

PONOMAREV, Ya. G.

JPRS 57631
30 November 1972

ABSTRACTS OF REPORTS PRESENTED AT THE FIRST ALL-UNION
CONFERENCE ON METAL-DIELECTRIC PHASE TRANSITIONS

Excerpts from Russian-language book: *Sbornik Nauchnih Soderzhanii Dokladov, Prestavivshim Na I Vsesoyuznykh Nauchnykh Konferentsiyu po Fizike i Khimii Metallov i Dielektrikov*, 1972, Academy of Sciences USSR, Ministry of Higher and Secondary Specialized Education USSR, Izdatel'stvo Moskovskogo Universiteta, Moscow, pp 8-10, 10-12, 15-17, 18-23.

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PODOMAREV, Ya. G.

JPRS 57631
30 MAR 1972

METAL-DIELECTRIC PHASE TRANSITIONS OF BISB ALLOYS IN STRONG MAGNETIC FIELDS
[Article by N. B. Brandt, Ye. A. Svistova, Moscow State University, Physics Department, pp. 87-90]

Presented in this paper are the results of a study of the magnetic resistance of specimens with small controlled overlapping of zones and dismut and antimony in which the antimony concentrations vary up to 20% in pulsed magnetic fields up to 700 kOe in the 2-77°K temperature range. In the energy spectrum of the specimens in the ultracuum region of magnetic fields.

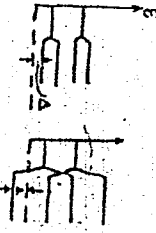


Figure 1.

electron transitions may occur, depending on the ratio of the spin and orbital masses of the carriers.

Quantization of carrier energy and the spin distribution of the energy levels in the magnetic field lead to displacement of the boundaries of the energy zones (Figure 1).

In the ultracuum region the displacement of zone boundaries (A) reaches a magnitude comparable to or greater than the Fermi energy in the zones of the metals or the energy slit in semiconductors. Here

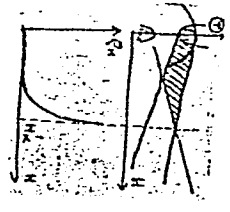


Figure 5.

The exponential increase of magnetic resistance for $H > H_k$, appearance of semiconductor dependence of electrical resistance on temperature when $H > H_k$, dependence of field H_k on the composition of the alloy (magnitude of zone overlapping when $H = 0$) indicate that zone overlapping in the energy spectrum vanishes in field H_k and an energy slit appears when $H > H_k$. Then metallic BiSb alloys go into the semiconductor state.

concentration of current carriers increase. When $H > H_k$ the character of displacement of zone boundaries changes qualitatively: the extremum T continues to descend, but then the extremum L_5 begins to rise. Consequently overlapping of zones L_5 and T vanishes when $H = H_k$ and an energy slit is formed when $H > H_k$, whereupon the metal becomes a semiconductor.

Also observed in the work is the transition of a semiconductor into the slitless state. This type of transition is a consequence of convergence and subsequent divergence of the L_5 and L_6 extrema, located at the same point of the phase space. If the substance is a semiconductor when $H = 0$, then because of convergence of the extrema the semiconductor goes into a unique slitless state, characterized by an anomalously small energy slit between the zones and by increased conductivity.

More complex transitions, related to the motion of several different extrema, were also observed in the work.

1. M. LIFSHTS' METAL-DIELECTRIC PHASE TRANSITIONS IN $Bi_{1-x}Sb_x$ ALLOYS UNDER THE INFLUENCE OF PRESSURE

Article by N. B. Degani, N. D. Zhurav, B. Kostyail, V. G. Danegayev, S. M. Chudilov, V. A. Yastrebova, Moscow State University, Physics Department, pp 10-17]

1. The second and fifth order phase transitions predicted by I. M. Lifshits, which occur in $Bi_{1-x}Sb_x$ alloys under the influence of pressure, are analyzed. The Shubnik oscillations of longitudinal and transverse magnetic resistances in fields $0 < H < 70$ kG and the galvanomagnetic tensor component (for the case $\omega \ll 1$) in the $1 \text{ bar} \leq p \leq 20 \text{ kbar}$ pressure range at helium temperatures were measured in monocrystalline specimens of $Bi_{1-x}Sb_x$ alloys.

1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SEMICONDUCTOR QUASIMETAL SEMICONDUCTOR TRANSITION IN BI SUBI
NEGATIVEX SB SUBX UNDER THE INFLUENCE OF PRESSURE -U-
AUTHOR-(04)-BRANDT, N.B., DITTMANN, H., PONOMAREV, YA.G., CHUDINOV, S.M.
COUNTRY OF INFO--USSR
SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(5), 250-3
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PRESSURE EFFECT, ENERGY SPECTRUM, STRONG MAGNETIC FIELD, WEAK
MAGNETIC FIELD, SEMICONDUCTIVITY, SEMICONDUCTOR ALLOY, HOLE MOBILITY,
CARRIER DENSITY, CARRIER LIFETIME, ELECTRON MOBILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1854 STEP NO--UR/0386/70/011/005/0250/0253
CIRC ACCESSION NO--AP0118818
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118818

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

ABSTRACT. THE EFFECT OF PRESSURE ρ SMALLER THAN OR EQUAL TO P SMALLER THAN OR EQUAL TO 20 WAS STUDIED ON THE ENERGY SPECTRA FOR THE ALLOYS WITH ρ SMALLER THAN OR EQUAL TO X SMALLER THAN OR EQUAL TO 0.15 BY DETG. THE GALVANOMAGNETIC CHARACTERISTICS IN VERY WEAK AND VERY STRONG MAGNETIC FIELDS AND AT 1.5-300DEGREEK. FOR X LARGER THAN 0.05, A TRANSITION IS OBSERVED FOR H EQUALS 0 DUE TO THE PRESSURE FROM THE SEMICONDUCTING STATE INTO A NEW (CALLED A "QUASIMETALLIC") STATE WHICH IS CHARACTERIZED BY ANOMALOUSLY LOW VALUES OF THE ENERGY GAP AND OF THE EFFECTIVE MASS OF THE CURRENT CARRIERS. THE SEMICONDUCTOR YIELDS "QUALSINETAL" TRANSITION IS ACCOMPANIED BY AN INCREASE IN THE MOBILITY OF THE CURRENT CARRIERS WHICH IS ASSOCD. WITH A DECREASE IN THE EFFECTIVE MASS OF THE ELECTRONS AND HOLES. FACILITY: FIZ. FAK., MOSK, GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UC 66.012-525:665.6

PONOMAREV, YE. A.

"A System of Centralized Pneumatic Parameter Monitoring"

Avtomatiz. i kontrol'no-izmerit. pribory. Nauchn.-tekhn. sb. (Automation and Monitoring-Measurement Instruments--Scientific-Technical Collection), No 6, 1973, pp 19 - 20 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, abstract No 11 A461)

Translation: At the Angarsk Petrochemical Combine a system of centralized pneumatic paramater monitoring has been developed and introduced. The system has made it possible to reduce the number of secondary indication instruments and monitor the production operating mode more closely. One illustration.

Abstract by the author.

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USSR

UDC: 621.396.967:551.501.81

USPENSKIY, M. V., PONOMAREV, Ye. A., SHAFTAN, V. A., MAKRYGIN, A. M.

"On the Sensitivity of an Incoherent Radar Station for Detecting Radio Reflections from a Polar Aurora"

V sb. Issled. DO geomagnetizmu. Aeron. i fiz. Solntsa (Research on Geomagnetism. Aeronomy and Solar Physics--collection of works), Vyp. 13, Irkutsk, 1970, pp 150-160 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G57)

Translation: The authors study the sensitivity (energy potential) of an incoherent radar station operating in the mode of search, detection and automatic registration of radio reflections from a polar aurora as a function of the parameters of the radiated signal, the characteristics of the reflections, and methods of registration. Resumé.

1/1

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1/2 028 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--RADIOPHYSICAL RESEARCHES IN THE AURORAE ZONE --U-

AUTHOR--(05)-PONOMAREV, YE.A., SVERDLOV, YU.L., PYATSI, A.KH., VERSHININ,
YE.F., TSIRS, G.P.
COUNTRY OF INFO--USSR

SOURCE--RAZDEL IV, PULYARNYYE SIYANIYA, 1970, NR 19, PP 5-11

DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--AURORA, RADIO EMISSION, UPPER ATMOSPHERE, SOLAR ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0070

STEP NO--UR/3307/70/000/019/0005/0011

CIRC ACCESSION NO--AP0114466

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114466

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER DRAWS CERTAIN CONCLUSIONS AS THE RESULT OF RADAR RESEARCHES ON UHF AND SHF, AS WELL AS CONTINUOUS ULF ON THE RADIO EMISSION OF AURORAE AND THE UPPER ATMOSPHERE IN THE AURORAE ZONE, CARRIED OUT IN THE SOVIET UNION. THE PAPER PRESENTS PRELIMINARY RESULTS OF COMPARISON OF PHENOMENA IN THE PERIOD OF THE MAXIMUM AND MINIMUM OF SOLAR ACTIVITY.

UNCLASSIFIED

USSR

UDC 621.039.51

PONOMAREV, YE. G., TYUFYAKOV, N. D., SHTAN', A. S., and
YASKEVICH, V. S.

"Study of Formation of Neutron Beams From Isotope Neutron Sources"

Tr. VNII Radiats. Tekhn. (Works of All-Union Scientific Research
Institute for Radiation Equipment), No 5, 1970, pp 98-103 (from
Referativnyy Zhurnal-Yadernyye Reaktor, No 3, 1971, Abstract No
3.50.75

Translation: Experimental studies were performed into the in-
fluence of individual factors on beam characteristics. The
measurements were performed in a water tank (1000 mm diameter,
1200 mm high) with two sources ($Pu^{238} + Be$ and Cf^{252}), having
different fast-neutron energy spectra. In order to reduce the
perturbations of the neutron flux, the source and collimator
holders were made of organic glass, while the collimators them-
selves were made of paper soaked in paraffin or of steel pipe
with a wall thickness of 0.1 mm. Neutron flux measurements were
performed using indium foils as well as a scintillation counter
with an $LiI(Eu)$ single crystal enriched to 90% Li^6 (crystal
diameter 30 mm, thickness 4.4 mm). 4 figures, 8 biblio. refs.
1/1

USSR

UDC 621.039.51

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PONOMAREV, YE. G., TYUFYAKOV, N. D., SHTAN', A. S., and
VASKEVICH, V. S.

