NEGATIVE
  YIELDS O PLUS PI PRIME NEGATIVE DECAY.   ONLY 6 OF THEM SATISFIED THE
  CRITERION FOR A XI HYPERON DECAY, I. E., IONIATION OF EACH TRACK NOT .
  CONTRADICTING THE XI DECAY HYPOTHESIS AND EFFECTIVE MASS (O PLUS PI
  PRIME NEGATIVE) NOT DIFFERING FROM M EQUALS 1321 MEV-C PRIME2 MORE THAN
  50 MEV-C PRIME2.   ALL 6 EVENTS IN THE NUCLEAR STAR WERE UNEQUIVOCALLY
  IDENTIFIED AS THE FOLLOWING: (SHOWN ON MICROFICHE).   THE TOTAL CROSS
  SECTION FOR XI PRIME NEGATIVE HYPERON PRODUCTION IN THE PI PRIME
  NEGATIVE-P INTERACTION WAS (2.9 NEGATIVE SUB1.0 POSITIVE PRIME1.8)MU B.
  THE CROSS SECTION INCREASED ON INCREASING THE INTERACTION ENERGY.
  FACILITY: OB'EDIN, INST. YAD. ISSLED., DUBNA, USSR.

USSR

BUDAGOV, YU. A., VINOGRADOV, V. B., VOLOD'KO, A. G., DZHELEPOV, V. P., KIRILLOV-
-UGRYUMOV, V. G., KLADNITSKIY, V. S., KUZNETSOV, A. A., LOMAKIN, YU. F., MEL'NIKOVA,
N. N., PONOSOV, A. K., FLYAGIN, V. B., SHLYAPNIKOV, P. V., MARTINSKA, G.(1),
BOLDEA, V. (2), MIKHUL, A. (2), MUMUYANU, D. (2), PONTA, T. (2), PELEA, S. (2),
and CHADRAA, B. (3), Joint Institute of Nuclear Research; (1) University imeni P.
I. Shafarik, Koshitse, Czechoslovak SSR; (2) Institute of Atomic Physics, Bucharest,
Romania; (3) Physics Institute of the Academy of Sciences Mongolian People's Repub-
lic, Ulan-Bator

"Study of the Mass Spectrum of a ΛK-System in $\pi^- p$-Interactions at 4 and 5.1 Gev/c"

Abstract: The results of a study of the spectrum of the effective masses of a
ΛK-system are reported. The spectrum was obtained in investigating $\pi^- p$-interactions
in a 24-liter and a 1-meter propane bubble chamber irradiated in π-meson beams of
the proton synchrotron of the Joint Institute of Nuclear Research with pulses of
4 and 5.1 Gev/c, respectively. An investigation of the structure of the effective
mass spectrum of a ΛK-system was of interest from the viewpoint of observing new

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BUDAGOV, YU. A., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki,
Vol. 11, No. 1, 5 Jan 70, pp 31-35

resonances with zero strangeness and the decays of different isobars via the chan-
nel $N^* \to \Lambda + K$, to determine the relative probabilities of these decays. Approxi-
mately 230,000 photographs were analyzed for each bubble chamber. The effective
mass spectra of ΛK^0 combinations for events in which the decays of a Λ-hyperon and
a K^0-meson were simultaneously recorded in the chamber are graphed. The graphs
show a considerable excess in the number of events above the background in the mass
region 1.61-1.96 Gev/c^2. It is shown that this anomaly is not associated with the
reflection of known resonances Y^* (1385) and K^* (890) in the ΛK^0-spectrum. The
total excess in the number of events over the background in the mass interval 1.61-
-1.96 Gev/c^2 was 114 ± 13. The experimental data verify the existence of two reso-
nances with masses about 1685 and 1935 Mev/c^2 and widths of the order of 150 Mev/c^2.
It is concluded that the anomaly observed in the effective mass spectrum of ΛK can
be explained only by the decay of the isobar S_{11} (1710), P_{11} (1750) via the channel
$N^* \to \Lambda + K$ or by the existence of a new resonance with mass about 1685 Mev/c^2, as
the data of R. Erbe et al indicate.

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USSR

UDC 531

VINOGRADOV, V. A., IVIN, S. M., PETROV, A. S.

"Dynamic Balancing of Rotors Without a Compensation System"

Tr. Ufim. Aviats. In-ta. [Works of Ufim Aviation Institute], 1972, No 38, pp 34-40 (Translated from Referativnyy Zhurnal, Aviatsionnye i Raketnye Dvigateli, No 12, 1972, Abstract No 12.34.117).

Translation: A method is presented for dynamic balancing of rotors without a compensation system. The method utilizes the results of theoretical conclusions, theoretical and experimental studies of the dependences of the phase shift angles of oscillations of supports of a machine tool on the magnitude and location of imbalance. A method is presented for graphic determination of the imbalance in each plane from the signals of sensors in the moving supports. 5 Figures; 2 Biblio. Refs.

1/1

USSR   UDC: 629.78.062.2

VINOGRADOV, V. I., MAKOVLEV, V. I.

"Possibility of Using the Method of Frequency Characteristics for Study of
Special Nonlinear Effects"

Translation: A method of harmonic linearization is used to study the proper-
ties of a nonlinear filter, the input signal in which passes through two
independent channels; one of the channels forms the phase, while the other
forms the magnitude of the signal, the output signal at the output of the
filter being formed as the product of these signals. The dynamic properties
of the nonlinear portion of the filter are analyzed for the first and third
harmonics. It is demonstrated that the effectiveness of the filter cannot be
determined by analysis of the first harmonic alone.

1/1

USSR   UDC 616.831-085.832.9-073.65

BUKOV, V. A., BOBKOV, I. G., and VINOGRADOV, V. I., Laboratory of Pathological
Physiology and Experimental Surgery, Institute of Clinical and Experimental
Surgery, Ministry of Health USSR

"Determination of Brain Temperature During Cooling of the Head"

Abstract: Clinical application of craniocerebral hypothermia requires a reliable,
simple, and precise method of indirect determination of the degree of cooling of
the brain. Numerous experimental and clinical studies using simultaneous measure-
ments have demonstrated that the temperature in the auditory canal wall near the
tympanic membrane registers the temperature of the basal portion of the brain
with a precision of $\pm$ 0.4 degrees. The temperature of the cerebral cortex may
simultaneously be 5 degrees (or more) lower, depending on the depth of surface
hypothermia. Since this method is simple and practically nontraumatic, it can
be safely used in clinical practice.

1/1

TITLE--DETERMINATION OF THE BRAIN TEMPERATURE IN CRANIOCEREBRAL
   HYPOTHERMIA -U-
AUTHOR-(03)-BUKOV, V.A., BOBKOV, I.G., VINOGRADOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP
   113-114
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CEREBRUM, HYPOTHERMIA, CLINICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0577   STEP NO--UR/0589/70/104/005/0113/0114

CIRC ACCESSION NO--AP0108792
                    UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0108792
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   IN CLINICAL APPLICATION OF
   CRANIOCEREBRAL HYPOTHERMIA IT IS NECESSARY TO HAVE A RELIABLY SIMPLE AND
   PRECISE METHOD OF INDIRECT DETERMINATION OF THE DEGREE OF THE BRAIN
   COOLING.   AS A RESULT OF EXPERIMENTAL AND CLINICAL STUDIES IT HAS BEEN
   DEMONSTRATED THAT TEMPERATURE OF THE AUDITORY CANAL WALL NEAR THE
   TYMPANIC MEMBRANE REFLECTS TEMPERATURE OF THE BASAL BRAIN PORTION WITH A
   PRECISION UP TO PLUS OR MINUS 0.4DEGREES.   WHEREAS TEMPERATURE OF THE
   CEREBRAL CORTEX IS 5DEGREES AND MORE LOWER DEPENDING ON THE DEPTH OF
   HYPOTHERMIA.   SINCE THIS METHOD IS SILMPLE AND NEARLY ATRAUMATIC, IT
   COULD BE WIDELY USED IN CLINICAL PRACTICE.   FACILITY:
   LABORATORII PATOFIZIOLOGII I EKSPERIMENTAL'NOY KHIRURGII INSTITUTA
   KLINICHESKOY I EKSPERIMENTAL'NOY KHIRURGII MINISTERSTVA
   ZDRAVOOKHRANENIYA SSSR.

UNCLASSIFIED

USSR

UDC 615.217.24.015

VINOGRADOV, V. M. and SPIVAKOVA, R. P., Kirov Academy of Military Medicine, Leningrad

"Mechanism of Action of Sympatholytics of the Guanethidine Series"

Abstract: Following intravenous injection of cats with hemedine [1-N-(hexamethylenimino)-ethyl-2-guanidine (sulfate)], secretion of catecholamines, epinephrine in particular, by the adrenals increased the first 60 minutes but sharply decreased within 72 to 96 minutes. The residual content of catecholamines in the adrenals was less than half that of the control at this time. The effect of the sympatholytic is attributed to exhaustion of the catecholamine reserve due to depression of their synthesis and adsorption by the nerve endings.

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USSR

VINOGRADOV, V. M.

"Three-Dimensional Relativistic Equations Applied to Some Three-Body Theory Problems"

Moscow, Yadernaya Fizika, Vol 14, No 5, 1971, pp 1091-1100

Abstract: Two areas of the application of three-body equations are now known: the study of high-energy dispersion in a complex, weakly-bonded system, such as the deuteron; computation of the parameters of a three-body system to explain nuclear interactions. In the first instance the Glauber formula, from nonrelativistic considerations, is used; in the second, the Faddeyev equations are used. Since it is important to take into account relativistic effects in the consideration of subatomic three-body problems, the author discusses methods of solving such relativistic equations. Using the example for separable approximations for the interaction potential in two- and three-body problems, he qualitatively compares the relativistic and nonrelativistic equations in determining the energy of bonded states. The problem of relativistic

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generalization of the Glauber formula is also examined. Assistance of D. I. Blokhintsev, V. B. Belyayev, Ye. Vzhetsionko, V. G. Kadyshevskiy, and A. N. Kvinikhidze is acknowledged. The author is connected with the Joint Institute of Nuclear Research.

