

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.  
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

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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 UNYTYPICAL 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

UDC 582.2:620.191/193

OSTAPLYUK, A. V., All Union Scientific Research Institute of Aviation Materials,  
Moscow

"The Effect of Fungi on Corrosion of Metals"

Leningrad, Mikologiya i Fitopatologiya, Vol 4, No 2, 1970, pp 193-197

Abstract: It has been observed that corrosion of metals caused by mold fungi and bacteria occurs under humid conditions in various climates. When the mycelium of a mold is in contact with a metal, the acid metabolite produced by the growing fungus corrodes the metal. Molds can also live in oils. Bacteria and fungi commonly found in water and soil, through symbiotic interaction, can live in oil tanks, corrode the metal, and block the feed lines with scum. Seven species of mold fungi were placed in flasks containing suitable titration media. When mold appeared on the surface of the media, slabs of aluminum, stainless steel, and brass (80 x 30 x 15 mm) were placed in the flasks. After one, two or three months, the slabs were removed, cleaned and weighed, and the loss of metal by corrosion noted. Changes in pH from 7.0 to 2.0 in 7 days occurred, then a slow increase reaching 8.0 in 2 months. Citric acid was the most active metabolite on the seventh day of incubation. It was found that pure metals and the alloys of non-ferrous metals are more affected by contact with mycelium than are the alloys of nonferrous and ferrous metals.

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USSR

UDC: 8.74

AMOSOV, N. M., OSTAPOV, Yu. G.

"Mathematical Modeling of the Metabolism of a Cell"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works),  
vyp. 25, Moscow, "Nauka", 1972, pp 257-261 (from RZh-Kibernetika, No 6, Jun  
72, Abstract No 6V606)

Translation: An analysis of the results of a computer study of biochemical  
processes which take place in a living cell.

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USSR

UDC 541.183.5:546.791

DEMENT'YEV, V. S., SYROMYATNIKOV, N. G., and OSTAPOVA, N. V.

"Study of the Uranium Isotope Exchange in the System Solution-Sorbent"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 733-739

Abstract: A study was carried out on the interphase isotope exchange of uranium between the solutions and the sorbents in contact with them such as ion exchange resins, aluminum oxide and BUU charcoal. It was determined that, depending on the composition of the solution, type of the sorbent and contact conditions, the periods of half-exchange  $T_{\frac{1}{2}}$  vary from about 4 min to about 4 hrs at room temperatures. The pH of the solution, one of the basic indicators of its composition, which determines the state of uranium and the degree of sorption, has a definite effect on the rate of isotope exchange. The exchange rate dependence on the pH is very complex, reflecting the changes in uranium states and its mobility in solution. It has been stated that the exchange rates of the dissolved and adsorbed uranium are determined by the rate of diffusion "film"; this is supported by the fact that the half-exchange period  $T_{\frac{1}{2}}$  is changed when the intensity of mixing is altered and when the composition of the solutions in contact with the sorbent are changed.

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USSR

UDC 619:614.9-084.47

SHILOV, A. A., OSTASHEV, S. N., NIKONOVA, T. G., Candidates of Veterinary Sciences, NIKONOVA, T. N., and ZERNYKH, Z. A., Veterinarians Kirov Agricultural Institute

"A New Technique for Injecting Biologicals"

Moscow, Veterinariya, No 10, 1971, pp 67-69

Abstract: Injection of many animals with biologicals is a costly and time-consuming process because the site has to be carefully treated (the fur shaved and the skin rubbed with a disinfectant or alcohol) to avoid infection. A new injection technique is proposed (for which the authors received a Soviet patent) involving the treatment of boiled needles with maslotimol. A given preparation can be injected subcutaneously or intramuscularly without first shaving the fur. Infection is prevented by mechanical isolation of the needle from the microbes present on the skin and not by chemical action against them. Maslotimol is a sterile vapor mineral oil with 0.2% thymol added as an antiseptic. When used in the amount recommended, maslotimol does not have any bactericidal effect on, for example, vaccine. However, it cannot be used in taking blood from animals.

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Composite Materials

USSR

UDC 620.178.3

LEBEDEV, T. A., MARINETS, T. K., and OSTASHEV, V. V., Leningrad Polytechnic  
Institute imeni Kalinin

"Criteria for Estimating Cyclic Strength of Composite Materials"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 8, Aug 73, pp 994-996

Abstract: Questions of forecasting cyclic strength of reinforced composite materials are considered. A coefficient of effective projection  $K$  is introduced which is based on the linear increase of cyclic strength of the material in relation to the increasing volumetric content of reinforcement. The area of coefficient projection lies between  $1 < K < 2$ . Results are presented of the investigation of two composite materials -- a specimen from steel 20 with a volumetric reinforcement content of 9 and 14% in the form of high-strength U9 cold-drawn 0.8 mm in diameter and a specimen with combined matrix -- steel 20 and titanium OT4 with the same reinforcement. One illustration, one table.

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USSR

UDC 621.791.539.43

LEBEDEV, T. A., DEDEKGAYEV, T. T., CSTASHEV, V. V., Leningrad

"Study of the Structure of the Transient Zone of a Composite Material During Cyclical Loading"

Kiev, Problemy Prochnosti, No 7, Jul 73, pp 75-79

Abstract: Results are presented from studies performed in order to construct an overall picture of the rupture of reinforced composite materials under cyclical loading. A composite material based on steel and titanium (steel 20 and titanium alloy OT4-1) was tested under flat bending in alternate directions. The relationship of surface reactions at the fiber-material boundary to the nature of rupture is demonstrated.

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1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--EXPERIENCE IN ORGANIZING A SPECIALIZED NARCOTOLOGICAL SERVICE IN AN  
INDUSTRIAL CITY -U-  
AUTHOR--(02)-GUZHEVSKIY, V.N., OSTASHEVSKAYA, N.G.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, SOVETSKOYE ZDRAVOOKHRANENIYE, RUSSIAN, NO 2, 1970,  
SUBMITTED 20 FEBRUARY 1969, PP 24-27  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ALCOHOL, PUBLIC HEALTH, MEDICAL FACILITY, DRUG ABUSE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3005/0709 STEP NO--UR/0753/70/000/002/0024/0027  
CIRC ACCESSION NO--AP0132814  
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0132814

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER THE CONDITIONS OF CONSTRUCTION OF A COMMUNIST SOCIETY IN OUR COUNTRY THE SURVIVAL OF SUCH A REMNANT OF THE PAST AS ALCOHOLISM IS BECOMING INCREASINGLY LESS TOLERABLE. ALL UNITS OF THE PUBLIC HEALTH SERVICE MUST BE DRAWN INTO THE FIGHT AGAINST THIS SOCIAL ILL AND THERE MUST BE CONSTANT IMPROVEMENTS IN THE CORRESPONDING THERAPEUTIC AND ORGANIZATIONAL MEASURES. MANY AUTHORS FEEL IT IS DESIRABLE TO BROADEN THE NONHOSPITAL NARCOLOGICAL PROGRAM BY A GENERAL THERAPEUTIC NETWORK, WHILE AT THE SAME TIME NOT DENYING THE NEED FOR CREATING SPECIALIZED HOSPITAL WARDS AND TREATMENT CENTERS. HOWEVER, WE HAVE NOT ENCOUNTERED ANY REPORTS IN THE LITERATURE ON THE OPERATION OF A SPECIALIZED NARCOLOGICAL SERVICE ESTABLISHED IN THE GENERAL NETWORK OF PUBLIC HEALTH SERVICES OF A LARGE INDUSTRIAL CITY SUCH AS EXISTS IN THE KRIVOY ROG IRON ORE BASIN. IN ORGANIZING NARCOLOGICAL ASSISTANCE FOR THE POPULATION OF KRIVOY ROG AND THE ENTIRE IRON ORE BASIN WE WERE GUIDED BY THE PRACTICAL NEED FOR IT, AS WELL AS THE RECOMMENDATIONS AND IDEAS OF A NUMBER OF AUTHORS WHOSE EXPERIENCE AND KNOWLEDGE OF NARCOLOGY WE ENDEAVORED TO APPLY UNDER OUR CONDITIONS. THREE YEARS HAVE NOW PASSED. WE FEEL THAT THE EXISTENCE OF A NARCOLOGICAL SERVICE IN THE CITY PUBLIC HEALTH SYSTEM HAS PROVEN ITSELF AND DESPITE INDIVIDUAL SHORTCOMINGS WHICH AT TIMES HAVE ARISEN DUE TO FACTORS BEYOND OUR CONTROL, HAS GIVEN POSITIVE RESULTS. FOR THIS REASON WE FEEL IT USEFUL TO SHARE OUR EXPERIENCE IN THE PRACTICAL ORGANIZATION OF A NARCOLOGICAL SERVICE.

UNCLASSIFIED

UDC 612:797.22

USSR

OSTASHKOV, K. V., LARIN, V. V., SOKOLOV'S'KIY, V. S., SAVITS'KIY, V. A., and  
BYUTNER, S. I., Odessa Medical Institute

"Thermography of Aqualungers and Some Indexes of Metabolic Processes Under  
Different Diving Conditions"

Kiev, Fiziologicheskii Zhurnal, No 5, 1972, pp 614-620

Abstract: Thermography of 10 aqualungers age 20 to 24 showed that diving brings about a variety of metabolic changes, the degree varying with the water temperature and pressure, type of outfit worn, respirator, and intensity of the work done. The extent of chilling of the body increases with decreasing temperature and increasing depth of submersion. The heat loss diminishes if the diving is done in a suit of the wet or dry type, if electrical heating is provided, and the aqualunger does physical work. The amount of air and oxygen consumed depends on the water temperature and type of suit. Breathing oxygen results in a greater heat loss, slower respiratory and pulse rates, and higher arterial pressure than does breathing compressed air. The hypothermia caused by submersion shows the signs of a stress reaction: some blood clotting, leukocytosis, and inhibition of serum hydrolase activity.

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1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--SELECTIVE ABDOMINAL HYPOTHERMY -U-  
AUTHOR--(03)--DEYNEKA, I.YA., LARIN, V.V., OSTASHKOV, K.V.  
COUNTRY OF INFO--USSR  
SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 363-368  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ABDOMEN, HYPOTHERMIA, DIGESTIVE SYSTEM, HEMORRHAGE, KIDNEY,  
SURGERY, BACTERIAL DISEASE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1994/1120 STEP NO--UR/0238/70/016/003/0363/0368  
CIRC ACCESSION NO--AP0115139  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PERSPECTIVE APPLICATION OF  
 SELECTIVE ABDOMINAL HYPOTHERMY IN CLINICAL PRACTICE IS GROUNDED AS ONE  
 OF THE MOST EFFICIENT MEANS OF COMBATING PROFUSE GASTROENTERIC  
 BLEEDINGS, FOR COMPLEX TREATMENT OF PANCREATITIS AND  
 CHOLECYSTOPANCREATITIS, OF ACUTE KIDNEY INSUFFICIENCY AND FOR DECREASING  
 THE INTOXICATION PHENOMENA IN ACUTE BACTERIAL INFECTIONS. THE FURTHER  
 APPLICATION OF SELECTIVE ABDOMINAL HYPOTHERMY WILL MAKE IT POSSIBLE TO  
 IMPROVE THE RESULTS OF TREATMENT OF MANY ABDOMINAL DESEASES AND PROVIDE  
 MORE FAVOURABLE CONDITIONS FOR OPERATIVE PROCEDURES. FACILITY:  
 DEPARTMENT OF NORMAL PHYSIOLOGY AND DEPARTMETN OF HOSPITAL SURGERY,  
 MEDICAL INSTITUTE, ODESSA.

UNCLASSIFIED

USSR

UDC 656.259.2

BERZIN, M.A., GIERBEU, V.V., LAZARENKO, YU. V., LAZER, V.S., ~~OSTASHENOV, YE. G.~~  
PLAVNIK, YA. YU., and SOKOLOV, V.F., Design Office of the Main Administration  
of Signaling and Communication, Ministry of Railroads

"A Device for Monitoring a Locomotive's Transit of Block Section Boundaries"

USSR Authors' Certificate No 297532, Cl. B 61 1 3/20; B 61 1/02, filed 12  
Sep 69, published 20 May 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'  
naya Tekhnika, No 1, Jan 72, Abstract No 1A383P)

Translation: A device is suggested for monitoring a locomotive's transit of block section boundaries. It contains locomotive pick-up coils connected via a filter to an amplifier input, a rectifier unit whose input is connected to the amplifier output, OR circuits, a flip-flop, and an actuating unit. For purposes of simplification the device contains code separation units, the output of the rectifier unit being connected to the inputs of the code separation units, with the outputs of the code separation units connected to the inputs of the corresponding OR circuits, the outputs of the OR circuits connected to the flip-flop inputs, and the flip-flop output connected to the actuating unit input. 2 illustrations.

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USSR

OSTASHOV, N. F.

"Construction of a Parallel Program for a Simple Process"

V sb. Sistemn. modelirovaniye (Systems Simulation -- collection of works), vyp. 2, Novosibirsk, 1971, pp 39-49 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V622)

Translation: A study was made of methods of constructing matrices of rank  $M$  and priority  $C$  on the basis of which a parallel program is constructed for a simple process. A method of constructing the priority matrix  $C$  for a process written in free form is proposed. The method is based on representation of the process in the form of two different successive programs  $W$  and  $W$  (called the programs of longitudinal order) on the basis of which the matrix  $C$  is constructed, and the parallel program after it.

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USSR

OSTIANU, V. M.

