USSR

SEDOV, N. V., KALASHNIKOVA, G. N., and SEDOVA, N. V.

UDC 632.95

"Use of Ultrasound to Intensify Chemical Processes"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 2, Moscow, 1972, pp 70-75 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N549 by I Pil'menshteyn)

Translation: With $(CH_2NHCSSNH_4)_2$ as an example, it is shown that the reaction time with the use of ultrasound is much quicker than with mechanical mixing. Ultrasound permits considerable simplification of the apparatus of the process because instead of reactors with a revolving stirrer and stuffing-box seal, hermetic explosionproof apparatus that prevents CS_2 from penetrating into the working place can be used.

1/1

1/2   020
UNCLASSIFIED
TITLE--EFFECT OF SOLUTION PH ON THE ADSORPTION OF METHANOL ON AN IRIDIUM   PROCESSING DATE--02OCT70
    ELECTRODE -U-

AUTHOR-(03)-SEDOVA, S.S., VASILYEV, YU.R., BAGOTSKIY, V.S.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2) 202-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN ION CONCENTRATION, ADSORPTION, METHANOL, IRIDIM,
    ELECTRODE, POTASSIUM COMPOUND, HYDORXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0458
                                    STEP NO--UR/0364/70/006/002/0202/0204

CIRC ACCESSION NO--AP0107064
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0107064   UNCLASSIFIED   PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF H AND ME-OH ON SMOOTH IR ELECTRODES IMMERSED IN PHOSPHATE BUFFERED SOLNS. AT DIFFERENT PH VALUES AND IN N KOH WAS STUDIED AT 26DEGREES. THE FREUNDLICH ADSORPTION ISOTHERM OF H IN KOH WAS LINEAR FOR H PRESSURE P SUBH2 FROM 10 PRIME NEGATIVE12 TO 1 ATM, THETA SUBH EQUALS K(P SUBH2 PRIME ONE HALF) PRIME 1-N, WHERE N EQUALS 4.3 TO 4.8. FOR MEOH IN N KOH, THE THETA-CONCN. PLOT WAS ALSO LINEAR AND THE VLAUE OF N EQUALS 4.65. THE PHI (COVERAGE) WAS A MAX. AT 0.2V. THE EFFECT OF PH WAS SUCH THAT THE LOG THETA REACHED A MIN. AT PH SIMILAR TO 4 (AT PHI BETWEEN 0.4-0.5V) AND REACHED A MAX. AT PH SIMILAR TO 10. THE RATE OF ADSORPTION IN N KOH WAS LESS THAN THE RATE IN N H SUB2 SO SUB4. THESE DATA SHOWED THE SIMILAR EFFECT OF PH ON THE ADSORPTION OF H AND MEOH.

UNCLASSIFIED

USSR

SEDOVA, V. I., SERGEYEV, L. V., Candidate of Sciences

UDC 668.3

"A New Method for Preparing the Adhesive UF-235"

Leningrad, Optiko-mekhanicheskaya promyshlennost', No. 9, Sep 71, p 70

Abstract: A new, considerably simplified method for preparing UF-235 adhesive was developed by the authors and is recommended for industrial use. This adhesive is presently the only one applied in the optics industry for cementing parts for ultraviolet and luminescence microscopy. The glue is transparent over the entire visible region and up to 20 nm in the ultraviolet region. It is a mixture of polyvinylacetate in cyclohexanol. In the new method the polymerization of vinyl-acetate under ultraviolet radiation of the PRK-4 tube is conducted directly in the cyclohexanol medium. The adhesive obtained by the new method is called UF-232M. It has the same optical and physicomechanical properties as UF-235.

1/1

USSR

UDC 615.779.9

SHAKARYAN, G. A., NAVASARDYAN, A. A., SEDRAKYAN, R. O., and AMBARTSUMYAN, L. A., Yerevan Zooveterinary Institute

"The Effect of Monomycin and Paratyphoid Serum on the Preventive Properties of Blood Serum"

Abstract: Mice were administered blood serum from rabbits infected with Salm. ent. Gartneri v. dublin and 1) treated with monomycin, 2) treated with monomycin and paratyphoid serum, 3) treated with paratyphoid serum, and 4) not treated; within 24 hours the mice were infected with ID_{50} of Salmonella. dublin. The survival rates were 80% in the first group, 70% in the second group, and 65% in the third and fourth groups. In the control group, 40% of the mice survived. The nonsurvivors in the fourth and control groups died sooner than the nonsurvivors in the other groups. It is concluded that monomycin and paratyphoid serum do not inhibit increase in the preventive properties of rabbit serum and that monomycin augments these properties.

1/1

USSR

KHOROSHEVSKIY, V. G., SEDUKHINA, L. A.

"Stochastic Algorithms for Functioning of Homogeneous Computer Systems"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51,
Novosibirsk, 1972, pp 3-19 (Translated from Referativnyy Zhurnal Kiber-
netika, No 6, 1973, Abstract No 6V689, by the authors).

Translation: Two algorithms are suggested for the functioning of homogen-
eous computer systems (HCS) solving sets of problems represented by programs
with various numbers of parallel branches. The first algorithm allows
stochastically optimal loading of the HCS with tasks with various performance
times, while the second assures a subminimum of the penalty function. The
basis is an algorithm which transforms the initial set of tasks to a set of
enlarged tasks with identical solution time.   ALGOL programs and results
of statistical processing of experiments on modeling of the algorithms are
presented.

USSR

UDC: 621.372.41

SEDUNOV, B. I., NOVIKOV, G. N.

"A Method of Tuning Piezoelectric Resonators"

USSR Author's Certificate No 282441, filed 19 Mar 69, published 11 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V448 P)

Translation: A method is proposed for tuning piezoelectric resonators which are acoustically interconnected. The procedure consists in changing the mass of the electrodes. To improve tuning precision, a parallel tank circuit which is tuned to the rated frequency of the resonator to be adjusted with regard to the static capacitance of the resonator is connected to each of the resonators being tuned.

1/1

- 132 -

USSR

SEDUNOV, Ye. V.

UDC: 519.2

"Generalization of the Box-Draper Problem in Planning of Regression Experiments"

Zavodsk. laboratoriya, 1973, 39, No 3, pp 308-313 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V173 by the author)

Translation: The Box-Draper problem in planning of experiments is extended to the case of regression of arbitrary type and continuous designs, where both the random and the systematic error of predicted values of the regression function are accounted for. It is shown that in two special cases this problem reduces either to the classical problem of planning regression experiments or to the problem of constructing cubature formulas of a certain class.

1/1

1/2   009   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--EXPERIMENTAL ADOPTION OF AN APPARATUS FOR THE CATALYTIC CRACKING OF
   A VACUUM DISTILLATE OF TURKMEN PETROLEUMS -U-
AUTHOR--CHVERTKIN, A.L., TIMERKHANOV, R.V., SEDUNOV, YU.P., SIDORIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--NEFTPERERAB. NEFTEKHIM. (MOSCOW,) 1970, (1) 1-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY, PROPULSION AND
   FUELS
TOPIC TAGS--CATALYTIC CRACKING, PETROLEUM DEPOSIT, FLUIDIZED BED, GASOLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1139   STEP NO--UR/0318/70/000/001/0001/0004

CIRC ACCESSION NO--AP0107628
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0107628

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OPERATION OF A FLUIDIZED BED CATALYTIC CRACKING INSTALLATION, DIFFERING FROM STD. ONLY IN THE ABSENCE OF A GAS DESULFURIZER, IS DESCRIBED. THE DISTILLATE LEAD, B. 350-500DEGREES, GAVE 0.25PERCENT COKE INSTEAD OF THE 0.1PERCENT DESIGN VALUE. AFTER 2 MONTH'S OPERATION, THE ACTIVITY OF THE CATALYST DECREASED TO 21-22 AND THE GASOLINE YIELD TO 26 WT. PERCENT, THE TEMP. IN THE REACTION ZONE INCREASING TO 485-490DEGREES INSTEAD OF TO 470DEGREES. THE REGENERATION OF THE CATALYST WAS IMPROVED, REDUCING ITS COKE CONTENT TO 0.1-0.2 INSTEAD 0.7-0.9PERCENT. BY IMPROVING THE RECOVERY BOILER, THE TEMP. OF THE CHIMNEY GASES WAS REDUCED FROM 400 TO 240DEGREES.

Acc. Nr.: *AP0028773*

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 1,
pp 19-27   Ref. Code: UR 0050

AUTHORS: Volkovitskiy, O. A., Sedunov, Yu. S.

ON COMPUTATION OF DROP CONCENTRATION AND MAXIMUM
SUPERSATURATION IN THE INITIAL STAGE OF CLOUD FORMATION

A specified theoretical model for determining main characteristics of the initial stage of cloud formation is suggested. In the equation of drop growth used in the computational scheme psychrometric drop temperature, leaps in vapour concentration and in temperature, at the drop surface as well as the effect of initial sizes of condensation nuclei on the process are taken into account. Comparison of the computations of drop concentration, performed on the basis of proposed formulas with the data computed by other authors is made.
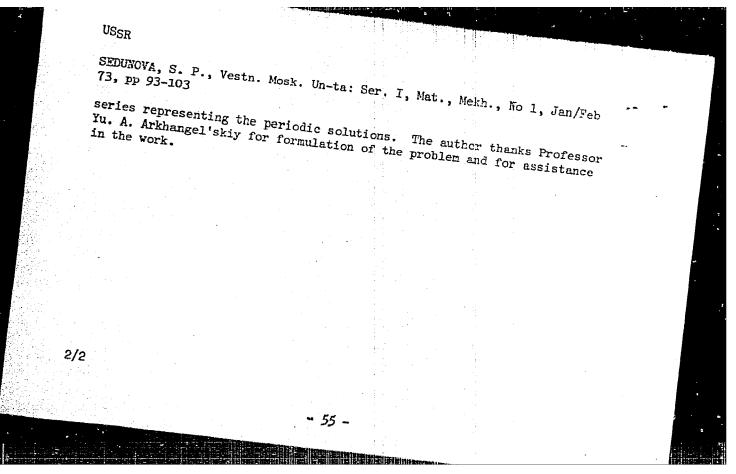
REEL/FRAME

19680210

USSR   Gyroscopic

SEDUNOVA, S. P., Department of Theoretical Mechanics, Moscow State Uni-
versity

"Concerning Certain Motions of a Gyroscope"

Abstract: In this paper, the method of the small parameter is used to
study periodic solutions of the equations of motion of a heavy solid
which is put into rapid rotation about one of the principal axes of the
ellipsoid of inertia, and to find the corresponding motions of the solid.
Motion of a heavy solid with a stationary point is considered. The solid
is assumed to have an arbitrary ellipsoid of inertia and arbitrary location
of the center of gravity noncoincident with the fixed point. At the
initial instant, the principal axis z of the ellipsoid of inertia is at
an angle $\theta_0 = 90°$ to the vertical, i. e. $\gamma_0'' = 0$, and a large angular velocity
r_0 is imparted to the solid about this axis. Periodic solutions of the
Euler-Poisson equations are found, the motions of the rotating solid are
geometrically analyzed, and an estimate is made of the convergence of the

1/2

USSR

SEDUNOVA, S. P., Vestn. Mosk. Un-ta: Ser. I, Mat., Mekh., No 1, Jan/Feb 73, pp 93-103

series representing the periodic solutions. The author thanks Professor Yu. A. Arkhangel'skiy for formulation of the problem and for assistance in the work.