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USSR

UDC 66.074.7

VINOGRADOV, V. M., KAZANTSEV, YE. I., Ural Polytechnical Institute imeni S. M. Kirov

"Interaction of Some Oxidants With AV-17x6 Anion Exchange Resin"

Abstract: The authors investigated the differences in interaction of such oxidants as potassium bromate, hydrogen peroxide, ammonium persulfate and nitric acid with the strongly basic anion exchange resin AV-17x6. It was found that when the anion exchange resin is treated with oxidant solutions, there are generally three processes which take place to varying degrees with the participation of ionogenic groups: deamination, degradation and a transition of part of the nitrogen to the "inactive" state. The addition of nitric acid to hydrogen peroxide and potassium bromate solutions leads to a reduction in the deamination process as compared with processes of degradation and transition of nitrogen to the "inactive" state. Raising the temperature has no effect on the type of change in the nature of functional groups. However, in the case of hydrogen peroxide there is an intensification of the process of destruction of the copolymer macromolecule. 1/1

1/2   007
TITLE--EFFECT OF SOME OXIDIZING AGENTS ON THE PROPERTIES OF THE SULFONIC
    CATION EXCHANGER KU-2 -U-

UNCLASSIFIED   PROCESSING DATE--30OCT70

AUTHOR-(02)-KAZANTSEV, YE.I., VINOGRADOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 54-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION EXCHANGE RESIN, SULFONE, OXIDIZING AGENT/(U)KU2 ION
    EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0964

STEP NO--UR/0153/70/013/001/0054/0059

CIRC ACCESSION NO--AP0124623

UNCLASSIFIED

CIRC ACCESSION NO--AP0124623
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYS. AND CHEM. ANAL. OF CATION
EXCHANGE RESIN KU-2 (I) IN THE PRESENCE OF VARIOUS OXIDIZING AGENTS
INDICATED THAT THE EXCHANGE CAPACITY OF I DECLINED DUE TO DESULFONATION
AND AS A RESULT OF INCORPORATION OF O, BR, AND N ATOMS INTO THE
MACROMOL. THE OXIDIZING AGENTS ATTACKED THE C-H BONDS OF CH SUB2 GROUPS
AND TERTIARY C ATOMS. THE STRONGEST OXIDIZING AGENTS (AT 293DEGREESK)
WERE: 0.1M K SUB2 CR SUB2 O SUB7 PLUS M HNO SUB3, 0.1M KBRO SUB3 PLUS M
HNO SUB3, AND 0.1M (NH SUB4)SUB2 SUB2 SUB8; WHEREAS AT 353DEGREESK, 0.1M
KBRO SUB3 PLUS M HNO SUB3 AND 0.1M H SUB2 O SUB2 WERE THE MOST
EFFECTIVE.   FACILITY: URAL. POLITEKH. INST. IM. KIROVA,
SVERDLOVSK, USSR.

1/2   013

TITLE--MOVEMENT OF CHARGED WATER DROPLETS IN A HOMOGENEOUS D.C. ELECTRIC
FIELD -U-

UNCLASSIFIED   PROCESSING DATE--30OCT70

AUTHOR-(03)-PANCHENKOV, G.M., VINOGRADOV, V.M., PAPKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(2), 34-6

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SODIUM CHLORIDE, ELECTRIC FIELD, WATER, LIQUID DROP MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0929

STEP NO--UR/0065/70/015/002/0034/0036

CIRC ACCESSION NO--AP0107458

UNCLASSIFIED

CIRC ACCESSION NO--AP0107458   UNCLASSIFIED   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   THE MOVEMENT OF CHARGED WATER
DROPLETS SUSPENDED IN A HYDROCARBON MEDIUM IN A D.C. ELEC. FIELD, AND
THE EFFECT OF SALTS DISSOLVED IN WATER ON THE MOVEMENT WAS INVESTIGATED.
A COMPARISON OF EXPTL. DATA FOR THE RATE OF MOVEMENT OF CHARGE
DROPLETS OF A 0.4760 N NACL SOLN. WITH THE CALCD. RATE, AS INFLUENCED BY
THE RADIUS OF THE DROPLET, IS PRESENTED.

UNCLASSIFIED

USSR

UDC 66.074.7

KAZANTSEV, YE. I., and VINOGRADOV, V. M., Ural Polytechnical Institute imeni S. M. Kirov, Sverdlovsk, Ministry of Higher and Secondary Specialized Education ARSSR

"Effect of Some Oxidizers on the Properties of the Sulfocation Exchange Resin Ku-2"

Abstract: The paper concerns the chemical and physical methods of studying the chemical stability of the KU-2 cationite to oxidizers. The treatment of KU-2 with various oxidizers and its physico-chemical properties after treatment are described. An increase in the temperature of the oxidizer solution induces considerable changes in the basic characteristics of the ionite. Treatment with oxidizers causes a drop in the exchange capacity with respect to sulfo-groups at the expense of both desulfuration and inculcation of oxygen, bromine, and nitrogen into the structure of the resin. The presence of alcohol, ketone, and carboxyl groups in oxidizer-treated cationite specimens was established. It is suspected that oxidizers attack the C--H bonds of methylene groups and tertiary carbon atoms. Of all

1/2

USSR

KAZANTSEV, YE. I., et al, Ivanovo, Khimiya i Khimicheskaya Tekhnolo-
giya, Vol 12, No 1, 70, pp 54-59

tested oxidizers, the highest oxidization capacity at $293^{\circ}K$ was
demonstrated by potassium bichromate and bromate in nitric acid and
ammonium persulfate solutions; hydrogen peroxide and nitric acid
solution were the best oxidizers at $353^{\circ}K$.

2/2

- 20 -

Abstract: A magnetic plasma compressor   is a quasi-equilibrium, co-axial
plasma accelerator. Previous compression system experiments had reported a
neutron yield of 0.5 - 1 times 10^9 at an initial discharge voltage of 24kv and
a discharge current of 650 ka. The experiments reported in this article used
significantly lower values and longer process times. It was found that a yield
of up to 4 times 10^5 neutrons was observed over a wide range of deuterium
gas pressures and condenser voltages. The temperature and density of the plasma
in the zone of focus was not high enough to permit a noticeable intensity of
D-D "temperature" reactions, indicating that the neutrons were produced most
probably by some unstable processes.

The experimental device contains a central electrode and ten peripheral
electrodes. When the central electrode was negative, both the neutron
and X-ray emission showed a series of unequal peaks; when the central electrode
was positive, both forms of radiation had a single sharp peak. The radiation
intensity also varied along the axis of the electrodes.

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Wood Chemistry

BLESHINSKIY, S. V., VINOGRADOV, V. P., Institute of Inorganic
and Physical Chemistry, Academy of Sciences of the Kirgiz SSR

"Superheated Water as an Active Hydrolyzing Agent"

Abstract: The authors examined the action of superheated water
on cellulose, a component of the tissues of plants, peat, and
partly converted coal deposits which are extensively processed
to obtain organic materials and to extract valuable inorganic
components (rare elements). It is shown that thermal destruction
in the presence of water may lead to intensive hydrolysis of
cellulose to glucose. It is calculated that the process of con-
version of cellulose to glucose anhydride is accompanied by
absorption of 5670 calories per mole of levoglucosan formed.   It
is found that the maximum yield of glucose and formation of
levoglucosan take place at the critical temperature of water
(374°C). This indicates that the process of high-temperature
acid-free hydrolysis of cellulose goes through a stage of radical
1/2

USSR

BLESHINSKIY, S. V., et al, IAN Kirgizskoy SSR, No 3, May/Jun 71, pp 47-51

formation. Recombination of radicals in a liquid solution is limited by the diffusion process. Three possible mechanisms of radical recombination are considered: interaction of free radicals, rearrangement of hydrogen atoms, and recombination of two biradicals.

CSO: 1841-W   - END -

2/2

USSR

VINOGRADOV, V. S.

"A Boundary Value Problem for a Special Type of Elliptical System"

Minsk, Differentsial'nye Uravneniya, No. 7, vol. 7, July 1971, pp 1226-1234

Abstract: In the section of the journal devoted to partial differential equations, this article considers the system of equations

$$L\vec{w} = E\,\frac{\partial \vec{w}}{\partial \bar{z}} + Q\,\frac{\partial \vec{w}}{\partial z} + A\vec{w} + B\vec{\bar{w}} = \vec{F}.$$

where E is a unit matrix and Q, A, and B are complex square matrices of order n, defined in a simply-connected region D, while

$$\frac{\partial}{\partial \bar{z}} = \tfrac{1}{2}\left(\frac{\partial}{\partial x} + i\frac{\partial}{\partial y}\right), \quad \frac{\partial}{\partial z} = \tfrac{1}{2}\left(\frac{\partial}{\partial x} - i\frac{\partial}{\partial y}\right).$$

It is assumed that the eigenvalues of the matrix Q are inside the unit circle

1/2

USSR

VINOGRADOV, V. S., Differentsial'nyye Uravneniya, No 7, vol. 7, July 1971,
pp 1226-1234

$$|\lambda_i| \leqslant q < 1.$$

The first equation is a complex form of a special type of system,
considered in an earlier article (Vol'pert, A. I., Trudy Matem.
ob-va, 10, Moscow, 1961, pp 41-87) and the second equation above
determines its ellipticity. The problem is to find those solu-
tions of the first equation which, at the boundary Γ of D, satis-
fy the relationship $\text{Re}\{G\vec{w}\} = 0$, the matrix G being diagonal and
of the form

$$G = \text{diag}\left\{ t^{\varkappa_1}, \ldots, t^{\varkappa_s}, \ t^{-\varkappa_{s+1}}, \ldots, t^{-\varkappa_n} \right\},$$

where all $\varkappa_\alpha \geqslant 0$, and $\varkappa_\alpha > 0$ for all $\alpha \leqslant s$. The author is connected
with the V. A. Steklov Mathematical Institute.