"Coding for Discrete Channels with Noise"

Abstraktn. i Struktur. Teoriya Releyn. Ustroistv. [Abstract and Structural Theory of Relay Devices -- Collection of Works], Moscow, Nauka Press, 1972, pp 182-211 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V638).

Translation: A continuation of the bibliographic list of literature on the theory of information and theory of coding, published in the preceding collection (RZhMat, 1966, 12V266). As earlier, it contains primarily works on the combinatorial-algebraic theory of codes, correcting errors, including arithmetic codes, as well as works on the realization of coding and decoding.

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USSR

GAVRILOV, M. A., OSTIANU, V. M., LYAKHOVICH, V. F.

"The Status of the Theory of Construction of High-Reliability Relay Devices as of the Beginning of 1970"

Abstraktn. i Struktur. Teoriya Releyn. Ustroistv. [Abstract and Structural Theory of Relay Devices -- Collection of Works], Moscow, Nauka Press, 1972, pp 113-128 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V632).

Translation: A review article. 177 Biblio. Refs.

UDC 533.6.01

USSR

GOLOBOROD'KO, I. L., and OSTOSLAVSKIY, I. V.

"On One of Generalizations of the Thin Profile Theory"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1973, pp 19-23

Abstract: An account is given of a method for determining the aerodynamic characteristics of a slightly bent thin profile at arbitrary position of the point of the flow descent  $\theta_{fd}$ . The problem is solved on the basis of the thin profile theory. Analytical expressions, derived for determining the profile lift coefficient  $c_y$  and the pitching-moment coefficient  $c_m$ , show that  $c_y$  depends on the angle of attack  $\alpha$  and the position of  $\theta_{fd}$  and that  $c_m$  depends on  $\alpha$  and  $c_y$ . The derived results are analyzed by reference to diagrams showing  $c_y(\alpha)$ , the  $c_m(\alpha)$ , and the  $\theta_{fd}(c_m)$  dependences. By the suggested generalization of the thin profile theory for an arbitrary position of  $\theta_{fd}$ , the aerodynamic properties of a thin profile can be investigated rather completely by elementary means. Four figures, twenty one formulas, two bibliographic references.

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USSR

UDC 629.78.018.1

OSTRAS', V. N., PENZIN, V. I.

"Experimental Study of the Force Applied to the Inner Surface of a Cylindrical Tube in Which There is a Nonuniform Supersonic Flow Produced by Conical Nozzles"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1972, Vol. 3, No. 4, pp 29-36 (from RZh-41. Raketostroyeniye, No 11, Nov 72, Abstract No 11.41.108)

Translation: The force of friction applied to the inner surface of a cylindrical tube was measured on tensometric weights under conditions when there is a nonuniform supersonic flow along its entire length produced by conical nozzles. Experiments in which the supersonic flow is produced by shaped nozzles providing a uniform velocity field at the input to the tube were conducted to separate the effect of compression shocks arising in the channel from using conical nozzles. The experiments were conducted at Mach numbers  $M_H = 2.5-3.8$  at the input to the tube and Reynolds numbers  $Re_d = 16^6-10^7$ ,

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USSR

OSTRAS', V. N., PENZIN, V. I., Uch. zap. Tsentr. aerogidrodinam. in-ta,  
1972, Vol. 3, No. 4, pp 29-36

$T_w = 0.92$ , a change of the angle of incidence of the generatrix of the nozzle to the axis of the tube  $\gamma$  from  $13$  to  $26^\circ$  and for two values of the relative roughness  $K_s = 1.25 \cdot 10^{-4}$  and  $2 \cdot 10^{-5}$ . It is shown that the presence of compression shocks leads to an increase in the coefficient of friction resistance basically due to a decrease in the Mach number of the flow. The values of the forces of friction in these uniform flows for a turbulent boundary layer and identical  $Re_d$  numbers can be approximately assumed to be equal if the average M number of the nonuniform flow at the input to the channel is equal to the M number of the uniform flow in the same cross section. The relative roughness has approximately the same effect on the coefficient of friction as in the case of the flow of an incompressible fluid. The stress of friction along the channel is practically constant, making it possible to use the average coefficient of friction resistance  $c_F$  analogous to the average coefficient of friction resistance  $c_{F_0}$  for an incompressible fluid. The relationship  $c_F = c_F(M)$  is close to the analogous relationship obtained for a plate.

6 ill., 6 ref. Resume.

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USSR

UDC:629.7.036.3-752

OSTREBOKOV, S.A.

"Effect of Thickness on Natural Frequency of Disc With Blades"

Moscow, Tr. Mosk. Aviats. In-ta (Transactions of Moscow Aviation Institute), 1972, vyp 245, pp 77-90 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, 1973, Abstract No 3. 34.45)

Translation: Results are presented of an experimental determination of natural frequencies of discs, the modes of vibration include from two to eight nodal diameters without nodal circles. 8 illustrations. 3 references. Author's resume.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DETERMINING THE THERMAL RESISTANCE OF A DISC TYPE RECTIFIER USING  
ELECTROTHERMAL ANALOGY -U-  
AUTHOR--(U4)-OLYAK, V.D., KRASNOBAYEV, A.M., ROMANOVSKIY, V.F., OSTRENKO,  
V.S.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, ELEKTROTEKHNIKA, 1970, NR 2, PP 30-32  
DATE PUBLISHED-----70  
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.  
TOPIC TAGS--THERMAL ANALYSIS, SEMICONDUCTOR RECTIFIER, PN JUNCTION,  
COOLING RATE, ELECTRONIC CIRCUIT MODELING/(U)VKL300 SEMICONDUCTOR  
RECTIFIER, (U)EGCA960 ELECTROINTEGRATOR  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1222 STEP NO--UR/029270/000/002/0030/0032  
CIRC ACCESSION NO--AP0123186  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30UCT70

CIRC ACCESSION NO--AP0123186

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDY THE APPLICATION OF THE ELECTROTHERMAL ANALOGY METHOD FOR DETERMINING THE HEATING TEMPERATURE OF THE P,N,JUNCTION AND THERMAL RESISTANCE OF THE VKL,300 SEMICONDUCTOR POWER RECTIFIER. THE ELECTROC MODEL IS MADE FROM CONDUCTING PAPER. THE EGDA-9-60 ELECTROINTEGRATOR WAS USED FOR MEASURING. THE WORK PRESENTS A DETERMINATION OF THE SCALES OF ANALOGOUS TRANSFORMATION, THEIR INTERRELATIONSHIP, CALCULATION OF THE ELEMENTS OF THE MODEL ALONG WITH A DETERMINATION OF THE P,N,JUNCTION HEATING TEMPERATURE AND THERMAL RESISTANCE OF THE RECTIFIER UNDER THREE COOLING REGIMES. A COMPARISON OF THE DATA OBTAINED FROM THE MODEL WITH THE RESULTS OF THE FULL SCALE EXPERIMENT SHOWS GOOD AGREEMENT.

UNCLASSIFIED

USSR

OSTRENKO, V. YA., KURILENKO, V. KH., ONISHCHENKO, I. I.

"Defects in Hot Rolled Titanium Alloyed Tubing"

Dnepropetrovsk, Metallurgicheskaya I Gornorudnaya Promyshlennost',  
No 1, Jan-Feb 70, pp 29-30

Abstract: Hot rolling of titanium tubes in automatic mills has resulted in defects on the external and internal surfaces of the tubing, particularly in the broaching of billets. The tendency of titanium to adhere to the tools is worsened by the high contact stresses under high temperature conditions and the significant slippage of the metal relative to the surface of the guiding lines in the broaching mill. Another no less important factor in the formation of defects is the gas saturation of the titanium and the formation of a brittle layer on the surface. The most frequent types of defects and conditions of their formation are described and illustrated. These defects increase consumption of metal in the manufacture of the tubing. At the present time, the formation of defects is reduced by more frequent replacement of

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USSR

OSTRENKO, V. YA., et al., Metallurgicheskaya I Gornorudnaya Promyshlennost', No 1, Jan-Feb 70, pp 29-30

line guides. The authors performed an experiment involving blowing compressed air through the mill at 6 atm. pressure between operating cycles. This method was somewhat successful in reducing the frequency of defect formation.

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USSR

UDC: 621.373.531.1(088.8)

AL'TER, A. M., GOL'TS, M. Ye., GUDZENKO, A. B., OSTREHOV, V. M., Ukrainian  
Scientific Research Institute of Machine Tools and Cutting Tools

"A Transistorized Pulse Generator"

USSR Author's Certificate No 269987, filed 22 Jul 68, published 4 Aug 70  
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G231 P)

Translation: This Author's Certificate introduces a transistorized pulse generator which contains a multivibrator and an additional transistor of opposite conductivity type connected in a common base circuit. To simplify the device, a time-mark capacitor is connected to the collector of the additional transistor and to the emitter of one of the multivibrator transistors. This time-mark capacitor is simultaneously connected through a resistor, two capacitors and a second resistor to the collector of the other multivibrator transistor.

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USSR

UDC: 621.396.6-181.48

ZAKIROV, R. G., OSTRETSOV, Yu. N.

"Hermetic Sealing of Integrated Circuit Housings by Capacitor Welding"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 100-101 (from RZh-Radio-tehnika, No 8, Aug 72, Abstract No 8V272)

Translation: The paper discusses the particulars of hermetically sealing microcircuit housings and the casings of semiconductor devices by capacitor welding. Recommendations are given on selecting the materials for making the housing covers, and also the parameters of the hermetic sealing cycle. Resumé.

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1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--ANALYSIS OF TUMOR TRANSFORMATION OF TISSUES. II. BIOCHEMICAL  
DEDIFFERENTIATION OF TISSUE DURING CARCINOGENESIS, CHANGES OF CREATINE  
AUTHOR--(05)-SALYAMON, L.S., ASHMARIN, I.P., OSTRETSOVA, I.B., LYZLOVA,  
S.N., PLUZHNIKOVA, G.F.  
COUNTRY OF INFO--USSR

SOURCE--TSITOLOGIYA 1970, 12(1), 102-10

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, TISSUE PHYSIOLOGY, CELL PHYSIOLOGY, ENZYME ACTIVITY,  
CARCINOGEN, CARBON TETRACHLORIDE, LEAD COMPOUND, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/2107

STEP NO--UR/9053/70/012/001/0102/0110

CIRC ACCESSION NO--AP0127480

UNCLASSIFIED

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CREATINE KINASE (I) AND ALK. PHOSPHATASE (II) ACTIVITY WAS STUDIED IN TRANSPLANTABLE TUMORS (HEPATOMA 22A IN C SUB3 HA MICE, HEPATOMA 27 AND KIDNEY TUMOR AB-12 IN RATS) AND TISSUES OF MICE AND RATS ADMINISTERED CARCINOGENIC COMPS. (CCL SUB4, PB(OAC)SUB2, URETHANE AND 3,4,BENZ(O)ALPHA) PYRENE). I ACTIVITY WAS INCREASED 3 FOLD IN HEPATOMA 27 AND 5-10 FOLD IN HEPATOMA 22A. IT INCREASED ALSO UP TO 2 FOLD DURING THE HEPATOCARCINOGENESIS IN MICE AFTER CCL SUB4 ADMINISTRATION. AFTER THE ADMINISTRATION OF 3,4,BENZ(O)ALPHA)PYRENE, I ACTIVITY IN SKELETAL MUSCLES DECREASED TO 56PERCENT OF THE NORMAL VALUE WITHIN 26 DAYS AND A SIMILAR DECREASE WAS FOUND IN KIDNEYS OF RATS ADMINISTERED PB ACETATE. HOWEVER, I ACTIVITY IN THE LIVER WAS INCREASED. II ACTIVITY IN THE LIVER OF MICE ADMINISTERED CCL SUB4 INCREASED UP TO 3 FOLD DURING THE 1ST FEW DAYS THEN RETURNED TO NORMAL VALUES. PB ACETATE CAUSED A DECREASE IN II ACTIVITY IN THE KIDNEY AND KIDNEY TUMORS. AFTER THE ADMINISTRATION OF URETHANE, II ACTIVITY IN THE LIVER INCREASED. IT WAS CONCLUDED THAT CHEM. CARCINOGENESIS IS ACCOMPANIED BY REPRESSIONS AND DEREPRESSIONS OF GENES REGULATING THE SYTHESIS OF ENZYMES IN CERTAIN TISSUES.  
FACILITY: LAB. PATHOL. PHYSIOL. TUMOR GROWTH, INST. UNCDL., LENINGRAD, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

1/2 026

TITLE--ANISOTROPY OF DUCTILITY IN CONTINUOUSLY CAST SHEET STEEL -U-

AUTHOR--(03)-OSTREYKO, I.A., MEDVEDEV, A.N., MUSTAFAYEV, I.A.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., CHERNAYA MET., 1970, (1), 72-74

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STEEL SHEET, DUCTILITY, SHEET METAL, MANGANESE CONTAINING ALLOY, CONTINUOUS CASTING, ANISOTROPY, METAL ROLLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/0553