"Study of Formation of Neutron Beams From Isotope Neutron Sources"

Tr. VNII Radiats. Tekhn. (Works of All-Union Scientific Research Institute for Radiation Equipment), No 5, 1970, pp 98-103 (from Referativnyy Zhurnal-Yadernyye Reaktor, No 3, 1971, Abstract No 3.50.75

Translation: Experimental studies were performed into the influence of individual factors on beam characteristics. The measurements were performed in a water tank (1000 mm diameter, 1200 mm high) with two sources ($Pu^{238} + Be$ and Cf^{252}), having different fast-neutron energy spectra. In order to reduce the perturbations of the neutron flux, the source and collimator holders were made of organic glass, while the collimators themselves were made of paper soaked in paraffin or of steel pipe with a wall thickness of 0.1 mm. Neutron flux measurements were performed using indium foils as well as a scintillation counter with an $LiI(Eu)$ single crystal enriched to 90% Li^6 (crystal diameter 30 mm, thickness 4.4 mm). 4 figures, 8 biblio. refs.
1/1

USSR

UDC: 621.373.531.3(088.8)

AFANAS'YEV, Yu. V., PONOMAREV, Yu. F., AMEL'KIN, A. M., Special Design
Office of the Ministry of Geology of the USSR

"A Device for Shaping Square Pulses of Alternating Sign"

USSR Author's Certificate No 265183, filed 8 Jul 68, published 12 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 120252 P)

Translation: This Author's Certificate introduces a device for shaping square pulses of alternate sign. The unit contains a sinusoidal or back-to-back sawtooth voltage generator connected through a transformer to the bases of transistor cells of the switching type which are connected in series with the power supply and a potentiometer. The unit also contains a load connected to the tie-point between two capacitors which are connected in parallel with the supply and to the slide wire of the potentiometer. To change the duty factor of the output pulses while simultaneously minimizing the klirr factor with respect to even harmonics, a parallel RC network which contains a variable resistor is connected between centertap of the secondary winding of the transformer and the capacitors of the transistor cells.

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UNCLASSIFIED

PROCESSING DATE--27NOV70

1/2 012
TITLE--EXPRESSION FOR THE DRIVING FORCE AND THE RELATIVE PHASE RESISTANCE
IN ABSORPTION PROCESSES ACCOMPANIED BY A CHEMICAL REACTION -U-
AUTHOR--(03)-TARAT, E.YA., PONOMAREV, YU.L., MUKHLENOV, I.P.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(1), 102-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION, SODIUM COMPOUND, CARBONATE, CHEMICAL
ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0483

STEP NO--UR/0455/70/004/001/0102/0105

CIRC ACCESSION NO--AP0126235

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126235

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE DRIVING FORCE OF ABSORPTION WITH CHEM. REACTION ON SOME PROPERTIES OF THE LIQ. PHASE AND ON THE PROCESSES TAKING PLACE IN IT WAS STUDIED THEORETICALLY AND EXPTL. IN A SYSTEM OF SO SUB2 (AIR) AND AQ. SOLNS. OF NA SUB2 CO SUB3 UNDER FOAMING CONDITIONS IN A FOAM APP. THE RATE OF ABSORPTION DOES NOT DEPEND LINEARLY ON THE SO SUB2 PARTIAL PRESSURE. IT IS ALSO A FUNCTION OF THE CONC. OF THE ACTIVE PART OF THE ABSORBENT IN SOLN. THE DEPENDENCE OF THE ABSORPTION RATE ON THE AV. DRIVING FORCE IS EXPRESSED BY A STRAIGHT LINE WITHIN A WIDE PRESSURE AND CONC. RANGE. WITH AN INCREASE IN THE LIQ. FLOW (LIQ. CONSUMPTION) THE RELATIVE RESISTANCE OF THE LIQ. PHASE AND THE PARTIAL PRESSURE OF THE ABSORBED COMPONENT IN THE GAS PHASE DECREASES. AT A LIQ. CONSUMPTION OF 0.625 M PRIME3-M HR, A PARTIAL PRESSURE OF 0.04 ATM OF THE ABSORBED COMPONENT IN THE GASEOUS PHASE, AND A CONC. OF THE ACTIVE PART OF THE ABSORBENT OF 0.1 G EQUIV.-L. THE RELATIVE RESISTANCE OF THE LIQ. PHASE IS 0.63. AT A LIQ. CONSUMPTION OF 3.5 M PRIME3-M HR UNDER OTHERWISE EQUAL CONDITIONS, THE RELATIVE RESISTANCE IS 0.325. FACILITY: LENINGRAD. TEKHNOI. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

UDC 621.375.82

USSR

MAKOGON, M. M., PONOMAREV, Yu. N., and SERDYUKOV, V. I.

"Neodymium Self-Q-Switched Laser"

V sb. Kvant. elektronika (Quantum Electronics — Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 59-61 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D836 from authors' abstract)

Translation: The article studies the oscillation of an Nd glass laser in an unstable resonator formed by a flat and a spherical reflector. The dependence of the threshold pumping energy, oscillation energy, and the spatial distribution of laser emission on the resonator length is determined. A close inter-relationship is found between the emission parameters and the drift of the threshold curve. At a certain resonator length 1-to-2 megawatt monopulse oscillation is obtained. The value of this length is used to estimate the variation in the refractive index of the Nd glass according to the population inversion.

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Mechanical Properties

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USSR

UDC 669.017:620.18

KARSANOV, G. V., KURDYUMOVA, G. G., MIL'MAN, Yu. V., PONOMAREV, Yu. N., SARZHAN, G. F., TREFILOV, V. I., FIRSTOV, S. A., KHAZANOVA, I. P., and YUSHKO, V. G., Moscow, Kiev

"Investigation of the Structural Condition and Mechanical Properties of a Two-Phase Alloy Containing Chromium and Nickel"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 71, pp 67-74

Abstract: The structure of a chromium alloy containing 34.4 wt % Ni was investigated by methods of electron-microscopy of thin foils and X-ray and metallographic analyses, after being subjected to various thermal and thermo-mechanical treatments. The investigation data are compared with mechanical bending test data and analyzed from the standpoint of dislocation concepts and ideas of the character of the electronic structure of transition metals. Reference is made to microphotographs of the structure of the hardened alloy Cr - 34.4 Ni and its structural changes resulting from annealing at different temperatures and to diagrams showing effects of annealing at 900°C on mechanical properties, lattice parameter, hardness, and relative quantities of α - and γ - phases. The probability is indicated of increasing the strength
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USSR

KARSANOV, G. V., et al., Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct
71, pp 67-74

characteristics of the investigated alloy at the expense of precipitation
strengthening. Five illustr., 12 biblio. refs.

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Yu. N. PONOMAREV

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Acc. Nr.: AP0042570

Ref. Code: UR0293

JPRS 50162

Study of Geoactive Corpuscles and Photoelectrons

(Abstract: "Study of Geoactive Corpuscles and Photoelectrons on the 'Kosmos-261' Satellite," by A. D. Bolyunova, M. L. Bragin, Yu. I. Gal'perin, V. A. Gladyshev, N. V. Dzhordzhio, G. N. Zlotin, I. N. Kiknadze, R. A. Kovrazhkin, T. M. Mulyarchik, Yu. N. Ponomarev, V. V. Temnyy, N. I. Fedorova, Yu. P. Shilyayev, F. K. Shuyskaya and R. V. Snulonina; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136)

The artificial earth satellite "Kosmos-261" was used in a study of low-energy geoactive corpuscles and fresh photoelectrons and their interaction with the earth's upper atmosphere. The satellite was launched on 20 December 1968. Orbital inclination to the equator was 71°, so that for a relatively long time it moved almost along a tangent along the auroral zone over the Soviet Far North, making it possible to increase the volume of simultaneous measurements from the satellite and from ground observatories. The storage regime made it possible to extend continuous measurements for periods of several revolutions, including passes over the auroral zones in the Arctic and Antarctic and over the polar caps as far as invariant geomagnetic latitudes 82-85°. During the initial period the satellite apogee was at 670 km and perigee was at 217 km, but it finally

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burnt up upon entering into the dense layers of the atmosphere on 12 February 1969 after making 857 revolutions of the earth. The experiment lasted 53 days. The orbit was such that in the northern hemisphere middle and high latitudes the satellite moved below or close to the maximum of the Foreion so that ionospheric electron density along its trajectory and its variations could be determined in a number of regions on the basis of measurements by ground ionospheric stations. The period of the experiment included both quiet periods and those with strong disturbances. The experiment was conducted under the "Program of Cooperation Among Socialist Countries in the Field of Space Research and Peaceful Use of Space." Ground measurements were made in Bulgaria, Hungary, East Germany, Poland, Rumania, USSR and Czechoslovakia. Observatories and special expeditionary stations in the USSR participated: in Yakutia, the Far North, Siberia and middle latitudes. The article cited below is divided into four parts: 1) Description of Experiment; 2) Measurement of Low-Energy Electrons; 3) Measurement of Low -Energy Ions; 4) Measurements of Charged Particles with Intermediate and High Energies. Parts 2)-4) are essentially independent articles and are abstracted separately.

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1/3 024 UNCLASSIFIED PROCESSING DATE--20NDV70
TITLE--AURORAL PROTONS AND RESONANCE CONCEPT OF SUBSTORMS -U-

AUTHOR--(05)--GALPERIN, YU.I., GLADYSHEV, V.A., GUREVICH, A.V., KUZMIN,
A.K.A. POLOVAREV, YU.N.
COUNTRY OF INFO--USSR

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SOURCE--MGSCC*, KOSMICHESKIYE ISSLEDOVANIYA, VOL VIII, NO 3, 1970, PP
457-460
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--AURORA, PROTON, MAGNETOSPHERE, ELECTRIC FIELD, SOLAR WIND,
GEOMAGNETIC STORM, PROTON RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0508

STEP NO--UR/0293/70/0C8/003/0457/0460

CIRC ACCESSION NO--AP0132711

UNCLASSIFIED

2/3 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132711

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS PROPOSE A "RESONANCE" CONCEPT OF THE APPEARANCE OF A SUBSTORM. IT CAN BE SUMMARIZED AS FOLLOWS: 1) THERE IS A MORE OR LESS STATIONARY QUASITRAPPED COMPONENT OF AURORAL PROTONS (AND POSSIBLY ELECTRONS) WITH A CHARACTERISTIC ENERGY OF ABOUT 10 KEV, HAVING A STRUCTURELESS "BACKGROUND" SPACE DISTRIBUTION. 2) THIS CHARACTERISTIC ENERGY OF AURORAL PARTICLES IS THE "RESONANCE" ENERGY OF QUASITRAPPED PROTONS OF THE RING CURRENT AND AURORAS. 3) IT IS POSTULATED THAT THERE IS AN ACCUMULATION OF THE RESONANCE COMPONENT IN THE EVENING AND NIGHTTIME REGIONS OF THE "SACK" AS A RESULT OF THE ASYMMETRICAL INJECTION OF THESE PARTICLES INTO QUASITRAPPED TRAJECTORIES, THE APPEARANCE OF A RING CURRENT AS A RESULT OF THIS ASYMETRY, AND AS A RESULT, THE GENERATION OF A LARGE SCALE SELF CONSISTENT ELECTRIC FIELD IN THE MAGNETOSPHERE. 4) IT IS POSTULATED THAT THE INCREASE IN DENSITY OF RESONANCE PARTICLES WITH THEIR ACCUMULATION IN THE REGION OF THE "CUSP" OR "SACK" ABOVE SOME CRITICAL VALUE GIVES RISE TO THE PHENOMENON OF A "MAGNETOSPHERIC EXPLOSION," A SUBSTORM, AND SUCH A PROCESS CAN BE REPEATED WITH CONTINUATION OF "PUMPING" OF THE MAGNETOSPHERE WITH RESONANCE PARTICLES. 5) IT IS POSTULATED THAT THERE IS A SELECTIVITY OF THE REACTION OF THE EARTH'S MAGNETOSPHERE TO THE APPEARANCE OF PARTICLES WITH ENERGIES CLOSE TO "RESONANCE" IN THE SOLAR WIND FLOWING AROUND IT.

