MAKSIMCHUK, A.A., inzh.; TREGUBOV, V.A., inzh.

Combination ventilation system with grouped arrangement of fans.
Shakht. stroi. 7 no.4:22-23  Ap '63.                    (MIRA 16:3)

1. Krivorozhskiy filial Ukrainskogo nauchno-issledovatel'skogo in-
stituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

MAKSIMCHUK, A.A., gornyy inzh.; TREGUBOV, V.A., gornyy inzh.

Testing the PHL-5 machine for railless operation. Gor. zhur. no.7:
65-66 Jl '64.                                      (MIRA 17:10)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

ZASLAVSKIY, Yu.Z., kand. tekhn. nauk (Donetsk); KOCHETOV, V.V., kand.
tekhn. nauk; BYDEROVSKIY, S.I., inzh.; PUL'MAN, V.M., inzh.;
KAZAKEVICH, E.V., inzh.; MAKSIMCHUK, A.A., inzh.

Create a Soviet firm for vertical shaft sinking.  Gor.
zhur. no.9:5-8  S '64.                              (MIRA 17:12)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-
konstruktorskiy institut podzemnogo i shakhtnogo stroitel'-
stva, Moskva (for Kochetov, Byderovskiy).  2. Krivorozhskiy
filial Vsesoyuznogo nauchno-issledovatel'skiy institut
organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for
Pul'man, Kazakevich, Maksimchuk).

YES'KOV, Anatoliy Semenovich; MAKSIMCHUK, Aleksey Arssent'yevich;
    KAZAKEVICH, Eduard Veniaminovich; SOTSKIY, Ananiy
    Rodionovich; TREGUBOV, Vitaliy Anatol'yevich; SORIN,
    Mikhail Samoylovich; FEDOROV, S.A., prof., doktor tekhn.
    nauk, retsenzent

[Short handbook on shaft deepening] Kratkii spravochnik po
uglubke stvolov shakht. Moskva, Nedra, 1965.  175 p.
                                        (MIRA 18:8)

CHERNYSHENKO, O.A., kand. ekonom. nauk; ROMANENKO, L.I.; MAKSIMCHUK, A.D.

Utilization of capital assets in the mining industry of the
Ukrainian S.S.R. Met. i gornor.i. prom. no.6:49-50 N-D '64.
(MIRA 18:3)

MAKSIMCHUK, B., inzh.

Analysis of the work of the grain cleaning section of a flour
mill equipped with pneumatic conveying. Muk.-elev.prom. 29
no.1:14-17 Ja '63.
(MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i
produktov yego pererabotki.
(Pneumatic conveying)    (Grain--Cleaning)

AYZIKOVICH, L., kand.tekhn.nauk; MAKSIMCHUK, B., inzh.

Production of rye flour in Poland. Muk.-elev. prom. 29 no.11:22-24
N '63.                                                (MIRA 17:2)

*MAKSimc Huk, Boris Mikhaylovich*

AYZIKOVICH, Leonid Yefimovich, kand.tekhn.nauk; GROSS, Konstantin
Prokof'yevich, inzh.; MAKSIMCHUK, Boris Mikhaylovich, inzh.;
KOCHETKOV, L.I., red.; GOLUBKOVA, L.A., tekhn.red.

[Mills with pneumatic equipment; assembling, adjusting and
operating] Pnevmaticheskaia mel'nitsa; opyt montazha, naladki i
ekspluatatsii. Moskva, Izd-vo tekhn.i ekon.lit-ry po voprosam
mukomol'no-krupianoi, kombikormovoi promyshl. i elevatorno-
skladskogo khoziaistva, 1957. 171 p.                   (MIRA 11:1)
        (Flour mills)   (Pneumatic-tube transportation)

MAKSIMCHUK, B., inzh.

Using boxes designed by the Central Aero-Hydrodynamic Institute and simplified guiding apparatus in pneumatic and ventilating systems. Muk.-elev.prom.  25  no.3:25-26  Mr  '59.
(MIRA 12:6)

1. Vsesoyuznaya shkola mastera-krupchatnikov.
          (Ventilation)

MAKSIMCHUK, B., inzh.