2/2

USSR   UDC   621.3.019.3.002.235

MIRONOV, V. M., SEDYAKIN, S. V.

"Optimum Design of Complex Radio Systems of High Reliability Based on
Introduction of Group Underloaded Redundancy and an Automatic Device for
Actuating the Reserve Elements"

Translation: An expression is derived which characterizes the no-failure
probability of a complex system with group underloaded redundancy and
which accounts for the process of automatic actuation of the stand-by
elements into the main unit. The results of the work enable the design
of complex radio equipment with optimum combination of the main and
stand-by elements and their operating conditions. Resumé.

1/1

USSR

ABELENTSEVA, G. M., and SEDYKH, A. S., All Union Scientific Research Institute of Chemical Plant Protective Agents

"Phytocidal Activity of Insecticides on Wheat Sprouts"

Abstract: Acute phytocidal activity of Chlorophos, metaphos, sumithione, metathione, methylnitrophos, phtalophos, and benzophosphate was investigated. The lowest activity was exhibited by chlorophos, benzophosphate, and phtalophos; the highest -- by metaphos, methylthiophos, metathione, and sumithione. Among the latter, the strongest phytocidal activity against wheat sprouts was shown by methylnitrophos.

1/1

USSR   UDC 632.95

ABELENTSEVA, G. M., SEDYKH, A. S., ORLOVA, V. I.

"Sensitivity of the Biological and Thin-Layer Chromatographic Methods of
Determining Pesticides"

Translation: The biological method using mosquito larvae is 6700, 152 and
227 times more sensitive for determination of residues of Dursban, DDVF and
chlorophos respectively than the method of thin-layer chromatography in a
fixed layer in the hexane - acetone system (4:1 or 1:1) (developer: bromo-
phenol blue with $AgNO_3$). The sensitivity of these methods is almost the

same for sayfos and phosphamide. In most instances the biological method
does not require purifying extracts of contaminating substances.

1/1

SHAPOVALOVA, G. K., SEDYKH, A. S., ABELENSHCHEVA, G. M., GALITSINA, V. V.,
and MARCHENKO, L. F.

"Insecticidal Action and Effectiveness of Phthalophos"

Translation: Phthalophos in concetrations of 0.075-0.1% is an effective
substitute for DDT in controlling many pests of orchard, berry, vegetable,
commerical and fodder crops. Residues of the insecticide remain toxic
for pests for a shorter term than DDT. Phthalophos can be used with zineb
and copper oxychloride.

1/1

USSR   UDC 632.951

SHAPOVALOVA, G. K., SEDYKH, A. S., and ABELENTSEVA, G. M., All Union Scientific
Research Institute of Chemical Plant Protectants

"The Effectiveness of Using Phthalophos and Benzophosphate Against the Goose-
berry Fruit Worm and Residues of the Insecticides on Berries"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 34-35

Abstract: In 1969 in the orchard of the "Otradnoye" training farm of the
Timiryazev Agricultural Academy the authors tested a 20-percent emulsifiable
concentrate of phthalophos (Imidan), a 50-percent wettable phthalophos powder
and a 35-percent emulsifiable concentrate of benzophosphate (Phosalone) for
controlling the gooseberry fruit worm, Zophodia convolutella Hb. The con-
centration of the insecticides was 0.1 percent, a. i. Gooseberry shrubs were
sprayed once (before flowering, 13 May, or a week after flowering, 30 May)
or twice, 13 and 30 May. The sprayings were liberal, until the liquid was
dripping off the leaves. The effectiveness of treatment was determined 7
July, about two weeks before picking, and the residues of the insecticides
on the berries 12 July. The injury to berries by caterpillars on control
unsprayed bushes was 12.7 ± 1.9 percent. The berry injury was 3.5-4 times
1/2

USSR

SHAPOVALOVA, G. K., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 34-35

less than in control in the case of a single spraying before flowering, 6-12 times less after a single post-flowering spraying (similar results in the case of a double spraying). Residues were analyzed by thin-layer chromotography and the toxicological (biological) method. Residues of 1 mg/kg were detected by thin-layer chromatography in a weighed sample of 40-50 g, while none of the samples taken after a double spraying revealed residues. Residues not exceeding 0,2 mg/kg were found by the toxicological method on berries sprayed with a phthalophos suspension or emulsion, 0.7 mg/kg on berries sprayed with a benzophosphate emulsion.

2/2

USSR   UDC 632.951

POPOV, P. V., SEDYKH, A. S., ABELENTSEVA, G. M., All-Union Scientific
Research Institute of Chemical Agents for Plant Protection

"Determination of Phthalophos Residues in Apples"

Abstract: The authors determined residues of the DDT substitute
phthalophos (0,0-dimethyl-S-phthalimidomethyldithiophosphate) on
apples under laboratory and field conditions. In laboratory tests,
the apples were immersed in a 0.1% emulsion of phthalophos for a few
seconds and stored in the suspended state. After four days, the resi-
due of phthalophos was washed from the fruit by immersion for 2-3
seconds in acetone. The apples were then peeled with removal of a
small amount of flesh, and the phthalos residue was extracted by
acetone from the peeling and the remaining flesh. The results of
analysis showed that nearly all the phthalophos residue was on the
surface and in the skin of the apples with only 0.06 mg/kg or 2% of
the total in the fleshy part of the fruit. Under field conditions
1/2

USSR

POPOV, P. V., et al., Khimiya v Sel'skom Khozyaystve, Vol 8, No 9,
(83), Sep 70, pp 39-40

it was found that after spraying, residues amount to 7.5% mg/kg,
which decreases after 17 days to 1.96 mg/kg. About 20% of the total
residue is found in the stem depression and the sepal. These residues
were not washed from the fruit even though there was some rainfall
over the 17-day period. On the other hand, the residues on the
surface of the fruit (80% of the initial total) were reduced by 90%
over the 17-day period (from 6.1 mg/kg to 0.4-0.5 mg/kg).

2/2

USSR   UDC 632.954:664.8/.9

SEDYKH, A. S. and ABELENTSEVA, G. M., All-Union Scientific
Institute of Chemical Substances for the Protection of Plants

"Removal of Insecticide Residue from Fruit Intended for Preservation"

Abstract: Removal of phosphoorganic insecticide residues from apples and
pears was studied. Apples were submerged for several seconds into a 0.1%
emulsion (experiment 1) and into a 0.1% suspension of phthalophos (experiment
2). After drying for one hour in air, one fruit was washed for 15 min.
under running water, another fruit was submerged for 15 sec in 0.1% hydro-
chloric acid, a third one was not at all processed. Subsequently all fruits
were dried in air and submersed in acetone for 1 hr to dissolve phthalophos
residues. The concentration of the latter in the acetone solutions was
determined biologically by larvae of Culex pipiens molestus. Best results
were observed with the fruit washed under running water; hydrochloric acid
wash makes sense only to remove arsenic-containing insecticides, which are
sparingly soluble in water and readily soluble in hydrochloric acid. Phos-
phoorganic insecticides are poorly dissolved in pure water and even less
readily in hydrochloric acid. It is recommended that for the removal of
insecticide residues, the fruits be washed [thoroughly] in water.

TITLE--COMPATIBILITY OF FUNGICIDES WITH INSECTICIDES -U-

AUTHOR-(03)-SEDYKH, A.S., SHAPOVALOVA, G.K., ABELENTSEVA, G.M.

COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(2), 114

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FUNGICIDE, INSECTICIDE/(U)SEVIN INSECTICIDE, (U)ANTHIO
    INSECTICIDE, (U)PHOSALONE INSECTICIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0319   STEP NO--UR/0394/70/008/002/0114/0114

CIRC ACCESSION NO--AP0113245
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0113245
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INSECTICIDAL EFFECTIVENESS OF AQ.
SOLNS. OF 0.05PERCENT ANTHIO (I), 0.1PERCENT SEVIN (II), 0.1PERCENT
FITIOS (III), AND 0.2PERCENT PHOSALONE (IV) MIXED WITH 0.1PERCENT
BORDEAUX MIXT. DECREASES TO 7, 0.2, 13, AND 80PERCENT, RESP.; FOR
0.25PERCENT ZINEB TO 80 AND 67PERCENT WITH I AND II, RESP., AND DOES NOT
DECREASE WITH III AND IV; FOR 0.25PERCENT CU OXYCHLORIDE TO 78, 50, AND
93PERCENT WITH I, II, AND III, RESP., AND IS NOT ALTERED WITH IV.
MIXING I-IV WITH 0.25PERCENT POLYCARBAZINE DOES NOT CAUSE ANY DECREASING
OF EFFECTIVENESS.   FACILITY: VSES. NAUCH.-ISSLED. INST. KHIM.
SREDSTV ZASHCH. RAST., MOSCOW, USSR.

UNCLASSIFIED

USSR   UDC 632.951:632.734.1

POPOV, P. V., ABELENTSEVA, G. M., SEDYKH, A. S., Candidates of Agricultural Sciences, All Union Scientific Research Institute of Chemical Means of Plant Protection

"Contact Toxicity of Insecticides for Eurygaster"

Abstract: In order to discover some contact insecticides having advantages over methylnitrophos, propoksur, phenthion, morestane, trichlorometaphos-3, sevin, phthalophos, cydial, methylacetophos and ethoxyphos, a study was made of the compounds used in the Soviet Union and abroad against other pests and also some experimental compounds not used in practice for plant protection. The graphosoma of the species Graphosoma italicum Muell. and G. Semipunctatum F. is recognized and proved as the biological model of Eurygaster integricepts Put. sutibale for toxicologic studies in the laboratory. Both species yielded 10-15 generations per year under laboratory conditions. Out of the 35 investigated insecticides, methaphos, phenitrothion, phenthion, carbofurane and sandos 52139 exhibited greater contact insecticide capacity than chlorophos; dichlorophos was equivalent to chlorophos, and dioxacarb, valexon, dilor and dursbane were only half as effective as chlorophos. 1/2

USSR

POPOV, P. V., et al., Khimiya v sel'skom khozyaystve, No 11, 1972, pp 34-37

The remaining 24 compounds, including phosalone, phthalophos, lindane and gardone were only half as effective as chlorophos. Considering such indexes of the compounds as their insecticidal nature, toxicity for mammals, stability of residues, duration of retaining the insecticidal qualities and the possibility of industrial production, it is necessary to consider phenitrothion, dilor and phenthion as most prospective for further study as means of controlling eurygaster.