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UNCLASSIFIED

PROCESSING DATE--20NOV70

IR C ACCESSION NO--AP0132711

ABSTRACT/EXTRACT--6) IT IS POSTULATED THAT THE PHENOMENON OF A LAG IN MAGNETIC STORMS IN COMPARISON WITH THE ACTIVE HELIOPHYSICAL PROCESSES RESPONSIBLE FOR THEM IS DETERMINED BY THE TIME OF INTERPLANETARY SPACE PROPAGATION OF THAT COMPONENT OF A "CORPUSCULAR STREAM" EJECTED FROM THE SUN WHICH IS RESPONSIBLE FOR "RESONANCE" IN THE EARTH'S MAGNETOSPHERE. THIS CONCEPT DOES NOT PRECLUDE PROCESSES LEADING TO THE APPEARANCE OF TYPICAL SHARPLY DEFINED AURORAL ZONES, USUALLY SITUATED ALONG THE AURORAL OVAL AND CAUSED BY THE INJECTION OF PARTICLES WITH A CHARACTERISTIC ENERGY 1-5 KEV AND HIGH ENERGY PARTICLES (UP TO 10 PRIME² -10 PRIME⁴ KEV), WHOSE INTERPRETATION EVIDENTLY REQUIRES A DETAILED EXAMINATION OF OSCILLATORY AND OTHER COLLECTIVE PROCESSES IN MAGNETOSPHERIC PLASMA.

UNCLASSIFIED

USSR

UDC 617-001.28-085.355:577.157.2]-07:616.151.5-07

BALUDA, V. P., ALADAMOV, A. G., and PONOMAREV, Yu. T., Laboratory of Experimental Hematology, Scientific Research Institute of Medical Radiology, Academy of Medical Sciences USSR, Obninsk

"Effect of Transfusion of Factor 13 on the Ultrastructure of Fibrin in Acute Radiation Sickness"

Moscow, Meditsinskaya Radiologiya, No 5, 1971, pp 51-52

Abstract: The ultrastructure of fibrin taken from rats at the height of moderately severe radiation sickness induced by Co⁶⁰ gamma rays (600 r) was found to be impaired. The fibers were shortened, arranged in disorderly fashion, and lacking in the transverse striation characteristic of physiological fibrin. Intravenous injection of factor 13 (40 mg of protein per kg of weight) on day 7 after irradiation restored the structure of fibrin, its characteristic transverse striation, orderly arrangement, distinctness of contours, and normal length of the fibers. It also increased the resistance of the vascular walls while decreasing the bleeding time and volume of blood lost. The administration of plasma fractions without factor 13 had no effect on the fibrin ultrastructure, quality of the fibrin clot, or bleeding time.

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USSR

UDC 661.143

ISHCHUNIN, V. K., KOVALEV, V. A., and PONOMAREV, YU. V.

"Determination of the Energy Discharge of Cathodo-Lumensophors in Selected Electron Radiating Assemblies"

Sb. Nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works From the All-Union Scientific Research Institute of Lumino-phors and Principles for Purifying these Compounds), Vyp 7, 1972, pp 44-49 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8I168)

Translation: In selected electron radiating assemblies produced industrially, there is observed a significant amount of light reflected from the upper surface of the discharging window and collector. A method is proposed for determining the energetic discharge and its value for some of the most widely used cathodo-luminescent compounds (Resume).

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USSR

LANDA, P. S., PONOMAREV, Yu. V.

"Influence of the Fuselage on Loss of Oscillating Stability of a Long Wing in a Stream of Air"

4-ya Vses. Konf. po Probl. Ustoychivosti v Stroyit. Mekh. Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability in Structural Mechanics, Theses of Reports -- Collection of Works], Moscow, 1972, p 173, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B414).

Translation: A study is presented of the stability of a long wing with a fuselage on the assumption of unstable aerodynamic action. The fuselage is considered a distributed system. The problem of loss of oscillating stability of the system is reduced to the certain two-parameter problem of Eigen values, described by a system of differential equations in full derivatives. The Eigen values (frequency of oscillations at flutter boundary and flutter speed) are the nulls of the characteristic determinant. The values of the determinant are calculated using a fundamental system of partial solutions. This fundamental system is produced on a computer by numerical integration of differential equations. The stability both of symmetrical and of antisymmetrical oscillations of the system are studied over a broad range of frequencies and velocities as functions of

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USSR

LANDA, P. S., PONOMAREV, Yu. V., 4-ya Vses. Konf. po Probl. Ustoychivosti v Stroyit. Mekh. Tezisy Dokl., Moscow, 1972, p 173.

fuselage parameters and of point of attachment of the wing to the fuselage. The solution of the problem is compared to the results of calculation by the Bubnov-Galerkin method.

Acc. Nr:

AP0054190

Abstracting Service:

NUCLEAR SCI. ABST. 5-7C

Ref. Code:

4R 0089

18620 HETEROGENEOUS REACTORS FLATTENING BY
FUEL RODS ARRANGEMENT. Ponomarev-Stepnoy, N. N.;
Glushkov, E. S.; Nosov, V. I.; Barkov, S. N. At. Energ. (USSR);
28: 58-60(Jan 1970). (In Russian).

Tabulated data show variations of fuel element distributions and
effective coefficient of breeding during flattening as functions of
the number of heat transfer areas along the gradient. (8 refer-
ences) (R.V.J.)

—mc

REEL/FRAME
19831306

2

USSR

UDC: 8.74

PONOMAREVA, I. D.

"Information Value of the Pulse Activity of Neurons"

Kibernet. i vychisl. tekhn. Resp. mezhved. sb. (Cybernetics and Computer Technology. Republic Interdepartmental Collection), 1972, vyp. 14, pp 20-29 (from RZh-Kibernetika, No 5, May 73, abstract No 5V851 by the author)

Translation: A survey is made of methods of analyzing the pulse activity of individual neuron units and the pulse activity of several structural units (neurons). It is shown that the effectiveness of the corresponding methods of analysis can be considerably increased with the creation of large automated computer complexes which process information directly during an experiment.

1/1

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Acc. Nr: AP0049132 Abstracting Service:
CHEMICAL ABST. 5/10

Ref. Code:

4P0079

100852j New reactions of tribromogermane. Mironov, V. F.; Berliner, E. M.; Gar, T. K.; Ponomareva, G. K. (USSR). *Zh. Obshch. Khim.* 1970, 40(17), 409-15 (Russ). Mixing 6.75 g acrylic acid with 58.4 g $\text{HGeBr}_3 \cdot \text{Et}_2\text{O}$ at -10° and warming to room temp. gave 38% $\text{Br}_3\text{Ge}(\text{CH}_2)_2\text{CO}_2\text{H}$, m. $100-1.5^\circ$, which with PBr_3 in 3 hr at 90° gave the acyl bromide, b. 113° , also prepd. from $\text{H}_2\text{C}=\text{CHCOCl}$ and $\text{HGeBr}_3 \cdot \text{Et}_2\text{O}$ in 14% yield. $\text{HGeBr}_3 \cdot \text{Et}_2\text{O}$ stored 2 days and treated with acrylic acid as above gave 41% $\text{Br}_3\text{Ge}(\text{CH}_2)_2\text{CO}_2\text{Et}$, b. 110° , d^{20}_4 2.1433, n^{20}_D 1.5512. Similar reaction with CH_2O gas gave 39% $\text{Br}_3\text{GeCH}_2\text{OEt}$, b. $71.5-2.5^\circ$, 2.2922, 1.5690. If the reaction mixt. is treated with MeMgCl there is formed 17% $\text{Me}_3\text{GeCH}_2\text{OH}$, b. $56-8.5^\circ$, —, 1.4468, while ethylene oxide gave $\text{Me}_3\text{Ge}(\text{CH}_2)_2\text{OH}$, b. $48-9.5^\circ$, —, 1.4881. Reaction of AcH and HGeBr_3 , followed by MeMgCl gave 31% $\text{Me}_3\text{GeCHMeOCHMeGeMe}_3$, while crude HGeBr_3 , treated with thiophene at -10° , gave 45% bis(tribromogermanyl)tetrahydrothiophene, m. $76.5-9.5^\circ$. Also reported are: $\text{Br}_3\text{GeCHRCHR}^1\text{CO}_2\text{H}$ (R and R^1 , and m.p. shown): H, Me, $75-6.5^\circ$; Me, H, $73-4^\circ$; CO_2H , H, $160.5-1.5^\circ$; Ph, H, $122.5-3.5^\circ$. $\text{HC}:\text{CCO}_2\text{H}$ and GeHBr_3 gave $\text{Br}_3\text{GeCH}_2\text{CH}(\text{CO}_2\text{H})\text{GeBr}_3$, m. $135-7^\circ$. $\text{Br}_3\text{Ge}(\text{CH}_2)\text{COCl}$ could not be isolated by distn. owing to Cl-Br exchange, but blowing the crude product with HBr gave the acyl bromide.

G. M. Kosolapoff

REEL/FRAME

4 0000010

USSR

UDC 539.4

VISHNYAKOV, D. Ya., PONOMAREVA, N. A.

"The Effect of High-Speed Deformation on the Structure and Properties of High-Strength Steels"

V sb. Teoriya i prakt. vysokoskorost. deformatsii metal. materialov (Theory and Practice of High-Speed Deformations of Metal Materials -- Collection of Works), Moscow, 1971, pp 14-15 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6V1031)

Translation: The effect of the set of pulse loading, heating, and cooling on the structure and properties of high-strength steels is investigated. The initial structure before deformation was a martensite or sorbite of tempering and deformation was carried out by explosion in water with degrees of deformation up to 25%. It was found that thermo-impulse working at a deformation rate of 225 m/sec and a degree of deformation of 2.5% leads to an increase of 70 kg/mm² in the strength limit while maintaining high plasticity (residual lengthening was 7.5% and relative contraction was 24.5%). It was shown by metallographic, x-ray and electron microscope methods that a laminar structure arises under the working and that there occur a decrease in the

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USSR

VISHNYAKOV, D. Ya., PONOMAREVA, N. A., Teoriya i prakt. vysokoskorost. deformatsii metal. materialov, Moscow, 1971, pp 14-15

width of the interference lines of the steel with the structure of the annealing martensite and an increase in the width of the lines of the steel with the structure of the annealing sorbite. There were observed an increase in the dimensions of the martensite plates, a change in the dimensions of particles of the second phase, and the absence of deformation aging under annealing after deformation. An explanation is advanced for changes in the mechanical properties of high-strength steels under impulse working that is based on the structural changes observed. L. I. Mirkin.

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NORMS OF ANTIEPIDEMIC SERVICES OF A RURAL POPULATION -U-
AUTHOR--(05)-BIRKOVSKIY, YU.YE., PONOMAREVA, G.YE., PAVLOV, A.V., GORBETS,
F.M., DGBRUSHTAN, YE.V.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 150-152
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EPIDEMIOLOGY, PUBLIC HEALTH, MEDICAL PERSONNEL, GEOGRAPHIC
LOCATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0425 STEP NO--UR/0475/70/000/005/0150/0152
CIRC ACCESSION NO--AP0126178
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126178

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AN ANALYSIS OF EPIDEMIOLOGICAL SERVICES IN RURAL DISTRICTS MADE IT POSSIBLE TO SUGGEST THE FOLLOWING NORMS FOR ADEQUATE SERVICE OF THE RURAL POPULATION: ONE EPIDEMIOLOGIST PER 24.2 THOUSAND INHABITANTS AND ONE ASSISTANT EPIDEMIOLOGIST PER 12.6 THOUSAND INHABITANTS. FACILITY: KIYEVSKIY INSTITUT EPIDEMIOLOGII, MIKROBIOLOGII I PARAZITOLOGII.