STEP NO--UR/0148/70/000/002/0072/0074

CIRC ACCESSION NO--AP0124248

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 026

CIRC ACCESSION NO--AP0124248

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

ABSTRACT. THE ANISOTROPY CHARACTERIZING THE DUCTILITY OF SHEET STEEL OBTAINED BY CONTINUOUS CASTING IS DISCUSSED ON THE BASIS OF A MATHEMATICAL REGRESSION ANALYSIS AND CORRELATED WITH THE MN CONTENT, THE ROLLING TEMP., AND THE METHOD OF HANDLING THE STEEL AFTER ROLLING. THE ANISOTROPY IS GREATEST WHEN THE TEMP. AT THE END OF THE ROLLING OPERATION IS 880DEGREESC AND THE RESULTANT MATERIAL IS WOUND INTO REELS AT 600DEGREESC. CAREFUL ATTENTION TO MN CONTENT IS REQUIRED IN ORDER TO ENSURE ADEQUATE DUCTILITY.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--THE USE OF DIFFERENTIAL CENTRIFUGATION IN A STUDY OF HETEROMORPHIC  
PROPERTIES OF A SUBMERGED CULTURE OF ACTINOMYCES STREPTOMYCIN 773 -U-  
AUTHOR-(03)-DMITRIYEVA, S.V., OSTRIKOVA, N.A., KOSHELEVA, G.I.  
COUNTRY OF INFO--USSR  
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 397-401  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ACTINOMYCES, STREPTOMYCIN, CULTURE METHOD  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1994/0152 STEP NO--UR/0297/70/015/005/0397/0401  
CIRC ACCESSION NO--AP0114543

UNCLASSIFIED



2/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114548  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. WITH DIFFERENTIAL CENTRIFUGATION THE SUBMERGED CULTURE OF ACTINOMYCES STREPTOMYCINI 773 WAS BROKEN INTO 3 MYCELIAL AND 3 NON MYCELIAL FRACTIONS. CYTOMORPHOLOGICAL DIFFERENCES BETWEEN MYCELIA FROM FRACTIONS II, IV AND VI, AS WELL AS DIFFERENCES IN THE GROWTH AND ANTIBIOTIC PRODUCTION RATES WERE OBSERVED. THE MYCELIAL FRACTION IV IS OF THE GREATEST INTEREST. ITS EARLY APPEARANCE INDICATES A LOW LEVEL OF ANTIBIOTIC ACTIVITY. INSTITUTE FOR ANTIBIOTICS, MOSCOW. FACILITY: NATIONAL

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--THERMAL ANALYSIS OF A GALLIUM CHLORIDE, ALUMINUM CHLORIDE, CESIUM  
CHLORIDE SYSTEM -U-  
AUTHOR--OSTRIKOVA, N.V.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1142-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL ANALYSIS, GALLIUM COMPOUND, CHLORIDE, ALUMINUM  
CHLORIDE, CESIUM COMPOUND, EUTECTIC, PHASE DIAGRAM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1999/1117 STEP NO--UR/0078/70/015/004/1142/1144  
CIRC ACCESSION NO--AP0123109  
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AP0123109  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT, THE PHASE DIAGRAM OF THE GACL  
SUB3-ALCL SUB3-CSCL SYSTEM IS PRESENTED, THE CSALCL SUB4-CSGACL SUB4  
SECTION FORMS A CONTINUOUS SERIES OF SOLID SOLNS. CSGACL SUB7 FORMS IN  
THE SUBSYSTEM CSALCL SUB4 PLUS GACL SUB3 IN EQUILIBRIUM CSGACL SUB4 PLUS  
ALCL SUB3. THE TERNARY PERITECTIC POINT CORRESPONDS TO COMPN. ALCL SUB3  
26, GACL SUB3 53, AND CSCL 21 MOLE PERCENT AND TEMP. 98DEGREES. THE  
TERNARY EUTECTIC M. 70DEGREES AND CLOSELY ADJOINS THE GACL SUB3-CSCL  
COMPN. LINE. FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED.

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--THERMAL ANALYSIS OF A GADOLINIUM CHLORIDE, IRON III CHLORIDE, SODIUM  
CHLORIDE SYSTEM -U-  
AUTHOR--OSTRIKOVA, N.V.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEGRG. KHIM. 1970, 15(3), 880-1  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL ANALYSIS, GADOLINIUM COMPOUND, CHLORIDE, SODIUM  
CHLORIDE, PHASE DIAGRAM, EUTECTIC MIXTURE, IRON CHLORIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1994/1723 STEP NO--UR/0078/70/015/003/0880/0881  
CIRC ACCESSION NO--AP0115552

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115552

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEN CROSS SECTIONS OF GACL SUB3-FECL SUB3-NACL SYSTEM WERE STUDIED AND THEIR PROJECTION IS GIVEN ON A PHASE DIAGRAM OF THE SYSTEM. THE QUASIBINARY SYSTEMS, NAFECL SUB4-NAGACL SUB4 AND NAGACL SUB4-FECL SUB3 SEP. THE DIAGRAM INTO 3 PARTS: NAFECL SUB4-NACL-NAGACL SUB4, NAFECL SUB4-NAGACL SUB4-FECL SUB3, AND FECL SUB3-GACL SUB3-NAGACL SUB4. NAFECL SUB4 AND NAGACL SUB4 FORM A CONTINUOUS SERIES OF SOLID SOLNS. THE SYSTEM HAS A TERNARY PERITECTIC AND A TERNARY EUTECTIC POINT. FACILITY: VORONEZH. GOS. UNIV., VORONEZH. USSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--ONE TYPE OF ELECTRICAL CHARACTERISTIC OF SEMIINSULATING GALLIUM  
ARSENIDE -U-  
AUTHOR--OSTROBORODOVA, V.V.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(1), 228  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--THERMAL EFFECT, HALL CONSTANT, ETCHED CRYSTAL, ELECTRICAL  
CONDUCTIVITY, ACTIVATION ENERGY, LOW TEMPERATURE EFFECT, CRYSTAL  
IMPURITY, GALLIUM COMPOUND, ARSENIDE, SURFACE PROPERTY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1988/0590 STEP NO--UR/0449/70/004/001/0228/0028  
CIRC ACCESSION NO--AP0105573  
UNCLASSIFIED

2 037

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105573

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THE HALL CONST. AND RESISTIVITY ( $\rho_H$ ) IN GAAS SAMPLES ( $\rho_H$  SUB 295 DEGREES K GREATER THAN 2 TIMES 10 PRIME OHM-CM) WAS STUDIED AT 250-450 DEGREES K. THE EFFECTIVE CARRIER MOBILITY IS STRONGLY INFLUENCED BY SURFACE CONDUCTANCE. IN SAMPLES WITH A FRESHLY ETCHED SURFACE, AT GREATER THAN 350 DEGREES K, THE HALL CONST. APPROACHES OR REACHES THE INTRINSIC HALL CONST. ( $m$  SUB E EQUALS 0.07M SUB O,  $m$  SUB H EQUALS 0.5M SUB O,  $E$  SUB CV EQUALS (1.52 MINUS 4.3) TIMES 10 PRIME NEGATIVE 4 EV). AT LOWER TEMPS., THE COND. DEVIATES FROM ITS INTRINSIC VALUE; THE ACTIVATION ENERGY OF IMPURITY TERMS IN BOTH THE COND. AND THE HALL CONST. IS APPROX. 0.4 EV; THE COMPENSATION COEFF. OF THE CORRESPONDING LEVEL IS 10 PRIME NEGATIVE 3 MINUS 10 PRIME NEGATIVE 4. THE RESULTS ARE DISCUSSED FROM THE VIEWPOINT OF 2 ENERGY LEVELS CONTRIBUTING TO THE DARK COND. THE SIMULTANEOUS EXISTENCE OF 2 PARTLY COMPENSATED LEVELS AS WELL AS THE QUANT. CHARACTERISTICS OF THE COMPENSATION COEFF. ARE EXPLAINED, CONSIDERING THE LACK OF HOMOGENEITY OF THE MATERIAL, WHICH CONTAINS SEVERAL LEVELS DUE TO VARIOUS DEFECTS AND IMPURITIES.

UNCLASSIFIED

USSR

OSTROMOGIL'SKIY, A. Kh.

"Distribution of Line Length in a System with Group Servicing"

Mat. vopr. upr. proiz-vom [Mathematical Problems of Production Control -- Collection of Works], No 5, Moscow, 1972, pp 24-27 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V58 by I. Kovalenko)

Translation: An M/GI system with group servicing with arbitrary distribution of the size of a group of requests simultaneously arriving for servicing is studied. The generating function of the final probabilities of the embedded markov chain is found. In the case when the servicing time of a group of requests is distributed according to Erlang's law, the mathematical expectation and dispersion of the value at the moment preceding the beginning of servicing are found.

Abstractor's Note. The system studied by the author was also studied in: (RZHMat, 1965, 2V452, 1966 12V57).

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Equipment  
Gyroscopic

USSR

UDC: 629.78.017.2

BESEKERSKIY, V. A., GORDEYEV, V. G., OSTROMUKHOV, Ya. G.

"Theory of a Two-Rotor Precessing Orbit"

Moscow, Upr. dvizhushchimisya ob'yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik (Control of Moving Objects. Works of the Fourth All-Union Conference on Automatic Control. Tbilisi, 1968--collection of papers), 1972, pp 87-98 (from RZh-Raketostroyeniye, No 10, Oct 72, abstract No 10.41.66)

Translation: Basing their analysis on an investigation of the initial differential equations of a two-rotor precessing orbit, as well as on the composition of the interferences acting on the output of the vertical plotter and in the precessing orbit itself, the authors present basic theoretical relations for the process of constructing a running orbital system of coordinates in the correction (normal orientation) and the gyroscopic memory modes. By way of principal results of the analysis, the authors note that the spectrum of interference due to inherent drifts of the gyroscopes is changed by the modulating properties of the two-rotor precessing orbit, and also by working conditions in the gyroscopic memory mode which are more ad-

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USSR

BESEKERSKIY, V. A. et al., Upr. dvizhushchimisya ob"yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik, 1972, pp 87-98

vantageous than in a single-rotor precessing orbit. The difference in the interference spectra at the output of orbital coordinate systems plotters constructed on the basis of using single-rotor and two-rotor precessing orbits enables realization of further effective combination of the two. Bibliography of five titles. Résumé.

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USSR

BESEKERSKIY, V. A., GORDEYEV, V. G., OSTROMIKHOV, Ya. G.  
"Theory of the Two-Rotor Gyroscopic Orbit"

Upr. Dvizhushchimisya Ob'yektami. Tr. IV Vses. Soveshch. po Avtomat. upr. Tbilisi, 1968 [Control of Moving Objects, Works of Fourth All-Union Conference on Automatic Control, Tbilisi, 1968 -- Collection of Works], Moscow, 1972, pp 87-98, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 A72, author's view).

Translation: Based on a study of the initial differential equations of a two-rotor gyroorbit and the composition of interference at the output of the vertical-line constructor, as well as in the gyroorbit itself, the basic theoretical relationships are presented for the process of construction of the instantaneous orbital system of coordinates in the correction (normal orientation) mode and gyroscopic memory mode. As the most important results of analysis, the author's note the transformation of the spectrum of noise defined by the natural drift of the gyroscopes, a result of the modulating properties of the two-rotor gyroorbit, as well as the more favorable operating conditions in the gyroscopic memory mode than in a single-rotor gyroorbit. The differences in the noise spectra at the output of the orbital coordinate system constructor based on a single-rotor and on a two-rotor gyroorbit allows them to be effectively combined. 5 Biblio. Refs.  
1/1

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--CATALYTIC ACTION OF ALUMINOSILICATES ON THE GRAPHITIZATION OF  
CARBON MATERIALS -U-  
AUTHOR--(03)-FROLOV, V.I., OSTRONOV, B.G., NAGORNYI, V.G.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(20), 39-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GRAPHITIZATION, CARBON, COKE, SILICATE, CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/1415

STEP NO--UR/0136/70/043/002/0039/0041

CIRC ACCESSION NO--AP0126953

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126953

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN 10PERCENT POWD. NAX, KA, NAA, AND CAX ZEOLITES, NEPHELINE, SERICITE, KAOLIN, OR CHLORITE WERE ADDED TO PETROLEUM COKE KNPS AND THE MIXTS. WERE HEATED IN AN INERT ATM. IN A TUBE FURNACE AT 2000DEGREES FOR 3 HR, THE DEGREE OF GRAPHITIZATION WAS RAISED FROM 0.36 FOR THE CONTROL SAMPLE TO 0.70, 0.69, 0.63, 0.49, 0.69, 0.66, 0.62, AND 0.56, RESP., AND THE INTERLAMELLAR DISTANCE D SUB002 IN THE GRAPHITE WAS REDUCED FROM 3.409 TO 3.380, 3.381, 3.385, 3.398, 3.381, 3.383, 3.387, AND 3.392, RESP. ON THE BASIS OF THE DIAMAGNETIC SUSCEPTIBILITY (5.2 TIMES 10 PRIMENEGATIVE6 CM,G,SEC UNITS-G) OF THE GRAPHITIZED KNPS,NAX MIST., THE CONTENT OF PERFECT GRAPHITE CRYSTALS WAS 25PERCENT. REPEATED FORMATION AND DECOMP. OF CARBIDES COULD NOT EXPLAIN THIS RESULT BECAUSE D SUB002 DECREASED ONLY DURING THE FIRST 2 HR OF HEATING AND THEN REMAINED ALMOST CONST. AND THE PERFECT GRAPHITE PHASE WAS NOT DETECTED IN X RAY DIAGRAMS. IMPROVED GRAPHITIZATION OF THE KNPS,NAX MIST. RESULTED FROM INCREASED MOBILITY OF THE CRYSTALS AS A RESULT OF RECRYSTN. OF CARBIDES ON SURFACES HAVING LOWER ACTIVATION ENERGIES (75 COMPARED WITH 86 KCAL-MOLE).

UNCLASSIFIED

USSR

UDC 536.532.089.6

OSTROV, M. G., SAMARIN, Yu. B. and KOLOSHINA, V. N.