2/2

USSR

POLYAKOV, D. A. (Cand. of Techn. Sciences), et al, Svarochnoye proizvodstvo, Oct 71, no 10, pp 22-24

may be considerably increased by annealing. In resistance spot welding optimum properties of welds of VT14L plus VT14 alloys are ensured by quenching and aging the plates prior to welding without quench-hardening the weld. Tables in the original article cite data on the mechanical properties of base materials VT14L and VT14 alloys used per se and data on the mechanical properties of welds from VT14L-VT14 combinations in a variety of states, data on the strength of spot welds in shearing tests and as well as those after holding at 300°C, and finally strength properties of welds after annealing in repeated static loading.

2/2

USSR   UDC: 577.3

NUZHINA, A. M., SEDYKH, N. V., and SAFRONOVA, M. M., Kazan' State University
imeni V. I. Ul'yanov-Lenin

"Study of Immunological Reactivity and Immune Specificity of DNAses from Bac.
amylozyma and Serr. marcescens"

Abstract: A study was made of the dielectric properties and conformation changes
in the macromolecules of enzymes isolated from S. marcesens (strain 41) and B.
amylozyma (strain 9) and in humoral antibodies elaborated in response to the ad-
ministration of these nucleases. The reaction of the enzymes with the corres-
ponding antibodies resulted in their dehydration due to rupture of the "biomacro-
molecule - water" bond and appearance of a "biomacromolecule - biomolecule"
(antigen + antibody) bond. It appears that there are complementary groups or
regions in the antigen and antibody molecules.

1/1

USSR   UDC 621.372.833

SEDYKH, V. M., DENISOV, D. S., LYAPUNOV, N. V., SAPRYKIN, I. I.

"Calculating Nonreflecting Supporting Discs in Coaxial-Strip Junctions"

Translation: Expressions are obtained for calculating the voltage standing wage ratio of a support disc as a function of its geometric dimensions and operating frequency. There are 2 illustrations and a 5-entry bibliography.

1/1

USSR   UDC 621.372.831.1

SEDYKH, V. M., DENISOV, D. S., LYAPUNOV, N. V., SAPRYKIN, I. I.

"Calculating the Equivalent Coupling Diagram of Two Coaxial Lines with Different Sizes of Conductors"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 61-65 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B172)

Translation: The compensating shift for which the coupling has minimum reflection is calculated. There are 2 illustrations and a 5-entry bibliography.

1/1

USSR   UDC 621.791:621.642.001.2

BOGOMOLOVA, A. S., Candidate of Technical Sciences, and BAKSHI, O. A., Doctor of
Technical Sciences, Chelyabinsk Polytechnic Institute; SEDYKH, V. S., Doctor of
Technical Sciences, and TRYKOV, YU. P. and BELOUSOV, V. P., Candidates of
Technical Sciences, Volgograd Polytechnic Institute; BORISOVA, V. A., KARAN,
A. B., POPOV, A. S., and SAPRYGIN, V. D., Engineers, Moscow

"Practical Design of Welded Vessels and Pipe From Dissimilar Materials"

Abstract: Welding tests were conducted for welding dissimilar materials to
join dissimilar metals in the fabrication of vessels and pipe. A steel+copper+
niobium+titanium joint was made from steel Kh18N10T, M1 copper, niobium, and
OT4 titanium, and a magnesium alloy+titanium+aluminum+aluminum alloy joint was
made from magnesium alloy MA2-1, VT1 titanium, Ad1 aluminum, and aluminum alloy
AMg6. The goal of this work was to determine the proper materials which would
yield a reliable diffusion barrier in the intermediate weld layers, and a
joint with a strength equal to that of the base metal. Mathematical formulas
are given for calculating the tensile and yield strengths of the soft sublayer
and critical magnitude of relative thickness of the soft sublayer for which
an equal-strength joint can be achieved. For the titanium-steel joint the
1/2

USSR

BOGOMOLOVA, A. S., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

the relative thickness required for the copper sublayer was approximately 0.5 while this value for the magnesium-aluminum was not computed. 4 figures, 1 table, 12 bibliographic references.

2/2

Physical Properties

USSR

UDC: 620.18:539.4.019.2

ATROSHCHENKO, E. S., KOSOVICH, V. A., SEDYKH, V. S., and SHORSHOROV, M. KH., Volgo-grad, Moscow

"The Physico-Mechanical Properties of Blanks Produced by Explosive Pressing"

Abstract: The authors study the density, electric conductivity, and hardness of pressings after the explosive, matrixless pressing of iron, nickel, and titanium powder. It is shown that the physico-mechanical properties of pressings obtained by explosive pressing are determined primarily by interparticle contacts with a metallic bond. Simultaneously the inadequate metallic bond of the particles in the briquets is indicated, showing the necessity for the subsequent sintering of the briquets.

1/1

USSR   UDC 621.791.76.052:621.7.044.2:620.18

SAKHNOVSKAYA,Ye. B., Engineer, SEDYKH, V. S., Candidate of Technical Sciences,
TARABRIN, G. T., Candidate of Technical Sciences, TRYKOV, YU. P., Candidate of
Technical Sciences, Volgograd Polytechnic Institute

"Structural and Mechanical Nonuniformity of Explosion-Welded Steel-Aluminum
Joints"

Abstract: A study was made of the structural and mechanical nonuniformity and
strength of an explosion-welded three-layer composition of the two aluminum
alloys AMg6+AD1 and Kh18N10T steel as a function of the kinetic energy of the
impact, the scaling factor and the relative thickness of the aluminum sublayer.
During explosion welding of this three-layer composition, an increase in the
kinetic energy of the impact above W_0 leads to an increase in the proportional
participation of the steel elements in the formation of the fused sections,
gradual increase in their hardness and a sharp decrease in the strength of the
AD1-Kh18N10T joint in the range of values $W > W_{critical}$. The process parame-
ters, the welding schematic and the scaling factor have an effect on the struc-
tural and mechanical nonuniformity of the steel-aluminum joint. The strength
characteristics of the explosion-welded AMg6+AD1+Kh18N10T compositional joint

1/2

USSR

SAKHNOVSKAYA,Ye. B., et al., Svarochnoye proizvodstvo, No 9, 1972, pp 7-9

depend essentially on the relative thickness of the interstitial layer of aluminum and can be calculated by the formulas proposed earlier [O. A. Bakshi, Voprosy svarochnogo proizvodstva. Trudy ChPI, No 33, 1965; O. A. Bakshi, et al., Voprosy svarochnogo proizvodstva, Trudy ChPI, No 63, 1968]. The experimental data are plotted graphically, and the mechanisms of the formation of the mechanical and structural properties of the joints are discussed.

2/2

- 44 -

USSR

UDC 539.4.104

ARTROSHCHENKO, E. S., KOSOVICH, V. A., LIPOVATYY, B. N., SEDYKH, V. S., and SHOROSHOROV, M. KH., Volograd, Moscow

"Features of Plastic Deformation During Explosive Compression of Metal Powders"

Abstract: Plastic deformation, temperature, and some features of the fine structure were studied in relation to the density and compression parameters, using 100-250 μ iron and titanium powders. It was determined that high-velocity loading leads to a significant heating of the compressed powder due to the adiabatic character of heat exchange between the deformed particles and the surrounding environment.

1/1

Composite Materials

USSR

UDC 669.2:621.771

BAKUMA, S. F., BELOUSOV, V. P., SEDYKH, V. S., and TRYKOV, Yu. P.

"Production of Plate Metal Compositions by Explosive Welding and Intermediate Rolling"

Moscow, Tsvetnyye metally, No 5, May 72, pp 58-62

Abstract: Proposed are new flow charts for producing composite materials with provisions for combining explosive welding with either cold, warm, or hot rolling. Explosive welding of bimetal joints from hard-to-weld metal combinations (Ti-Fe, Al-Mg, Nb-Fe,and others) require strict adherence to specific parameters including precise setting of root gap openings between the plates, perfect dosage of composition and appropriate density of the explosive powder, and special surface preparation. Violation of either condition may cause drastic reduction of weld strength and even lamination. The new flow charts offer potentials for increasing the mechanical properties of bimetal weld joints. The complex technology is justified by the savings in costly and scarce materials and realization of new design problems. (3 illustrations, 1 table, 7 bibliographic references)

1/1

USSR   UDC 621.791:621.7.044.2:669.295 + 669.71

YEROKHIN, A. V., Engineer, KAZAK, N. N., SEDYKH, V. S., and TRYKOV, Yu. P.,
Candidates of Technical Sciences, and ULITIN, A. I., Engineer, Volgograd
Polytechnic Institute

"Properties of Titanium-Aluminum Joints Produced by Explosive Welding"

Abstract: The optimal parameters are determined for explosive welding of
joints of titanium with aluminum and three-layer composite joints of AMg6-
AD1-OT4, having strengths of 10-12 kg/mm^2 and rupturing through the aluminum
when tested. The titanium-aluminum joints produced by explosive welding
can withstand extended heating to 500-550°C, according to the temperature-
time conditions of formation of intermetallic compounds on the division
boundary of the layers, and can be used for various technological processes.
A pilot scale technology is developed for explosive welding of titanium-
aluminum joints, guaranteeing stable strength values.

1/1

USSR

UDC 621.791:621.7.044.2:669.15-194.56-669.715

SAKHNOVSKAYA, YE. B., Engineer, SEDYKH, V.S., Candidate of Technical Sciences, and TRYKOV, YU.P., Candidate of Technical Sciences, Volgograd Polytechnic Institute

"Properties of Joints of Austenitic Steel With Aluminum Alloys, Produced by Explosive Welding"

Moscow, Svarochnoye Proizvodstvo, No 7, 1971, p 34-36

Abstract: This article 1) studies some regularities in the changes in mechanical properties of explosively welded joints between austenitic steel and binary aluminum alloys, based on analysis of the state diagrams, 2) studies the temperature-time conditions of formation of intermetallic compounds during the process of heating of welded joints, and 3) suggests alloys based on this composition, providing high steel-aluminum joint strength. Increasing the initial strength (hardness) of the aluminum alloys causes a reduction in the range of optimal pressures realizing the maximum joint strength. A "triangle of weldability" was produced, which can be used to determine the optimal parameters of explosive welding of these metals. Alloying of the aluminum with Si, Fe, Cu, and Ni increases the length of the incubation period for formation of the diffusion interlayer. Alloying with Si, Fe, and Ni increases the strength of the steel-aluminum joint after long heating to 200-550°C. When 1/2

USSR

SAKHNOVSKAYA, YE. B., et al, Moscow, Svarochnoye Proizvodstvo, No 7, 1971,
pp 34-36

commercial aluminum alloys are welded to austenitic steel, an interlayer of alumi-
num alloyed with Si, Fe, Ni, or Cu should be used between them, allowing an
increase in the initial strength of the composite.