UNCLASSIFIED

PONOMAREVA, I. D.

COLEEN

29 Oct 71

115

FPD:CYBERNETICS

107. USSR

UDC 612.833.2 : 612.823.5

KARPUKHINA, A. M. and PONOMAREVA, I. D.

SO: FOREIGN PRESS DIGEST
29 OCT. 1971

"An Analysis of the Interneuron Connections of the Respiratory Center"

Kiberneticheskiye Aspekty v Izuchenii Raboty Mozga (Cybernetic Aspects of the Study of the Brain's Functioning), Moscow, Nauka Publishing House, 1970, pp 192-197

Abstract: The respiratory center is the central mechanism of one of the most important self-regulating systems of the organism. Clarification of the organization of this mechanism, of the logical and functional interactions between its individual functional elements, is one of the urgent problems of biocybernetics and contemporary physiology.

In order to analyze the interneuron relationships of the respiratory center, a logical-probabilistic method was used. This made it possible to determine both the nature (excitatory or inhibitory) and the importance of the connections between neurons. The method is applicable to the analysis of two or more active units.

Between respiratory neurons having different types of activity, specific interrelationships have been established, reflecting their different functional significance in the procedure of information processing in a functional respiration system.

1/1

PONOMAREVA, I. D.

112. USSR

UDC 612.84/.88 : 519.92+612.815

COLEEN

DOLYATOVSKIY, V. A., PONOMAREVA, I. D., and TSEPKOV, G. V.

56: FOREIGN PRESS DIGEST

29 OCT 1991

"An Analysis of the Structural and Functional Organization of Sensory Systems"

Kiberneticheskiye Aspekty v Izuchenii Raboty Mozga (Cybernetic Aspects of the Study of the Brain's Functioning), Moscow, Nauka Publishing House, 1970, pp 145-158

Abstract: The basic principles of modeling sensory systems are considered. Quantitative appraisals of the organization and information capabilities of sections of the analysers are proposed. The basic information characteristics of sections of the visual and auditory analysers are calculated. The changes that occur in the structure of the synaptic connections of neurons in various sections of an analyser, the quantitative elements in the sections, and the changes that occur in the frequency of the rhythm of neurons in proportion to ascending analysis are all analyzed. A method of calculating the number of layers of neuron structures and the degree of contraction of the receptive zones of neurons is suggested. The appraisals suggested may be applied to the study of the characteristics of sensory systems.

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USSR

UDC 519.21

PONOMAREVA, I. D.

"Completeness of a System of Coordinate Functions in Expansion of a Stationary Process into a Series of Its Derivatives"

Biol., Med. Kibernet. i Bionika. Vyp 2 [Biology, Medical Cybernetics and Bionics, No 2 -- Collection of Works], Kiev, 1970, pp 95-103, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V175 by V. Makovskiy).

Translation: Spectral theory methods are used to prove the completeness of a system of shifted functions

$$x(t), x(t-\tau_1), \dots, x(t-\tau_{n-1}),$$

where $x(t)$ is a stable ergodic random process with zero mathematical expectation and unit dispersion, differentiable n times, having $2n$ times differentiable correlation function, while $\tau_1, \tau_2, \dots, \tau_{n-1}$ are the moments of intersection of correlation function $R(\tau)$ with the zero level.

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PO NOMAR

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TECHNICAL TRANSLATION

AKM | FSTC-HT-23-2015-72

29 Oct 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

RUSSIAN TITLE: ПРОБЛЕМЫ ПЕРЕДАЧИ ИНФОРМАЦИИ ЛАЗЕРНЫМ ИЗЛУЧЕНИЕМ

AUTHOR: I. A. DERVIGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
IHENI T. G. SCHEVCHENKO

Translated for FSTC by ACS1

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Final Page -

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UDC 534-8

USSR

PONOMAREV, P. V., PONOMAREVA, K. S.

"Measuring the Coefficient of Ultrasonic Absorption in Rocks"

Uch. zap. Kursk. gos. ped. in-t (Scientific Notes of Kurskiy State Pedagogical Institute), 1970, Vol 71, pp 124-131 (from RZh-Fizika, No 12(II), Dec 70, Abstract No 12Zh785)

Translation: The reverberation method in which the time of the drop in sound intensity after switching off the energy source is determined is used to determine the absorption coefficient α . Rock samples of small size in which a diffuse field arose as a result of multiple reflections were used for the measurement. The equations for the propagation of diffuse or scattered sound are used to determine an expression for the energy density in a bounded rod, on one end of which the pulse of sound energy is emitted. The duration of the pulse determines the initial amplitude of the oscillations. It is shown that the reverberation time is independent of the scattering coefficient. The source of 5Kc ultrasonic pulses was the UZD-14 defectoscope. The signal is received with a

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Vol 71, pp 124-131

quartz plate damped with cardboard and copper washers to exclude any transfer process in the plate itself. The signal was indicated with an oscillograph. The time for a decrease by half of the intensity is related to the absorption coefficient by the relationship:

$$t_{1/2} = \ln 2/\alpha = 0.69/\alpha = 1.38/\alpha_p,$$

where α_p is the pressure absorption coefficient. After measurement, time and the rate of wave propagation the absorption coefficient α_p is determined.

Experimental data are presented on measuring the absorption coefficient in different rocks; the spread was fairly large for the same rocks. This is explained by the phenomenon of fracturing of the rock, its reversal, and the method of preparing the rock samples. 6 references. V. A. Moor.

USSR

UDC 669.292.5'24'71.013.13

MYASNIKOVA, K. P., PONOMAREVA, L. F., PRYAKHINA, L. I., and
MARSHAKOV, I. K., Moscow, Voronezh

"Study of the $\text{NiAl}_3\text{-VAl}_3$ and $\text{Ni}_2\text{Al}_3\text{-V}_5\text{Al}_8$ "

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71,
pp 186-189

Abstract: Microstructural, x-ray structural and thermal analysis were made to study the phase equilibria in $\text{NiAl}_3\text{-VAl}_3$ and $\text{Ni}_2\text{Al}_3\text{-V}_5\text{Al}_8$. It is demonstrated that in the solid state, the alloys of both sections have a two-phase structure, the phase components of which are the initial compounds. The polythermal section of the $\text{NiAl}_3\text{-VAl}_3$ cross section has three fields of primary crystallizations: $\text{L} + \text{Ni}_2\text{Al}_3$, $\text{L} + \text{VAl}_3$, and $\text{L} + \text{V}_5\text{Al}_8$. Fusion of the NiAl_3 compound in the entire concentration interval is incongruent in nature. The combined crystallization of the phases Ni_2Al_3 and V_5Al_8 in the 20-80 at.% V_5Al_8 interval occurs according to the eutectic type. The peritectic nature of the formation of the compounds Ni_2Al_3 and V_5Al_8 results in the presence of two three-phase areas on the polythermal section. The mutual replacement of nickel and vanadium atoms has little

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USSR

MYASNIKOVA, K. P., et al., Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 186-189

influence on increasing the hardness of alloys, due to the similarity of their atomic radii. The absolute value of hardness of alloys in the $Ni_2Al_3-V_5Al_8$ cross section is 2,5 times greater than the hardness of alloys in the $NiAl_3-VAl_3$ cross section.

2/2

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USSR

UDC 612.119(99)

TASHPULATOV, R. Yu., RODINA, R. I., IONIN, A. I., and PONOMAREVA, N. G.,
Institute of Epidemiology and Microbiology imeni Gamaleya, Central Institute
of Hematology and Blood Transfusion, and Arctic and Antarctic Scientific
Research Institute

"Microbiological and Immunological Studies of the Human Body in the
Antarctic. III. Dynamics of Hematopoiesis in Polar Explorers During an
Expedition"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 81-83

Abstract: The dynamics of the hemoglobin concentration, RBC and WBC counts,
color index, and leukocyte formula was studied in 14 Antarctic explorers in
relation to the time of year. The hemoglobin concentration was found to be
directly related to solar activity. It decreased during the polar night
when solar activity was low but increased to the normal value during the
summer when solar activity was high. The RBC count fluctuated within
narrow limits. The leukocyte count tended to decrease during the year.
The color index curve virtually duplicated that of the hemoglobin concen-
tration. The leukocyte formula shifted slightly to the left at first, i.e.,
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USSR

TASHPULATOV, R. Yu., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 81-83

the stabs increased while the segs, eosinophils, and lymphocytes remained unchanged and the monocytes decreased. During the latter part of the winter the number of stabs returned to the original level while the segs decreased and the eosinophils and lymphocytes increased. The relative and absolute lymphocytosis and moderate neutropenia persisted until the end of winter.

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USSR

UDC 616.28-008.1-057:616-036.866

OSTAPKOVICH, V. Ye., Doctor of Medical Sciences, and PONOMAREVA, N. I., Candidate of Medical Sciences, Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"The Condition of Hearing in Riveters and Determination of Their Fitness for Work"

Kiev, Zhurnal Ushnykh, Nosovykh i Gorlovykh Bolezney, No 5, Sep/Oct 70, pp 24-28

Abstract: A study was made of hearing in 839 riveters with up to 30 years on the job and who were exposed to noise levels of 100 to 110 db. Changes in auditory sensitivity were directly related to the length of service, i.e., to the amount of exposure to noise. Hearing was normal in 68% of the subjects who had worked less than 5 years but in only 7% of those with 16 to 20 years on the job. Six degrees of hearing ability were determined, ranging from normal to severe impairment (advanced cochlear neuritis). Most of those suffering no more than mild impairment can continue to work, provided they are regularly examined. If cochlear neuritis with moderate impairment of hearing is noted during the first 5 years of work or in young persons after 5 to 10 years, transfer to other jobs is required. Those suffering from moderate

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USSR

OSTAPKOVICH, V. Ye., and PONOMAREVA, N. I., Zhurnal Ushnykh, Nosovykh i Gorlovykh Bolezney, No 5, Sep/Oct 70, pp 24-28

impairment of hearing combined with functional cardiovascular or neurological disturbances and those suffering from marked loss of hearing should also be retrained and assigned to other jobs.

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1/2 036 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THE STATE AND ASSESSMENT OF HEARING IN PERSONS WORKING UNDER
CONDITIONS OF INTENSIVE INDUSTRIAL NOISE AND VIBRATIONS -U-
AUTHOR-(02)-OSTAPKOVICH, V.YE., PONDMAREVA, N.I. P
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, NR 3, PP 79-83
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--AUDITION, INDUSTRIAL HYGIENE, HAZARDOUS SOUND, BIOLOGIC
VIBRATION EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1652 STEP NO--UR/0497/70/000/003/0079/0083
CIRC ACCESSION NO--AP0136913
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136913

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CONDUCTED AN AUDIOLOGICAL EXAMINATION OF 1187 WORKERS ENGAGED IN DIFFERENT NOISE PRODUCING OCCUPATIONS AND SUBJECTED TO LOCAL VIBRATIONS. THE ANALYSIS SUMMARIZED IN TABULAR FORM SHOWS THAT THE CLINICAL PICTURE OF HEARING DETERIORATION IS CHARACTERIZED BY A UNITYPICAL AUDIOMETRIC CURVE WITH THE HEARING SENSITIVITY MOST PRONOUNCED IN THE PERCEPTION RANGE OF HIGH AUDIO FREQUENCIES AND LEAST PRONOUNCED IN SPEECH AND LOW FREQUENCIES. AS A RESULT OF COMPARISON OF COMPLEX INDICES OF HEARING EXAMINATION FIVE DEGREES OF AUDITORY FUNCTION CHANGE WERE ESTABLISHED AND ARE RECOMMENDED FOR PROFESSIONAL HEARING EXAMINATIONS. FACILITY: INSTITUT GIGIYENY TRUDA I PROFZAVOLEVANIY, AKADEMIYA MEDITSINSKIKH NAUK SSR, MOSCOW.