Using axial fans and batteries of cyclones. Muk.-elev.prom. 25
no.6:24-25 Je '59.                                   (MIRA 12:9)

1. Shkola masterov-krupchatnikov.
        (Flour mills--Equipment and supplies)
           (Air--Purification)

AYZIKOVICH, L.Ye.; MAKSIMCHUK, B.M.

Automation of a flour mill.; Mekh.i avtom.proizv. 15 no.9:50-52
S '61.                                                   (MIRA 14:11)

1. Direktor Moskovskogo mel'nichnogo zavoda No.2 "Novaya pobeda"
(for Ayzikovich). 2. Zamestitel' glavnogo inzhenera Moskovskogo
mel'nichnogo zavoda No.2 "Novaya pobeda" (for Maksimchuk).
                    (Moscow—Flour mills)
                    (Automation)

MAKSIMCHUK, B., inzh.

Problem of separating impurities in pneumatic grain-handling equip-
ment. Muk-elev. prom. 27 no.1:27-28 Ja '61.          (MIRA 14:1)

1. Moskovskaya mel'nitsa No.2.
                (Pneumatic-tube transportation)
                    (Grain—Cleaning)

1. MAKSIMCHUK, D. P.

2. USSR (600)

4. Plant Breeding

7. Thirty years of plant breeding and seed production in the field of grain crops (1922-1952). Dost. sel'khoz. No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, _____April_____ 1953, Uncl.

1. BABUK, V.; KALASHNIKOV, A.; MAKSIMCHUK, F.; SAMSONENKO, G.

2. USSR (600)

4. Gas and Oil Engines

7. Repair and assembly of the head of the block and cylinders of the DT-54 tractor. Tekhsov. MTS 13 no. 33, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

1. SAMSONENKO, G., MAKSIMCHUK, F.

2. USSR (600)

4. Tractors

7. Features in the assembly and installation of some units of the DT-54 tractor. Tekhsov. MTS 13 No. 43, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, February 1953. Unclassified.

NECHITYALO, K., MAKSIMCHUK, F.

Tractors - Repairing

Subassembly section in the machine-tractor station's worksho;. MTS 13, No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953.   UNCL.

L 02252-67   EWT(1)   SCTB   DD

ACC NR: AR6024831               SOURCE CODE:   UR/0299/66/000/004/R024/R025

AUTHOR:  Maksimchuk, G. G.

TITLE:  A device for artificially changing cell membrane potential

SOURCE:  Ref. zh. Biologiya, Part I, Abs. 4R163

REF SOURCE:  Sb. Vopr. elektrofiziol. nervn. sistemy. Kishinev, Kartya Moldovenyaske, 1965, 120-122

TOPIC TAGS:  electric device, cell physiology, biocurrent, ammeter, battery

ABSTRACT:  A device is described for conducting cell membrane polarization investigations; the device can stabilize the value of a current in the circuit independently of resistance oscillation of the investigated structure and other unavoidable factors arising in the experimental process.  The device is based on a M-194 type microammeter. The electric circuit and general appearance of the device are described. The power source in the circuit of the device is an F-5 vacuum photocell with a battery or the battery itself connected through a photoresistor. In the first case a polarization current of $10^{-5}$ to $10^{-12}$ ampere is provided and in the second case a polarization current of $10^{-3}$ to $10^{-7}$

Card 1/2                                         UDC:  577.3

L 02252-67

ACC NR: AR6024831

ampere.  A diagram of the device and its operation are briefly described.
G. Morozov.  /Translation of abstract/.

SUB CODE:  06, 09

Card 2/2

MAKSIMCHUK, I. Kh.

"The Biology of the Flowering and Hybridization of Millet."
Cand Agr Sci, All-Union Sci-Res Inst of Sugar Beets, Kiev, 1953.
(RZhBiol, No 5, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR
Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

MAKSIMCHUK, L. P.

20854. Maksimchuk, L. P. Selektsiya i semenovodstvo zeanovykh kul'tur. Sbornik nauk. Rabot (Vsesoyuz. Nauch. --Issled. in-T sakhar. svekly) Kiyev-kar'kov, 1948, s. 216-23.

SO:  LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

MAKSIMCHUK, L.P.

MAKSIMCHUK, L.P.