2/2

- 4 -

USSR

AYZENTSON, YE. G., VINOGRADOV, V. V., GREVNOV, L. M., and SYCHEV, YE. N., Perm State University

UDC: 621.78:534-8

"The Effect of Ultrasound on the High-Temperature Aging of EI69 Grade Steel"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 4, 1973, pp 142-145

Abstract: The authors study the effect of ultrasound on the carbide formation and state of the EI69 grade austenite steel (0.48 percent C, 0.27 percent Si, 0.42 percent Mn, 0.015 percent P, 0.020 percent S, 13.23 percent Cr, 13.30 percent Ni, 0.39 percent Mo, and 2.27 percent W) during its high-temperature aging process. Billets from this grade of steel were held at 1215°C in a salt bath for one hour and cooled in water. Specimens were turned from these billets 10 mm in diameter and 210 mm long. These were subjected to ultrasound with an amplitude within an antinode shift of 15 microns at 700 and 750°C for 15, 30, 60, 90, and 120 minutes with subsequent cooling in water. Control specimens were subjected to the same heat treatment but without ultrasound. Maximal stress cross sections of control and specimens subjected to ultrasound were subjected to x-ray and electron micro- scope studies. The results show that processing EI69 grade steel with ultrasound during its high-temperature aging leads to the development of a dislocation type structure in the matrix. To this is related the more intense granulation of the

1/2

USSR

AYZENTSON, YE. G. et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metal-lurgiya, No 4, 1973, pp 142-145

austenite blocks in the $[111]$ and $[200]$ orientations in the specimens subjected to ultrasound. An increase in the dispersion of the substructure under the effect of ultrasound results in higher steel hardness. It is shown that subjecting steel to ultrasound increases the rate of carbide particle growth and raises the parameter of the crystal lattice of the carbide phase. This could be related to the intensification of the diffusion processes.

2/2

KRYLOV, S. S., VINOGRADOV, V. V., and KAL'NING, S. A., Leningrad

"On the Relationship Between an Electroencephalogram and Various Types of Memory Under the Influence of Amizil"

Abstract: Two-, three-, and five-milligram doses of amizil were administered intramuscularly to a group of dogs and cats. Within 5-10 minutes after the injection of the drug, which is known to block the brain's cholinoreceptors, the EEG's of all the animals exhibited slow, high-amplitiude waves, similar to those that occur during natural sleep. These amizil-induced changes were accompanied by loss of short-term image memory and loss of prolonged retention of current information and consequent inability to learn. The animals re-gained their short-term memory within 5-6 hours, at the same time that the blockade of the cholinoreceptors ceased, and the EEG's returned to normal. Simple, stable conditioned reflexes, involving long-term memory, were disrupted for only about 4 hours, although the more complex alimentary motor type were disrupted for 24-48 hours. These disturbances were caused by the indirect interference of amizil in the metabolism of biogenic amines, particularly catecholamines.
1/2

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USSR

KRYLOV, S. S., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 21, Vyp 6, Nov/Dec 71, pp 1,223-1,229

A frequency analysis of the EEG's showed an increase in slow waves in all parts of the brain, and an increase in alpha- and beta-waves in the reticular formation of the midbrain.

2/2

USSR

UDC: 669.189:621.746.7.001

BORISOV, V. T., VINOGRADOV, V. V., DUKHIN, A. I., MANOKHIN, A. I.,
MATVEYEV, YU. YE., SOKOLOV, L. A. and SHISHKOV, V. T., (Moscow)

"Applicability of the Quasi-Equilibrium Two-Phase Zone Theory to the
Description of Ingot Crystallization"

Abstract: Increasing the requirements on metal quality necessitates more
intimate knowledge and in-depth analysis of the fine points of alloy
crystallization phenomena. Noteworthy, in this case, is the study of the
quasi-equilibrium two-phase zone of an alloy -- a region in which thermal,
diffusion,and other processes accompanying the formation of the ingot's
structure take place. This study is an attempt to test the applicability
of the theory to computer analysis of the crystallization of a metal ingot.
Described is a crystallizer designed for the study of thermal conditions
in the two-phase zone of an ingot for crystallization at both low and high
cooling rates. A mathematical arrangement is proposed characterizing a
crystallizing ingot in terms of the new theory. The correlation of the
theoretical results with the experimental data indicates that the proposed

1/2

USSR

BORISOV, V. T., et al, Izvestiya Akademii nauk SSSR, Metally, no 6, Nov-Dec 71, pp 104-109

mathematical model provides both qualitative and quantitative patterns of the thermal and other real conditions of ingot crystallization. (2 illustrations, 13 bibliographic references).

2/2

USSR

UDC: 621.319.4

KOVALEV, K. S., ZHIKHAREV, Yu. V., VINOGRADOV, V. V., YEVSEYEVA, I. A.,
ROMANOVA, P. A., PAVLUSHINA, G. M.

"Some Singularities of Heat Treatment in the Production of Capacitor Foil
From Tantalum"

Nauchn. tr. N.-i. i proyektn. in-t redkomet. prom-sti (Scientific Works of the
Scientific Research and Design Institute of the Rare Metals Industry), 1971,
32, pp 71-76 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V329)

Translation: An investigation is made into the heat treatment of thin foils
in connection with solution of the problem of making high-quality capacitor
foil from tantalum. Three illustrations, one table, bibliography of three
titles. Resumé.

1/1

1/2   027

TITLE--N-CHOLINOREACTIVE STRUCTURES OF THE BRAIN AND CONDITIONED ACTIVITY
-U-

UNCLASSIFIED   PROCESSING DATE--23OCT70

AUTHOR-(04)-KRYLOV, S.S., VINOGRADOV, V.V., KALNING, S.A., SNEGIREV, YE.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 3, PP 541-546

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CONDITIONED REFLEX, NERVOUS SYSTEM DRUG, ELECTROENCEPHALOGRAPHY, CHOLINOLYTIC, NOREPINEPHRINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1924

STEP NO--UR/0247/70/020/003/0541/0546

CIRC ACCESSION NO--AP0120573

UNCLASSIFIED

CIRC ACCESSION NO--AP0120573

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. A SINGLE ADMINISTRATION OF AMYZIL
   (5 AND 40 MG-KG) PREVENTED ARECOLYNE TREMOUR IN RATS AND ARECOLYNE AND
   GALANTOMINE EEG DESYNCHRONIZATION IN CATS, AND EVOKED UNMOTIVATED MOTOR
   EXCITATION, A COMPLETE DISAPPEARANCE OF CONDITIONED REFLEXES AND A
   DIMINISHED NORADRENALINE CONTENT IN THE RATS BRAIN.   WITH REPEATED
   DAILY INJECTIONS OF CHOLINOLYTICS, THE MOTOR EXCITATION, DISTURBANCES OF
   CONDITIONED REFLEXES AND THE DECREASE IN NORADRENALINE LEVEL IN THE
   BRAIN GRADUALLY WEAKENED, AND WERE NOT MANIFEST AT ALL ON THE 9TH TO
   10TH DAY, ALTHOUGH EACH SUCCESSIVE AMYZIL INJECTION EXERTED THE USUAL
   ACTION OF THE CATS' EEG AND COMPLETELY PREVENTED DESYNCHRONIZATION
   REACTION IN CATS AND TREMOUR IN RATS.   AT THE SAME TIME, IN THE CASE OF
   A FULL BLOCKADE OF THE M-CHOLINORECEPTORS OF THE BRAIN NEW CONDITIONED
   REFLEXES COULD NOT BE ELABORATED.   THE DATA OBTAINED SHOW THAT THE
   ACETYLCHOLINE TRANSMITTER SYSTEM IN THE BRAIN UNITS IS OF A CONSIDERABLE
   SIGNIFICANCE FOR MEMORY FORMATION, BUT IS NOT NECESSARY FOR THE
   PERFORMANCE OF CONDITIONED REACTIONS ALREADY FORMED.   FACILITY:
   INSTITUTE OF TOXICOLOGY, USSR MINISTRY OF HEALTH, LENINGRAD.
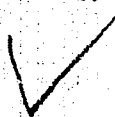
UNCLASSIFIED

1/2   021

TITLE--AN EXTERNAL TRANSHEPATIC DRAINAGE OF THE COMMON BILE DUCT -U-

UNCLASSIFIED

PROCESSING DATE--09OCT70

AUTHOR--VINOGRADOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP 37-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, BILE, SURGERY, DRAINAGE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1019

STEP NO--UR/0589/70/104/005/0037/0040

CIRC ACCESSION NO--AP0109170

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0109170
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN SURGERY ON BILE PASSAGES IN 15
PATIENTS THE AUTHOR HAS EMPLOYED AN EXTERNAL TRANSHEPATIC DRAINAGE OF
THE COMMON BILE DUCT. SUCH TECHNIC OF DRAINAGE OF BILE PASSAGES ENABLED
TO PERFORM EXTERNAL SHUNTING OF BILE AFTER CHOLEDOCHOTOMY WITH A BURIED
SUTURE, TO CONSTRUCT BILE OUTFLOW ANASTOMOSES AND TO INCISE THE VATER'S
PAPILLA. THE TECHNIC OF EXTERNAL DRAINAGE OF THE COMMON BILE DUCT AND
ITS USE FOR BILE SHUNTING IS DESCRIBED.   FACILITY: KAFEDRY
KHIRURGII UNIVERSITETA DRUZHBY NARODOV IM. PATRISA LUMUMBY, MOSCOW.