UNCLASSIFIED

USSR

P UDC: 616.28-008.1-057-02:613.644

OSTANKOVICH, V.YE., Doctor of Medical Sciences, PONOMAREVA, N.I. Candidate of Medical Sciences. Clinic of the Institute of Labor Hygiene and Occupational Diseases, AMI SSSR, Moscow

"The State of Hearing and Its Evaluation in Workers Exposed to Intense Industrial Noise and Vibrations"

Moscow, Klinicheskaya Meditsina, No 3, 1970, pp 79-83

Abstract: Audiological examination of 3,000 workers engaged in various noise-producing occupations showed that the clinical picture of hearing impairment is characterized by the same type of curve of audiometric data, regardless of the condition of the ear or of the noise parameters, or combined noise and local vibrations. The acuity of speech and hearing was determined by the degree of hearing impairment with the speech-frequency region, and by alteration of auditory sensitivity to high-frequency tones. The resulting complex of indices made it possible to distinguish five degrees of hearing impairment.

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USSR

UDC 621.357.7:669.58(088.8)

KHOTMAKHER, G. A., ~~PONOMAREVA, N. P.~~

"Method of Electrolytic Deposition of Zinc Alloys"

USSR Author's Certificate No 316753, filed 12 May 69, published 22 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L334P)

Translation: A procedure has been patented for electrolytic deposition of Zn alloys in an electrolyte containing $ZnSO_4$, $CdSO_4$ and polyethylenepolyamine distinguished by the fact that in order to obtain the Zn-Cd-Ni alloy with an increased corrosion resistance, $NiSO_4$ and $(NH_4)_2SO_4$ are introduced into the electrolyte with the following ratio of the component (in grams/liter): $ZnSO_4$ 100-150, $CdSO_4$ 10-18, $NiSO_4$ 3-5, $(NH_4)_2SO_4$ 200-250, polyethylenepolyamine 150-200, and the process takes place at pH 7.0-10.0, a temperature of $20 \pm 5^\circ$ and D_c 0.1-30 a/dm^2 .

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USSR

UDC 542.61.661.73

LASKORIN, B. N., BUCHIKIN, YE. P., SHATALOV, V. V., and PONOMAREVA, S. I.

"Effect of the Structures of Aromatic Organophosphorus Acids on Their Extraction Properties"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 809-815

Abstract: Extraction constants of U(VI) were determined for a series of aromatic organo phosphorus acids (POA) and it has been established that their extraction properties can be described by the equation $\lg \tilde{K}_{UO_2} = 3.40 - 2.06 \sum \phi$.

In contrast to aliphatic substituents, whose effect on the acid and extraction properties of POA is determined principally by their inductive effect, the aromatic radicals are capable of a direct conjugation with the phosphorus atom, i.e., the final effect is determined by inductive and mesomeric effects. The substituents may be divided into two groups: 1) C_6H_5O- , $p-CH_3C_6H_4O-$, $o-CH_3C_6H_4O-$, $C_6H_5C=C-$ -- strongly resembling alkoxy radicals in which a strong negative inductive effect is almost completely compensated by a counteracting mesomeric effect; and 2) C_6H_5- , $C_6H_5CH=CH-$, $C_6H_5CH_2-$ group, in which the mesomeric effect is dominant. All acids which have an unsaturated π -elec-
1/2

OSSR

LASKORIN, B. N., et al., Radiokhimiya, Vol 13, No 6, 1971, pp 809-815

tronic system in their structure -- C_6H_5- , $C_6H_5C=C-$, C_6H_5O- -- have a higher extractive capability toward $U^{(VI)}$ than corresponding dialkylphosphoric-phosphinic acids.

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USSR

UDC 576.858.095.5

DREYZIN, R. S., BIKHNOVICH, E. M., BOROVKOVA, N. M., and PONOMAREVA, T. I.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences
USSR

"Characteristics of Replication of Five Serotypes of Rhinoviruses and Their
Antigenic Relationships"

Moscow, Voprosy Virusologii, No 5, 1971, pp 565-569

Abstract: The cycles of replication of rhinovirus strains B632, 1059, 33342, 56822, and Feb in a culture of HeLa cells last about 6 to 7 hours. The maximum titers of infectious virus are found after 9 to 12 hours. Infectious virus appears in the culture fluid of all strains 2 to 3 hours later than in the cells. The cytopathic effect is not manifested in the infected cells until 1 or 2 hours after the appearance of the virus in the cell phase, i.e., after 8 hours of cultivation. Antigens of strains 1059, 56822, and B632 can be found in a subculture of human embryo fibroblasts after 4 to 6 hours of cultivation and those of the Feb strain after 10 to 12 hours by using the indirect immunofluorescence method. In all stages of infection the antigens are concentrated in the cytoplasm. Analysis of antigenic relationships using the indirect immunofluorescence method shows a lack of common antigens in
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DREYZIN, R. S., et al., Voprosy Virusologii, No 5, 1971, pp 565-569

strains 1059, 56822, B632, and Feb as well as strict type-specificity of immune sera.

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15

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--INFLUENCE OF MUTUAL INHIBITION DURING THE SIMULTANEOUS
POLYMERIZATION OF CYCLIC ETHERS AND CYCLIC ACETALS -U-
AUTHOR--(04)-YEFREMOVA, A.I., PONOMAREVA, T.I., ROZENBERG, B.A.,
YENIKOLOPYAN, N.S. P
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 872-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FURAN, ORGANIC OXYGEN COMPOUND, POLYMERIZATION, AROMATIC
ETHER, ACETAL, ORGANOCANTIMONY COMPOUND, CATALYST, GAS CHROMATOGRAPHY,
COMPLEX COMPOUND, EXCHANGE REACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/2012 STEP NO--UR/0020/70/190/004/0872/0875
CIRC ACCESSION NO--AT0112967
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 018

CIRC ACCESSION NO--AT0112967
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE ADDN. OF TETRAHYDROFURAN (I) TO 1,3-DIOXOLANE (II) DECREASES ITS HOMOPOLYMN. RATE IN THE PRESENCE OF ET SUB3 OSBCL SUB6 CATALYST. THE COPOLYMN. OF I WITH II WAS DESCRIBED EARLIER (M. OKADA ET AL., 1965) AND THE REACTIVITY RATIOS WERE DETD. THE ANAL. OF I AND II CONVERSION RATES, OBTAINED BY THE DILATOMETRIC AND GAS CHROMATOG. METHODS, SHOWS THAT THE ADDN. OF I TO ACTIVATED II IS A FAST REACTION. HOWEVER, THE ADDN. COMPLEX III HAS WEAK C-O PRIME POSITIVE BOND AND UNDERGOES EXCHANGE REACTIONS WITH I MORE READILY THAN COPOLYMN.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.33-085.849.1-092.9-07:616.423-018.1

PONOMAREVA, T. V., Electron Microscopy Sector, Institute of Radiation Hygiene,
Ministry of Health RSFSR, Leningrad

"Injury to Peyer's Patches Resulting from Internal and External Irradiation"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Vol 59, No 9, Sep 70,
pp 69-75

Abstract: A study was made of changes in the lymphoid tissue of Peyer's patches in rats irradiated in various ways. One group of animals received orally a mixture of nuclear fission products (50% rare earth isotopes, 25% alkali earth isotopes, and 12% molybdenum and tellurium isotopes in a concentration of 500 microcuries). Another group was exposed to 300 r of gamma-rays and a third group was subjected to both internal and external radiation in the above doses. Lymphoid tissue was most severely affected after combined irradiation. After internal irradiation, injury to lymphoid tissue was uneven, the tissues closest to the intestinal lumen were most affected, with many lymphocytes accumulating in the intestinal lumen. After external irradiation, pathological changes in Peyer's patches were pronounced. The lymphocytes in the lymphoid tissue died within a few hours after exposure. Degeneration of the lymphoid tissue began after 2-3 hours and continued progressively thereafter.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--STATISTICAL CHARACTERISTICS OF INERTIALESS PERIODIC PHASE
CONVERTERS -U-
AUTHOR--(02)-TSVETNOV, V.V., PONOMAREVA, V.D. P
COUNTRY OF INFO--USSR
SOURCE--KIEV, IZVESTIYA VUZOV SSSR-RADIOELEKTRONIKA, VOL 13, NO 2, 1970,
PP 246-259
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., NAVIGATION
TOPIC TAGS--FREQUENCY CONVERTER, PHASE SHIFT, ANGULAR DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/0148 STEP NO--UR/0452/70/013/002/0246/0259
CIRC ACCESSION NO--AP0110114
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 015

CIRC ACCESSION NO--AP0110114

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

ABSTRACT. THE PERIODIC PHASE CONVERTER IS DEFINED AS AN INERTIALESS NON LINEAR DEVICE PERFORMING A PARTICULAR TYPE OF PHASE DIFFERENCE DISTRIBUTION CONVERSION. THE ARTICLE CONSIDERS A METHOD FOR FINDING THE LAW OF DISTRIBUTION AND OTHER STATISTICAL CHARACTERISTICS AT THE OUTPUT OF THE PERIODIC PHASE CONVERTER WITH A SPECIFIED DISTRIBUTION LAW AT ITS INPUT. A SOLUTION IS FOUND FOR THE PROBABILITY DENSITY AT THE CONVERTER OUTPUT FOR A PARTICULAR PHASE DIFFERENCE INPUT. THE SOLUTION IS APPLIED TO SEVERAL SPECIFIC PROBLEMS.

UNCLASSIFIED

USSR

UDC 621.391

TSVETNOV, V. V. and PONOMAREVA, V. D.

"Statistical Characteristics of Inertialess Periodic Phase Converters"

Kiev, Izvestiya Vuzov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 246-259

Abstract: The periodic phase converter is defined as an inertialess non-linear device performing a particular type of phase difference distribution conversion. The article considers a method for finding the law of distribution and other statistical characteristics at the output of the periodic phase converter with a specified distribution law at its input. A solution is found for the probability density at the converter output for a particular phase difference input. This solution is applied to several specific problems.