2/2

USSR   UDC 621.791:621.7.004.2.01:669.295+669.14

BELOUSOV, V. P., Engineer, SEDYKH, V. S., Candidate of Technical Sciences,
and TRYKOV, YU. P., Candidate of Technical Sciences

"Mechanical Properties of Explosion-Welded Titanium-Steel Joints (With Inter-
layers)"

Abstract: Investigation results of the effect of mechanical heterogeneity on
strength and plasticity characteristics of titanium-steel joints with Cu-
Nb interlayers after explosion-welding and heating are discussed. The
change of mechanical properties of explosion-welded joints of OT4 titanium
alloy with Kh18N10T austenite steel with Cu-Nb interlayers of various thick-
ne is explained by hardening of the latter as the result of explosion load-
ing and the effect of case hardening. The gradual decrease of the relative
thickness k of the copper alloy in the range of 0.5 to 0.067 results in a
progressive increase in strength and decrease of plasticity characteristics.
Due to case hardening of the copper alloy at k=0.03 an increase in joint
strength up to the strength level of steel and also a plasticity increase
take place. A comparison of mechanical properties of titanium-steel joints
with interlayers of copper and its high-strength alloys demonstrates their
1/2

USSR

BELOUSOV, V. P., et al., Svarochnoye Proizvodstvo, No 9 (443), Sep 71, pp 19-21

unjustified application at $k \leqslant 0.03$. The rating of mechanical properties of welded joints with soft interlayers from calculation formulas showed that it is necessary to take into account the hardening of soft layers as the result of explosion loading. Seven illustrations, one table, eight bibliographic references.

2/2

USSR

UDC: 539.4.019.1

SEDYKH, V.S., and SONNOV, A.P., Volgograd

"Calculation of the Energy Balance in Explosion Welding"

Abstract: The currently expanding use of explosion welding in industry calls for the development of computational methods (to replace empirical methods) in setting up welding procedures for various types of joints and materials. Based on physical laws and available data, the authors set up a number of equations embracing the components of energy balance in the case of a flat (two-plate) joint: kinetic energy of the imposed plate upon impact, kinetic energy of the system following impact, energy expended in plastic deformation around the weld, etc. Agreement between results calculated on this basis, and existing experimental data, was found to be fairly close. It is believed that this study will advance the development of more general computational methods.

1/1

TITLE--USE OF NEPHELOMETRY TO STUDY THE WEAR OF THERMOPLASTIC PARTS -U-

AUTHOR-(02)-PERIN, YU.I., SEDYKIN, F.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 6(1), 80-2.

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--MEASUREMENT, WEAR RESISTANCE, THERMOPLASTIC MATERIAL,
LUBRICATING OIL, FORMIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1379   STEP NO--UR/0369/70/006/001/0080/0082

CIRC ACCESSION NO--AP0135053
                              UNCLASSIFIED

2/2   028
CIRC ACCESSION NO--AP0135053
ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE WEAR OF NYLON 6 (I), METAL
GEARS WAS DETD. BY ISOLATING I PARTICLES SUSPENDED IN THE LUBRICATING
OIL, DISSOLVING THEM IN HOT 85PERCENT HCC SU82 H AND DETG. THE SOLN.
CONCN. BY NEPHELOMETRY. THE LUBRICATING OIL WAS PURIFIED BY FILTRATION
PRICR TO USE. AFTER THE TEST PERIOD THE OIL WAS REMOVED FROM THE GEARS
BY WASHING WITH LIGROIN. AN ALIQUOT WAS CENTRIFUGED TO REMOVE THE
ABRADED METAL PARTICLES, THE RESIDUAL I PARTICLES WERE FILTERED THROUGH
SINTERED GLASS, DISSOLVED, AND DETD. IN THE ROUTINE TESTS THE WEAR WAS
READ DIRECTLY FROM THE CALIBRATION CURVES.   FACILITY: VNIPI
MONOMEROV, TULA, USSR.

TITLE--ESTROGENIC ACTIVITY OF SOME STEROIDS OF THE C SUB18 SERIES -U-

AUTHOR-(04)-TORGOV, I.V., CHERNYAVSKAYA, N.A., SEGAL, G.M., BARKOV, T.I.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 2,
   PP 208-213
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESTROGEN, ESTRADIOL, ESTER, MOLECULAR STRUCTURE, HYDROGEN
   BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0124   STEP NO--UR/0216/70/000/002/0208/0213

CIRC ACCESSION NO--AP0119120
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0119120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESTROGENIC ACTIVITY OF SOME
  ESTRADIOL DERIVATIVES POSSESSING ELECTROPHILLIC SUBSTITUENTS IN THE RING
  A, ESTRENDIOLS WITH THE DOUBLE BOND IN DIFFERENT POSITIONS, ESTRADIOL
  ESTERS AND 15,16,DEHYDROESTRONE HAS BEEN STUDIED ACCORDING ALLEN DOISY
  METHOD.   IT HAS BEEN SHOWN THAT IN SOME CASES EVEN INSIGNIFICANT
  CHANGES IN THE MOLECULE OF A NATURAL ESTROGEN (FOR INSTANCE FLATTENING
  OF THE D RING OR THE CHANGE OF THE HYDROXYL POSITION IN THE RING A)
  CAUSES A DECREASE OF ESTROGENIC ACTIVITY. ONLY A STRICTLY DEFINITE
  DISTRIBUTION OF ELECTRON DENSITIES IN THE HORMONE MOLECULE AS WELL AS
  ITS CONFORMATIONAL PROPERTIES GUARANTIES HIGH AFFINITY TOWARDS THE
  RECEPTOR. INTRODUCTION OF SUBSTITUENTS INTO THE 2 AND THE 4 POSITION
  CAUSES A COMPLETE LOSS OF ESTROGENIC ACTIVITY OF THE MODIFIED MOLECULE
  DUE TO A STERIC HINDRANCE OR OWING TO A POSSIBLE FORMATION OF
  INTRAMOLECULAR HYDROGEN BONDS WITH THE PHENOL HYDROXY GROUP.
  FACILITY: INSTITUTE FOR CHEMISTRY OF NATURAL PRODUCTS, ACADEMY OF
  SCIENCES USSR.

UNCLASSIFIED

USSR   UDC 661.668:621.9-492:541.12.01

BELOZERSKIY, N. A., KRICHEVSKAYA, O. D., PIGROVA, G. D., BELOZERSKIY, G. N.,
SEGAL', L. D.

"Phase Composition of Carbonyl Iron-Nickel Powders"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug. 1972, pp 8-13.

Abstract: Studies were performed using powders produced by thermal decompo-
sition of a mixture of liquid nickel and iron carbonyls sprayed into the
heated space of the decomposition apparatus through a water-cooled sprayer.
A thermodynamic evaluation is given for the secondary reactions which are
the source of the carbon and oxygen in the carbonyl powder. It is thermo-
dynamically possible for carbon to be present in iron-nickel powders as
free carbon (black) or as Fe_3C cementite; nickel carbide may also be formed.

Oxygen can be bonded as wustite, magnetite and nickel oxide. Iron-nickel
carbonyl powders with 20, 50 and 80% nickel are studied for content of car-
bon and oxygen and the phase state of the impurities is determined. Chemical
phase analysis shows that in carbonyl iron-nickel powders, carbon is present
to a significant extent in the form of the carbide. Oxygen is bonded in the
form of Fe_3O_4. The content of carbide carbon in iron-nickel powders is de-
termined as a function of composition. It is shown that upon transition from
a powder with 20% nickel to 80% nickel, the content of carbide carbon de-

1/2   - 26 -

USSR

UDC 661.668:621.9-492:541.12.01

BELOZERSKIY, N. A., KRICHEVSKAYA, O. D., PIGROVA, G. D., BELOZERSKIY, G. N.,
SEGAL', L. D., Kiev, Poroshkovaya Metallurgiya, No 8, Aug, 1972, pp 8-13.

creases from 1.20 to 0.86%. It is shown that the content of carbide carbon
in an iron-nickel powder of a given composition is relatively stable.
Fluctuations in the quantity of total carbon in powder of the same composi-
tion as a function of technological parameters of thermal decomposition occur
due to changes in the content of carbon black.

2/2

USRR   UDC 661.668:621.9-492

BELOZERSKIY, N. A., SEGAL, L. D., MEL'TSER, R. L., and ZELIKHMAN, L. A.,
State Planning Institute for Nickel Industry

"Iron-Nickel- molybdenum Carbonyl Powders"

Abstract: A carbonyl method for obtaining iron-nickel-molybdenum powders
containing from 0.5 to 5.8% Mo is described. In order to increase the
molybdenum content in the powder, an organic solvent such as $Ni(CO)_4$,
$Fe(CO)_5$, $Mo(CO)_6$, or acetone is added to the initial carbonyl iron-nickel
mixture, or the temperature of the latter is raised. Articles with high
magnetic properties are produced from carbonyl iron-nickel-molybdenum
powders.

1/1

TITLE--COMPARATIVE ASSESSMENT OF IMMUNOLOGICAL EFFICACY OF AKDC VACCINES
   WITH VARIOUS QUANTITATIVE CONTENT OF COMPONENTS IN PRIMARY IMMUNIZATION
AUTHOR-(05)-KHEYFETS, L.B., SALMIN, L.V., SEGAL, L.S., BRUSINA, L.I.,
   GURDZIANTS, E.M.
COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII,   1970, NR
   4, PP 134-140
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMMUNIZATION, VACCINE, TETANUS TOXOID, DIPTHERIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1485   STEP NO--UR/0016/70/000/004/0134/0140

CIRC ACCESSION NO--AP0109545
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0109545
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CARRIED OUT A STRICTLY
  CONTROLLED FIELD TRIAL ON COMPARISON OF THREE VARIETIES OF AKDC VACCINE,
  DIFFERING BY CONTENT OF THE VACCINAL DOSE OF DIPHTHERIA, TETANUS AND
  PERTUSSIS COMPONENTS. BLOOD SERA OBTAINED BEFORE THE IMMUNIZATION AND
  AFTER EACH OF THE THREE INJECTIONS OF THE PREPARATION WERE EXAMINED; THE
  LAST SAMPLE WAS TAKEN IN 1.5-2.5 MONTHS AFTER THE THIRD INJECTION. AS
  DEMONSTRATED, REDUCED DOSES OF TETANUS TOXOID (EITHER ITS DIMINISHED
  CONTENT IN THE VACCINE FROM 5 TO 2.5 BU, OR ITS INCLUSION INTO THE
  ASSOCIATED PREPARATION ONLY IN 2 INJECTIONS, FOR EXAMPLE IN THE 2ND AND
  3RD, THE THIRD INJECTION CONTAINING NO TOXOID) WERE JUSTIFIED.
  ANALOGOUS CHANGES COULD ALSO BE MADE IN RESPECT TO DIPHTHERIA TOXOID,
  BUT IN THE LATTER CASE A STUDY OF THE TITRES AT THE MORE REMOTE PERIODS
  AFTER THE IMMUNIZATION ARE REQUIRED. IT IS OF EXPEDIENCE TO INCREASE
  THE CONTENT OF PERTUSSIS COMPONENT IN AKDC VACCINE FROM 10 TO 5 MILLIARD
  MICROBIAL CELLS PER DOSE.