UNCLASSIFIED

1/2   019   UNCLASSIFIED
TITLE--CHOLEDOCHODUODENOSTOMY -U-   PROCESSING DATE--18SEP70

AUTHOR-(02)-VINOGRADOV, V.V., VISHNEVSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 4, PP 79-85

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, GALLBLADDER, BILE, PANCREAS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1230   STEP NO--UR/0531/70/000/004/0079/0085

CIRC ACCESSION NO--AP0054125
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0054125   UNCLASSIFIED   PROCESSING DATE--18SEP70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   IN THE SURGICAL TREATMENT OF
BENIGN DISEASES OF THE BILIARY TRACT CHOLEDOCHODUODENOSTOMY DURING THE
LAST YEARS FIND EVER GREATER ATTENTION. THIS TECHNIQUE WAS EMPLOYED IN
150 PATIENTS DURING 410 OPERATIONS ON THE COMMON BILE DUCT OUT OF THE
TOTAL 1300 SURGICAL INTERVENTIONS FOR CHOLECYSTITIS AND ITS
COMPLICATIONS CHOLEDOCHOLITHIASIS, PANCREATITIS, STENOSIS OF THE PAPILLA
OF VATER, STENOSIS OF THE CHOLEDOCHUS SERVED AS INDICATIONS TO THIS
OPERATIONS. IN 141 PATIENTS SUPRADUODENAL AND IN 9 PATIENTS
TRANSDUODENAL CHOLEDOCHODUODENOSTOMY WAS PERFORMED.
CHOLEDOCHODUODENOSTOMY SHOULD BE CARRIED OUT IN ACCORDANCE WITH STRICT
INDICATIONS DEPENDING ON THE CHARACTER OF PATHOLOGICAL CHANGES AND ON
CONDITIONS OF THE OPERATION, THE MAIN OF WHICH SHOULD BE THE FEASIBILITY
OF FORMING A WIDE ANASTOMOSIS. THIS IS ACHIEVED BY A SPECIAL OPERATIVE
TECHNIQUE PROPOSED BY THE AUTHORS. IN 150 PATIENTS THE LETHALITY
AMOUNTED TO 7.3 PER CENT OF CASES. A GOOD REMOTE RESULT WAS OBSERVED IN
76 PER CENT, A SATISFACTORY, IN 21 PER CENT AND UNSATISFACTORY IN 3 PER
CENT OF CASES. IN RESPECTIVE INDICATIONS AND PROPER OPERATIVE TECHNIQUE
CHOLEDOCHODUODENOSTOMY YIELDS GOOD IMMEDIATE AND REMOTE RESULTS, AND
SHOULD BE CONSIDERED AS A NORMAL METHOD OF SURGICAL INTERVENTION ON THE
BILIARY TRACT.

UNCLASSIFIED

USSR

VODOP'YANOV, L. K., KOPANEV, V. D., and VINOGRADOV, Ye. A.

UDC: 453.082.5

"Automation of Optical Measurements from Points in the Far Infrared Region"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 206-208

Abstract: Although the method of optical measurements in the far infrared region involving point-by-point spectrum recording is the most accurate, it is also the most tedious. The authors of this paper therefore present a system for making such measurements automatically. As the simplified drawing shows, the equipment consists of a diffraction grating that is turned precisely to a given angle, a cryostat that periodically enters the light beam for a time and carries the specimen, and a slide which interrupts the beam for zero signal measurements. A detailed explanation of the equipment's operation is given. It used periods of 1.2, 3.5, 7.0, and 14.0 min for performing its recording cycles. Two factors were considered in setting these periods: the measurement accuracy, which improves with increasing spectral recording time in each phase, and the total time for recording the whole spectrum.

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UDC 621.3.087.5 $\textcircled{1}$

USSR

VINOGRADOV, YE. A., KOPYLOVSKIY, B. D.

"Receiver-Recorder for High-Resistance Photoreceivers"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 115-117

Abstract: A receiving and recording system for operation of high-resistance photoreceivers is described. The system is constructed completely from tranistors, and in order to reduce the noise level the input stage executed from a field-effect transistor is placed in a cryostat. The noise reduced to the input is 10^{-7} volts/hertz$^{1/2}$ with a resistance of the bolometric element of $5 \cdot 10^6$ ohms at 5° K. The threshold sensitivity attained is 10^{-12} watts/hertz$^{1/2}$ for $S = 10^5$ volts/watt and $\varepsilon = 1$. The circuit diagram of the amplifying channel, the block diagram of the receiving and recording device and the frequency-amplitude characteristic of the narrow band amplifier are presented and analyzed. Synchronous detection of the signal is realized by a mechanical breaker using the RP-5 polarized relay; to decrease the delay time of the relay, its winding is fed rectangular pulses. The reference voltage for the synchronous detector is taken from the photoresistor with subsequent amplification and shaping. The switching time for the contacts does not exceed 1-2 milliseconds. The signal from the synchronous detector goes to two RC_i integrators with step regulation of the effective pass band of the amplifier from 1 to $7 \cdot 10^{-3}$ hertz.
1/2

USSR

VINOGRADOV, YE. A., et al., Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 115-117

To obtain a high transfer coefficient of the integrator and for matching with the low-resistance input of the EPP-09 pen recorder, a balanced DC amplifier of field-effect transistors is used in the circuit.

2/2

USSR

VINOGRADOV, Ye. A.; IRISOVA, N. A.; KOZLOV, G. V. (Lebedev Physics Institute,
USSR Academy of Sciences, Moscow)

"Birefringence of Crystalline Quartz in the Millimeter Range of the Spectrum"

Leningrad, Solid State Physics; November, 1970; pp 3155-9

ABSTRACT: A method of measuring the birefringence of anisotropic media in
the submillimeter range of the spectrum which takes into account interference
phenomena inside the sample is described. An equation is obtained which de-
termines the relation of the phase shift $\Delta\phi$ between ordinary and unusual waves
passing through a plane-parallel plate of an anisotropic dielectric. A quasi-
optical apparatus for measuring birefringence in the 110-150 billion-cycle
range was devised. Measurement of the phase shift $\Delta\phi$ was carried out with the
aid of a compensator consisting of two one-dimensional reticular elements with
fine, mutually perpendicular wires. The birefringence of natural crystalline
quartz was measured on the apparatus, and the following values for the refrac-
tive indices n_o and n_e were obtained: $n_o = 2.10\pm0.03$, $n_e = 2.14\pm0.03$,
$\Delta n = n_e - n_o = 0.0477\pm0.0003$.

1/1

1/2   031
TITLE--ELECTROOPTICAL EFFECT IN LINBO SUB3 IN THE MILLIMETER RANGE -U-

UNCLASSIFIED

PROCESSING DATE--30OCT70

AUTHOR-(03)-VINOGRADOV, YE.A., IRISOVA, N.A., KOZLOV, G.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 781-4

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROOPTIC EFFECT, DIELECTRIC LOSS, FREQUENCY
CHARACTERISTIC, REFRACTIVE INDEX, NIOBATE, LITHIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/2033

STEP NO--UR/0181/70/012/003/0781/0784

CIRC ACCESSION NO--AP0106691

UNCLASSIFIED

CIRC ACCESSION NO--AP0106691   UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED FOR   PROCESSING DATE--30OCT70
INVESTIGATION OF THE ELECTROOPTICAL EFFECT IN THE SUB MM RANGE.
FORMULAS WERE OBTAINED WHICH DESCRIBE THE VARIATION OF THE AMPLITUDE AND
THE PAHSE OF THE WAVE AT THE EXPENSE OF THE ELECTROOPTICAL EFFECT IN A
PLANE PARALLEL PLATE. THE REFRACTIVE INDEX (N SUB0) AND DIELEC. LOSS
TANGENT (TAN DELTA) WERE MEASUREDFOR THE CONVENTIONAL WAVE, AND THE
NONLINEAR COEFF. R SUB22 FOR LINBO SUB3. THE FOLLOWING VALUES WERE
OBTAINED FOR THESE PARAMETERS: N SUB0 EQUALS 7.2 PLUS OR MINUS 0.2, TAN
DELTA EQUALS (2.5 PLUS OR MINUS 0.5) TIMES 10 PRIME NEGATIVE3, AND R
SUB22 EQUALS (10 PLUS OR MINUS 2) TIMES 10 PRIME NEGATIVE10 CM-V. ALL
THE MEASUREMENTS WERE CARRIED OUT AT 126-132 GHZ.   FACILITY:
FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

KRAVCHENKO, S. A., VINOGRADOV, Ye. V.

UDC: 621.317.77

"A Precision Installation for Checking Extra Low Frequency Phase Meters"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 6, Feb 72, Author's Certificate No 328399, Division G, filed 24 Aug 70,
published 2 Feb 72 p 140

Translation: This Author's Certificate introduces a precision instal-
lation for checking extra low frequency phase meters. The unit contains
a stable voltage source which feeds two identical channels made up of
series-connected circular phase shifters, a frequency divider (with a
scaling factor of, say, 36), and a mixer with low-frequency filter. The
device also contains switches connected to an electronic counting fre-
quency meter. As a distinguishing feature of the patent, in order to
improve precision in phase setting, the installation is equipped with a
single-channel vernier digital phase-measuring device made up of an elec-
tronic counting frequency meter whose high-frequency input is connected
to an output of the stable voltage source with frequency ten times that
of the power supply for the phase shifters. One signal input of the fre-

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USSR

KRAVCHENKO, S. A., VINOGRADOV, Ye. V., USSR Author's Certificate No 328399

quency meter is connected through a switch to the other outputs of the stable voltage source with frequencies which are multiples of $360 \cdot 10^n$. The second signal input is connected through another switch to the output terminals, to the outputs of the frequency divider, and through a mixer to the outputs of the phase shifters. A digital frequency synthesizer is used as the stable voltage source.

2/2

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USSR   UDC 661.665.1:621.313.538.4

ZELIKSON, YU. M., RESHETOV, YE. P., FLID, B. D., VINOGRADOV, YU. A.