"Measurement of Small Low-Temperature Differences"

Moscow, Izmerital'naya Tekhnika, No 6, 1972, p 48

Abstract: A manganin-constantan thermocouple has been produced for the measurement of small low-temperature differences. Results of calibration of the thermocouple within the temperature range from 273-73° K are presented in a table. It is shown that the electromotive force of the thermocouple is close to the emf of a copper-constantan thermocouple, and that the thermal conductivity of the manganin-constantan thermocouple is 1 or 2 orders of magnitude lower than that of a copper-constantan thermocouple. The manganin-constantan thermocouple may be recommended for the measurement of small low-temperature differences in adiabatic microcalorimeters. 1 table. 4 references.

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1/2 007

UNCLASSIFIED

PROCESSING DATE--21NOV70

TITLE--COMPLEXES OF MACHINES OF CONTINUOUS ACTION -U-

AUTHOR--(05)-TARTAKOVSKIY, B.N., AKUTIN, G.K., BARSUKOV, M.I., SHCHERBINA,  
YU.M., OSTROUKHOV, I.I.

COUNTRY OF INFO--USSR

SOURCE--COMPLEXES OF MACHINES OF CONTINUOUS ACTION (KOMPLEKSY MASHIN  
NEPRERYVNOGO DEYSTVIYA) MOSCOW, NEDRA, 1970, 123 PP

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND  
MARINE ENGR

TOPIC TAGS--MINING ENGINEERING, MINERAL DEPOSIT, INDUSTRIAL AUTOMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3003/1735

STEP NO--UR/0000/70/000/000/0001/0123

CIRC ACCESSION NO--AM0130587  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 007

CIRC ACCESSION NO--AM0130587  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TABLE OF CONTENTS: PREFACE 5.  
CHAPTER I. MECHANIZATION OF STRIPPING OPERATIONS IN OPEN CUT MINES 12.  
II. MECHANIZATION OF MINE CONSTRUCTION OPERATIONS IN OPEN CUT MINES 36.  
USE OF CONTINUOUS OPERATION TECHNIQUES 70. CONCLUSION 125.  
BIBLIOGRAPHY 126. THE BOOK DEALS WITH BASIC MOST TYPICAL FLOW SHEETS  
IN MECHANIZATION OF STRIPPING AND MINE CONSTRUCTION OPERATIONS IN OPEN  
CUT MINES BY MEANS OF COMPLEXES OF CONTINUOUS OPERATION MACHINES, AS  
WELL AS FUNDAMENTAL PRINCIPLES IN AUTOMATION OF THESE COMPLEXES. THE  
BOOK WAS WRITTEN FOR A WIDE CIRCLE OF ENGINEERING TECHNICAL PERSONNEL OF  
MINING ENTERPRISES, DESIGN AND SCIENTIFIC RESEARCH ORGANIZATIONS; IT CAN  
BE USEFUL ALSO TO COLLEGE STUDENTS SPECIALIZING IN THE FIELD OF OPEN CUT  
MINING DEPOSITS.

UNCLASSIFIED



USSR

VANIN, R. S., OSTROUKHOV, M. Ya.

"Influence of Calcium Fluoride on Desulfuration of Cast Iron by High Magnesium Slags"

Moscow, Izv. Vuzov, Chernaya Metallurgiya, No 2, 1971, p 39-41.

Abstract: The influence of the addition of  $\text{CaF}_2$  (1-4%) on the desulfurating ability of synthetic high magnesium (20-30% MgO) slags with  $\text{CaO}:\text{SiO}_2=0.6$  is studied. It is found that calcium fluoride improves the distribution factor of sulfur between high magnesium melt and cast iron. The highest desulfuration indicator is produced by a slag with 25% MgO and 2%  $\text{CaF}_2$  with  $\text{CaO}:\text{SiO}_2=0.6-0.8$ .

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USSR

UDC: 669.162.12:622.782.004.12

OSTROUKHOV, M. Ya., RUSKOVA, A. G., PERMINOV, N. I., RUSAKOV, L. N., VYATKIN, G. P.,  
~~and~~ ABROSLIMOV, A. S.

"Structural Specifics and Metallurgical Properties of Pellets Made of Titanium-Magnetite Ore Concentrates. Report 1"

Izv. VUZ, Chernaya Metallurgiya, No 6, 1970, pp 33-37

Abstract: Pellets made of ilmenite-titano-magnetite ores from the southern Urals (60.87% Fe; 10.14% TiO<sub>2</sub>) with basicity (CaO: SiO<sub>2</sub>) 0.40-1.38, roasted under isothermal conditions in a current of air (60 l/hr) for 30 minutes were studied. The composition and structure of the pellets were determined by the roasting temperature. With low-temperature roasting (1150-1220° C), the processes of sintering and recrystallization occur in parallel with oxidation of the ore grains, and highly porous, but low-strength pellets are produced consisting of hematite, pseudobrookite, calcium ferrites (influxed pellets) and silicate glass. With high-temperature roasting (1250-1300° C), oxidation precedes the recrystallization and sintering processes of the titanomagnetite. These pellets have increased strength but low porosity, and consist of hematite (solid solution) and silicate binder; the predominate mass of the titanium oxides is present as a solid solution consisting of hematite. Two illustrations; one table; three bibliographic references.

1/1

172 016 UNCLASSIFIED PROCESSING DATE—30OCT70  
TITLE—DETERMINATION OF SEROTONIN IN GASTRIC JUICE BY A FLUOROMETRIC  
METHOD —U—  
AUTHOR—(03)—MOROZOVETSKIY, O.V., GROKHOVSKIY, L.P., OSTROUKHOV, V.D.  
COUNTRY OF INFO—USSR  
SOURCE—LAB. DELO 1970, (3), 152-4  
DATE PUBLISHED—70  
SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS—SEROTONIN, GASTROINTESTINAL SYSTEM, FLUOROMETER, DIGESTIVE  
SYSTEM  
CONTROL MARKING—NO RESTRICTIONS  
DOCUMENT CLASS—UNCLASSIFIED  
PROXY REEL/FRAME—3001/1797 STEP NO—UR/9099/70/000/000/0152/0154  
CIRC ACCESSION NO—AP0127211  
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0127211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEROTONIN WAS EXTD. FROM GASTRIC  
JUICE WITH BUTANOL AND DETD. FLUOROMETRICALLY AFTER A 2ND EXTN. WITH  
HEPTANE WITH 0.1 N HCL IN THE PRESENCE OF 3N HCL. FACILITY:  
LENINGRAD. GASTROENTEROL. LAB., LENINGRAD, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ELECTROPHORESIS OF HUMUS SUBSTANCES ON AGAR GEL -U-  
AUTHOR--(02)-STEPANOV, V.V., OSTROUKHOVA, T.M.  
COUNTRY OF INFO--USSR  
SOURCE--POCHVOVEDENIE 1970, (2), 44-54  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ORGANIC ACID, AGAR, GEL, ELECTROPHORESIS, BUFFER SOLUTION,  
SPECTROPHOTOMETRY  
CONTROL MARKING--NO RESTRICTIONS.  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1998/0297 STEP NO--UR/0500/70/000/002/0044/0056  
CIRC ACCESSION NO--AP0120986  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120986

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HUMIC AND FULVIC ACIDS, 0.04-0.5 ML AT 0.1 MG-ML, WERE APPLIED TO 2-4 MM THICK 1.5-3PERCENT AGAR AGAR LAYERS AT 0DEGREES. ELECTROPHORESIS WAS PERFORMED AT 5-10V-CM, 50-80 MA, AND PATH LENGTH OF 25 CM, IN 0.1-0.2 M BARBITURATE OR NA FORMATE BUFFERS AT PH 8.6 OR 5.0, RESP. THE ANIONIC HUMUD SUBSTANCES COULD BE FRACTIONATED IN THE FREE ACID OR IN THE NA SALT FORM. DENSITOMETRY IN THE VISIBLE OR IR WAS EMPLOYED TO VISUALIZE THE FRACTIONATIONS. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr.: AP0030926

Ref. Code: UR 0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 1, pp 105-108

SUMMARY

EFFECT OF SUPPLEMENTARY ADMINISTRATION OF VITAMIN B<sub>1</sub>  
IN DDT AND HEPTACHLOR POISONING ON OXIDATION-REDUCTION  
PROCESSES IN THE ORGANISM

V. A. Ostroukhova and F. A. Onihiyenko (Kiev)

The effect has been studied of administration of vitamin B<sub>1</sub> on the state of oxidation-reduction processes in DDT and heptachlor poisoning.

It was found that during repeated prolonged (1.5 months) entering of subtoxic doses of the aforementioned poisons into the animal organism daily administration of excessive amounts of vitamin B<sub>1</sub> resulted in a significant improvement of oxidative processes, in particular in the case of DDT poisoning.

mk

b

REEL/FRAME

19690945

USSR

UDC 577.1:615.7/9

BURKATSKAYA, YE. N., OSTROUKHOVA, V. A., KARPENKO, V. N., ANINA, I. A., OLEFIR, A. I.

"Characteristic Features of the Reactions of the Organism under the Prolonged Effect of Various Classes of Chemicals"

V sb. Nauch. osnovy sovrem. metodov gigiyen. normirovaniya khim. veshchestv v okruzhayushchey srede (Scientific Principles of Modern Methods of Hygienic Normalization of Chemicals in the Environment -- collection of works), Moscow, 1971, pp 135-141 (from RZh-Biologicheskaya Khimiya, No 14, Jul 72, Abstract No 14F2050)

Translation: On the basis of a study of the effect of organochlorine and organophosphorus and carbamate pesticides (experiments on rats) on certain biochemical systems of the organisms, the morphological composition of the blood and the immunological reactivity, it is considered that during hygienic normalization of chemicals as integral tests, the biochemical, hematologic and immunologic indexes can be used.

1/1



1/6 063 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--DIALOGUE ORBIT EARTH -U-  
AUTHOR--OSTROUMOV, G.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, IZVESTIYA, 4 JUNE 1970, PP 1, 4  
DATE PUBLISHED-----70  
SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION, BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--MANNED SPACECRAFT, FLIGHT CONTROL SYSTEM, RADIO COMMUNICATION, ORBIT CORRECTION, SPACECRAFT MANEUVER, MAN MACHINE SYSTEM/(U)SOYUZ 9 MANNED SPACECRAFT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/1649 STEP NO--UR/9003/70/000/000/0001/0004  
CIRC ACCESSION NO--AN0131965  
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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131965

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WE ARE IN THE LARGE ROOM OCCUPIED BY THE FLIGHT CONTROL GROUP. ONE OF THE WALLS IS A MNEMONIC DIAGRAM, MOCKUP AND TELEVISION SCREEN. EVERYONE'S ATTENTION IN THE HALL IS DIRECTED TO ONE OF THEM: IT NOW APPEARS THAT THE COSMONAUTS WHO BEGAN FLIGHT ONE ONE HALF HOURS AGO ARE COMPLETING THEIR FIRST REVOLUTION. I RECALL THE ANTENNA DISHES WHICH I SAW ALONG THE ROAD TO THE COMMAND POINT. THEY WERE POINTED AT THE HORIZON SO THAT THEY COULD INTERCEPT "SOYUZ-9" AS SOON AS POSSIBLE, INTERCEPT IT AS SOON AS IT EMERGES FROM THE ZONE OF INVISIBILITY. IN OUR SKY THE SUN TRAVELS FROM EAST TOWEST; THE SATELLITE SHIP MOVES IN THE OPPOSITE DIRECTION. MUCH LIKE VLADIVOSTOK INTERCEPTS THE SUN'S RAYS SOONER THAN MSDCON, THE COMMAND POINT IS SITUATED IN SUCH A WAY AS TO INTERCEPT THE SHIP'S RADIO WAVES AS SOON AS POSSIBLE. THE TELEVISION SCREEN IS SPARKLING AND READY, BUT THE ELECTRONIC CLOCK ABOVE IT INDICATES THAT THE COMPUTED TIME OF THE SHIP'S EMERGENCE IS YET TO COME. IN THE BIG ROOM EVERYONE IS SITTING IN STRICTLY PREDETERMINED PLACES: CONTROL GROUP, BALLISTICS GROUP, COSMONAUTS GROUP, BIOMEDICAL GROUP, ANALYSIS GROUP. SOMEWHAT LIKE THE BRAIN, A DEFINITE PART IS RESPONSIBLE FOR EACH FUNCTION. PERHAPS THE ANALOGY DOES NOT GO SO FAR, BUT THE TEAM DIRECTION MUST NOT HAVE TO LOOK AROUND IN SEARCH FOR THE PERSON HE NEEDS AT A PARTICULAR MINUTE. BLACKISH GRAY BANDS RACE ACROSS THE SCREEN, NOW THEY HAVE DISAPPEARED AND LIKE WHEN DEVELOPING A PHOTOGRAPH WE SEE THE SHIP CABIN IMAGE EMERGE. THE TELEVISION CAMERA IS LOOKING DOWN ON THE COSMONAUTS FROM ABOVE.