UNCLASSIFIED

USSR

UDC   621.373.8:621.382

SEGAL', S. G. and STYTS'KO, V. P.

"Inductionless, Phase Type, Radiopulse Binary Elements"

Moscow, Radiotekhnika, Vol 26, No 4, 1971, pp 89-91

Abstract: The authors study various types of phase-type, radio pulse elements, particularly the parametron, syngetron, and the resistance type parametron in which the induction coils have been replaced by transistor circuits with an inductance nature of output impedance. The results of the study show that it is possible to develop various types of phase type, radiopulse elements all of whose elements can be produced using existing integrated circuit technology. Original article: four figures, one formula, and four bibliographic entries.

1/1

USSR

SEGAL, V. M. (Minsk)

"Resistance of a Cylinder to Rolling Along an Ideally Plastic Half-Space"

Translation: On the basis of the general solution for the movement of a rough cylinder along an ideally plastic half-space, presented in an earlier article by the author, consideration is given to the rolling of a loose-running cylinder. It is shown that in relation to friction along the contact surface there is observed the formation of regions of retardation, adhesion, and antic-ipation. Relationships of the contact width and the coefficient of rolling friction to normal pressure are presented at various values of the coefficient of rolling friction $\mathcal{T}_k$. The nature of the deformed state in the contact layer is confirmed experimentally by the moiré method. 4 figures. 2 references.

1/1

USSR   UDC 523.2/7:539.24:536.42

MINTS, R. I., PETUKHOVA, T. M., and SEGAL', V. M., Ural Polytechnic Institute

"Structure of a Metallic Fragment of a Lunar Substance"

Abstract: A metallic fragment of a lunar substance, supplied by the Luna-16 space vehicle, was investigated. Maximum size of the particles was 450 microns and it had the following average composition: $Fe + 5.5\% Ni + 0.6\% Co$. No carbon was detected. In a metallographic study of the fragment a subgrain with martensitic dendrite morphology was observed in one of the cross sections. Niemann bands were visible in the twinning formations of the fragment. These morphological structures and crystallographic features (90% of the particle was in the alpha-solid solution) made it possible to relate the dendritic martensite of the lunar nickel-iron to the group of athermal martensites. 5 bibliographic references.

1/1

USSR

UDC: 539.374

MAKUSHOK, Ye. M., SEGAL, V. M., REZNIKOV, V. I., Physicotechnical Institute
of the Academy of Sciences of the BSSR

"Computer Processing of Experimental Moiré Patterns"

Abstract: A method is proposed for processing experimental patterns of the
deformed state. The procedure embraces various uses of the moiré method
and can be extensively used in experimental mechanics. The proposed method
ensures optimum retention of the objectivity of the initial information
after mathematical processing with regard to the physical conditions and
peculiarities of the processes investigated. The accuracy of the computed
values on all stages is commensurate with the accuracy of the initial
quantities and basic premises of contemporary theory. The proposed method
of approximation and smoothing it readily realized on computers and can
be extended to cover other cases of the deformed state.

1/1

USSR

UDC 539.374

MAKUSHOK, YE.M., SEGAL, V.M. and REZNIKOV, V.I.

"Two-Way Estimate of Force Required for Drawing a Plate Through a Tapered Die"

Minsk, Vestsi Akedemii Navuk BSSR, Seryya Fizika-Teknichnykh Navuk, No 3, 1971, pp 17-24

Abstract: The two-dimensional analysis of stresses and velocities for a plate drawn through a tapered die is made. Polar coordinates are used.

Equations (11) giving the stress distribution and equation (12) giving the velocity distribution are derived. These equations contain several constants of integration.

The lower boundary of the solution is based on the sliding lines being the limit of plasticity. The corresponding force required for drawing the plate through the die is given by equation (18).

1/2

USSR

The upper boundary of the solution is based on the velocity dis-
tribution. The corresponding drawing force versus percentage reduc-
tion of plate thickness is given on fig. 2 for several angles of taper
and for friction coefficients of 0 and 0.1.
The optimum angle of taper versus percentage reduction of
plate thickness for several values of friction coefficient is given on
fig. 3.

2/2

USSR   UDC 669.24:620.17

BOGACHEV, I. N., VEKSLER, YU. G., SEGAL', V. M., and SOROKIN, V. G., Ural
Polytechnical Institute imeni S. M. Kirov

"Mechanism of Deformation of Nickel Surface in High-Velocity Air Streams"

Abstract: A study is made of the fine structure of nickel tested on an aerodynamic
device at an air flow velocity of 1.6 M in a broad range of temperatures and test-
ing times. At low testing temperatures, a considerable increase in the density of
imperfections of the crystal lattice is observed, and grain crushing takes place
on the surface of the specimen. The structure contains a large quantity of
erosion pittings, and deformations, according to the shape of the slip trace, occur
nonuniformly in the metal. With an increase in the testing temperature, the
material hardens primarily because of intensive breaking down of grains, and with
an increase in the time of dynamic recovery takes place which may lead to a
recovery of the deformed material. An increased testing temperature is followed
by a high rate of recovery and by a recrystallization of the deformed layer. A
qualitative model of the flow of the processes of hardening-recovery in the surface
layers of nickel during its deformation in a high-speed air stream is presented.
The authors thank R. S. Shklyar for valuable discussion of the results of the work.
1/1

USSR   UDC: 539.385

SEGAL, Ya., Institute of Metallurgy imeni A.A. Baykov,
Academy of Sciences USSR

"Study of Regularities in Initiation of Fatigue Cracks by
Recording the Specimen Sag"

Translation: The objective of this study was the relation
between both the initiation and the development of fatigue
cracks and the nature of sag in a rotating specimen during
fatigue tests. The specimen sag measurement is shown to be
inadequate to study the initial period of crack development.
A new procedure is proposed for test data processing to
evaluate the material's resistance to failure. (3 illustra-
tions, 11 bibliographic references; summary).

1/1

USSR   UDC: 537.226.33

SEGALLA, A. G., SMAZHEVSKAYA, Ye. G., FEL'DMAN, N. B.

"Investigation of the Kinetics of Polarization of TsTS-27 Ferroelectric
Ceramic"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Tech-
nology. Scientific and Technical Collection. Radio Components), 1970, vyp.
5, pp 100-106 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V471)

Translation: A study is made of the kinetics of polarization of TsTS-27
ferroelectric ceramic at temperatures of 20-140°C, as well as the effect
of preliminary heat treatment (quenching) on the rate of the polarization
process and the magnitude of the piezoelectric activity. It is shown that
measurement of the parameters of the piezoelectric ceramic in the process
of polarization permits determination of the time needed for reaching
maximum polarization, and also that quenching of a ferroelectric ceramic
in the TsTS system appreciably accelerates the process of polarization and
increases piezoelectric activity. Resumé.

1/1

1/2   011
UNCLASSIFIED
TITLE—TITRIMETRIC STUDY OF AN IODINE AZIDE REACTION INDUCIBLE BY CYSTEINE
—U—
PROCESSING DATE—30OCT70

AUTHOR—SEGEDA, A.S.

COUNTRY OF INFO—USSR

SOURCE—UKR. KHIM. ZH. 1970, 36(2), 213-17

DATE PUBLISHED————70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—TITRATION, IODINE, CHEMICAL REDUCTION, AZIDE, CYSTINE

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/2198

STEP NO—UR/0073/70/036/000/0213/0217

CIRC ACCESSION NO—AP0125778

UNCLASSIFIED

CIRC ACCESSION NO--AP0125778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INDUCTION FACTOR FOR THE
CYSTEINE CATALYZED N SUB3 PRIME NEGATIVE-I SUB2 REACTION IS DEFINED AS
THE MEQUIV. OF N SUB3 PRIME NEGATIVE OXIDIZED DIVIDED BY THE MEQUIV. OF
CYSTEINE OXIDIZED. THE MAX. VALUE WAS OBTAINED IF THE ORDER OF MIXING
WAS I PRIME NEGATIVE, N SUB3 PRIME NEGATIVE, HCL, CYSTEINE, AND I SUB2.
THE VALUE WAS ONLY HALF AS MUCH IF THE CYSTEINE WAS ADDED FOR LAST. THE
OXIDN. OF I PRIME NEGATIVE BY ATM. O TAKES PLACE IN THE PRESENCE OF N
SUB3 PRIME NEGATIVE AND CYSTEINE AND IS FAVORED BY LARGE AMTS. OF I
PRIME NEGATIVE. THE INDUCTION FACTOR INCREASES WITH DECREASED CYSTEINE
CONCN. AND IS LARGER IN AN O CONTG. ATM. THAN IN ONE CONSISTING OF CO
SUB2. ADDN. OF NACL OR MGCL SUB2 DOES NOT CHANGE THE INDUCTION FACTOR.
IT IS CUT IN HALF BY ADDN. OF MGSO SUB4, K SUB4 P SUB2 O SUB7, OR TRILON
B.   FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

GATES, P. S., JILLON, J., and SEGGERS, D. T.

UDC 632.95

"Herbicide"

Translation: Derivatives of 2,3-dihydrobenzofuran (I) of the general formula
2-RR'-3-R^2R^3-4-R^4-5-R^5O-6-R^6-7-R^7-I (R^1, R^2, R^3 = H or alkyl or R^1R^2 or R^2R^3
form an alkylene chain; R = hydroxy, alkoxy-, alkenyloxy-, alkylthio-, aryloxy-,
alkynyloxy group or NR^8R^9, where R^8 and R^9 = alkyl or NR^8R^9 = heterocyclic
radical; or RR' = 0 or =NR^{10}, where R^{10} = alkyl or cycloalkyl; R^5 = R^{11}CO,
R^{12}SO^2 or R^{12}SO, where R^{11} = haloalkyl R^{12} = substituted alkyl, R^4,R^6, R^7 = H,
alkyl halogens, cyano, acyl or alkoxy group) possess high herbicidal activity
and significant selectivity, especially in regard to sugar beets with treat-
ment just after sprouting.

1/1

1/2   C12
TITLE--ACTIVATION OF ACETYLENE BY PALLADIUM II BROMIDE COMPLEXES -U-
UNCLASSIFIED   PROCESSING DATE--20NOV70

AUTHOR-(03)-SOKOLSKIY, D.V., SEGIZBAEVA, S.S., DORFMAN, YA.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 893-7

DATE PUBLISHED------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PALLADIUM COMPOUND, BROMIDE, METAL COMPLEX COMPOUND,
   ACETYLENE, AQUEOUS SOLUTION, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1320

CIRC ACCESSION NO--AP0134994

STEP NO--UR/0366/70/006/005/0893/0897

UNCLASSIFIED

CIRC ACCESSION NO--AP0134994
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSAGE OF HC TRIPLE BOND CH
  THROUGH SOLNS. CONTG. (PEOR(H SUB2O) SUB3) PRIMEPOSITIVE, BR
  PRIMENEGATIVE, AND (PEOR SUB2 (H SUB2 O) SUB2) AT 96DEGREES AND
  HYDRATION GAVE HCHO, H SUB2 C:CHCHO, AND ACH. THE RATE OF HC TRIPLE
  BOND CH ABSORPTION BY THE SOLN. AND ITS HYDRATION RATE CHANGED WITH BR
  PRIMENEGATIVE CONCN.