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UDC 542.91:547.9:577.15

USSR

PONOMAREVA, V. M., ZHENODAROVA, S. M., Institute of Biological Physics of the USSR Academy of Sciences

"Preparation of Inosine-2',3'-cyclophosphate by Enzymatic Deamination of Adenosine-2',3'-cyclophosphate"

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972, pp 2632-2633

Abstract: Inosine-2',3'-cyclophosphate was obtained directly from adenosine-2',3'-cyclophosphate (Reanal, Hungary) by incubating the latter with adenosinedeaminase of the mucilaginous intestine (KF 3.5.4.4.) (Calbiochem, USA) in a 0.2 M phosphate buffer (pH 7.0) for 15 hours at 25°. Analysis of the reaction mixture by the methods of chromatography and electrophoresis on paper and ultraviolet spectrophotometry demonstrated that the deamination takes place quantitatively, but inosine-2',3'-cyclophosphate. The enzyme is separated by gel filtration in Sephadex G-25 after which the mixture was separated by chromatography in a column with a paper powder (Chemapol, Czechoslovakia) in the system made up of propanol-2, concentrated ammonia and water (7:1:2). The yield of inosine-2',3'-cyclophosphate was 25% for the adenosine-2',3'-cyclophosphate used.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--YIELD OF CARBONIZATION PRODUCTS FROM HYDROCHLORIC ACID LIGNIN --U--
AUTHOR--(03)--MALAKHOV, G.A., PONOMAREVA, V.V., KIREYEVA, R.N.
COUNTRY OF INFO--USSR
SOURCE--GIDREKLIZ. LESOKHIM. PROM. 1970, 23(2), 25-6 P
DATE PUBLISHED--70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--LIGNIN, WOOD PRODUCT, THERMAL EFFECT, STAINLESS
STEEL/(U)1KH18N9T STAINLESS STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0971 STEP NO--UR/0328/70/023/002/0025/0026
CIRC ACCESSION NO--AP0124630
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0124630

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BIRCHWOOD AND PINWOOD LIGNIN (I) SAMPLES WERE CARBONIZED IN A HEAT RESISTANT STEEL (1KH18N9T) RETORT AT 400-600DEGREES. A DIAGRAM OF THE CARBONIZATION APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE YIELDS OF THE CARBONIZED I AND OF PYROLIGNEOUS DISTILLATE (II) ARE INVERSELY PROPORTIONAL TO THE TEMP. ELEVATION RATE. THE TOTAL YIELD OF CARBONIZED I PLUS GASES AND OF II PLUS CARBONIZED TARS WAS RELATIVELY CONST. AT A GIVEN TEMP.

FACILITY: KANSK. GIDROLIZ. ZAVOD, KANSK, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--RARE CASES OF ACUTE LEUCOSIS WITH AFFECTIONS OF THE SPINE -U-
AUTHOR--PONDMAREVA, YE.D. P
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 3, PP 357-361
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MUSCULOSKELETAL SYSTEM, HEADACHE, PAIN, TUBERCULOSIS,
DIGESTIVE SYSTEM, THERAPEUTICS, X RAY IRRADIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/0801 STEP NO--UR/0246/70/070/003/0357/0361
CIRC ACCESSION NO--AP0052238
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 028

CIRC ACCESSION NO--A0052238

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

ABSTRACT. THE REPORT DEALS WITH A DESCRIPTION OF 3 CASES OF ACUTE LEUCOSIS WITH SPINAL AFFECTIONS. THE NEUROLOGICAL SYMPTOMS WERE EXPRESSED BY HEADACHES, ENGIRDLING PAIN IN THE THORAX, RIBS, SPINE WITH AN IRRADIATION INTO THE LOWER EXTREMITIES. THE BLOOD COUNT BEING UNCHANGED, THE DISEASE ON THE FIRST STAGES WAS DISGUISED AS TUBERCULAR SPONDILITIS, RADICULITIS, LUMBOISCHALGIA. SUBSEQUENTLY PARALYSIS OF THE EXTREMITIES ENSUED, WITH CYSTOMYELITIS, AN ATONIA OF THE BLADDER AND INTESTINES, A SEPTICAL TEMPERATURE, PYURIA, ANEMIA WITH HEMOCYTOBLASTS. A COMBINED MEDICATIVE THERAPY BROUGHT ON ONLY A SHORT REMISSION. ROENTGENTHERAPY ON THE SACRO LUMBAR AREA REMOVED THE PAIN SYNDROME AND IMPROVED THE GENERAL CONDITION OF THE PATIENTS. AN ANATOMO HYSTOLOGICAL STUDY DISPLAYED A NEOPLASMATIC GROWTH ALONG THE SPINE, AND INFILTRATION OF THE PERIOSTAL CELLULAR TISSUE AND AN ASCENDING PURULENT SYSTITIS.

UNCLASSIFIED

Alkaloids

USSR

UDC 340.67:[615.322:582.542.2

~~PONOMAREVA, Ye. G.~~, Bureau of Forensic Medicine Expertise of Stavropol'skiy
~~Kray~~ and Pyatigorsk Pharmaceutical Institute

"Detection of Brevicollin in Chemical-Toxicological Analysis"

Moscow, Farmatsiya, Vol 20, No 1, Jan-Feb 71, pp 53-56

Abstract: A study was carried out on brevicollin and 30 general alkaloid precipitation reagents; 12 of them formed specific precipitates with brevicollin. The most sensitive reagents for brevicollin were: Reineke salt, zinc chloriodide, bromoaauric acid and mercuric chloride. Crystal-optical constants of the brevicollin base and its reaction products with the precipitating agents were determined: the angle of extinction, elongation sign, pleochroism, and the index of refraction. The limits of brevicollin detection in biological specimens by the above microchemical reactions were established (0.2-6.6 μ g).

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USSR

UDC 576.851.214.095.1

LABINSKAYA A. S. and PONOMAREVA, Ye. P., Scientific Research
Institute of Rheumatic Fever, Academy of Medical Sciences USSR

"Study of Survival and Retention of Biological Signs of Hemolytic
Streptococci in the External Environment"

Moscow, Voprosy Revmatizma, No 1, Jan/Feb/Mar 71, pp 12-17

Abstract: The survival time of hemolytic Streptococci in the external environment ranges from several hours to several weeks, depending on the individual resistance of the strain, the concentration of the Streptococci, and the characteristics of the medium in which they are located. The resistance of Streptococci is enhanced by a mucin membrane with which all microorganisms discharged from the mouth cavity and the upper respiratory tract of man are covered. While living in the external environment, serological group A Streptococci, pathogenic to man, first lose their species-specific properties and then their biological activity but retain their capacity to react with
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USSR

LABINSKAYA, A. S. and PONOMAREVA, Ye. P., Voprosy Revmatizma,
No 1, Jan/Feb/Mar 71, pp 12-17

homologous antistreptococcal serum. These findings suggest
that personal belongings of patients with streptococcal infec-
tions transmit the pathogen.

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1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--SURVIVAL AND BIOLOGICAL PROPERTIES OF STREPTOCOCCI GROUP A UNDER
 CONDITIONS OF EXPERIMENTAL STREPTOCOCCUS INFECTION TREATED WITH
 AUTHOR-(104)-LABINSKAYA, A.S., PONGMAREVA, YE. P., AKHNAZAROVA, V.D.,
 YESHCHINA, A.S.
 COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
 PP 105-108
 DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANTIGEN, BLOOD SERUM,
 ANTIBIOTIC/(U)BICILLIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1994/0132

STEP NO--UR/0016/70/000/005/0105/0108

CIRC ACCESSION NO--AP0114528

UNCLASSIFIED

272 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114528

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER TREATS OF THE RESULTS OF STUDYING THE SURVIVAL AND VARIABILITY OF STREPTOCOCCUS A OF CULTURES UNDER THE EFFECT OF THERAPEUTIC CONCENTRATIONS OF BICILLIN IN AN EXPERIMENTAL FOCUS OF CHRONIC INFECTION CREATED BY RASKA'S METHOD (1962). IN BICILLIN TREATED ANIMALS VIABLE STREPTOCOCCUS A CELLS WERE REVEALED FOR A PERIOD OF 3 WEEKS, AND IN CONTROL ANIMALS, DURING THE WHOLE OBSERVATION PERIOD (FOR 8 WEEKS). STREPTOCOCCI ALTERED IN MORPHOLOGICAL AND IN CULTURAL RESPECT IN THE ORGANISM OF CONTROL AND, PARTICULARLY, OF EXPERIMENTAL ANIMALS. AS A RULE, REDUCTION AND LOSS OF HEMOLYTIC ACTIVITY OF STREPTOCOCCI WAS ACCOMPANIED BY CHANGES IN THE STRUCTURE OF AN ANTIGENIC APPARATUS; DUE TO THIS MICROBIAL CULTURES FAILED TO REACT IN PRECIPITATION REACTION AT FIRST WITH THE GROUP, AND LATER WITH THE TYPE HOMOLOGOUS ANTISTREPTOCOCCUS SERUM. STREPTOCOCCUS ANTIGEN WAS REVEALED IN THE BLOOD SERUM OF MANY EXPERIMENTAL ANIMALS AT LATE OBSERVATION PERIODS, WHEN BACTERIOLOGICAL EXAMINATION FOR STREPTOCOCCI OF THE CONTENTS OF THE CHAMBERS ALREADY PROVED TO BE NEGATIVE. FACILITY: INSTITUT REVMAZMA AMN SSSR, MOSCOW.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--IMMUNOMICROBIOLOGICAL INDICES IN PATIENTS WITH RHEUMATISM IN
SEASONAL BICILLIN PROPHYLAXIS -U-
AUTHOR--LABINSKAYA, A.S., PONOMAREVA, YE.P., MIKHAYLOVA, I.N., MALYSHEVA,
E.A.
COUNTRY OF INFO--USSR P
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 2, PP 50-52
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RHEUMATIC DISEASE, STREPTOCOCCUS, ANTIBIOTIC, PROPHYLAXIS,
ANTIBODY, DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1852 STEP NO--UR/0504/70/042/002/0050/0052
CIRC ACCESSION NO--AP0101897
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101897

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS INVESTIGATED THE MICROFLORA OF THE PHARYNX TO THE CONTENT OF STREPTOCOCCUS OF GROUP A IN 65 PATIENTS WITH RHEUMATISM BEFORE THE BEGINNING AND AFTER THE TERMINATION OF EACH COURSE OF SEASONAL BICILLIN PROPHYLAXIS AND IN 45 THE BLOOD SERUM FOR DETERMINATION OF THE TITRES OF ANTISTREPTOLYSIN-O, ANTISTREPTOHYALURONIDASE AND ANTISTREPTOKINASE. IT IS SHOWN THAT BY THE END OF EACH COURSE OF PROPHYLAXIS A DROP IN THE TITRES OF STREPTOCOCCAL ANTIBODIES AND IN PARALLEL, A REDUCTION IN THE PERCENTAGE IN THE STREPTOCOCCAL CARRIER STATE WERE SEEN. BY THE END OF THE V COURSE IN THE MAJORITY OF PATIENTS THE INDICES OF ANTISTREPTOHYALURONIDASE AND ANTISTREPTOKINASE BECAME STABILIZED DROPPING TO THE NORMAL LEVELS. A COURSE BICILLIN TREATMENT DOES NOT ENSURE PATIENTS COMPLETELY FROM THE RISK OF SUPERINFECTION MOSTLY IN THE FORM OF STREPTOCOCCAL CARRIER STATE. THE LATTER DEVELOPS IN THE PHARYNX USUALLY BETWEEN TREATMENT AND IS ACCOMPANIED AS A RULE BY AN INCREASE OF THE CONTENT OF STREPTOCOCCAL ANTIBODIES IN THE BLOOD SERUM. THUS THERE IS A CORRELATION BETWEEN THE MICROBIOLOGICAL AND IMMUNOLOGICAL INDICES.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--230070
TITLE--PROLONGED STORAGE OF PEARS IN FILMS -U-
AUTHOR--(02)-PONOMAREYA, P.F., KOLESNIK, A.A. P
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (11), 18-20
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FOOD STORAGE, ENZYME ACTIVITY, POLYETHYLENE, FOOD CONTAINER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1090 STEP NO--UR/0322/70/000/001/0018/0020
CIRC ACCESSION NO--AT0119949
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 014

CIRC ACCESSION NO--AT0119949
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PEARS WERE STORED IN POLYETHYLENE
(I) BAGS, CONTG. 1-1.5 KG PEARS, FOR SIMILAR TO 6 MONTHS. THE STORAGE
IN I SLOWS DOWN THE RIPENING, DECREASES THE ACTIVITY OF PECTOLYTIC
ENZYMES, IMPROVES THE STABILITY OF PECTINS, AND DECREASES THE
DEGRADATION OF PROTOPECTINS TO SOL. SUGARS. THE GAS RETAINED BY THE
PEARS BECOMES LOW IN O AND ENRICHED IN CO SUB2. THE CONCNS. OF ACH AND
ETOH IN PEARS STORED IN I WERE LOWER THAN IN A CONTROL BATCH STORED IN
THE AIR. THE STORAGE OF 1 TON PEARS REQUIRES 3.5 KG I.
FACILITY: IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (1), 18-20.