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CIRC ACCESSION NO--AM0131965

ABSTRACT/EXTRACT--"HOW ARE YOU?" "EXCELLENT." THEN FOLLOWS AN EXCHANGE OF TECHNICAL INFORMATION... TELEMETRY, WHICH AS THEY SAY HERE, WAS "SHOT" FROM THE SHIP, CONFIRMS THAT ALL THE PHYSIOLOGICAL PARAMETERS FOR THE TWO COSMONAUTS ARE NORMAL, CORRESPONDING TO THE PARTICULAR FLIGHT STAGE. YES, NOW THAT FLIGHT EXPERIENCE HAS BEEN ACCUMULATED WE HAVE A RIGHT TO SPEAK OF PHYSIOLOGICAL NORMS PROPER FOR SPACE. AFTER TERMINATION OF THE COMMUNICATIONS CONTACT THERE IS A BRIEF CONFERENCE OF THE TECHNICAL OPERATIONS GROUP. IN MY OPINION IT IS INSTRUCTIVE IN ITS MAXIMUM EFFICIENCY. SHORT COMMUNICATIONS ARE RECEIVED FROM THE GROUPS I MENTIONED. ALL CONFIRM: THE SYSTEM OR SYSTEMS UNDER THEIR SUPERVISION ARE OPERATING NORMALLY. THEN THE WORDS: "COMMUNICATION ENDED". "QUESTIONS?" ASKS THE CHAIRMAN, AND WHEN THERE ARE NONE HE CONCLUDES "NO QUESTIONS." AFTER THE REPORTS SETTING FORTH THE COURSE OF IMPLEMENTATION OF THE PROGRAM, THE CHAIRMAN OF THE ANALYSIS GROUP GIVES AN ANALYSIS OF THE STATE OF THE SYSTEMS. THE FINAL SPEAKER IS A MEMBER OF THE GROUP WHO PROPOSES MEASURES FOR ELIMINATING MALFUNCTIONS IF ANY EXIST. AGAIN THERE WOULD SEEM TO BE AN ANALOGY WITH THE OPERATION OF THE BRAIN: OBSERVATION, ANALYSIS, DRAWING OF CONCLUSIONS FOR ACTIONS. THE ENTIRE CONFERENCE REQUIRED LESS THAN FIVE MINUTES: ON THE ONE HAND, THIS WAS THE RESULT OF ITS WELL FORMULATED ORGANIZATION, AND ON THE OTHER HAND, THE TOTAL GOOD ORDER ABOARD THE SHIP. HOWEVER, THE WORD "MALFUNCTION" WAS MENTIONED ONCE, IT BEING NOTED THAT THE CARBON DIOXIDE CONTENT IN THE CABIN ATMOSPHERE WAS SOMEWHAT LESS THAN EXPECTED. WHAT WAS RESPONSIBLE FOR THIS?

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ABSTRACT/EXTRACT--FOR THE TIME BEING ANALYSIS CAN SUGGEST SEVERAL TECHNICAL AND PHYSIOLOGICAL FACTORS: THE COSMONAUTS HAD NOT PERFORMED ALL THE PRESCRIBED PHYSICAL EXERCISES. METHODS WERE PROPOSED FOR CHECKING ON THIS, INCLUDING CONVERSATION WITH THE COSMONAUTS. AT THE NEXT COMMUNICATIONS CONTACT THE COSMONAUTS ANSWERED: "ALL THE EXERCISES COULD NOT BE PERFORMED. WE WERE BUSY WITH EXPERIMENTS UNDER THE PROGRAM". "PHYSICAL EXERCISES ARE MANDATORY AT THE EXPENSE OF ANY EXPERIMENT," WENT THE COMMAND FROM THE EARTH. "IT'S TRUE THAT WE GAVE THEM AN OVERLOAD," EXPLAINED A SPACE PHYSICIAN, "BUT THE BODIES OF THE COSMONAUTS MUST ALSO BE INVESTIGATED. WE MUST KNOW HOW THEY REACT TO WORK". AN ORBITAL CORRECTION WAS MADE: THE COSMONAUTS MADE USE OF THE MANEUVERING CAPABILITIES OF THE SHIP. THE BALLISTICS EXPERT WHO COMMENTED ON THIS OPERATION NOTED THE EXCELLENT ACCURACY OF THE CREW'S ACTIONS. "IMAGINE: AN ERROR IN THE IMPULSE OF ONLY 0.01 SECOND, SCARCELY BELIEVABLE". THEN WE HEARD SOME GENERAL INFORMATION ON BALLISTICS WHICH I FELT WAS INTERESTING. WE LEARNED WHY A CIRCULAR ORBIT IS MORE ADVANTAGEOUS THAN AN ELLIPTICAL ORBIT; WE LEARNED THAT BY INCREASING VELOCITY AT PERIGEE BY 1 M PER SEC IT IS POSSIBLE TO INCREASE APOGEE ALTITUDE BY 3.5 KM. FINALLY, WE LEARNED THAT THE DENSITY OF THE UPPER ATMOSPHERE IS MINIMUM IN JUNE. WE THANK THE BALLISTICS EXPERT. THIS WAS A PLEASANT WOMAN, BY NO MEANS SEVERE IN APPEARANCE, AS ONE MIGHT THINK FROM THE NAME OF HER PROFESSION. SHE STATED, "WHILE IN SCHOOL I WAS ALREADY GREATLY ATTRACTED TO MATHEMATICS".

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ABSTRACT/EXTRACT--THE CORRECTION WAS MADE LATE IN THE EVENING AND IN THE MORNING IN THE STILL EMPTY OPERATIONS CONFERENCE ROOM I SETTLED DOWN WITH MY NOTEBOOK. SUDDENLY TWO YOUNG ENGINEERS APPEARED IN THE ROOM. "HURRAH/ LOOK AT WHAT A BEAUTIFUL ORBIT," SAID ONE OF THEM. I ALSO LOOKED AT THE BOARD, COVERED BY A TABLE OF FIGURES. ALONG SIDE THE COLUMN OF COMPUTED VALUES WAS A COLUMN OF PARAMETERS ACTUALLY REALIZED. THE PARAMETERS OF THE ACTUAL ORBIT DEVIATED INSIGNIFICANTLY FROM THE COMPUTED VALUES. INSOFAR AS I COMPREHEND IT, THE "SOYUZ-9" WILL MAKE USE OF ALL THE ADVANTAGES OF AN ORBIT WITH SMALL ELLIPTICITY. HOWEVER, EMOTIONS DO NOT FLARE UP HERE VERY FREQUENTLY: EVERYTHING IS ORDINARY AND EXPECTED. ON THE OTHER HAND, THE PROGRAM IS ENORMOUS. THERE IS LITTLE TIME TO SPARE ON THE SHIP AND HERE THERE IS MORE THAN ENOUGH TO DO. MANY OF THE EXPERIMENTS ARE CONDUCTED JOINTLY BY THE SHIP AND EARTH. THE CHIEF-DESIGNER OF THE "SOYUZ" SHIPS STATES THAT THE FLIGHT IS PURSUING EXCLUSIVELY WORKING OBJECTIVES: TECHNICAL AND PHYSIOLOGICAL PROBLEMS WHICH MUST BE SOLVED IN THE PROCESS OF CREATING NEW SPACE SYSTEMS. "WE ARE SEEKING THE OPTIMUM RELATIONSHIP IN THE MAN MACHINE SYSTEM, TO BE MORE PRECISE, IN THE MAN AUTOMATIC EQUIPMENT SYSTEM. IN TURN, THIS WILL ENABLE US TO DETERMINE THE POSSIBILITIES OF PURPOSEFUL HUMAN ACTIVITY IN SPACE. WE MUST CLEARLY UNDERSTAND WHAT MUST BE DONE IN ORDER TO FAVOR AN INCREASE IN PERFORMANCE". WE TALK WITH THE CHIEF DESIGNER OF THE "SOYUZ" SHIPS NEAR THE END OF THE FIRST DAY OF FLIGHT AND HE TELLS US THAT THE PERIOD OF 24 HOUR ADAPTATION OF THE CREW TO SHIP CONDITIONS IS ENDING.

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ABSTRACT/EXTRACT--THIS CAN BE NOTICED BY EVERYONE PRESENT AT THE  
COMMUNICATION CONTACTS. THE VOICE OF THE COSMONAUT IS, EVEN UNNOTICED  
BY HIMSELF, A GOOD PARAMETER OF HIS OVERALL CONDITION.

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PROCESSING DATE--13NOV70

TITLE--DAY AFTER DAY -U-

AUTHOR--OSTROUMOV, G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA, 7 JUNE 1970, P 1

DATE PUBLISHED--07JUN70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MECH., IND., CIVIL AND  
MARINE ENGR, NAVIGATION, SPACE TECHNOLOGY  
TOPIC TAGS--ANTENNA, MANNED SPACECRAFT, SPACECRAFT TRACKING, SPACE  
COMMUNICATION, OCEANOGRAPHIC SHIP, RADIO COMMUNICATION/(U)SOYUZ 9 MANNED  
SPACECRAFT, (U)COSMONAUT VLADIMIR KOMAROV SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1682

STEP NO--UR/9003/70/000/000/0001/0001

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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131971

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

ABSTRACT.

THREE GIANT ANTENNAS STAND LIKE Sentries AT THE "RADIO THRESHOLD" OF SPACE. THE PHOTOGRAPH WHICH ACCOMPANIES THIS REPORT SHOWS THE ANTENNAS POINTED TO THE ZENITH. IF THIS WAS A MOTION PICTURE FILM ONE COULD OBSERVE HOW THE DISHES, WEIGHING HUNDREDS OF TONS, MOVE EASILY, EVEN ELEGANTLY, SCANNING THE SKY FROM HORIZON TO HORIZON: THEY ARE TRACKING A FLYING SHIP. INTERCEPTING IT SOMEWHERE IN THE DISTANCE, THOUSANDS OF KILOMETERS FROM THE FLIGHT CONTROL CENTER AND OBTAINING INFORMATION FROM IT, THEY THEN "SWITCH" "SOYUZ-9" TO THE ANTENNAS OF THE TRACKING MEASURING STATIONS. IF ONE TAKES INTO ACCOUNT THE OPERATIONS OF ALL THE GROUND STATIONS, ADDING OTHER SUCH AS THE SHIP "KOSMONAVT VLADIMIR KOMAROV," WE OBTAIN A SYSTEM WHICH IN SIZE IS COMPARABLE TO THE PLANET ITSELF BUT WHICH OPERATES WITH THE ACCURACY OF THE BEST CLOCK MECHANISM. WHEN YOU PASS FROM THE BROAD NOISY CORRIDOR WHERE ONE ESCAPES TO EXCHANGE OPINIONS, REST AND SMOKE, PARTICULARLY THE ENGINEERS FROM DIFFERENT GROUPS AT THE CENTER, YOU ENTER THE SEMIDARKNESS OF THE LARGE ROOM HOUSING THE COMPUTERS: THE EYES ARE FASCINATED BY BLINKING OF HUNDREDS OF TINY LAMPS ON THE COMPUTER PANELS, IT BEING AS IF A FIREY BLIZZARD HAD PENETRATED INTO THE ROOM. AT THE END OF THE COMPUTATION COMPLEX THERE IS A PRINTOUT APPARATUS. A BROAD PAPER TAPE, ALMOST A HALF METER WIDE, FILLED WITH ROWS OF FIGURES, EMERGES FROM IT. IT SEEMS LIKE THERE IS NOT END TO THESE MASSES OF FIGURES: THOUSANDS AND MILLIONS OF FIGURES. AMONG THESE FIGURES WERE THOSE WHICH FIRST RAISED THE "PHYSICAL EXERCISES" PROBLEM.

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3/4 064

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PROCESSING DATE--13NOV7

ABSTRACT/EXTRACT--I RECALL: THE SENSORS REVEALED THAT THE CABIN ATMOSPHERE CONTAINED LESS CARBON DIOXIDE THAN THE COMPUTED LEVEL. THE PHYSICIANS POSTULATED: THE COSMONAUTS ARE NOT PERFORMING "AN ADEQUATE PHYSICAL LOAD". THE CREW CONFIRMED THIS BUT CITED A LACK OF TIME. DURING THE COMMUNICATIONS CONTACT KHRUNOV JOKINGLY STATED: "BUT YOU ARE ADDING EXERCISES AT THE EXPENSE OF BREAKFAST". "NOT AT THE EXPENSE OF BREAKFAST," RESPONDS NIKOLAYEV IN KHRUNOV'S TONE, "THE APPETITE IS TOO GOOD THEN" "YOU'D RATHER GET FAT". FINALLY THE SCIENTISTS SLIGHTLY CUT THE PROGRAM AND NOW THE COSMONAUTS HAVE 50 MINUTES FOR MAINTAINING MUSCLE TONE. INCIDENTALLY, THIS IS NO SIMPLE MATTER. ON THE GROUND SO TO SPEAK, ONE CAN FLAIL ONE'S ARMS, LEGS, AND THAT'S ALL THERE IS TO IT. IN THIS CASE WEIGHTLESSNESS "REMOVES" THE ENTIRE LOAD. AFTER ALL IN SPACE THE ARMS AND LEGS WEIGHT NOTHING. HOW TO MAKE THE MUSCLES WORK? FOR THAT REASON A SPECIAL SUIT WAS DESIGNED FOR EXERCISE, NOT MORE AMPLE, BUT A LITTLE THICKER, TO BE MORE PRECISE, ELASTIC ELEMENTS WERE INSERTED IN THE FABRIC; THESE HELP IN UNIFORMLY LOADING THE BODY MUSCLES. AFTER PUTTING ON SUCH A SUIT THE COSMONAUT LEAPS, WALKS AND RUNS IN PLACE AND EXERCISES WITH AN EXPANDER. REVOLUTION AFTER REVOLUTION SPACE LIVING BECOMES EASIER. THE CENTER AND THE CREW EXCHANGE FEWER QUESTIONS RELATING TO PROBLEMS OF COOKING ("WHAT DID YOU EAT" IS IT BETTER TO HEAT THE FOOD?"), MORNING PERSONAL CARE ("WHAT SHAVING IS MORE CONVENIENT, ELECTRIC OR SAFETY RAZOR?) AND OTHER EVERYDAY PROBLEMS. ONE OF THE "BREAKS" IN THE COMMUNICATIONS CONTACT WAS ALLOCATED TO THE NEWSPAPERMEN ACCREDITED TO THE CONTROL CENTER.