UNCLASSIFIED

1/2   011

UNCLASSIFIED

TITLE--CATALYTIC SYNTHESIS OF CARBONYL COMPOUNDS FROM ACETYLENE IN THE
PRESENCE OF PALLADIUM,II, AND IRON,III, COMPLEXES -U-

PROCESSING DATE--30OCT70

AUTHOR-(04)-SOKOLSKIY, D.V., DORFMAN, YA.A., SEGIZBAYEVA, S.S.,
KAZANTSEVA, I.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 98-105

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, HYDRATION, CARBONYL COMPOUND, PALLADIUM COMPOUND,
IRON COMPOUND, COMPLEX COMPOUND, CATALYTIC ORGANIC SYNTHESIS, ALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0874

CIRC ACCESSION NO--AP0124537

STEP NO--UR/0076/70/044/001/0098/0105

UNCLASSIFIED

CIRC ACCESSION NO--AP0124537   UNCLASSIFIED   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF HC TRIBLE BOND CH
HYDRATION CATALYZED BY PDSO SUB4 AND FE SUB2(SO SUB4) SUB3 WAS
INVESTIGATED IN NONGRADIENT CONDITIONS AT 50-100DEGREES.   THE RATES OF
HC TRIPLE BOND CH CONSUMPTION AND THAT OF CARBONYL COMPDS. FORMATION ARE
NEARLY TEMP. INDEPENDENT. INCREASE OF THE OXIDN. POTENTIAL OF THE
SYSTEM (FE PRIME3POSITIVE ADDN.) RAISES THE YIELD OF ALDEHYDES AND THE
CATALYST STABILITY. THE SELECTIVITY OF THE PROCESS INCREASES WITH TIME.
THE RATE OF CARBONYL COMPDS. FORMATION INCREASES WITH INCREASING PD
PRIME2POSITIVE CONCN. UP TO 10 PRIME NEGATIVE3 G ION-L.P FURTHER
INCREASE OF THE CONCN. HAS NO EFFECT. ALDEHYDES ARE FORMED ABOVE
70DEGREES.

UNCLASSIFIED

TITLE--EFFECT OF PROTON ACIDITY ON THE KINETIC ACTIVITY OF PALLADIUM II,
   COPPER I, AND MERCURY II COMPLEXES IN THE HYDRATION OF ACETYLENE IN

AUTHOR-(04)-SOKOLSKIY, D.V., DORFMAN, YA.A., SEGIZBAYEVA, S.S.,
   NOGERBEKOV, B.YU.

CCUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 502-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PALLADIUM COMPOUND, COPPER COMPLEX, MERCURY COMPLEX, COMPLEX
   COMPOUND, HYDRATION, ACETYLENE, PROTON, SULFURIC ACID, CHEMICAL REACTION
   MECHANISM

CCNTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1979   STEP NO--UR/0080/70/043/003/0502/0507

CIRC ACCESSICN NO--AP0132240
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0132240   UNCLASSIFIED   PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE RATE OF HYDRATION OF C SUB2 H
SUB2 INCREASES WITH INCREASE IN H PRIME POSITIVE ACIDITY IN SOLNS. OF
HGSO SUB4, CU SUB2 SO SUB4-CUSO SUB4, OR PDSO SUB4-FE SUB2 (SO SUB4)
SUB3. THIS RESULT IS EXPLAINED BY A REACTION MECHANISM IN WHICH THE
METAL COMPLEX (CH TRIPLE BOND CH.MEX SUBN) PRIMEM PLUS H SUB3 O PRIME
POSITIVE IN EQUILIBRIUM (CH SUB2 TRIPLE BOND CH.MEX SUBN) PRIMEM PLUS 1
MINUS H SUB2 O YIELDS (CH SUB2:CH.H SUB2 O.MEX SUBN) PRIMEM PLUS 1 MINUS
2H PRIME POSITIVE YIELDS (CHOH:CH.MEX SUBN) PRIMEM MINUS 1 MINUS H PRIME
POSITIVE YIELDS CHOH:CH SUB2 PLUS MEX SUBN, IN WHICH THE RATE IN THE
LAST STEP IS INCREASED BY AN INCREASE IN (H SUB3 O PRIME POSITIVE).
    FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

GUSEYNOV, G. D., SEIDOV, F. M., KHALILOV, KH. YA., and ISMAYLOV, M. Z.
Physics Institute, Academy of Sciences AzerbSSR, Baku

UDC 541.121.1.123.2

"Pseudobinary System TlSe-GaSe"

Abstract: The TlSe-GaSe system was studied; both components of that system
melt without peritectic decomposition, undergoing no phase conversion. With
the component ratio at 1:1 a semiconducting compound $TlGaSe_2$ is formed with a
congruent melting point at 810°C. It crystallizes in a tetragonal lattice
with a = 7.64, c = 30.032 Å; picnometric density = 6.19 and roentgenographic
--6.21 g/cm^3. This compound has no homogeneity zone. Solid solutions of the
V type form on the basis of TlSe with up to 10 mole-% of GaSe. The GaSe₂
crystals are more anisotropic than those of TlSe, while the GaSe crystals are
less anisotropic

1/1

USSR

SEIDOV, YU. M., ABDULLAYEV, M. M., Institute of Physics

UDC 538.115

"Two-Magnon Absorption in Complex Magnetoordered Crystals"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, Vol 26, No 3, 1970, pp 11-14

Abstract: The article considers the influence of spin-phonon and dipole-dipole interaction on two-magnon absorption processes in complex magnetoordered crystals, particularly ferrites.

1/1

USSR

AGAYEV, Yu. M., and SEIDOVA, R. A., Institute of Genetics and Selection, Academy of Sciences Azerbaydzhan SSR

UDC 576.354

"Disturbances of Meiosis in Cotton Plants Under the Effect of Some Physical Factors"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, Vol 27, No 4, 1971, pp 59-64

Abstract: A study was made of the course of meiosis in young anthers of cotton plants of varieties 108 F and 2421 grown from seeds which had been subjected to gamma-irradiation in doses of 0.5, 1, 10, 20, 40, and 60 kr at a dose rate of 0.7 kr/sec or to the effect of an electric field varied by unipolar pulses at frequencies of 40-50 cycles, having an intensity of 2500 v, and applied for 15, 30, 60, or 120 sec. In the study of meiosis, the dis- tinctness of outline and location of buds was considered. A study of micro- sporogenesis indicated that various disturbances in meiosis and in the formation of microspores took place as a result of irradiation with doses in the 1-40 kr range. The dose of 60 kr was lethal for both varieties; its action led to death of the plants in the budding stage. In the course of meiosis uni-, tri-, quadri-, and hexavalency in diakinesis, bridging in anaphase I, fragmentation of chromosomes and laggs in anaphases I and II, and other disturbances were observed. Monads, triads, and polyads of
1/2

USSR

AGAYEV, Yu. M., and SEIDOVA, R. A., Doklady Akademii Nauk Azerbaydzhanskoy
SSR, Vol 27, No 4, 1971, pp 59-64

microspores were encountered, with the latter consisting of as many as 10-12
microspores in some cases. Upon exposure of the seeds to the effect of an
electric field, formation of monads, diads, triads, or polyads did not take
place; there were only disturbances in the course of the meiosis itself. Upon
irradiation with gamma-rays, the percentage of microspores with disturbances
of meiosis increased with the radiation dose in the 0.5-20 kr range and then
decreased upon the increase of the radiation dose from 20 to 40 kr. The
final decrease agreed with data obtained in the study of somatic cells. The
ratio of non-tetrad microspores was zero upon irradiation with 0.5 kr (i.e.,
100% of them formed tetrads) and varied in the 0-11.06% range on irradiation
in the total dosage range applied. Exposure to the electric field resulted
in a considerably smaller number of changes in the course of meiosis than
irradiation. The number of tetrad microspores that formed in the tetrad
stage was 100% for both varieties irrespective of the length of exposure to
the electric field.

2/2

- 17 -

172   028

TITLE--TIGHTNESS OF PLUGGING MATERIALS AND OF THEIR CONTACT WITH WELL
    CASING SURFACES -U-

UNCLASSIFIED

PROCESSING DATE--23OCT70

AUTHOR-(05)-SEIDRZA, M.K., SHERSTNEV, N.M., AGAYEV, M.KH., MUGALINSKAYA,
    V.V., KHAIROV, KH.KH.

COUNTRY OF INFO--USSR

SOURCE--AZERB. NEFT. KHOZ. 1970, (2), 20-3

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--PIPELINE TRANSPORTATION SYSTEM, TEST INSTRUMENTATION, NATURAL
    GAS, SEAL, THERMOPLASTIC MATERIAL, HARDNESS/(U)TSKGS THERMOPLASTIC
    MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2028

STEP NO--UR/0487/70/000/002/0020/0023

CIRC ACCESSION NO--AP0122257

UNCLASSIFIED

CIRC ACCESSION NO--AP0122257
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. WAS DEVELOPED FOR TESTING
    THE TAMPING COMPNS. USED IN SEALING THE GAP BETWEEN THE STANDPIPE OF A
    GAS WELL AND THE SIDES OF THE BORE HOLE. IT IS A BOMB IN WHICH THE
    TAMPING MATERIAL IS PACKED UNDER PRESSURE AROUND A CENTRAL CORE MADE OF
    COMPACTED SOIL TOPPED BY A METAL PIPE. A SYSTEM OF VENTS PERMITS
    TESTING OF THE PERMEABILITY OF SOIL TAMPERING MATERIAL SYSTEM AT THE
    TAMPING MATERIAL PIPE BOUNDARY UNDER 2-15 KG,CM PRIME2 AIR PRESSURE.
    THE BEST RESULTS WERE OBTAINED WHEN THE EXPANDING CEMENT TOPPED BY A
    RING SEAL OF THERMPOLASTIC RESIN TSKGS SUB75-90DEGREES AROUND THE PIPE
    WAS USED. THIS COMPN. AFTER HARDENING FOR 15 DAYS BECAME IMPERMEABLE TO
    THE AIR AT 15 KG,CM PRIME2 PRESSURE.