"Study of Silicon Carbide Electrodes for an Open-Cycle Magnetohydrodynamic
Generator"

V sb. Magnitogidrodinam. metod polucheniya elektroenergii (Magnetohydrodynamic
Method of Obtaining Electric Power--collection of works), vyp. 3, Moscow,
Energiya, 1972, pp 98-110 (from RZh-Aviatsionnyye i raketnyy dvigateli otdel'-
nyy vypusk, No 11, Nov 72, Abstract No 11.34.149)

Translation: Results are presented from a study of silicon carbide electrodes
in a device simulating the conditions in an open cycle magnetohydrodynamic
generator channel. Data are presented on the effect of the plasma composition
on the nature of the electrode processes. A study was made of the effect of
the potassium additive concentration on the shape of the volt-ampere and sound-
ing characteristics. The relation is presented for the cathode drop as a func-
tion of current at different potassium concentrations in the flow. It was
established that with a potassium concentration of 0.3% and more there are in
practice no cathode drops on the silicon carbide electrodes at $T_{el} \geq 1,350°$ C.
A relation was found for the limiting distributed discharge currents as a func-
tion of the electrode temperatures. The experimental values of these currents
1/2

USSR

ZELIKSON, YU. M., et al., Magnitogidrodinam. metod polucheniya elektroenergii, vyp. 3, Moscow, Energiya, 1972, pp 98-110

in the electrode temperature range of 1,350-1,500° C coincide satisfactorily with the ones calculated by the Richardson formula for A-120 amps/(cm^2·deg^2) and ϕ_{eff} = 2.7 electron volts. The dependence of the mean erosion rate of the electrodes on the temperature and current density was defined. It was demonstrated that at an electrode temperature of 1,500° C the erosion does not in practice depend on the current density. There are 10 illustrations and a 13-entry bibliography.

2/2

USSR

VINOGRADOV, Yu. A., IORDANSKIY, M. A.   UDC: 8.74

"Machine Analysis of Computer Circuits"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works),
vyp. 24, Moscow, "Nauka", 1971, pp 147-160 (from RZh-Kibernetika, No 4,
Apr 72, Abstract No 4V520)

Translation: An attempt is made to bring the engineering and mathematical
approaches to synthesis of large discretely functioning systems closer to-
gether. Taking finished engineering structures as an example (four com-
puter circuits), light is shed on the peculiarities of engineering models,
and an evaluation is made of the success of engineering methods of syn-
thesis, trends in synthesis, etc. Authors' abstract.

1/1

USSR

VINOGRADOV, Yu. A.

UDC 51.621.391

"Finite-dimensional Models of Circuits with Discrete Functioning"

Probl. Kibernetiki [Problems of Cybernetics -- Collection of Works], No. 23, Moscow, Nauka Press, 1970, pp 59-71 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V483).

Translation: The problem of modeling of arbitrary functions with k-valued functions is studied. Necessary and sufficient conditions are determined for existence of models for limited, continuous functions of warm variable. It is demonstrated that if a function has a model, at least one model function is contained either in P_2 or in P_3 (P_i is the set of all functions of i-valued logic).

1/1

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1/2   012
UNCLASSIFIED
TITLE--EFFECT OF THE SIZE OF THE CHARGE OF A PRECIPITATION BATH ON THE
FORMATION OF A FIBER WITH THE USE OF PACKING -U-

PROCESSING DATE--04DEC70

AUTHOR-(02)-VINOGRADOV, YU.A.; FIKHMAN, V.D.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 22-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TEXTILE INDUSTRY MACHINERY, MASS TRANSFER, CORDAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0044

CIRC ACCESSION NO--AP0132339

STEP NO--UR/0183/70/000/002/0022/0024

UNCLASSIFIED

CIRC ACCESSION NO--AP0132339   UNCLASSIFIED   PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE FLOW RATE OF A SPINNING BATH
CAN BE CALCD. FROM HYDRODYNAMIC CONSIDERATIONS AND FROM ITS MATERIAL
BALANCE.   FIBER FORMATION WITH THE USE OF PACKING INTENSIFIED THE MASS
TRANSFER IN THE CORD AND IMPROVED THE UNIFORMITY OF FIBER PROPERTIES.
THE MOST EFFECTIVE PACKING WAS CONICAL IN SHAPE, HAVING AN ANGLE OF
30DEGREES.

UNCLASSIFIED

VINOGRADOV, Yu. B.

Hydrometeorology

BASIC STEPS IN THE DEVELOPMENT OF HYDROLOGY AND METEOROLOGY IN KAZAKHSTAN

UDC 551.5:947.084(574)(047)

[Article by head of the Administration of the Hydrometeorological Service of the Kazakh SSR, S. T. Duysenov, Doctor of Technical Sciences, Yu. B. Vinogradov; Moscow, Meteorologiya i Gidrologiya, Russian, No 12, 1972, submitted 14 Jul 1972, pp 94-97]

This article contains a discussion of the growth, development and the modern level of research and operative work of Kazakh meteorologists.

Meteorological research and hydrometeorological science have developed intensely in Kazakhstan since the 1930's with the organization of the hydrometeorological committee and the hydrometeorological institute. The first chairman of the hydrometeorological committee was professor V. V. Kellerman.

At present the administration of the hydrometeorological service of the Kazakh SSR is one of the largest in the USSR, and the Kazakh Scientific Research Institute is the center of hydrometeorological science in Kazakhstan, and the head scientific research institute in the union with respect to problems of mud flows and hydrometeorological servicing of animal husbandry.

Since its very beginning, hydrology and meteorology have developed in the Republic in accordance with the problems of hydrometeorological servicing of the national economy of the Republic. The scientific research of that time was mainly of an applied nature.

In 1926-1927, the Main Geophysics Observatory had organized balloon observations in Alma-Ata, Gur'yev, Kzyl-Ord, and Semipalatinsk. Subsequently, these observations became widespread. In 1936 regular base observations were started in Alma-Ata which were performed for 15 years and permitted analysis of the intensity of atmospheric turbulence and vertical exchanges to be obtained. At the end of the same year, the first radiosonde was launched in Alma-Ata by P. A. Molchanov. Radiosonde observations which provided a powerful means of analysis of atmospheric conditions for the synoptics and aerologists began to develop broadly in the Kazakhstan network in the second half of the 1930's.

The rapid development of various branches of the national economy and transportation urgently required servicing with synoptic forecasts along with

JPRS 58133
29 Feb 73

USSR

UDC:629.7.024.14

VINOGRADOV, Yu. I., KLYUYEV, Yu. I.,

"Stress-Strain State of a Cylindrical Envelope Under Concentrated Loading"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, Nov 73, pp 5-9

Abstract: The problem mentioned in the tile is studied on the basis of moment theory. The purpose of the numerical solution is to produce the desired quantities with satisfactory accuracy, for which purpose a matrix method of successive approximations is used. Using the angular coordinate in the plane of transverse cross sections, the solution is constructed in the form of trigonometric series. A system of ordinary differential equations is produced with respect to length of the envelope, and is solved numerically. The external concentrated forces and moments are expanded into trigonometric series with respect to the angular coordinate and then considered under the conditions of contact of the sections of the envelope. During the numerical solution, the length of the envelope is divided into several sections, for each of which a system of equations is written in matrix form.

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USSR

VINOGRADOV, Yu. M.

UDC 532.526

"Friction and Wear of Modified Metals"

Treniye i Iznos Modifitsirovannykh Metallov [English Version Above], Moscow, Nauka Press, 1972, 151 pages.

Translation of Annotation: This book is dedicated to methods of combating the wear of parts of machines in friction by chemical modification of their surfaces, enrichment of the surface layers with sulfides, selenides, tellurides and chlorides.

Thermographic analysis is used to determine the most effective chemical compounds and processing temperatures and it is determined that in order to achieve a positive effect it is necessary to achieve a chemical interaction between the modifying elements and the metal treated. Formulas are developed for salt baths for sulfiding, sulfocyaniding, seleniding and telluriding.

The structure of the modified surfaces is studied using chemical, x-ray-structural, electronographic and metallographic analysis. The dependence is illustrated between various structural components of the modified layer and its wear resistance.

Radioactive isotopes are used to study the kinetics of wear of modified surfaces in the process of friction. The existence of "regeneration" of the modified layer into the depth of the metal as the surface wears is

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USSR·   UDC 532.526

established.
    The influence of surface modification of metals on friction and wear
is studied under laboratory conditions on machines and under production
conditions on various parts of machines. The boundaries of applicability
of the method of modification and its effectiveness as functions of friction
conditions are established.
    The experience gained in the application of methods of modification
of metal surfaces in domestic and foreign practice in various branches of
industry is described. Instructive materials are presented on the techno-
logy of modification of metal surfaces and the application of these pro-
cessing methods.
    The book is designed for scientific and engineering-technical workers
at scientific research institutes and machine-building plants, involved in
problems of wear control and machine durability. 19 Tables; 38 Figures;
246 Biblio. Refs.

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UDC 532.526

VINOGRADOV, Yu. M., Treniye i Iznos Modifitsirovannykh Metallov, Moscow, Nauka Press, 1972, 151 pages.

USSR

VINOGRADOV, Yu. M., Treniye i Iznos Modifitsirovannykh Metallov, Moscow, Nauka Press, 1972, 151 pages.

UDC 532.526

Practical Recommendations on the Application of Methods of Chemical Modification

4/4

USSR

VINOGRADOV, YU. V., GRAUZDEV, V. N., TALANTOV, A. V.

"Effect of the Turbulence Intensity on the Mixing Processes of Wake for Different Velocity Ratios"

UDC 629.78.533.1

V sb. Teoriya i praktika szhiganiya gaza (Theory and Practice of Gas Combustion —collection of works), No 5, Leningrad, Nedra, 1972, pp 28-33 (from RZh-Raketostroyeniye, otdel'nyy vypusk, No 12, Dec 72, Abstract No 12.41.114)

Translation: Studies were made of the effect of the initial turbulence intensity on the mixing of isothermal wakes in a closed flow with velocity ratios from M = 0 to M = 5. Descriptions of the experiment and the experimental equipment are presented. There are 2 illustrations and a 5-entry bibliography.