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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131971  
 ABSTRACT/EXTRACT--QUESTIONS FOR NIKOLAYEV AND SEVAST'YANOV WENT INTO SPACE  
 AND ANSWERS WERE RETURNED FROM THE SHIP. ON THE MORNING OF 3 JUNE, ON  
 THE 65TH REVOLUTION, THE COMMUNICATIONS CONTACT WAS SUPPLEMENTED BY A  
 TELEVISION IMAGE. FIRST THE MATTER OF PHYSICAL EXERCISES WAS AGAIN  
 RAISED. THE DOCTORS SEEMED TO EVERYONE TO BE UNUSUALLY SCRUPULOUS AND  
 INSISTENT: WAS THERE COMPLETE HARMONY BETWEEN THE REQUIREMENTS OF THE  
 PROGRAM AND THE CAPABILITIES OF THE COSMONAUTS WITH RESPECT TO THE TIME  
 AND WITH RESPECT TO LOAD? "SUBJECTIVE CHECKING OF OUR FEELING OF WELL  
 BEING CONFIRMS THAT WE ARE BOTH IN GOOD FORM BUT IN OUR OPINION THE  
 PHYSICAL EXERCISE PROGRAM IS TOO GREAT," SAYS SEVAST'YANOV. "DO YOU  
 THINK IT CAN POSSIBLY BE REDUCED"? "BUT WE ARE NOW IMPLEMENTING THE  
 PROGRAM FULLY," NIKOLAYEV HASTENS TO ADD, "WE ARE TAKING NOTHING UPON  
 OURSELVES," HE CALMS THE DOCTORS. THE SECOND HALF OF THE RADIO  
 CONTACT IS THE TRANSMISSION OF SUPPLEMENTS TO THE RESEARCH PROGRAM. ON  
 THE SCREEN WE SEE TWO FIGURES BENDING OVER THEIR LOGBOOKS. THE FIRST  
 DICTATION IN SPACE. AN EXTRA PENCIL ON A LEASH FLOATS IN FRONT OF  
 NIKOLAYEV'S HEAD.

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174 049  
UNCLASSIFIED  
TITLE--SOYUZ-9 FINDS VEGA -U-  
PROCESSING DATE--13NOV70  
AUTHOR--DSTROUMOV, G.  
COUNTRY OF INFO--USSR  
SOURCE--IZVESTIYA, 11 JUNE 1970, P 1  
DATE PUBLISHED--11JUN70  
SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION  
TOPIC TAGS--MANNED SPACECRAFT, STAR FIX, SPACE NAVIGATION, SATELLITE ORIENTATION, SPACECRAFT CONTROL FACILITY/(U)SOYUZ 9 MANNED SPACECRAFT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/1672  
STEP NO--UR/9003/70/000/000/0001/0001  
CIRC ACCESSION NO--AN0131969  
UNCLASSIFIED

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UNCLASSIFIED

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CIRC ACCESSION NO--AN0131969

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH EVERY PASSING DAY AT THE FLIGHT CENTER ONE DISCOVERS MORE AND MORE OF THE WORK ORGANIZATION DETAILS WHICH ARE CONVENIENT FOR NEWSPAPERMEN. AT A CERTAIN PLACE YOU CAN ALWAYS FIND PRECISE INFORMATION ON WHEN COMMUNICATION CAN BE ESTABLISHED WITH THE SHIP AND FROM WHAT STATIONS. THESE DATA ARE PREPARED WITH THE HELP OF ONE OF THE LOCAL ELECTRONIC COMPUTERS. THEN YOU CAN DISCOVER THAT THE LOCAL RADIO NETWORK TRANSMITS PRECISE TIME SIGNALS AND TEN MINUTES PRIOR TO A COMMUNICATION CONTACT GIVES A WARNING CONCERNING THIS TO ALL IN THE BUILDING. THOSE ON DUTY ARE CALLED TO THEIR WORK PLACES. NOISES EMANATE FROM THE TELEVISION SET, WHICH HAS BEEN TURNED ON. A SORT OF RAINLIKE PATTERN COVERS THE SCREEN. SUDDENLY THERE ARE BLACK BROKEN LINES AND THE TWO, NIKOLAYEV AND SEVAST'YANOV, CAN BE SEEN SIDE BY SIDE. A LARGE SCREEN IS ALSO SWITCHED ON. BOTH HAVE LOGBOOKS IN HAND; THEY HAVE MADE PREPARATIONS FOR REPORTING. TODAY'S REPORT FROM SPACE IS IN A CERTAIN SENSE REMARKABLE. A SUCCESSFUL EXPERIMENT WAS COMPLETED FOR "INTERCEPTING" THE STAR VEGA. AND INDEED THIS BUSINESS GAVE THE COSMONAUTS AND THE FLIGHT CENTER MORE THAN A LITTLE TROUBLE. BUT FIRST, A FEW WORDS CONCERNING THE SIGNIFICANCE OF THIS EXPERIMENT. WE WILL TRY TO TAKE AN ORDINARY EVERYDAY SITUATION: ON THE STREET A PASSERBY ASKS YOU TO TELL HIM HOW TO REACH A CERTAIN PLACE. YOU MENTALLY PICK OUT THE CONSPICUOUS BUILDINGS ALONG HIS WAS AND EXPLAIN: "KEEP ON THE RIGHT SIDE. WHEN YOU GET TO THE FABRICS STORE ON THE CORNER, TURN TO THE RIGHT".

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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131969  
 ABSTRACT/EXTRACT--IN THE LANGUAGE OF NAVIGATORS, YOUR "FABRIC STORE" IS A LANDMARK, THAT IS, A SIGV HELPING YOU TO DETERMINE YOUR SPATIAL POSITION. IN ASTRONAVIGATION THE BEST LANDMARKS ARE BRIGHT STARS, SIRIUS, VEGA AND THE PLANET JUPITER. IN OUR CASE IT WAS VEGA WHICH WAS INVOLVED, HOW TO ORIENT THE SHIP ON THIS STAR, AND THEN "FIX" ITS SPATIAL POSITION (THAT IS, FORCE IT TO "FLY" IN AN ORBIT WHICH AT ALL TIMES IS DIRECTED AT A CERTAIN POINT) BY MEANS OF GYROSCOPES AND AFTER ONE REVOLUTION CHECK ON HOW THE CENTER HEARD: "THE STAR HAS LATE ON THE EVENING OF 9 JUNE THE CENTER HEARD: "THE STAR HAS INTERCEPTED EVERYTHING ACCOMPLISHED" THERE WAS SATISFACTION IN UNDERSTAND AS A STARTER THAT IT IS NO SIMPLE MATTER TO HAVE IDEAL CONDITIONS FOR SUCH AN EXPERIMENT. FIRST, THE COSMONAUT MUST FIND VEGA WITH HIS OWN EYES THROUGH THE SHIP'S PORT. THIS IS DIFFICULT: HE DOES NOT HAVE THE ENTIRE CELESTIAL SPHERE IN HIS FIELD OF VIEW, ONLY A PART OF IT, CUT OUT BY THE SHIP'S PORT. YOU CAN CONVINCE YOURSELF OF THE DIFFICULTIES: FIND SOME OBJECT IN THE ROOM BY LOOKING THROUGH A TUBE 20 CM LONG AND FOUR OR FIVE CENTIMETERS IN DIAMETER. THE COSMONAUTS WERE TURNED UPSIDE DOWN. THE SOLAR CELLS SHIELDED THE SUN AND THE STAR WAS FOUND. THEN THE SHIP WAS ORIENTED ON THE STAR; THE GYROSCOPES WERE SWITCHED ON. DURING THE COMMUNICATIONS CONTACT NIKOLAYEV STATED THAT AFTER AN ENTIRE REVOLUTION THE SHIP WAS ONLY SLIGHTLY DISORIENTED. EVERYONE AT THE CENTER WAS SATISFIED. SUCH ORIENTATION IS EXTREMELY IMPORTANT FOR ORBITAL STATIONS, FOR LONG FLIGHTS. FOR EXAMPLE, VISUALIZE THAT THERE IS A TELESCOPE ON THE STATION.

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CIRC ACCESSION NO--AN0131969

ABSTRACT/EXTRACT--IT CAN HOLD ANY CELESTIAL BODY IN ITS FIELD OF VIEW PROVIDED THAT ITS SUPPORT DOES NOT TWIST OR OSCILLATE. THE SYSTEM TESTED ON "SOYUZ-9" HELPS TO GIVE A SPACE OBSERVATORY THE SAME RELIABLE SUPPORT AS A TERRESTRIAL OBSERVATORY. AFTER THE REPORT ON THE EXPERIMENT WITH VEGA, THE CREW DICTATES FIGURES CHARACTERIZING OTHER "SOYUZ-9" ASTRONOMICAL EXPERIMENTS. THE RADIO CONTACT HAS ENDED. THE IMAGE ON THE TELEVISION SCREEN HAS DISAPPEARED IN THE BRIGHT PATTERN. "DON'T FORGET TO SWITCH OFF THE TELEVISION CAMERA, IT IS TRACKING THE SHIP". "IT'S OFF, IT'S OFF. FAREWELL" ON THE MORNING OF 10 JUNE, AS ALWAYS, THERE IS A SESSION OF THE TECHNICAL OPERATIONS STAFF. THE REPORTS STATE: THE PERFORMANCE OF THE COSMONAUTS IS PERSISTING AT A HIGH LEVEL; THE EXPERIMENTS ARE BEING CARRIED OUT IN ACCORDANCE WITH THE PROGRAM; THE RESULTS ARE GOOD.

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173 062

UNCLASSIFIED

PROCESSING DATE--13NOV70  
-U-

TITLE--SOYUZ-9 COMPLETES THREE HUNDRED REVOLUTIONS

AUTHOR--DSTROUMOV, G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA, 16 JUN 1970, P 1

DATE PUBLISHED--16JUN70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, SPACE TECHNOLOGY, MECH.,  
IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--MANNED SPACECRAFT, MAN MACHINE SYSTEM, METEOROLOGIC SATELLITE,  
OCEANOGRAPHIC SHIP, RADIOSONDE, TV CAMERA, CYBERNETICS/(U)METEOR  
METEOROLOGIC SATELLITE, (U)AKADEMIK SHIRSHOV SHIP, (U)SOYUZ 9 MANNED  
SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1696

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CIRC ACCESSION NO--AN0131974

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CIRC ACCESSION NO--AN0131974  
ABSTRACT/EXTRACT--(U) GP-0-

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PROCESSING DATE--13NOV76

ABSTRACT. THE SECOND WEEK, THE 14TH DAY OF FLIGHT OF THE SPACESHIP "SOYUZ-9", WAS COMPLETED ON 15 JUNE AT 2300 HOURS. AT THE CONTROL CENTER YOU ALREADY SENSE SOME ADDITIONAL RISE IN SPIRITS. AN ADDITIONAL BOOST, BECAUSE THE DAY TO DAY SUCCESSES IN IMPLEMENTING THE PROGRAM FROM THE VERY BEGINNING OF THIS PROLONGED SPACE EXPERIMENT HAVE CREATED A HIGH PSYCHOLOGICAL BACKGROUND. I RECALL THE FIRST DISCUSSION BETWEEN NEWSPAPERMEN AND THE CHIEF DESIGNER OF THE "SOYUZ" SHIPS. HE STATED THAT DURING A LONG FLIGHT IT IS NECESSARY TO STUDY THE BEHAVIOR OF THE HUMAN BODY AND THOROUGHLY INVESTIGATE THE "MAN, MACHINE SYSTEM" UNDER SPACEFLIGHT CONDITIONS, ITS LONG TERM EFFECT. IN THIS CONNECTION WE SHOULD MENTION AN EXPERIMENT WHOSE OBJECTIVE WAS TO DETERMINE MAN'S PERFORMANCE WHEN IMPLEMENTING A COMPLEX AND PRECISE EXPERIMENT. I REFER TO A SERIES OF INVESTIGATIONS IN WHICH A CYBERNETIC DEVICE PARTICIPATED. A REPORT LIKE THIS IS VERY LIMITED AND WE CANNOT GO INTO THE COMPLEXITIES OF AN ELECTRONIC CIRCUIT. IT IS MORE IMPORTANT FOR US TO COMPREHEND THE ESSENCE OF THE EXPERIMENT. LONG PRIOR TO THE FLIGHT THE COSMONAUTS PRACTICES DEFINITE OPERATIONS WITH THIS CYBERNETIC DEVICE. NOW THEY ARE PERFORMING THE SAME WORK DURING FLIGHT. COMPRAISON OF THE RESULTS (IN WHICH THE MACHINE ITSELF PARTICIPATED), BOTH ON THE GROUND AND IN SPACE, WILL MAKE IT POSSIBLE TO DRAW THE NECESSARY CONCLUSIONS ON HOW THE "MAN, MACHINE SYSTEM" WORKS AFTER PROLONGED STAY IN A SHIP FLYING IN ORBIT. THE 189TH REVOLUTION WAS REMARKABLE FOR ITS METEOROLOGICAL EXPERIMENT. IT WAS THOUGHT OUT BRAADLY AND IN DETAIL.