UNCLASSIFIED

USSR

UDC 547.63 + 547.562.4'562.1

GITIS, S. S., SEINA, Z. N., KAMINSKAYA, E. G., IVANOVA, V. M.,
BELOBRAGINA, V. V., SOSONKIN, I. M., and KAMINSKIY, A. Ya.,
VNIPIM [All-Union Scientific Research and Planning Institute of
(unknown; possibly Monomers)], Tula, and CHIKURINA, L. V., VNIIV
[All-Union Scientific Research Institute of Synthetic Fibers]

"p,p'-Bis-(carboxyphenylsulfonyl)-diphenyl Oxide and Some of Its
Derivatives -- Monomers for the Production of Thermostable
Fibers"

Moscow, Khimicheskiye Volokna, No 1, 1971, pp 45-47

Abstract: The article suggests the synthesis of new monomers,
viz. derivatives of p,p'-bis-(carboxyphenylsulfonyl)-diphenyl
oxide, for the production of thermostable polymer materials. A
study of the first stage of the synthesis -- tosylation of di-
phenyl ether -- showed that the process yields two principal
products whose elementary composition corresponds to the general
formula $CH_3-Ar-SO_2-Ar-O-Ar-SO_2-Ar-CH_3$, as well as a
third substance whose composition corresponds to the composition
1/2

USSR

GITIS, S. S., et al., Khimicheskiye Volokna, No 1, 1971, pp 45-47

of the monotosylation product $Ar-O-Ar-SO_2-Ar-CH_3$. The structure of the synthesized products was confirmed by IR and electron spectroscopy, as well as polarography. Fibers based on the resultant monomers are strong and elastic.

2/2

USSR

RUSTAMOV, B. R., FAYZULIN, F. G., KON'SHINA, L. N., and SEITNIYAZOV, U. S., Uzbek Scientific Research Institute of Medical Parasitology and Helmin- thology imeni L. M. Isayev
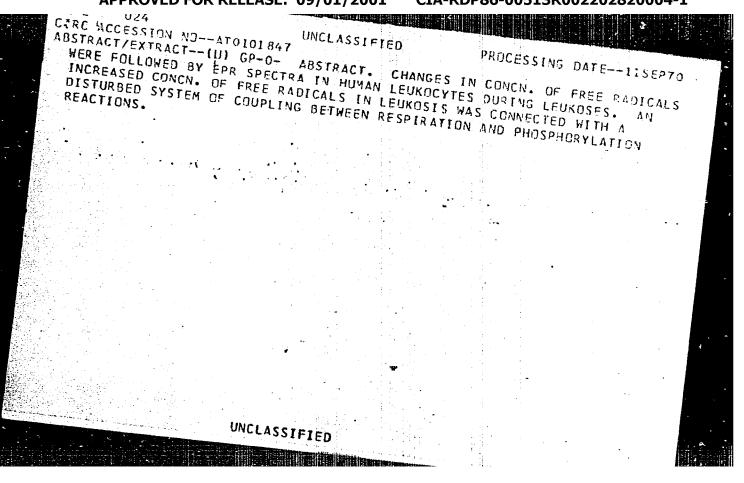
"Some Characteristics of the Epidemiology of Zoonotic Cutaneous Leishmaniasis in Northern Regions of the Karakalpak ASSR"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 12, Dec 71, pp 61-62

Abstract: Examination of 15,000 subjects in 28 hamlets of the Takhtakupyrsk Rayon and 2500 subjects in the Muynakak Rayon of the Karakalpak ASSR indicated that 240 persons hadh had cutaneous leishmaniasis (227 in the Takhtakupyrsk Rayon and 13 in the town of Muynak). Both rayons are located in the northern part of the Karakalpak ASSR. There were no indications of occurence of the disease among the native population. Cases of cutaneous leishmaniasis had occurred since at least 1900 in the area studied. Those who had recovered from the disease comprised 0-2.5% and 0.4-7.5% (1.5% on the average) of the popula- tion of settled localities of the desert and of cases, respectively. The incidence of the disease increased during 1966-68, as indicated by the fact that 54% of past infections occurred during these three years vs 75% during 1961-68. Of those who had recovered from the disease, 54.6% were infected at an age < 10 yrs and only 16.5% at an age > 20 yrs.

1/1

TITLE--FREE RADICALS AND ENERGY EXCHANGE IN LEUKOCYTES DURING LEUKOSES --U-

UNCLASSIFIED

PROCESSING DATE--11SEP70

AUTHOR--KLOCHKO, E., KOVALCHUK, L., KRUGLYAKOVA, K., SEITS, I., LUGANOVA, I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2), 476-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEUKOCYTE, EPR SPECTRUM, RESPIRATION, PHOSPHORYLATION, FREE RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1800

CIRC ACCESSION NO--AT0101847

STEP NO--UR/0020/70/190/002/0476/0479

UNCLASSIFIED

CIRC ACCESSION NO--AT0101847   UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   CHANGES IN CONCN. OF FREE RADICALS
                                                    PROCESSING DATE--11SEP70
WERE FOLLOWED BY EPR SPECTRA IN HUMAN LEUKOCYTES DURING LEUKOSES.   AN
INCREASED CONCN. OF FREE RADICALS IN LEUKOSIS WAS CONNECTED WITH A
DISTURBED SYSTEM OF COUPLING BETWEEN RESPIRATION AND PHOSPHORYLATION
REACTIONS.

UNCLASSIFIED

USSR

TARASOVA, A. V., and SEKACH, S. M., Leningrad, Institute of Physical Education imeni P. F. Lesgaft

UDC 612.6.014.45

"Experimental Study of the Effect of General Vertical Vibration on Generative Functions"

Abstract: The effects of general vertical vibration on testicles of mice, their fertility, and the resulting influence of these factors on the genera- tion produced were studied. Ten male mice were subjected to vibration of 50 Hz and an amplitude of 0.8 mm for 5 hours every day for 2 months. Many structural changes occurred in testicles after two months of vibration which seriously altered the spermatogenesis process. Three male mice were incapable of fertilization, and the remaining produced from 1-3 litters (2-8 mice each). The number of litters was lower than for control animals. Weight of newborn mice was almost normal (4.2-6.3 g) but their general development (opening of eyes, ears, appearance of hair, teeth) was delayed 1-4 days.

1/1

USSR

GAZIZOV, M. B., RAZUMOV, A. I., and SEKERIN, YE. A., Kazan'
Chemical-Technological Institute Imeni S. M. Kirov

UDC 547.26'118+547.29'26

"Reaction of Diethoxymethyl Ester of Acetic Acid With Dialkylchloro-
phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 6, Jun 73,
P 1407

Abstract: Reaction of diethyl- and dipropylchlorophosphites with
diethoxymethyl acetate occurs smoothly already at room temperature.
For completion it is necessary to heat the mixture for 3 hrs to
50°C. The products of this reaction are phosphorylated formals and
α-ketophosphonic esters of the type $(RO)_2P(O)CH(OC_2H_5)_2$ and
$(RO)_2P(O)C(O)CH_3$ respectively.

1/1

USSR

SEKERZH-ZEN'KOVICH, Ya. I.

"Stable Capillary-Gravitational Waves of Finite Amplitude Resulting From Pressure Periodically Distributed Over the Surface of a Fluid of Infinite Depth"

Abstract: A precise solution is given to the problem mentioned in the title by fixing the pressure on the surface with a certain infinite tri-gonometric series. A particular case is also studied when the wavelength of the fixed pressure corresponds with the length of the stable free wave corresponding to the flow velocity and constant pressure along the surface. The problem is reduced to the solution of certain nonlinear integral equations.

1/1

- 120 -

UNCLASSIFIED

TITLE--FAST MEASUREMENT OF SPECTRAL LINE WIDTHS AND SHIFTS WITH THE AID OF A FABRYPEROT INTERFERROMETER -U-

PROCESSING DATE--23OCT70

AUTHOR-(02)-SEKERIN, V.I., DOLGOVSAVELYEV, G.G.

COUNTRY OF INFO--USSR

SOURCE--PRIBORY I TEKHNIKA EKSPERIMENTA, JAN.-FEB. 1970, P. 182-184

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LINE WIDTH, LINE SHIFT, FABRY PEROT INTERFEROMETER, SPECTROGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1551

STEP NO--UR/0120/70/000/000/0182/0184

CIRC ACCESSION NO--AP0106297

UNCLASSIFIED

CIRC ACCESSION NO--AP0106297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF AN APPARATUS FOR MEASURING SPECTRAL LINE WIDTHS AND SHIFTS IN SPECTRAL LINE CONTOURS WITH THE AID OF A SPECTROGRAPH CROSSED WITH A F BRY-PEROT INTERFEROMETER PLACED IN A PRESSURE CHAMBER FOR ALIGNMENT RELATIVE TO THE INTERFERENCE MAXIMUM. USING PHOTOMULTIPLIERS AS THE RECORDING DEVICES, THE MAGNETIC FIELD IN A SULENOID IS MEASURED WITH THIS APPARATUS BY RECORDING THE BROADENING OF THE 5640-1 MERCURY LINE. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT LADERNOI FIZIKI, NOVOSIBIRSK, USSR.

PROCESSING DATE--23OCT70

Acc. Nr: AP0043679

INVESTIGATION OF A LASER MICROPLASMA IN THE FOCUS OF TWO LASER BEAMS

Dolgov-Savel'yev, G. G.; Karnyushin, V. N.; Sekerin, V. I.

Results are presented of an experimental investigation of the properties of a plasma produced by focussing two opposite laser beams onto small crystalline lithium hydride targets. It is found that development of plasma formation proceeds in a more symmetric manner than in the case of a single laser beam. The velocity of separation of the external plasma layer is measured ($v \approx 4 \cdot 10^7$ cm/sec) as well as the velocity of the glowing boundary of the central zone ($v' \approx 2 \cdot 10^5$ cm/sec).

REEL/FRAME
19770083

USSR

SEKERZH-ZEN'KOVICH, YA. I., Institute of Problems of Mechanics, Academy of
Sciences, USSR, Moscow   UDC: 532.592

"Concerning Capillary-Gravitational Steady-State, Pressure-Evoked Waves of
Finite Amplitude, Periodically Distributed Along the Surface of a Liquid of
Finite Depth"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 4, 1 Feb 72, pp 787-790

Abstract: In the article is given an exact solution of the problem, if the
pressure on the surface is given by an infinite trigonometric series. Also
investigated is a special case, where the wave length of the given pressure
coincides with the length of a steady free linear wave, which corresponds to
the adopted flow velocity and to a constant pressure along the surface. With
identical vanishing of the variable part of the pressure distributed along
the surface, the waves under consideration cease to exist and the flow passes
into a uniform stream. Such waves are called induced waves, in distinction
from the free waves existing during constant pressure along the surface. Here
the results obtained by the authors are briefly presented. An analogous prob-
lem for a liquid of infinite depth was dealt with by the authors in previously
published works. Here, as also in the case of infinite depth, the problem
is reduced to the solution of a non-linear integral equation. 5 references.
1/1

- 59 -

USSR

MUKHADZE, L. G., SEKHNIASHVILI, M. L.

UDC: 539.3

"Calculating Three-Dimensional Suspension Systems of Minimum Volume"

V sb. Stroit. mekh. prostranstven. konstruktsiy (Structural Mechanics of Three-Dimensional Constructions--collection of works), Tbilisi, "Metsni-yereba", 1972, pp 65-70 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9V140)

Translation: The optimum configuration of the surface and contour of three-dimensional guying systems is selected. The expression for the volume of the surface and the contour is taken as the minimizing functional. Two forms of equilibrium of three-dimensional suspension systems are con-sidered: under the effect of exclusively prestressing forces on the system, and when the prestressed surface is subjected to a calculated uniformly distributed load. Integrodifferential equations are derived which relate the static and physical-geometrical ratios of the problem, and also a func-tional of the volume expressed in terms of the maximum values of the forces acting in the surface with an orthogonal guy network, as well as in terms of the corresponding conditions acting in the contour.