1/1

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USSR

VINOGRADOV, YU. V., GRISHMANOVSKIY, V. A.

UDC 621.372.837.3

"Electrically Controlled Superhigh-Frequency Commutator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 41, Patent No 270019, Filed 17 Feb 67

Translation: This Author's Certificate introduces a two-position, two-direction electrically controlled superhigh-frequency commutator containing slot bridges, circulators and a mutual phase converter. It is distinguished by the fact that in order to improve reliability, decrease the magnitude of the consumed current and simplify the control circuit, the phase converter (0-180°) is connected to four slot bridges via circulators.

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USSR

ZELICHENOK, B. Yu., Candidate of Technical Sciences; VARNAVSKIY, I. N., and
VINOGRADOVA A. I., Orsko-Khalilov Metallurgical Combine
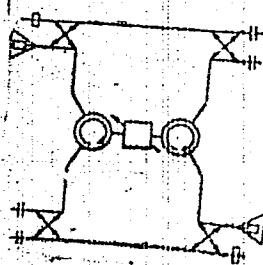
UDC 620.178.74.222:669.14.018.29-153.65

"Shock Resistance of 17G1S Sheet Steel at Low Temperatures"

Moscow, Stal', No 2, Feb 71, pp 171-173

Abstract: This article is a continuation of an earlier article written by
the same authors and published in the journal named above (No 6, 1966, pp
543-545) in which they examined the effect of the chemical composition of
17G1S steel, designed for manufacturing gas piping of large diameter, on
its strength under shock at temperatures of from -40 to -60°C. Curves
plotted for the frequency distribution of the metal's shock resistance
show them to follow the normal law. The steel alloyed in a 400-ton furnace
had a slightly lesser shock resistance than the steel manufactured in a
furnace of lower capacity due, probably, to the 0.002-0.003% higher con-
tent of sulfur. The effect of this factor was investigated. Also investi-
gated was the effect of manganese on the shock resistance of the steel; it
was found that at -40°C the effect was negative, whereas at -60° it was
positive.
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Miscellaneous

USSR

ZELICHENOK, B. Yu., VINOGRADOVA, A. I., MEDVEDEV, V. V., MUL'KO, G. N.,
and KATRICHENKO, K. P.

UDC 621.771.23

ZELICHENOK, B. Yu., VINOGRADOVA, A. I., MEDVEDEV, V. V., MUL'KO, G. N.,
and KATRICHENKO, K. P.

"Factors Affecting the Expenditure of Metal in Sheet Rolling"

Moscow, Stal', No 2, Feb 71, pp 139-142

Abstract: This article reports on mathematical and statistical analyses
made at the Orsko-Khalilov Metallurgical Combine of the factors determin-
ing variations in sheet steel lengths. Personnel of the plant have also
computed the probability of obtaining ordered sheet lengths so that they
can make an optimal choice of slab weights for their type-2800 thick-sheet
mill. The finished sheets of 17G1S steel are 12.5 mm thick, 1.88 meters
wide, and 12.1 meters long. To suit the welding procedures at the
Chelyabinsk Tube-Rolling Plant to which they are sent to be welded into
tubes of 1220-mm diameter for carrying gas, however, the lengths of these
sheets may be 11.9, 11.5 or 11.3 meters. The article offers formulas and
statistical data for computing the proper sheet lengths and other produc-
tion parameters.

1/1

USSR   UDC 533.92:621.039.01

VINOGRADOVA, A. K., VINOGRADOV, V. P., and MOROZOV, A. I.

"Neutron Radiation in a Magnetic Plasma Compressor"

Abstract: A magnetic plasma compressor is a quasi-equilibrium, co-axial plasma accelerator. Previous compression system experiments had reported a neutron yield of 0.5 - 1 times 10^9 at an initial discharge voltage of 24kv and a discharge current of 650 ka. The experiments reported in this article used significantly lower values and longer process times. It was found that a yield of up to 4 times 10^5 neutrons was observed over a wide range of deuterium gas pressures and condenser voltages. The temperature and density of the plasma in the zone of focus was not high enough to permit a noticeable intensity of D-D "temperature" reactions, indicating that the neutrons were produced most probably by some unstable processes.

The experimental device contains a central electrode and ten peripheral electrodes. When the central electrode was negative, both the neutron and X-ray emission showed a series of unequal peaks; when the central electrode was positive, both forms of radiation had a single sharp peak. The radiation intensity also varied along the axis of the electrodes.

1/1   - 46 -

Acc. Nr: Abstracting Service: Ref. Code:
AP0055981   CHEMICAL ABST. 6-70   UP0075

117189w   Hydrogen catalytic wave in the presence of copper-
(II) diethyldithiocarbamate. Vinogradova, E. N.; Drozdova,
I. I.; Prokhorova, G. V.; Severova, T. A. (Moscow State
Univ., Moscow, USSR). Zh. Anal. Khim. 1970, 25(1), 183-5
(Russ). The complex compd. Cu(II) diethyldithiocarbamate
(I) catalyzes the liberation of H on a dropping Hg electrode.
The wave observed has a humplike shape, its height does not de-
pend on the square root of the Hg column height. The wave
height depends on the concn. of Cu(II), I, pH, and on the concn.
of the supporting electrolyte. These relations are characteristic
of the H catalytic waves.   Chaim Weiner

REEL/FRAME
19841310

1/2   022   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--EFFECT OF HIGH PRESSURE ON THE CRYSTALLIZATION OF ARSENIC AND
    SULFUR GLASSES -U-
AUTHOR-(05)-TIMOFEYEVA, N.V., VINOGRADOVA, G.Z., FEKLICHEV, YE.M.,
    DEMBOVSKIY, S.A., KALASHNIKOV, YA.A.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 902-4 (PHYS CHEM)

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HIGH PRESSURE EFFECT,   GLASS CRYSTALLIZATION,   ARSENIC
    COMPOUND,   SULFUR COMPOUND,   X RAY ANALYSIS,   GLASS STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1575
                                STEP NO--UR/0020/70/190/004/0902/0904
CIRC ACCESSION NO--AT0100193
                            -- UNCLASSIFIED

CIRC ACCESSION NO--AT0100193
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CRYSTN, OF AS SUB2 S SUB3
GLASSES WAS DETD. AT 30-70 KILOBARS AND UP TO 50DEGREES. AS SUB2 S
SUB3 CRYSTD. AT 250DEGREES AND 40-70 KILOBARS. X RAY PHASE ANAL. PROVED
THAT THE OBTAINING CRYST. AS SUB2 S SUB3 HAS THE SAME STRUCTURE AS THE
NATURALLY OCCURRING ORPIMENT (I). BETA AS SUB2 S SUB3 FORMED AT
400DEGREES. IT HAS A STRUCTURE DIFFERENT THAN I. AS SUB2 S SUB5 GLASS
(H. 190DEGREES) CRYSTD. AT GREATER THAN 250DEGREES AND 50-70 KILOBARS.
AS SUB2 S SUB5 HAS AN ORTHORHOMBIC STRUCTURE WITH A CONGRUENT TO 10.37,
B CONGRUENT TO 9.9, AND C CONGRUENT TO 8.66 ANGSTROM.

UNCLASSIFIED

1/2   020   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--HISTONES FROM THE SPERM AND EMBRYOS OF THE GROUNDLING MISGURNUS
   FOSSILIS -U-
AUTHOR-(04)-VOROBYEV, V.I., VINOGRADOVA, I.A., GINEITIS, A., NIVINSKAS, G.

COUNTRY OF INFO--USSR

SOURCE--TSITOLOGIYA 1970, 12(2), 198-203

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LOACH, REPRODUCTIVE SYSTEM, PROTEIN, AQUEOUS SOLUTION,
   ELECTROPHORESIS, POLYACRYLAMIDE RESIN, CARBON ISOTOPE, CHEMICAL
   LABELLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0380   STEP NO--UR/9053/70/012/002/0198/0203

CIRC ACCESSION NO--AP0127961
                       UNCLASSIFIED

CIRC ACCESSION NO--AP0127961   UNCLASSIFIED   PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HISTONES ISOLATED FROM THE SPERM
AND EMBRYOS OF THE LOACH M. FOSSILIS AT DIFFERENT STAGES OF DEVELOPMENT
WERE INVESTIGATED USING ELECTROPHORESIS IN POLYACRYLAMIDE GEL. FRACTION
COMPN. OF EMBRYONIC HISTONES DIFFERED AT THE BLASTULA AND GASTRULA
STAGES, AND THE HISTONE COMPN. CHANGES WERE FIRST OBSD. AT TRANSITION
FROM BLASTULA TO GASTRULA. THE FRACTION S OF ARGININE RICH HISTONE F
SUB3 DECREASED IN CONTRAST TO THE AMT. OF THE LYSINE RICH FRACTION WHICH
INCREASED. INVESTIGATION OF PRIME14 C INCORPORATION INTO HISTONES
INDICATED THAT RELATIVE INTENSITY OF HISTONE SYNTHESIS AT BLASTULA AND
GASTRULA WAS DIFFERENT. THE SYNTHESIS OF LYSINE RICH FRACTION, THE
RELATIVE CONTENT OF WHICH INCREASED AT LATER STAGES OF DEVELOPMENT, WAS
DETECTED EVEN IN BLASTULA. THE PROGRESSIVE DECREASE OF ARGININE RICH
FRACTIONNS DURING DEVELOPMENT WAS INTERPRETED AS EVIDENCE FOR
PARTICIPATION OF HISTONES IN REGULATION OF GENETIC ACTIVITY OF DNA.
ELECTROPHORETIC ANAL. HAS SHOWN THAT HISTONES IN LOACH SPERM CONTAINED
MORE ARGININE THAN THOSE FROM EMBRYO TISSUES. THE LYSINE RICH FRACTION
F SUB1 WAS COMPLETELY ABSENT. AMINO ACID ANAL. INDICATED THAT THE
LYSINE-ARGININE RATIO IN SPERM HISTONES WAS 1.5 COMPARED WITH 1.8 IN
EMBRYONIC HISTONES. ALSO THE ALANINE CONTENT WAS HIGHER THAN THAT OF
ARGININE. ARGININE RICH FRACTIONS OF HISTONE ARE RESPONSIBLE FOR
STRUCTURAL CHANGES OF CHROMATIN COMPLEXES.   FACILITY: LAB.
BIOCHEM. CELL REPROD., INST. CYTOL., LENINGRAD, USSR.