UNCLASSIFIED

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USSR

BUDAGOV, YU. A., VIHOGRADOV, 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), FELEA, 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 AK-System in π^-p -Interactions at 4 and 5.1 Gev/c"
 Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 11, No. 1,
 5 Jan 70, pp 31-35

Abstract: The results of a study of the spectrum of the effective masses of a
 AK-system are reported. The spectrum was obtained in investigating π^-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 AK-system was of interest from the viewpoint of observing new

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USSR

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 channel $N^* \rightarrow \Lambda + K$, to determine the relative probabilities of these decays. Approximately 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 resonances 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 $N^* \rightarrow \Lambda + K$ 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: 681.335.4-525

PONOSOV, G. Ye., Special Design Office of Facilities for Measuring Masses

"A Pneumatic Adder of the Accumulating Type"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296111, division G, filed 20 May 69, published 12 Feb 71, p 153

Translation: This Author's Certificate introduces a pneumatic adder of the accumulating type which contains an input comparison element connected through a pulse counter to an indicating instrument and to a reference pressure element. As a distinguishing feature of the patent, functional possibilities are extended by including a valve through which the minus chamber of the input comparison element is connected to the reference pressure element. The valve is connected to a counter flip-flop which is connected to the output of the element for comparing the total and reference pressure.

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Water Treatment

UDC 628.34

USSR

ZHIVOPISTSEV, V. P., PETROV, B. I., and PONOSOV, I. N.

"Concentration of Radiochemical Research Wastes and Radioactive Decontamination of Waste Water by Using Diantipyrylmethane"

Leningrad, Radiokhimiya, Vol 12, No 4, 1970, pp 631-635

Abstract: The authors investigated diantipyrylmethane extraction of elements into chloroform in an thiocyanate system using elimination of cobalt from the waste solutions of radiochemical research as a specific example. It was shown that diantipyrylmethane is an effective extracting agent for Co-60, and it can be used for extraction and separation of radioactive elements and decontamination without a carrier. A method was developed for radioactive decontamination of water solutions accumulated in the process of radiochemical research and containing radioactive cobalt and other elements which are capable of forming fairly stable metal-thiocyanate complex anions (tin, iron, zinc, molybdenum, zirconium).

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1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REACTION OF TETRAFLUOROHYDRAZINE WITH OXIMES --U-
AUTHOR--(04)--FOKIN, A.V., ZIMIN, V.I., STUDNEV, YU.N., PONSOV, M.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 719-20
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--OXIME, HYDRAZINE COMPOUND, PYRIDINE, FREON, FLUORONITRO
COMPOUND, FLUORINATED ORGANIC COMPOUND, CHEMICAL SYNTHESIS, CHEMICAL
REACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1882 STEP NO--UR/0062/70/000/003/0719/0720
CIRC ACCESSION NO--AP0123670
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123670

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING N SUB2 F SUB4 7-8 HR AT 80DEGREES INTO 10.6 ACETOXIME AND 8.6 G PYRIDINE IN FREON 112 GAVE AFTER TREATING THE PRODUCT WITH AQ. HCL 35PERCENT ME SUB2 C(NF SUB2) N(O): NF, B SUB30 54DEGREES, N PRIME20 SUBD, 1.3950, D PRIME20 1.325. N SUB2 F SUB4 PASSED AT 0DEGREES INTO RHO,HOC SUB6 H SUB4 NO IN CHCL SUB3 GAVE 30PERCENT RHO,HOC SUB6 H SUB4 N(O): NF, M, 83-4DEGREES, WHICH WITH ACCL GAVE IN 16 HRS. REFLUXING 45PERCENT ACETATE, M. 55-6DEGREES, B SUB1 101DEGREES. SIMILARLY WAS PREPD. MEETC(NF SUB2) N (O):NF. ONLY IN THE PRESENCE OF PYRIDINE WAS IT POSSIBLE TO ISOLATE N FLURO DERIVS. FROM SUCH A REACTION. WHEN N SUB2 F SUB4 WAS PASSED INTO DIMETHYLGLYOXIME IN THE 4-5 HR AT 60-5DEGREES, REMOVAL OF THE SOLVENT GAVE A RATHER UNSTABLE YELLOWISH LIQ., WHICH ON BEING HEATED EVOLVED N OXIDES BUT WHOSE CHEM. COMPN. SUGGESTED THE STRUCTURE (MECN(O): NF) SUB2.

UNCLASSIFIED

USSR

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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), FELEA, 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 AK-System in π^-p -Interactions at 4 and 5.1 GeV/c"
 Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 11, No. 1,
 5 Jan 70, pp 31-35

Abstract: The results of a study of the spectrum of the effective masses of a
 AK-system are reported. The spectrum was obtained in investigating π^-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 AK-system was of interest from the viewpoint of observing new

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USSR

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 channel $N^* \rightarrow \Lambda + K$, to determine the relative probabilities of these decays. Approximately 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/c². 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/c² was 114 ± 13 . The experimental data verify the existence of two resonances with masses about 1685 and 1935 Mev/c² and widths of the order of 150 Mev/c². 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 $N^* \rightarrow \Lambda + K$ or by the existence of a new resonance with mass about 1685 Mev/c², as the data of R. Erbe et al indicate.

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1/2 013

TITLE--SEARCH FOR NEW STABLE PARTICLES -U- UNCLASSIFIED

PROCESSING DATE--04DEC70

AUTHOR--PONTECORVO, B.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(4), 846-51

DATE PUBLISHED-----70

P

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVITY, CHARGED PARTICLE, RADIOACTIVE DECAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1072

STEP NO--UR/0367/70/011/004/0846/0851

CIRC ACCESSION NO--AP0136492

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 013

CIRC ACCESSION NO--AP0136492

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

ABSTRACT. A NEW METHOD OF SEARCHING FOR NEW STABLE PARTICLES WITH DECAY TIME GREATER THAN 10 PRIME NEGATIVE 8 SEC IS PROPOSED. THE METHOD CAN BE APPLIED TO THE CASES WHEN A NEW PARTICLE IS ATTRACTED TO A NUCLEUS. IT IS BASED ON SEARCHING FOR THE RADIOACTIVITY OF A QUASINUCLEUS DURING N COLLISION WITH NUCLEUS IN WHICH THE NEW PARTICLE IS BOUND. IN PRINCIPLE, THE METHOD ENABLES OBSERVING BOTH NEUTRAL AND CHARGED PARTICLES PRODUCED WITH VERY SMALL CROSS SECTIONS (GREATER THAN 10 PRIME NEGATIVE 40 CM. PRIME2).

FACILITY:

OB'EDIN. INST. YAD. ISSLED., DUBNA, USSR.

UNCLASSIFIED

Magnesium

3

USSR

UDC 669.721.046.4(088.8)

REZNIKOV, I. L., POLYAKOV, Yu. A., KHASIN, L. B., PONYATENKO, V. V.,
KOROTKOV, Yu. A., RUDAKOV, V. A., and DUNAYEV, D. V.

"Method of Dehydration of Magnesium Chloride"

USSR Author's Certificate No 272569, Filed 30/04/68, Published 27/08/70
(Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract
No 2 G181 P)

Translation: A method is suggested for dehydration of $MgCl_2$ by fusion. To increase the productivity of the apparatus and improve the sanitary conditions, the initial salt is pressed into a strip under a pressure of over 600 kg/cm², ground, and classified, then the fraction of ground salt over 1 mm in size is melted. The salt melt thus produced is agitated by air.

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USSR

UDC: 621.317.8(088.8)

BADINTER, Ye. Ya., ZELIKOVSKIY, Z. I., KARASIK, N. Ya., PONYATOV, G. A.,
SAVENKOV, A. N., FARMAKOVSKIY, B. V., TSETENS, V. P., SHIROKSHIN, K. A.

"A Resistor With a Winding of Cast Microwire in Glass Insulation"

USSR Author's Certificate No 287161, filed 24 Nov 69, published 1 Feb 71
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V334 P)

Translation: This Author's Certificate introduces a resistor wound with cast microwire in glass insulation. The body of the resistor is made from an electrical insulating material such as glass. To improve the stability of operational characteristics in the negative temperature region, the core and insulation of the microwire are made from materials whose effective temperature coefficient of expansion is close to that of the body material. A modification of the resistor is proposed which is distinguished by the fact that borosilicate electric vacuum glass is used as the insulating material, and a ternary or more complex alloy is used as the core material. The components of the alloy are taken in the following ratios (percent): Cr--8-12, Mn--8-16, Si--6-12, Mo--0.1-5, Re--less than 2.2, Ce--less than 1.2, Pr--less than 1.2, the remainder--Ni-Co.

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USSR

UDC 621.165.018.001.5

ANDRYUSHCHENKO, A. I., PONYATOV, V. A., POPOVA, T. I.

"Optimal Finite Parameters of Turbine Power Plants with Step Steam Condensation"

Nauchn. soobshch. Saratov. politekhn. in-t (Scientific Reports of Saratov Polytechnical Institute), 1970, vyp. 3, 104 pp (from RZh-Turbostroyeniye, No 1, Jan 71, Abstract No 1.49.25)

Translation: Results are presented in this article from scientific research work of the Problem Scientific Research Laboratory of Thermal Power Engineering Plants of Electric Power Plants of the Department of Thermal Power Engineering of Saratov Polytechnical Institute for optimization of the final parameters of high-power units with step steam condensation. The practical recommendations obtained permit us to make economically well-founded decisions with respect to selecting the final steam pressure in the condenser stages and the multiplicity of cooling the 500-1,600 megawatt turbine power plants with supercritical initial parameters. The results of the study can be used when planning and designing the low pressure section and the condensation unit of high-power steam turbines. There are 7 illustrations, 39 tables and a 21-entry bibliography.

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USSR

UDC: 669.1:538.116

DUBOVKA, G. T., PONYATOVSKIY, Ye. G.