1/2

USSR

MUKHADZE, L. G., SEKHNIASHVILI, M. L., Stroit. mekh. prostranstven. konstruktsiy, Tbilisi, "Metsniyereba", 1972, pp 65-70

    For the special case where the configuration of the contour follows the direction of the coordinate axes, and consists itself of two girders of rectangular cross section, a system of resolving integrodifferential equations is found for the formulated problem. Yu. P. Kitov.

2/2

UNCLASSIFIED   PROCESSING DATE--17JUL70

TITLE--GASODYNAMIC STAND FOR TESTING THE STRENGTH OF TURBINE DISKS UNDER
  NONSTATIONARY LOADING CONDITIONS -U-

AUTHOR--SEKISTOV, V.A., KOZLOV, I.A., FOMICHEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, FEB. 1970, P. 68-73

DATE PUBLISHED--------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PROPULSION AND FUELS,
  MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--TURBINE DISK, GAS TURBINE ENGINE, ENGINE TEST STAND, AIRCRAFT
  ENGINE, GAS DYNAMICS, THERMAL EFFECT, ELASTICITY, STRAIN, TURBOPUMP,
  LIQUID PROPELLANT ENGINE, CENTRIFUGAL FORCE/(U)GSTPI GASDYNAMIC TEST
  STAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1972   STEP NO--UR/3663/70/002/000/0068/0073

CIRC ACCESSION NO--AP0046659

77
5
82

A70-25296 #   Gasdynamic stand for testing the strength of
turbine disks under nonstationary loading conditions (Gazodinami-
cheskii stend dlia ispytaniia turbinnykh diskov na prochnost' v
usloviiakh nestatsionarnykh nagruzhenii). V. A. Sekistov, I. A.
Kozlov, and V. I. Fomichev (Vysshee Inzhenerno-Aviatsionnoe
Voennoe Uchilishche VVS; Akademiia Nauk Ukrainskoi SSR,
Institut Problem Prochnosti, Kiev, Ukrainian SSR). Problemy
Prochnosti, vol. 2, Feb. 1970, p. 68-73. In Russian.
    Description of the GSTP-1 gasdynamic test stand designed for
studying elastoplastic strains in aircraft gas-turbine disks and
turbopump units of liquid-propellant rocket engines under
alternating nonisothermal loads. The stand simulates the centrifugal
forces and thermal effects experienced by an actual disk. It can be
also used for determining the strains and temperature field in a disk
subjected to abrupt and rapid temperature variations, with
temperature control over the disk radius.   V.P.

REEL/FRAME
19781972

UDC 621.395.5:621.317

USSR

DAVYLOV, S. A., NIKOLAYEVA, G. G., SEKNIN, V. G.

"Tests of Units of Apparatus for Long-Distance Service on Automatic Machine for Matrix Tests"

V sb. Metody razrab. radioelektron. apparatury, No 1 (Methods for Development of Radioelectronic Apparatus, No 1), Moscow, 1970, pp 137-141 (from RZh--Elektrosvyaz', No 9, September 1970, Abstract No 9.64.18)

Translation: The paper discusses tests of units of apparatus for long-distance service on an automatic machine for matrix tests. A matrix (8 x 8) of possible nonrecurrent situations, including Q of the failures, is checked on the automatic machine. The failure matrix is processed by the integral method. The coordinates are determined for the center of gravity of an n-dimensional region (n = 8) of trouble-free operation, as well as the projections of the center on the axes, i.e., the optimum values of the parameters and their tolerance. After a choice of the optimum parameters of the units and their tolerances, repeated tests are conducted. The failure situations are printed on a telegraph tape in the form of a group of decimal figures. Interpretation of them makes it possible to determine the character of the failure situations, to evaluate whether the system operates stably (i.e., no point of failure in the area of efficiency of the scheme), to determine correlation dependences,

1/2

USSR

DAVYLOV, S. A., et al., V sb. Metody razrab. radioelektron. apparatury, No 1 (Methods for Development of Radioelectronic Apparatus, No 1), Moscow, 1970, pp 137-141 (from RZh--Elektrosvyaz', No 9, September 1970, Abstract No 9.64.18)

and to predict the probability of reliable operation. As an example, the results are presented of tests of a low-frequency trigger in which six parameters (resistances) varied, broken into eight parts, with three pairs of transistors. Interruptions of the situation were produced at a frequency of 10 Hz. The testing time with one pair of transistors amounted to 7 hours 30 minutes. One illustration. D.B.

2/2

USSR   UDC 621.394/.395:621.317

AUGUST, G. I., DAVUDOV, S. A., SEKNIN, V. G.

"Automatic Machine for Matrix Tests by a Statistical Method with Complex
Analyzing Devices for Units of Communication Apparatus"

V sb. Metody razrab. radioelektron. apparatury, No 1 (Methods for Development
of Radioelectronic Apparatus, No 1 -- Collection of Works), Moscow, 1970,
pp 142-145 (from RZh--Elektrosvyaz', No 9, September 1970, Abstract No
9.64.17)

Translation: The paper reports on the development of an automatic machine
for matrix tests by statistical methods, which is intended for the solution
of a number of problems on the reliability of apparatus for long-distance
service. A block diagram of the automatic machine and the analyzing devices
is presented, a classification is given of the analyzing devices, and a list
of the controlled parameters of analogous apparatus: individual equipment,
grouped channel, generating equipment, power supply units and units of the
pulse code modulation [IKM] system (parameters of pulses). Three illustra-
tions. D. B.

1/1

USSR

MIRZOYAN, S. A., MKHEYAN, E. Ye., SEKOYAN, E. S., and SOTSKIY, O. P.,
Yerevan State Medical Institute

"Influence of Gangliosides on Blood Circulation in the Brain"

Abstract: The effect of gangliosides on the following aspects of blood cir-
culation in the brain was investigated: changes in blood vessel tonus;
systemic arterial pressure; linear speed of blood flow through the gray
matter; intracranial blood accumulation. Tests were conducted under con-
ditions of natural and artificial respiration. Intracarotid introduction
of gangliosides was accompanied by a distinct increase in the resistance of
cerebral blood vessels, by a drop in the systemic pressure, and by a decrease
in the amplitude and frequency of respiratory movements. The degree of re-
action produced by gangliosides was directly dependent on the size of the
doses. The smaller the dose, the less the strength and duration of the
effect. Intravenous introduction of gangliosides led to a marked reduction
in blood supply to the cortex, a marked and quick drop in the blood flow
rate, a lowering of arterial pressure, a short suspension of respiration,
and a distinct decrease in intercranial blood accumulation. In conclusion,

1/2

USSR   531.787.001.24

SEKOYAN, S. S., YEREMEYEV, A. YE.

"Use of Non-Linear Theory of Elasticity for Calculation of Deformations of Measuring System Elements in High Pressure Devices"

Tr. Metrol. In-Tov SSSR, Vyp. 104(164), [Works of Metrological Institutes of USSR, No. 104(164)], pp 29-32 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.724 by M. I. M.)

Translation: Calculations are performed on the basis of the linear and non-linear theory of elasticity to determine the deformation of a cylinder and piston made of heat-treated high-strength steel under the influence of high pressure. The non-linear characteristics of steels used in the calculation were measured earlier by the US pulse method (see Izmeritel'naya Tekhnika, No. 7, 1966, p 10). It is shown that the difference between deformation values produced using the linear and non-linear theories is slight and can be considered in an investigation of deformation errors in high pressure measuring devices. The data produced can be useful in planning and investigation of measuring devices and high pressure installations: piston manometers, ball viscosimeters, piezometers, etc. One illustration, six biblio. refs.
1/1

USSR   UDC 621.791.01:62-408.64
SERGEYEV, Yu. Ye. (Cand. of Techn. Sciences) and SEKRETAREVA, E. S.
(Engineer), Ufa Aviation Institute imeni S. Ordzhonikidze

"Effect of the Welding Process Parameters on the Geometrical Dimensions of
Weld Joints on Articles of Curvilinear Shape in the Vertical Plane"

Abstract: Current, welding speed, and the angle of slope of the shape are
shown to have the highest effect on weld joint dimensions in argon tungsten-
arc welding of articles of curvilinear shape in the vertical plane. The
changes in arc voltage and angle of slope of the electrode must be limited
primarily for maintaining normal shielding conditions of the weld puddle
with argon and normal feed of filler wire. Changes in the process parameters
for obtaining a quality weld joint require high-precision automatic control
of these parameters; the effect of the uncontrolled angle of slope of the
article on the weld dimensions must be counterbalanced by corrections of
the controlled parameter as a function of this angle (for example, current
or welding travel rate). The results of this study may be utilized in
designing automatic control systems for welding articles of intricate shape
with root openings and excess of abutting edges held within permissible
limits (according to instructions). (6 illustrations, 2 biblio. references)
1/1

- 77 -

USSR

UDC: 632.95.02

SEKUN, N. P., Reader, Velikiye Luki Agricultural Institute

"Hematological Estimates of Insecticide Toxicity"

Moscow, Zashchita Rasteniy, No 2, 1970, p 25

Abstract: Since the hemolymphatic system of insects performs matabolic and protective functions, the author was able to test the toxicity of several insecticides (chlorophos, polychlorpinene and mixtures of these) on this basis. Two species of moth were used in the experiments. It was found that the hemocytic balance of the insects was significantly altered as a result of poisoning with these insecticides; the number of macronucleocytes and phagocytes increased, but that of other elements decreased. Along with these quantitative changes appeared pathological alterations. A large number of vacuoles appeared in the protoplasm; the chromatin in the cell nuclei was broken down into scattered large grains, and the nuclei themselves were decentralized. Seventy-two hours following administration of chlorophos, 88.1 and 50.6 percent of the test insects were dead; in the case of polychlorpinene, 73.8 and 28.7; and in the case of a mixture, 100 and 69.1 percent (figures for the two species).

1/1

PROCESSING DATE---20NOV70

UNCLASSIFIED

1/2   042

TITLE--RELATION BETWEEN THE DIFFUSION COEFFICIENT AND EULERIAN TURBULENCE
   CHARACTERISTICS IN VARIOUS FLOWS -U-

AUTHOR-(02)-KRASHENIANNIKOV, S.YU., SEKUNDOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA,
   JAN.-FEB. 1970, P. 74-82.

DATE PUBLISHED------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DIFFUSION COEFFICIENT, EULER EQUATION, TURBULENT FLOW, THERMAL
   DIFFUSION, FLOW DETECTION, FLOW ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1445   STEP NO--UR/0421/70/000/000/0074/0082

CIRC ACCESSION NO--AP0112439
                        UNCLASSIFIED