UNCLASSIFIED

Petroleum Processing Technology

USSR   UDC: 66.095.132:66.022.38

KOZHEMYAKINA, N. N., VINOGRADOVA, I. E. and PETYAKINA, YE. I.

"A Study of Phosphorus-Based Adic Esters as Additives for Lubricating Oils"

Moscow, Khimiya i Tekhnologiya Topliv i Masel, No 5, 1970, pp 31-36

Abstract: The value of phosphorus-containing compounds as anti-wear and anti-
seizing agents was thoroughly demonstrated in studies during the fifties. The
present study was undertaken to place research in this field on a more systematic
basis. Experiments were run with 16 esters of phosphorus-containing acids, with
the following results: 1) The addition of sulfur to the esters does not secure
any perceptible advantage in antiwear or anti-seizing properties; 2) of the es-
ters studied, the acid esters and trialkyltrithiophosphite were superior anti-
seizing agents; 3) full esters are good anti-wear additives but poor anti-seizing
agents; 4) during oxidation of oils, full esters of phosphorous, and phosphoric
and thiophosphorous acids are anti-oxidizers, but their acid esters, and also the
full esters of phosphinic acids, are strong oxidizers; 5) acid esters of phospho-
rous and dithiophosphoric acids, and also the phosphinic esters, are good anti-
corrosion agents for light-metal alloys; and 6) in selecting phosphorus-containing
additives for oils, anti-wear and anti-seizing properties, thermochemical stability,
anti-oxidant properties, and corrosion activity with respect to metals, should all be
taken into account.
1/1

Petroleum Processing Technology

USSR

UDC 665.7.038:665.765-404

KOZHEMYAKINA, N. N., and VINOGRADOVA, L. E., VNIINP (All-Union Scientific
Research Institute of the Petroleum Industry

"Examination and Selection of Sulfur- and Phosphorus-Containing Additives to
Oil for Hypoid Gears in Automobiles"

Moscow, Neftepererabotka i Neftekhimiya, No 1, 1973, pp 19-22

Abstract: An investigation was made of the reaction of different types of
phosphoric acid derivatives with dialkyl trithiocarbonate (BTC). The
stoichiometry and a number of physical and chemical properties germane to
the intended use were determined. The order of activity for the different
substitution groups on the phosphoric acid derivatives for antiscouring,
antiwearing, and antioxidation properties was listed. Optimum two- and
three-component additive systems were determined.

1/1

USSR

UDC 576.851.55.083.31

ZEMLYANITSKAYA, Ye. P., VINOGRADOVA, L. N., and IVANOVA, L. G., Institute of
Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical
Sciences USSR, Moscow

"The Use of Dry Media in the Diagnosis of Diseases Produced by Cl. oedematiens,
Cl. septicum, Cl. histolyticum, and Cl. sordellii"

Abstract: The effectiveness of bacteriological diagnosis of anaerobic infec-
tions is clearly dependent on the media used for culturing these microroganisms.
Dry media which are suitable for transport and long-term storage and which are
sufficiently simple to prepare appear to be most promising for this purpose.
Dry acidic casein hydrolysate has been used for protein separation and for the
preparation of anaerobic media. A nutrient broth of the casein hydrolysate
was prepared and sterilized and, with other media, was used for culturing
various bacteria. The activity of clostudial toxins was determined; spe-
cificity was monitored by neutralization with antitoxic specific standard
sera. Comparative results of more than 200 tests are presented in tabular
form, showing the toxin activity of the different bacterial strains in the
various dry media tested.
1/1

USSR   UDC: 517.55+517.537

VINOGRADOVA, I. YU.

"Approximation of Functions of Two Complex Variables by Polynomials with Integeral
Coefficients"

Mat. 10-y Nauchno-Teor. Konf. Aspir. Ser. Yestestv. i Tochn. N. [Materials
of 10th Scientific and Technical Conference of Post Graduate Students.
Natural Science and Precise Sciences Series -- Collection of Works], Rostov
University Press, 1970, pp 71-75, (Translated from Referativnyy Zhurnal
Matematika, No. 8, 1970, Abstract #8B179, by Yu. Kaz'min).

Translation: Some of the results of S. Ya. Al'per related to the problems of
approximation of functions of a complex variable by polynomials with integral coef-
ficients in closed sets (RZhMat, 1965, 5B125) are applied to the case of functions
of two complex variables. The difficulties which arise are discussed.

1/1

USSR   UDC 614.777-078:614.3

VINOGRADOVA, L. A., Moscow Scientific Research Institute of Hygiene imeni
F. F. Erisman

"Comparative Evaluation of Various Methods of Sanitary Bacteriological
Investigation of Water Stored in Open Reservoirs"

Moscow, Gigiyena i Sanitariya, No 9, 1971, pp 117-118

Translation: During investigations of open water reservoirs (G. P. Kalina,
1966), it was found that after filtration of water through membrane filters,
up to 30% of colonies collected from the filters did not belong to the E.
coli group and that only 31% consisted of fecal bacteria.

The water sampled from open reservoirs was tested by various methods, including
qualitative tests for E. coli (the membrane method, the three-stage fermenta-
tion method of Eykman, and the American standard preliminary method of Levin)
and the two-stage method of Kalina for enterococci. Levin's method was more
effective since it yielded the highest coefficient of correlation with the
frequency of isolation of pathogenic enterobacteria during investigation of
river water in the middle zone. During investigation of intestinal bacteria
1/3

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USSR

VINOGRADOVA, L. A., Gigiyena i Sanitariya, No 9, 1971, pp 117-118

present in water samples collected from northern rivers, differential tests
for citrate-negative and positive fecal E. coli were performed. By means
of the membrane filter method, 16% of typical fecal E. coli, 60% of E. coli
giving negative thermal tests, and 34.6% of citrate-positive were intestinal
bacteria isolated. By means of Eykman's method, 43.3% of typical fecal E.
coli, 33.4% of E. coli yielding negative thermal tests, and 23.3% of citrate
positive intestinal bacteria were isolated. By means of Levin's method,
typical fecal bacteria were isolated in 88% of cases. Approximately 20 to
30% of colonies which grew on the membrane filters did not belong to the
E. coli group and therefore the coli indexes of water samples obtained by
this method were considerably higher than those obtained by other methods.
On the basis of the results of these investigations, the following con-
clusions can be drawn: 1) in order to obtain the most objective appraisal
of the quality of water in open water bodies in the most northern regions,
it is necessary to take into account all intestinal bacteria which can be
isolated by sanitary methods and which grow in carbohydrate media at 37°C;
2) under these circumstances, Levin's method and the membrane filter method
should not be used, because they do not reveal the epidemiological situation
2/3

USSR

VINOGRADOVA, L. A., Gigiyena i Sanitariya, No 9, 1971, pp 117-118

in the objects under investigation; and 3) it is necessary to perform through investigations of water for the presence of both E. coli and enterococci.

TITLE--INCREASE IN THE STABILITY OF ADHESION PROPERTIES IN A POLYETHYLENE
   METAL SYSTEM -U-
AUTHOR-(05)-BEIDER, E.YA., VINOGRADOVA, L.M., GUDIMOV, M.M., YEFREMOVA,
   Z.A., KOROLEV, A.YA.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 222-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ADHESION, POLYETHYLENE, ALUMINUM SURFACE, ISOCYANATE, ORGANIC
   SILANE, OLEIC ACID, METAL TO NONMETAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0666   STEP NO--UR/0460/70/012/003/0222/0225

CIRC ACCESSION NO--AP0124338
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0124338
ABSTRACT/EXTRACT--[U] GP-0- ABSTRACT. AN AL SURFACE TREATED WITH
   TOLYLENE DIISOCYANATE, GAMMA AMINO PROPYLTRIETHOXYSILANE, AND OLEIC ACII
   EXHIBITED SUPERIOR ADHESION TO POLYETHYLENE DEPOSITED BY EDDY SPRAYING.
   THE MODIFIED SURFACES WERE ALSO RESISTANT TO LONG TERM EXPOSURE TO H
   SUB2 O. A MODIFICATION MECHANISM IS PROPOSED.

UNCLASSIFIED

1/2   024   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--INFRARED SPECTROSCOPIC STUDY OF THE CHEMISORPTION OF ORGANOSILICON
   COMPOUNDS ON AN AEROSIL SURFACE -U-
AUTHOR-(05)-BROUN, E.V., KOROLEV, A.YA., VINOGRADOVA, L.M., ARTAMONOVA,
   R.V., MENKOVA, T.V.
COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 797-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, CHEMISORPTION, ORGANOSILICON COMPOUND, SILICA,
   ORGANIC SILANE, CARBONYL COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1197   STEP NO--UR/0076/70/044/003/0797/0799

CIRC ACCESSION NO--AP0128615
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0128615
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF
 TRIMETHYLETHOXYSILANE (I), TRIMETHYLACETOXYSILANE (II), AND
 TRIMETHYLCHLOROSILANE (III) WITH AEROSIL OF SP. SURFACE 150 M PRIME2 PER
 G WAS STUDIED. THE SURFACE COMPD. OF TRIMETHYLSILANE GROUPS WAS FOUND,
 AND ITS CONCN. DEPENDENCE ON TEMP. AND TIME WAS STUDIED. I AND III GAVE
 A HIGH DEGREE OF SURFACE OCCUPATION AT ROOM TEMP., WHILE II PROVIDED A
 SUFFICIENTLY OCCUPIED MONOLAYER ONLY AT SIMILAR TO 300DEGREES. TREATING
 OF II ON AN AEROSIL SURFACE CAUSED THE FORMATION OF A SMALL AMT. OF
 CARBONYL COMPDS.