Inheritance of the length of the vegetation period in grain crops.
Bot.zhur.42 no.8:1232-1241 Ag '57.                    (MLRA 10:9)
              (Grain)   (Hybridisation, Vegetable)

*MAKSIMCHUK, L.P.*

B.

USSR/General Biology - Genetics. Plant Genetics.

Abs Jour     :  Ref Zhur - Biol., No 21, 1958, 94685

Author       :  Maksimchuk, L.P.

Inst         :  Khar'kov University.

Title        :  Inheritance of Length of Vegetation Period in Grain Crops.

Orig Pub     :  V sb.: Vopr. metodiki selektsii pshenitsy i kukuruzy.
                Khar'kov, un-t, 1957, 41-52.

Abstract     :  On the basis of data obtained from study of soft wheat
                hybrids and millet hybrids over many years, regulatities
                were established in the inheritance of length of vegeta-
                tive period. In $F_1$ hybrids, length of the vegetation
                period depending on the inherited nature and growth con-
                ditions can be a dominant characteristic, intermediate or
                recessive. Regarding early maturity $F_1$ progeny can be:
                1) earlier than the early maturing parent,  2) as early

Card 1/2

- 30 -

MAKSIMCHUK, L.P.

Effect of cultivation conditions on changes in the strain qualities of grain and pulse crops and the utilization of obtained material in breeding. Agrobiologiia no.3;364-370 My-Je '63.          (MIRA 16:7)

1. Vsesoyusnyy nauchno-issledovatel'skiy institut sakharnoy svekly, Kiyev.

(Field crops--Varieties)

MAKSIMCHUK, M.P., ALEKSAN... , ...; ... , ...

22041    Maksimchuk, M.P., Aleksandruva, F. I.; Rudoy, Ye. S.  Dal'neysheye islytaniye
         terapevticheskogo deystuiya muskulena pri legochnom tubeskuleze. Uchen. Zapiski
         Nauchisslea in-ta tuberkuleza v Cdesse, ch. 2, 1948, s 9-21

         SC:  Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

MAKSIMCHUK, M.P.

22058    Maksimchuk, M.P.  Intrakutannaya novokainovaya infil'tratsiya po Speranskomu v
         Klinike legochnogo Tuberkuleza.  Uchen.  Zapiski Nauch-issled.  In-ta tuberkuleza v
         Odessa, Ch. 2, 1948, s. 85-90

         SO:  Letopis' Zhurnal'nykh Statey, No. 79, Moskva, 1949.

85819

$6.4500$ $(2103, 2303, 3003, 3203, 2204)$

S/084/60/000/010/003/00,
A153/A026

AUTHORS:     Troitskiy, V., Docent, Candidate of Technical Sciences, Maksimchuk, S., Engineer (Kiyev)

TITLE:     Single-Band Radio Communication

PERIODICAL:  Grazhdanskaya aviatsiya, 1960, No. 10, pp. 14-15

TEXT:     The authors note an increased interest in the USSR and abroad in single-band radio communication which makes it possible to reduce size and weight of aircraft radio equipment; they explain other advantages of such communication, describing generally the methods of shaping single-band signals (filter method, phase-compensation method and phase-filter method). One practical example of how a phase-filter method works is given. In conclusion it is stated that a switch-over to single-band radio communication requires a frequency stability of about $10^{-8} \div 10^{-9}$ and introduction of a searchless and trimmingless radio communication. Some of the possible ways for solving this problem  are the development of high-stability quartzed frequency grids and the use of atomic frequency standards. There are 3 figures.

Card 1/1    $* \div = t_0$

14-57-7-14861D

Translation from:  Referativnyy zhurnal, Geografiya, 1957, Nr 7,
                   p 105 (USSR)

AUTHOR:       Maksimchuk, V. L.

TITLE:        Sandbanks in the Backwash Area Behind the Zaporozhe
              Dam (Osobennosti rezhima perekatov v zone periodi-
              cheskogo podpora ot Zaporozhskoy plotiny)

ABSTRACT:     Bibliographic entry on the author's dissertation for
              the degree of Candidate of Technical Sciences,
              presented to Mosk. in-t. inzh. vodn. kh-va (Moscow
              Institute of Engineering and Hydraulics), Moscow, 1956

ASSOCIATION:  Mosk. in-t. inzh. vodn. kn-va (Moscow Institute of
              Engineering and Hydraulics)

Card 1/1

112-57-8-16350

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 45 (USSR)

AUTHOR: Maksimchuk, V. L.