"Concerning the Shift of Curie Points in Iron-Nickel Alloys Under the Effect of Pressure"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 3, Mar 72, pp 640-642

Abstract: The authors investigate the influence of pressure on the Curie point of 10 nickel-iron alloys containing 28-42 at.% Ni. The Curie points were determined from the temperature dependence of initial permeability within ± 3 kelvins. Pressure was measured on a manganin manometer with an accuracy of ± 200 bars, and temperature was determined by a chromel-alumel thermocouple. The Curie point was found to be a linear function of pressure. The authors thank I. L. APTEKAR' for continued interest in the work and for discussing the results of the experiment, and also A. I. ZAKHAROV for furnishing the specimens.

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USSR

UDC 669.295.017.11+669.296.017.11

APTEKAR', I. L., and PONYATOVSKIY, Ye. G.

"The Influence of Pressure on the Equilibrium Between α , β , and ω Phases in Systems Based on Titanium and Zirconium"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 131-140

Translation: The thermodynamic potentials of the α , β , and ω modifications of Ti and Zr are calculated. The energy, entropy, and transition volume values included in the phase equilibrium equations are assumed independent of temperature and pressure and are determined using handbook data and data on the P-T diagrams of Ti and Zr. The relationships produced satisfactorily describe the P-T diagrams of these elements.

It is demonstrated that the ω phase in alloys of Ti and Zr is a solid solution of the alloying component in the high pressure ω modification of Ti and Zr.

Certain possible types of stable and metastable state diagrams of metal systems based on Ti and Zr are studied in the approximation of ideal solutions, considering the ω phase, and their evolution is traced as pressure is applied.

1/1 6 figures; 1 table; 12 biblio. refs.

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USSR

GUREVICH, S. G., PONYRKO, S. A.

"Calculation of the Probability Density of the Linear Transform of a Random Process with Even Distribution"

Izv. Leningr. Elektrotekhn. In-ta. [Leningrad Electrical Engineering Institute News], 1972, No 109, pp 49-52 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V82 by V. Ivanov).

Translation: The equation $\dot{z} + a_0 z = u + a_1$ is studied, where $u(t)$ is a stable Markhov random process with even probability distribution in the interval $0-b$; a_0, a_1 are constants. Then density w of the stable two dimensional Markhov process (u, z) satisfies the equation

$$c \frac{\partial^2 w}{\partial u^2} - \frac{\partial}{\partial z} [(-a_0 z - u + a_1) w] = 0$$

with boundary conditions

$$\frac{\partial w}{\partial u} \Big|_{u=0} = \frac{\partial w}{\partial u} \Big|_{u=b} = 0, w(u, \pm \infty) = 0.$$

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USSR

GUREVICH, S. G., PONYRKO, S. A., Izv. Leningr. Elektrotekhn. In-ta., 1972, No 109, pp 49-52.

Recurrent relationships are concluded for sequential determination of the coefficients of the expansion of the function

$$w = \sum_{m=0}^{\infty} \sum_{n=0}^{\infty} A_{mn} \cos \beta_m x \psi_n(y),$$

where

$$x = u \sqrt{\frac{a_0}{c}}, \quad y = za_0 \sqrt{\frac{a_0}{c}} - a_1 \sqrt{\frac{a_0}{c}}, \quad \bar{b} = b \sqrt{\frac{a_0}{c}},$$
$$\beta_m = \frac{m\pi}{\bar{b}}, \quad \psi_n(y) =$$

is a Hermith function.

2/2

Acc. Nr: **AP0043764** P

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 3, pp 810-816ABSOLUTE MEASUREMENTS OF THE EXCITATION FUNCTIONS
FOR KII LINES PRODUCED IN COLLISIONS BETWEEN K^+ IONS
AND HE ATOMSPop, S. S.; Krivskiy, I. Yu.; Zapesochnyy, I. P.;
Baletsckaya, M. V.

The absolute course of the excitation functions for the K II spectral lines $\lambda =$
 $= 3897.9; 4134.7; 4149.2; 4186.2; 4222.9 + 4225.7; 4263; 4305 + 4309.1; 4383.2; 4608.5 +$
 $+ 4595.6$ and 4829.2 A and also for the He I line $\lambda = 5875.6$ A is measured for ion ener-
gies between 0.5 and 34 keV. The excitation functions for the K II lines have two peaks.
Qualitatively the course of the excitation functions is the same for all K II lines studied.
The maximal values of the excitation cross sections of the K II lines investigated vary
between $0.25 \cdot 10^{-16}$ and $2.9 \cdot 10^{-16}$ cm² whereas the maximal value of the total excitation
cross section for all measured lines in the visible range of the spectrum is $1.4 \cdot 10^{-17}$ cm².
The theoretical curves calculated by the Landau — Ziner formula satisfactorily agree
with the experimental curves.

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REEL/FRAME
1977/0171

21

1/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SYNTHESES BASED ON DITERPENES. XI. SELECTIVE EPOXIDATION IN A
SERIES OF LABDADIENES -U-
AUTHOR-(021)-POPA, D.P., TITOV, V.V.
COUNTRY OF INFO--USSR *P*
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 956-7.
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, EPOXY COMPOUND, WOOD CHEMICAL PRODUCT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1330 STEP NO--UR/0366/70/006/005/0956/0957
CIRC ACCESSION NO--AP0135004
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135004

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. THE EPOXIDATION OF DELTA PRIME(20), 13-15-HYDROXYLABDADIENE (I) OR ITS 15 ACETOXY ANALOG WITH 1 EQUIV. MONOPERPHTHALIC ACID GAVE SELECTIVELY 13,14 EPOXY I DERIV. OR ITS 15 ACETOXY ANALOG. THE EPOXIDATION OF DELTA PRIME(20), 13-14 FORMYLLABDADINE (II) GAVE THE CORRESPONDING DELTA PRIME(13-8,20)-EPOXY DERIVS. ONLY. IN THE CASE OF II, A SMALL AMT. OF THE DIEPOXIDE WAS ALSO FORMED. THE EPOXIDATION OF DELTA PRIME(9), 13-15-ACETOXYLABDADIENE GAVE EXCLUSIVELY DELTA PRIME(13-8,9)-EPOXY-15, ACETOXYLABDENE.
FACILITY: INST. KHIM., KISHINEV, USSR.

UNCLASSIFIED

POPA, V. A.

So: JPRS 53402
19 JUN 71

UDC: 362.147:616-036.8

METHODS OF EVALUATING THE EFFECTIVENESS OF DISPENSARY CARE

(V. A. POPA)

(Article by L.M. Tomashavskiy, First Polyclinic, Bel'tsy Republic Hospital (Chief Physician V.A. Popa), Moldavian SSR, Moscow, Sovetskoye Zdravokhraneniye, Russkaya, No 5, 1971, submitted 1 December 1970, pp 44-45)

We concur with the author of the article in question with regard to the need for unification of the system of keeping records of and evaluating the indices of effectiveness of dispensary services. They should be developed with consideration of data already published in the press as well as of the experience of different medical institutions.

The three groups of indices submitted in the article do, in essence, correctly reflect the work of a dispensary. They are used by many medical institutions. The first group of indices, volume of work (extent of dispensary care) should be enlarged, and it should be called "volume and quality of dispensary care." In addition to data about general patient coverage by dispensary care, a number of other indices should be included. They can be obtained from the information contained in the new form, No 271 (summary list of diseases subject to dispensary care) approved on 25 December 1967. Such indices include: coverage of patients subject to dispensary care by such care as well as of patients on whom a diagnosis was made for the first time in their life. It is important to take into consideration prompt detection of patients subject to dispensary care.

The article lists the third group of indices: "effectiveness of dispensary work." They are well formulated. The index in this group, entitled "dispensary patients with temporary disability" is used in report-form No 3-1 (development of morbidity involving temporary disability). It is determined by the number of forms submitted by employed patients unable to work. In our opinion, this index should be replaced by another, and it should be called "cases of exacerbation (recurrence) of illness." It

*Published for the purpose of discussion.

** (With reference to the Article by Ya. I. Druyerman) Sovetskoye Zdravokhraneniye, No 9, 1970, pp 22-25

Composite Materials

USSR

UDC 542.65:532.526.7

KOLESNICHENKO, L. F., ~~POPCHENKO, YI. A.~~, KLIMENKO, A. V., and ZABOLOTNYY, L. V., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Use of Composite Materials in Mobile Joints"

Kiev, Poroshkavaya Metallurgiya, No. 9, Sep 70, pp 27-33

Abstract: Modern concepts of friction and wear are based on phenomena caused by the initiation and advancement of plastic processes in the contact zone and their interrelation with the effects of the operating medium. Space technology applications have made necessary extensive studies in overcoming the low effects of certain lubricants in vacuum. The creation of a composite surface by dispersing particles of a stable phase in a plastic matrix designed to preclude plastic flow and failure through friction, is an important step in overcoming the low efficiency of some

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USSR

KOLESNICHENKO, L. F., et al, Poroshkavaya Metallurgiya, No. 9, Sep 70,
pp 27-33

materials under specific conditions. Most promising, however, are combination materials which, unlike composite materials, are characterized by a macroscopic combined structure; they comprise two large groups: matrix-type combination materials and laminated systems of combination materials consisting of individual layers or layered components. To facilitate selection of components for combination materials of special designation, experimental data on antifriction properties and wear resistance for individual materials both in air and in vacuum are cited in a table. Applying a coat of any material cited in this table to the working surface of a steel specimen will change the friction parameters. The shortcoming of such modifications in the surface layer is the short-term work capacity of the friction joint under conditions featuring antifriction. Figures in the original article show the effect of layer orientation on the coefficient of friction and wear due to changes in pressure.

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USSR

UDC 669.71.004.2(088.8)

GOL'DIN, YE. L., POPCHENKOV, I. N.

"Covering for an Aluminum Electrolyzer with Roasted Anodes"

USSR Author's Certificate No 256284, Filed 15 May 68, Published 2 Nov 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G213P)

Translation: The covering consists of an umbrella with sliding caps. In order to improve the efficiency of trapping the gases, the caps are made hollow and they are equipped with uniform suction panels located on the path of the released gases with the electrolyzer tops raised. There are 2 illustrations.

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USSR

UDC 669.71.472(088.8)

POPCHENKOV, I. N., GOL'DIN, YE. L., DENISOV, L. I.

"Device for Trapping Dust From Gases"

USSR Author's Certificate No 280861, filed 1 Nov 66, published 3 Dec 70 (from RZh-Metallurgiya, No 7, Jul 1971, Abstract No 7G214P)

Translation: A device for trapping dust from gases released from Al-electrolyzers with a self-igniting anode and an upper conductor including a second-stage gas exhaust in the form of a hood above the operating opening of the electrolyzer is introduced. For more effective trapping of dust, the side walls of the hood are executed in the form of suspended movable shields with perforated sheets and turnable jalousie flaps attached to them. The overall view of the device forming the panel gas exhaust and the overall view of the device forming the side gas exhaust are presented.

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USSR

UDC 669.71.472(088.8)

SMORODINOV, A. N., ~~POPCHENKOV, I. N.~~, NOSIKHOV, V. I., KIL', I. G., AND
YAZEV, M. V.

"Electrolyzer With Calcined Anodes for Production of Aluminum"

USSR Author's Certificate No. 262396, Filed 19/07/68, Published 21/05/70,
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract
No. 1 G140 P)

Translation: The anode packets of buses and anodes are fastened on the
inside with an anode frame in order to improve sealing and simplify the
design of an electrolyzer.

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