1/2   026   UNCLASSIFIED   PROCESSING DATE--02OCT70
TITLE--ADHESION AND INTERNAL STRESSES IN POLYMERS -U-

AUTHOR-(05)-VINOGRADOVA, L.M., ZHERDEV, YU.V., KOROLEV, A.YA.,
   SIMONENKOVA, R.V., ARTAMONOVA, R.V.
COUNTRY OF INFO--USSR

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SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ADHESION, INTERNAL STRESS, EPOXY RESIN, STAINLESS STEEL,
   ADHESIVE STRENGTH/(U)ED5 EPOXY RESIN, (U)EDG1 RESIN MODIFIER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0254   STEP NO--UR/0459/70/012/002/0348/0354

CIRC ACCESSION NO--AP0106910
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CIRC ACCESSION NO--AP0106910
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADHESIVE STRENGTH OF EPOXY
    RESIN ED-5 (1) (MODIFIED WITH DEG-1 AND HARDENED WITH
    POLYETHYLENEPOLYAMINE),STAINLESS STEEL (11) PAIRS WAS STUDIED AS A
    FUNCTION OF THE HARDENING TEMP. (T) AND WITH REF. TO INTERNAL STRESSES
    ARISING DUE TO THE FORMATION OF ADHESIVE BONDS. THE ADHESIVE STRENGTH
    WAS PROPORTIONAL TO T, REACHING A MAX. OF 360 KG-CM PRIME2, WHEN THE
    INTERNAL STRESSES BROUGHT ABOUT PRESSURE PERPENDICULAR TO THE I-II
    INTERFACE. A PLOT OF ADHESIVE STRENGTH VS. TEMP. FOR THE I "DISSOLVED"
    IN II SYSTEM REVEALED THAT THE ADHESIVE STRENGTH DECLINED, REACHING A
    MIN. AT 100DEGREES AND THEN SUDDENLY INCREASED. A POSSIBLE EXPLANATION
    FOR THE ANOMALOUS BEHAVIOR WAS GIVEN. MEASUREMENTS OF INTERNAL STRESSES
    INDICATED THAT EFFECTIVE ADHESION MARKEDLY INCREASED WITH T AT LARGER
    THAN 100-200DEGREES, PRESUMABLY DUE TO THE FORMATION OF STRONGER
    ADHESIVE, AND POSSIBLY, CHEM. BONDS. AT LOWER TEMPS. THE ADHESION WAS
    INDEPENDENT OF T. THE COMPONENT OF THE ADHESIVE STRENGTH RELATED TO
    FRICTION I.E., THE NORMAL PRESSURE DUE TO INTERNAL STRESSES IN THE
    POLYMER AND THE STATIC FRICTION COEFF. OF THE I-II PAIR WERE DETD.
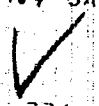
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TITLE--INTERNAL STRESSES AND DIFFUSION OF WATER IN POLYMERS -U-

PROCESSING DATE--02OCT70

AUTHOR-(05)-ARTAMONOVA, R.V., VINOGRADOVA, L.M., GARANINA, S.O., ZHERDEV,
YU.V., KOROLEV, A.YA.

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SUBJECT AREAS--MATERIALS

TOPIC TAGS--INTERNAL STRESS, WATER, EPOXY RESIN, POLYETHYLENE, POLYAMINE,
FLUID DIFFUSION/(U)ED5 EPOXY RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0319

STEP NO--UR/0459/70/012/002/0336/0242

CIRC ACCESSION NO--AP0111513

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CIRC ACCESSION NO--AP0111513

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF H SUB2 O AND H SUB2 O VAPOR ON INTERNAL STRESSES IN EPOXY RESIN ED 5 COATINGS HARDENED WITH POLYETHYLENE POLYAMINE AND MODIFIED WITH DEG-1 WERE STUDIED. SWELLING IN H SUB2 O REDUCED, AND EVEN CHANGED THE SING, OF INTERNAL STRESSES PRODUCED DURING THE THERMAL HARDENING AND SUBSEQUENT COOLING TO ROOM TEMP. THE INTERNAL STRESSES WERE INVERSELY PROPORTIONAL TO THE RELATIVE HUMIDITY. THE DIFFUSION COEFF. OF H SUB2 O (D), DETD. FROM KINETIC DATA (2.4 TIMES 10 PRIME NEGATIVE9 CM PRIME2-SEC) AGREED WITH D MEASURED BY THE SORPTION METHOD. AN EQUATION WAS PROPOSED FOR THE EVALUATION OF THE MAX. EXPTL. ERROR IN THE DETN. OF INTERNAL STRESSES BY THE CANTILEVER METHOD (A.T. SANZHAROVSKII, G. I. EPIFANOV, 1961) DUE TO A NONUNIVORM DISTRIBUTION OF H SUB2 O ALONG THE COATING.

UNCLASSIFIED

Acc. Nr:
AP0046628 — Abstracting Service: Ref. Code:
            CHEMICAL ABST. 4/70   UR 5/31

⌐ 82448a Technological production and properties of granular
oxide refractories. Poluboyarinov, D. N.; Balkevich, V. L.;
Lemeshev, V. G.; Min'kov, D. B.; Makarova, T. S.; Vino-
gradova, L. V. (Mosk. Khim.-Tekhnol. Inst. im. Mendeleeva,
Moscow, USSR). Ogneupory 1970, 35(1), 11–14 (Russ). The
technol. of granular oxide refractories is based on the use of
coarse-dispersive powders prepd. from presintered or elec. fused
oxides. The ruling opinion that coarse-granular powders of
pure elec. fused oxides are inert at sintering and that they do not
form sufficiently dense and solid ceramics is faulty. If high
pressures (1000–2000 kg/cm²) are used, and if the min. amt. of
fine-dispersive powders of an oxide is added to the ceramic
mass or even no binder is used when the porosity proper for
refractories (i.e. 15–20%) is reached at the annealing temps.
ordinary for a given oxide. The strength and deformation
properties of these products are satisfactory. The deformation
temp. of porous granular refractories under lead prepd. from
pure elec. fused oxides is 50–100% lower than that of nonporous
materials. Refractories prepd. from elec. fused oxides show a
substantially lower strength, however, sufficient for service at
high temps. From the powders of elec. fused oxides one can
prep. high-class products comparable in properties with products
manufd. from powders of sintered oxides. The main technol.
parameters of the manuf. of oxide refractories are practically the

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19781939

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same for both initial materials. The technol. by using sintered oxide powders needs: the preliminary thermal treatment of initial components (Al_2O_3, MgO, ZrO_2), the fine grinding, the briquetting, the annealing of briquets, and their crushing and partial grinding. The elec. fusion permits using raw initial powders; further, it makes possible to realize the stabilization of ZrO_2 with CaO or the synthesis of complicated compds., namely spinels, zirconates, silicates, and other highly fire-resistant substances.   J. Jindra

19781940

UNCLASSIFIED

TITLE--TECHNICAL PRODUCTION AND PROPERTIES OF GRANULAR OXIDE REFRACTORIES
-U-

PROCESSING DATE--17JUL70

AUTHOR--POLUBOYARINOV, D.N., BALKEVICH, V.L., VINOGRADOVA, L.V., LEMESHEV,
V.G., MINKOV, D.E.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(1), 11-14

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SUBJECT AREAS--MATERIALS

TOPIC TAGS--REFRACTORY PRODUCT, REFRACTORY MATERIAL, OXIDE, ALUMINA,
ZIRCONIUM COMPOUND, MAGNESIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1939

STEP NO--UR/0131/70/035/001/0011/0014

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Abstracting Service:
CHEMICAL ABST. 4/70

Ref. Code:
UR 0131

82448a Technological production and properties of granular oxide refractories. Poluboyarinov, D. N.; Balkevich, V. L.; Lemeshev, V. G.; Min'kov, D. B.; Makarova, T. S.; Vinogradova, L. V. (Mosk. Khim.-Tekhnol. Inst. im. Mendeleeva, Moscow, USSR). *Ogneupory* 1970, 35(1), 11-14 (Russ). The technol. of granular oxide refractories is based on the use of coarse-dispersive powders prepd. from presintered or elec. fused oxides. The ruling opinion that coarse-granular powders of pure elec. fused oxides are inert at sintering and that they do not form sufficiently dense and solid ceramics is faulty. If high pressures (1000–2000 kg/cm^2) are used, and if the min. amt. of fine-dispersive powders of an oxide is added to the ceramic mass or even no binder is used when the porosity proper for refractories (i.e. 15–20%) is reached at the annealing temps. ordinary for a given oxide. The strength and deformation properties of these products are satisfactory. The deformation temp. of porous granular refractories under load prepd. from pure elec. fused oxides is 50–100% lower than that of nonporous materials. Refractories prepd. from elec. fused oxides show a substantially lower strength, however, sufficient for service at high temps. From the powders of elec. fused oxides one can prep. high-class products comparable in properties with products manufd. from powders of sintered oxides. The main technol. parameters of the manuf. of oxide refractories are practically the

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partial grinding. The elec. fusion permits using raw initial
powders; further, it makes possible to realize the stabilization
of ZrO_2 with CaO or the synthesis of complicated compds.,
namely spinels, zirconates, silicates, and other highly fire-resis-
tant substances.

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