TITLE: Peculiarities of Bars in the Area of Periodic Lockup Due to the Zaporozh'ye Dam (Osobennosti rezhima perekatov v zone periodicheskogo podpora ot Zaporozhskoy plotiny)

PERIODICAL: Izv. in-ta gidrol. i gidrotekhn. AN UkrSSR (Bulletin of the Institute of Hydrology and Hydroengineering, AS UkrSSR), 1956, Nr 14(21), pp 37-43

ABSTRACT: Bibliographic entry.

Card 1/1

PYSHKIN, Boris Andreyevich, prof.; RUSAKOV, Sergey Vasil'yevich; MAKSIMCHUK, Vladimir Lukich; SOKOL'NIKOV, Yuriy Nikolayevich. Prinimal uchastiye: DOKUKIN, G.B.. TOLMACHOV, A.B., retsenzent; TSIMBERG, I.Ye., retsenzent; PECHKOVSKAYA, O.M., red.; MATVEY-CHUK, A.A., tekhn.red.

[Problems in planning channel deepening cuts] Voprosy proekti-rovaniia dnouglubitel'nykh prorezei. Pod red. B.A.Pyshkina. Kiev, Izd-vo Akad.nauk USSR, 1959. 157 p.          (MIRA 12:12)

1. Chlen-korrespondent AN USSR (for Pyshkin). 2. Glavnyy inzhener Dneprovskogo basseynovo upravleniya puti (for Tolmachov). 3.Na-chal'nik otdela vodnykh putey Ukrgiprorechtransa (for TSimberg).
(Rivers--Regulation)

PISHKIN, B.A. [Pyshkin, B.A.], otv.red.; TYULENEV, M.O. [Tiuleniev, M.O.], red.; ARISTOVSKIY, V.V. [Aristovs'kyi, V.V.], doktor tekhn.nauk, red.; ALPAT'YEV, S.M. [Alpat'iev, S.M.], kand. sel'skokhoz.nauk, red.; ZHELEZNYAK, Y.A. [Zheliezniak, I.A.], kand.tekhn.nauk, red.; MAKSIMCHUK, V.L. [Maksymchuk, V.L.], kand.tekhn.nauk, red.; SEMENOV, K.S., kand.tekhn.nauk, red.; PECHKOVSKAYA, O.M. [Piechkovs'ka, O.M.], red.izd-va; KADASHEVICH, O.O., tekhn.red.

[Over-all utilization of Ukrainian water resources; collected studies] Kompleksne vykorystannia vodnykh resursiv Ukrainy; sbirnyk naukovykh prats'. Kyiv, 1959. 173 p.    (MIRA 13:1)

1. Akademiia nauk URSR, Kiev. Rada po vyvchenniu produktyvnykh syl URSR. 2. Chlen-korespondent AN URSR; golova Komisii po proble-mi kompleksncgo vikoristannrya vodnikh resursiv URSR, Rada po viv-chennyu produktivnikh sil URSR Akademii nauk URSR (for Pishkin). 3. Chlen-korespondent AN URSR; Ukrains'kiy naukovo-doslidniy institut gidrotekhniki ta melioratsii (for Tyulenev). 4. Institut gidrologii i gidrotekhniki AN URSR (for Zheleznyak, Maksimchuk, Pishkin).
    (Ukraine—Water resources development)

MAKSIMCHUK, V.L.

Approximate hydraulic calculations for channel-deepening cuts.
Izv. Inst. gidrol. i gidr. AN URSR 15:12-22 '59.

(MIRA 12:9)

(Rivers--Regulation)

MAKSIMCHUK, V.L. [Maksymchuk, V.L.]; SIDORCHUK, V.M. [Sydorchuk, V.M.]