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UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--IN ADDITION TO THE "SOYUZ-9" SHIP, THE SCIENTIFIC RESEARCH VESSEL OF THE ACADEMY OF SCIENCES USSR "AKADEMIK SHIRSHOV" AND THE "METEOR" METEOROLOGICAL SATELLITE, FLYING AT AN ALTITUDE OF ABOUT 630 KM, ALSO PARTICIPATED. THIS WAS IN THE WESTERN PART OF THE INDIAN OCEAN. WHEN THE "SOYUZ-9" WAS OVERTAKING THE VESSEL, SAILING IN THE OCEAN, IT TOOK A SERIES OF PHOTOGRAPHS OF THE CLOUD LAYER, A SECOND SERIES WAS TAKEN OVER THE SHIP ITSELF, AND A THIRD SERIES BEYOND THE "AKADEMIK SHIRSHOV". AT THIS SAME TIME RADIOSONDES WERE LAUNCHED FROM ABOARD THE SHIP AND THESE REGISTERED A VERTICAL CROSS SECTION OF THE ATMOSPHERE, DETERMINED ITS CHARACTERISTICS. SIMULTANEOUSLY, THIS SAME REGION WAS SCANNED BY THE TELEVISION CAMERAS OF THE "METEOR" SATELLITE. COMPARISON OF THE PHOTOGRAPHS TAKEN FROM ABOARD THE "SOYUZ-9" WITH THE TELEVISION IMAGES WHICH THE "METEOR" TRANSMITTED, AS WELL AS WITH THE RADIOSONDE READINGS, IS OF GREAT INTEREST FOR METEOROLOGISTS. THIS TYPE OF EXPERIMENT MAKES POSSIBLE A THOROUGH STUDY OF ATMOSPHERIC PHENOMENA, AND THIS IS IMPORTANT FOR IMPROVING WEATHER FORECASTS. AMONG ALL THE SPECIALISTS PRESENT NOW AT THE FLIGHT CENTER IT IS EASY TO PICK OUT THE REPRESENTATIVES OF MEDICINE: THEY ARE THE CENTER OF ATTENTION. FOR ALL OTHER SCIENTISTS THE EXPERIMENTS ARE BEGINNING AND ENDING, BUT THE MEDICAL EXPERIMENT ESSENTIALLY CONTINUES WITHOUT LET UP AT ALL HOURS AND EVERY DAY OF THE FLIGHT. THE CONCLUSIONS DRAWN BY THE PHYSICIANS ARE VERY OPTIMISTIC: DURING ALL FLIGHT STAGES THE WELL BEING OF THE CREW AND ITS PERFORMANCE COULD ONLY GIVE PLEASURE TO THE SPECIALISTS.

UNCLASSIFIED

1/2 054 UNCLASSIFIED PROCESSING DATE--11SEP70  
 TITLE--THE DAWN IS PRETTIER THAN THE SUNSET -U-  
 AUTHOR--OSTROUMOV, G. (0)  
 COUNTRY OF INFO--USSR  
 SOURCE--IZVESTIYA, JUNE 19, 1970, P 3, COLS 1-6  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--SPACE TECHNOLOGY, BIOLOGICAL AND MEDICAL SCIENCES  
 TOPIC TAGS--COSMONAUT, MANNED SPACECRAFT, PULSE RATE, MEDICAL  
 MONITORING/(U)SOYUZ 9 MANNED SPACECRAFT  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--1989/1611 STEP NO--UR/9003/70/000/000/0003/0003  
 CIRC ACCESSION NO--AN0108031  
 ZZZZZZZZZZZZ UNCLASSIFIED

2/2 054

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC, ACCESSION NO--AN0108031

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

ABSTRACT. ACCORDING TO THE LEADER OF THE MEDICAL CONTROL GROUP AT THE FLIGHT CONTROL CENTER, ALL THE FUNCTIONS OF THE ASTRONAUTS OF THE "SOYUZ 9" ARE NORMAL, EXCEPT THE PULSE RATE WHICH DROPPED.

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UNCLASSIFIED

PROCESSING DATE--02OCT70

1/2 037

TITLE--HELLO, FRIENDS -U-

AUTHOR--OSTROUMOV, G.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA, JUNE 21, 1970, P 1, COLS 5-7, AND P 3, COLS 1-2

DATE PUBLISHED--21JUN70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, SAFETY ENGINEERING, MANNED SPACE FLIGHT,  
INTERPLANETARY FLIGHT/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1989/1604

STEP NO--UR/9003/70/000/000/0001/0003

CIRC ACCESSION NO--A0109024

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

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CIRC ACCESSION NO--AN0108024

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

ABSTRACT. DURING THE PRESS INTERVIEW HELD AT ONE OF THE MOSCOW AIRPORTS BEING READIED TO MEET NIKOLAYEV AND SEVAST, YANOV, THE CHIEF DESIGNER OF THE "SOYUZ" SPACE SHIPS REVEALED THAT THE FLIGHT OF THE "SOYUZ-9" HAS DISPELLED SOME SERIOUS APPREHENSIONS AS TO THE SAFETY OF SPACE FLIGHTS LONGER THAN TWO WEEKS. HOWEVER, HE ADDED THAT TELEMETRY DATA AND DATA ACCUMULATED BY THEASTRONAUTS MUST BE ANALYZED BEFORE MAKING THE FINAL PRONOUNCEMENT.

UNCLASSIFIED

OSTROUMOV, P. B

SO:JPRS 55100  
4 FEB 72

UDC 613.493:616.981.23

DEVELOPMENT OF STAPHYLOCOCCAL INFECTION IN HUMAN SUBJECTS UNDER THE INFLUENCE OF SOME SPACEFLIGHT FACTORS

Article by E. A. Chukhlovin, P. B. Ostroumov and S. P. Ivanova; Moscow, Совмещенная Биологичека и Медическа Академия, Ученый Журнал, No 5, No 6, 1971, submitted for publication 27 June 1969, pp 61-65

Abstract: Healthy male test subjects exposed to extended bedrest, partial or complete isolation and inadequate personal hygiene were studied for the size of microbial foci in the nasal mucosa and pathogenicity of nasopharyngeal staphylococci. Most test subjects exhibited an increase in size of staphylococcal foci and an increased presence of staphylococci producing coagulase, hyaluronidase and lecithovitellase. They also exhibited an increased level of antibodies to staphylococcal enzymes in the blood. The carrying of a main phagocyte was usually established in isolated groups of subjects. The possibility of actual infection of human subjects by pathogenic staphylococci under the influence of certain spaceflight factors was demonstrated.

Among the problems involved in the medical support of prolonged space flights is the development of measures for the prophylaxis of autoinfections, especially staphylococcal infections.

It is known from the literature that a state of prolonged hypodynamia, weightlessness, and also the influence of other spaceflight factors lead to a decrease in natural body resistance (O. G. Alekseyeva and A. P. Volkova; M. I. Kozur; G. P. Mikhaylovskiy, et al.). In this way the prerequisites can be created for the activation of potentially pathogenic microflora (S. A. Chukhlovin and S. P. Ivanova).

An increase in the size of staphylococcal foci on the mucous membrane of the nose and in the pharynx can serve as an index of an increase in the activity of microorganism. Their increase to levels exceeding the

USSR

UDC 627.838(088.8)

KRIVCHENKO, G. I., OSTROUKOV, S. N.

"Spillway Unit for Pressure Water Holding Structures"

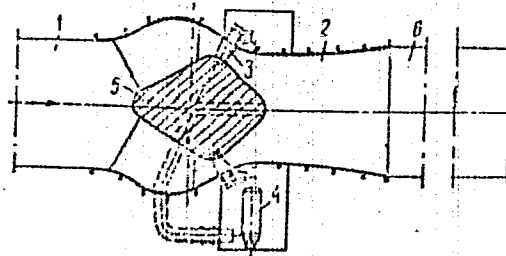
USSR Author's Certificate No 271382, filed 15 Mar 68, published 18 Aug 70,  
(from RZh-Elektrotehnika iEnergetika, No 2, Feb 71, Abstract No 2 D163P)

Translation: The purpose of the patented spillway structure is exclusion of cavitation phenomena and extinguishing of the kinetic energy of the flow. The device consists of an underwater gate 1 (see the figure), the gate chamber 2 with rotating vanes 3 mounted on it which are driven by the mechanism 4 located between the deflector 5 and the gate chamber 2. By rotating the vanes 3, the flow is circulated from the chamber 2 to the outlet gate 6 of circular cross section. In the gate there is gradual extinguishing of the flow energy in a rectilinear section 25 and more gate diameters long. The circulation of the flow in the outlet gate 6 creates excess pressure on its inside surface and in the vane zone 3 of the gate, which excludes the occurrence of cavitation phenomena. An annular gate for decreasing flows, unloading the vane guides when the spillway is not in operation and facilitating inspection and repair can be located in front of the guide vanes 3. There are two illustrations.

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USSR

KRIVCHENKO, G. I., et al., USSR Author's Certificate No 271382, filed 15 Mar 68, published 18 Aug 70



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USSR

UDC 621.224(088.9)

KLABUKOV, V. M., LYUBITSKIY, K. A., OSTROUMOV, S. N.

"Hydroturbine Regulator"

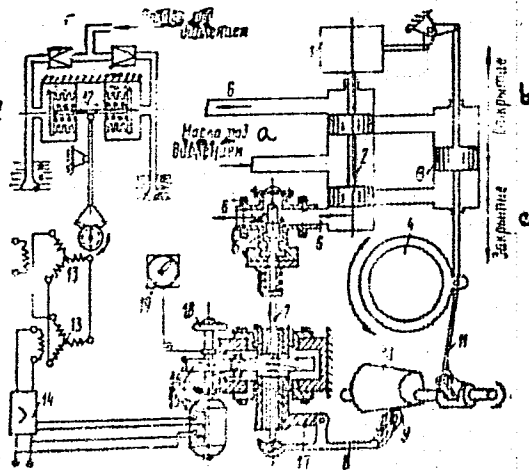
USSR Author's Certificate No 261998, filed 3 Sep 68, published 25 May 70 (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D-117 P)

Translation: A hydroturbine regulator (see the figure) containing an oil servodrive NA with a slide valve and choke installed on the oil drain after the slide valve is described. This regulator is distinguished by the fact that in order to insure optimal speed of closing the NA for each ratio of pressure and HA position on dropping the load, the choke is coupled via an arm to the pulley of a three-dimensional cam gear the cam shaft of which is connected to the NA, and the pulley arm is connected to the drive of the pressure meter.

1/2

USSR

KLABUKOV, V. M., et al, USSR Author's Certificate No 261998,  
 filed 3 September 1968, published 25 May 1970



- Key: a. oil under pressure  
 b. open  
 c. closed
- 1 - regulator; 2 - slide valve; 3 - servomotor;
  - 4 - NA; 5 - choke; 6 - overflow;
  - 7 - connecting rod with spring; 8 - arm; 9 - pulley of the cam gear;
  - 10 - cam shaft; 11 - pull rod; 12 - pressure meter; 13 - remote transmission;
  - 14 - amplifier; 15 - electric motor; 16 - mechanical transmission;
  - 17 - rotating bushing; 18 - manual drive; 19 - pressure indicator

2/2

99

U.S.R.

UDC: 621.3.035.2

OSTROUMOV, YE.M., DEYEV, A.N., KOSTERINA, L.K., and SHARINA, I.L.

"Effect of Some Factors on the Physicomechanical Parameters of Graphitized Material"

Moscow, Tsvetnyye Metally, No 5, May 70, pp 62-64

Abstract: Investigations were made to determine the effect of additives changing the course of the pitch pyrolysis process, using uncalcined coke as the filler, on the properties of graphitized material. The additives were: finely dispersed sulfur and  $FeCl_3$  (polycondensation catalysts),  $Fe_2O_3$  (cracking catalyst), and  $H_2O$ , an additive exerting an influence on the catalytic activity of the surface of the filler used and also impairing the wettability of the surface by pitch. The experiments were conducted with a filler predispersed to obtain -0.15 mm and -1.2-0.5 mm fractions. The coke-pitch composition was obtained with a laboratory mixer at 105-110°C. The composition of the coke-pitch mixture was 74% coke and 26% pitch. The pressing of coke-pitch billets (diameter -- 150 mm, height -- 170 mm) was done in a heated mold at a specific pressure of 400 kilogram (force)/cm<sup>2</sup>. Their calcination was performed under identical conditions. Experiments revealed that the greatest effect was exerted by sulfur. Its introduction increased the strength and, to some degree, the elastic modulus of the material.  $FeCl_3$  had

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USSR

OSTROUMOV, YE.M., et al, Tsvetnyye Metally, No 5, May 70, pp 62-64

practically no effect as a condensing agent. The introduction of  $Fe_2O_3$  caused more drop in strength and also a tendency for a rise in the electrical resistance of the material. The addition of finely dispersed sulfur changed the characteristics of the "green" mass to a high degree; in particular, its plasticity dropped sharply, causing increased crack formation in pressed billets and, to a still greater degree, in heat-treated ones. From data on specific resistance and specific weight, it was postulated that  $Fe_2O_3$  has no effect as a graphitization catalyst or as an agent for increasing carbon material density. This is explained probably by specific properties of the structure-forming process in using uncalcined coke in the composition. It was also determined that the moisture content of the initial filler is a negative factor. It was postulated that the decrease in strength characteristics was due to the impairment of the moist coke wettability by pitch.

2/2

Radio eng<sup>2</sup>

OSTROUMOV, Yu. A.

Radio eng<sup>2</sup>

SO-SPRS 54103  
21 June 1953

Doc 623.7-0154.001

Yu. A. Ostroumov, A. H. Kiselev, V. V. Kiselev

TRIPLE CURRENT RING BALANCED TRIODE

Page 29-142

These balanced triode circuits are similar to the circuits which can be used in phase detector circuits for receiver systems to give common modulation control by means of which two differential phase shift detectors are used.

The first balanced triode circuit (Fig. 1) consists of two balanced triodes (E1) which were investigated in reference [1], and they differ by the different bonding of the two side components of the circuit at the balanced output.

In Figure 1a, in the block diagram of the circuit, the oscillator voltage  $U_{1cos}$  with  $-90^\circ$  out of phase is fed to the first E1, and the audio-frequency oscillator voltage  $U_{2cos}$  is fed to the same triode. The oscillator voltage  $U_{1cos}$  is fed without a phase shift to the second E1, and the  $U_{2cos}$  is with a  $-90^\circ$  out of phase.

The voltages at the output of the first and second E1 will be proportional respectively:

$$U_{1cos} \left( 1 - \frac{1}{2} \right) U_{2cos} \sin \left( \frac{1}{2} \pi \right) \left( U_{1cos} \sin \pi + U_{2cos} \sin \pi \right)$$

$$U_{1cos} + U_{2cos} \left( 1 - \frac{1}{2} \right) U_{1cos} \left( U_{1cos} \sin \pi + U_{2cos} \sin \pi \right)$$

The output voltage of the E1 is proportional to the sum of the voltages from the first and second E1, that is,

$$U_{out} = U_{1cos} \sin \pi$$

Structurally, the E1 are connected from double wave audio triodes (Figure 1b) in the internal area of which are determinative, detector sections with high-frequency diodes and tuning inductors.

62378

1/2 009 UNCLASSIFIED PROCESSING DATE--0200T70  
TITLE--BENZENOID QUINOID TAUTOMERISM OF AZOMETHINES AND THEIR STRUCTURAL  
ANALOGS. IV. TAUTOMERIC EQUILIBRIUM IN SOLUTIONS OF N SUBSTITUTED O AND  
AUTHOR--(04)-MINKIN, V.L., OLEKHOVICH, L.P., ZHDANOV, YU.A., OSTRONOV,  
YU.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970 6(3) 549-54  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--BENZENE DERIVATIVE, TAUTOMERISM, AZO COMPOUND, MERCAPTAN,  
IMINE, MOLECULAR ORBITAL, ISOMER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/1534 STEP NO--UR/0366/70/006/003/0549/0554  
CIRC ACCESSION NO--AP011252R

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112528

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE EFFECT OF R IN 3-MSC SUB6 H SUB4 CH:NR (I) (R IS ALKYL, PH, P-MEC SUB6 H SUB4, P-CLC SUB6 H SUB4, P-ME SUB2 NC SUB6 H SUB4, P-O SUB2 NC SUB6 H SUB4, OR 2-NAPHTHYL) ON THE EQUIL. BETWEEN I AND ITS THIOQUINOID ISOMER (II) IS SOLN. WAS DEDUCED BY THE MO METHOD. THE INCREASE OF R ELECTRON REPELLING CHARACTER SHIFTS THE EQUIL. TOWARDS II.

UNCLASSIFIED

USSR

UDC 617-001.28-092.9-085.615.357.631-07:616.155.1-007.21-076.5

ROGOZKIN, V. D., and OSTROUMOVA, L. M.

"A Study of the Erythropoietic Effect of Nerobol in Guinea Pigs During Prolonged Irradiation"

Moscow, Byulleten' Eksperimentalnoy Biologii i Meditsiny, No 4, 1970, pp 60-61

Abstract: A group of 118 guinea pigs were irradiated with  $Cs_{137}$  in doses of 576 r at a rate of 0.27 r/min. Fifty three of these animals were pre-treated for three weeks with daily doses of 1 mg/kg of nerobol. A total of fifty three percent of the untreated animals survived; and sixty one percent of the pretreated animals. Blood studies conducted 7, 10, 14, 21 and 30 days after irradiation showed a higher count of erythrocytes and reticulocytes in the pretreated group. It was concluded that nerobol administered before irradiation prevents catabolic disturbances, and that it stimulates the synthesis of hemoglobin after irradiation.

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1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--HYDROXYLAMINE DERIVATIVES. III. SYNTHESIS AND SOME REACTIONS OF  
HYDROXYLAMINO DERIVATIVES OF 2-METHYL-BENZIMIDAZOLE -U-  
AUTHOR-(04)-MARKOVA, YU.V., OSTROUMOVA, N.G., LEBEDEVA, V.I., SHCHUKINA,  
M.N.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 415-18  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--HYDROXYLAMINE, BENZINE DERIVATIVE, ORGANIC AZOLE COMPOUND,  
CHEMICAL SYNTHESIS, MOLECULAR STRUCTURE, NUCLEAR MAGNETIC RESONANCE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3002/0631 STEP NO--UR/0409/70/000/003/0415/0418  
CIRC ACCESSION NO--AP0128169

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128169

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHOWN ON MICROFICHE.

FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE,  
MOSCOW, USSR.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--CORROSION OF CONSTRUCTION MATERIALS DURING THE SULFOXIDATION OF  
HYDROCARBONS -U-  
AUTHOR--(05)-BALAKIREV, YE.S., ~~OSTROUMOVA~~, V.V., GERSHENOVICH, A.I.,  
DZHAGATSPANYAN, R.V., KHROMENKOV, L.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZASHCH. METAL. 1970, 6(2), 224  
DATE PUBLISHED-----70

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

TOPIC TAGS--STEEL CORROSION, STAINLESS STEEL, ALLOY DESIGNATION, CORROSION  
RATE, CORROSION RESISTANCE, SULFOXIDE, LEAD ALLOY, HYDROCARBON, SULFONIC  
ACID/(U)SO LEAD ALLOY, (U)KH18N12M2T STAINLESS STEEL, (U)OKH23N28M3D3T  
STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/0749

STEP NO--UR/0365/70/006/002/0224/0224

CIRC ACCESSION NO--AP0111942

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0111942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE HG PHOTOCHEM. SULFOXIDN. OF ALIPHATIC C SUB10-20 HYDROCARBONS, SATISFACTORY CORROSION RESISTANCE WAS FOUND FOR STEEL OKH23N28M3D3T OR KH18N12M2T, OR P8 S-0, THE CORROSION RATES BEING 0.040, 0.048, AND 0.034 G-M PRIME2-HR. DURING THE ALC. EXTN. OF THE SULFONIC ACIDS, THE CORROSION RATES FOR THE STEELS WERE 0.00075 G-M PRIME2-HR.

UNCLASSIFIED

USSR

UDC: 621.317.726(088.8)

OSTROUSHKO, A. I., MITSUK, V. I., ZUBTSOVSKIY, A. N., KUZNETSOV, V. D.

"An Amplitude-Time Converter"

USSR Author's Certificate No 256391, filed 6 Jul 68, published 23 Apr 70  
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A312 P)

Translation: This Author's Certificate introduces an amplitude-time converter which may be used for measuring the amplitudes of isolated pulses of various durations. The unit contains a storage capacitor, matching stages, switching diodes, a current-stabilizing discharge circuit, and a nonlinear divider controlled through an amplifier and multivibrator by the discharge voltage of the storage capacitor in the converter. As a distinguishing feature of the patent, the error of undercharging the storage capacitor is reduced by incorporating a delay line in the converter with its input connected to the output of the nonlinear divider, while the output and taps of the delay line are connected to the storage capacitor through the series-connected matching stages and the switching diodes.  
E. L.

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USSR

UDC 621.317.726(088.8)

KUZNETSOV, V. D., OSTROUSHKO, A. I., LIPATOV, V. N., MITSUK, V. I.

"Meter for Measuring the Peak Values of Single Pulses"

USSR Author's Certificate No 250304, Filed 23 Mar 66, Published 13 Jan 70 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A534 P)

Translation: Meters which measure the peak values of pulses containing a divider, a measuring converter with negative feedback consisting of a series included amplifier and a diode-capacitive storage element with an output circuit and a terminal recorder are known. In place of these meters with low reliability and insufficient accuracy, another meter is proposed which has the following distinguishing attributes: it is equipped with a "forbidden" circuit in the feedback circuit executed from a thyatron which is connected by the anode circuit to the input and by the control grid, through a switch, with the output of the measuring converter. The output circuit of the latter is assembled from a phantastron with a Schmidt trigger connected to the screen grid.

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USSR

UDC 669.141.241-412:658.562

OSTROUSHKO, A. V., KAZACHKOV, Ye. A., KOROTICH, I. K., KULIK, V. A., and  
YEVYUTOV, V. P., Zhdanov Metallurgical Institute; Plant imeni Il'ich

"Improving the Surface of Heavy Plate Ingots"

Moscow, Metallurg, No 1, Jan 71, pp 23-25

Abstract: Use was made of production data on 1825 melts of carbon and low-alloy steels to study the effect of technological parameters of metal pouring on the surface quality of heavy plates produced from ingots of low-alloy steel. The processing of these data failed to establish a link between the technological parameters and the extent of the defect (double skin) on the plates. It was found that double skin is caused primarily by the oxidation of metal splashes adhering (in the process of pouring) to the inner surface of the corrugated faces of the ingot molds; the secondary cause of double skin formation are subcutaneous blowholes which are close to the surface of the ingot. The use of a graphite sulfite cellulose suspension for lubricating the ingot mold and simultaneous increase in the pouring rate make it possible to reduce the number of double-skin rejects on plates.

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172 020 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--AGE SPECIFIC DEPENDENCE OF THE MYTOTIC ACTIVITY OF THYMUS  
LYMPHOCYTES UNDER THE INFLUENCE OF HYDROCORTISONE -U-  
AUTHOR--OSTROUSHKO, E.T.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49,  
NR 6, PP 84-87  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYMUS GLAND, LYMPHOCYTE, MITOSIS, INHIBITION, HYDROCORTISONE,  
BIOLOGIC AGING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/0568

STEP NO--UR/0219/70/049/006/0084/0087

CIRC ACCESSION NO--AP0131191

UNCLASSIFIED



2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131191

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF HYDROCORTISONE ON THE MITOSIS OF LYMPHOCYTES OF THE CORTICAL LAYER OF THE THYMUS AT DIFFERENT STAGES OF POSTNATAL DEVELOPMENT OF ALBINO RATS WAS STUDIED. IN RATS OF DIVERSE AGE REDUCTION OF THE NUMBER OF MITOSES AFTER A SINGLE INJECTION OF THE PREPARATION (5 MG-100 GM OF BODY WEIGHT) OCCURS AFTER DIFFERENT TIME INTERVALS. IN 1-9 DAY OLD RATS DECREASE OF THE NUMBER OF MITOSES WAS OBSERVED IN 5 HOURS, IN 14 AND 28 DAY OLD RATS THE ANTIMITOTIC EFFECT OF THE HORMONE WAS NOTED IN 2 HOURS. STUDIES OF THE EFFECT OF HYDROCORTISONE AT DIFFERENT PERIODS AFTER INJECTION REVEALED IN 3 AND 28 DAY OLD RATS TWO WAVES OF INITIATION OF MITOSES AFTER ADMINISTRATION OF THE PREPARATION. FACILITY: N. I. PIROGOV SECOND MOSCOW MEDICAL INSTITUTE.

UNCLASSIFIED

USSR

UDC 621.791.052:539.433

NIKONOV, I. P., OSTROV, D. D., and YEREMENKO, A. U.

"Vibration Strength of Welded Joints of Transformer Steel"

Moscow, Svarochnoye Proizvodstvo, No 2, Feb 70, pp 27-28

Abstract: A test procedure and results from the vibration testing of welded joints made of transformer steel are presented. It is shown that the presence of a weld does not lower the vibration strength of the sample. In addition to comparing the vibration strength of the basic metal and welded joints, the effect of the silicon content in the steel is also noted. Samples 150 x 20 x 0.5 mm cut with and across the rolling direction were used.

The test results showed that the vibration strength of the welded joints and basic metal depends on the silicon content and on the welding direction of the sheet (the strength across the fiber is greater than along it). Fracture of the samples with a weld always took place in the basic metal near the weld-affected zone. The vibration strength of welded joints made of transformer steel in the case of three-phase arc welding with nonconsumable electrodes in argon in the section including the weld and weld-affected zone is appreciably higher than the vibration strength of the welded steel. The vibration strength of the basic metal and welded joints of transformer steel increases with an increase in silicon content,

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USSR

NIKONOV, I. P., et al., Svarochnoye Proizvodstvo, No 2, Feb 70, pp 27-28  
and vice versa. The tests were run so that the samples underwent 360,000 vibrations per hour.

- END -

5915

CSO: 1842

2/2

USSR

UDC: 621.315.84

ZLATOUSTOV, S. V., OSTROVA, S. O., and ASADULLINA, V. R.

"Measuring Current Noise in Quality Control of Thin-Film Resistors"

Kiev, Izvestiya VUZ -- Radioelektronika, Vol. 13, No. 9, 1970,  
pp 1124-1128

Abstract: In view of the fact that resistors comprise about 30-40% of all the components in most electronic circuitry and that they are growing smaller with advances in miniaturization, their quality control is important. This article gives the results of experiments performed to find a relationship between the current noise level of thin-film resistors and their quality, and whether use of current noise level as an index to the reliability of resistors is justified. A block diagram of the noise meter circuit is shown. This version had to be used in place of standard equipment for measuring resistor noise since standard equipment has insufficient sensitivity for resistors with such low power ratings.

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