Design of simplified slope lining with dumped unsorted stone.
Visti Inst.hidrol. i hidr. AN URSR 21:22-29 '62.     (MIRA 16:4)
(Shore protection)

PYSHKIN. Boris Andreyevich; RUSAKOV, Sergey Vasil'yevich; MAKSIM-
    CHUK,Vladimir Lukich;PECHKOVSKAYA, O.M., red. izd-va;
    MATVEYCHUK, A.A., tekhn. red.

[Design of protective structures on the banks of reservoirs]
Proektirovanie zashchitnykh sooruzhenii na vodokhranilishchakh.
Pod red. B.A.Pyshkina.  Kiev, Izd-vo Akad. nauk USSR, 1962.  134 p.
                                        .(MIRA 15:5)
1. Chlen-korrespondent Akademii nauk USSR (for Pyshkin).
            (Reservoirs)   (Shore protection)

PYSHKIN, B.A., otv. red.; ARISTOVSKIY, V.V., doktor tekhn.nauk, prof.,
       red.; RUSAKOV, S.V., kand. tekhn. nauk, red.; MAKSIMCHUK,
       V.L., kand. tekhn. nauk, red.; TSAYTS, Ye.S., kand. tekhn.
       nauk, red.; PECHKOVSKAYA, O.M., red.; LIBERMAN, T.R., tekhn.
       red.

[Changes in the banks of reservoirs]Pererabotka beregov vodo-
khranilishch. Kiev, Izd-vo Akad. nauk USSR, 1962. 140 p.
                                              (MIRA 15:11)
1. Akademiya nauk URSR, Kiev. Rada po vyvchenniu produktyvnykh
syl. 2. Chlen-korrespondent Akademii nauk Ukr. SSR (for Pyshkin).
       (Reservoirs)    (Coast changes)

MAKSIM [...] [...]

Determining the [...] wave num- [...]
Kurw. [...]

RODIONOV, I.O. [deceased]; MAKSIMCHUK, V.L.[Maksymchuk, V.L.],
        kand. tekhn. nauk, otv. red.

[Types of water intakes from reservoirs in the Ukraine and
experience in their use] Typy vodozaboriv z vodoimyshch
Ukrainy i dosvid ikh ekspluatatsii.  Kyiv, Naukova dumka,
1965.  103 p.                         (MIRA 18:4)

20-119-5-40/59

AUTHORS:    Rozenfel'd, I. L., Maksimchuk, V. P.

TITLE:      On the Passivating Properties of Sulfate Ions
            (O passiviruyushchikh svoystvakh sul'fat-ionov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 5,
            pp. 986-989 (USSR)

ABSTRACT:   The passive state of alloys of iron with chromium and
            nickel (stainless steels) is usually finished in the
            presence of chlorine ions and the alloys therefore are
            subject to corrosion in chloride solutions. Until now it
            has been known that the activating effect of chlorine ions
            by introduction of passivators into the electrolyte can be
            completely excluded and suppressed. The authors found and
            investigated a new phenomenon which speaks in favor of the
            following: Also sulfate ions have analogous properties
            with respect to chlorine ions. A diagram shows the anodic
            polarization curves of the steel 1X18H9T in a 0,1 solu-
            tion of NaCl with various additions of sulfate. In such a
            solution a characteristic curvature at the polarization

Card 1/3

                                              ...ivating
                              ... The sulfate
                    - uave no influence on a
              ...early with passivating properties of sul-
      ....um (steel X 28). The regard to the solid solution
  -.. activation of nickel by ch. The sulfate ion also...
                                              ... The passivating

On the Passivating Properties of Sulfate Ions

20-119-5-4o/59

effect of the $SO_4^-$ ions on stainless steels was to an important degree dependent on their part of chromium and to a smaller degree on the presence of nickel. Further details are given. The effect discussed can be explained satisfactorily when the processes taking place on the surface of the electrode in the presence of chlorine ions and sulfate ions are of adsorption-type character. The passivating properties of the sulfate ions are dependent on their preferred adsorption by the metal surface and by the displacement of the chlorine ions from the surface. There are 4 figures and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR
(Institute for Physical-Chemistry, AS USSR)

PRESENTED: December 23, 1957, by A. N. Frumkin, Member, Academy of Sciences, USSR

SUBMITTED: December 21, 1857

Card 3/3

MAKSIMCHUK, V.P.: ROZENFEL'D, I.L.

Use of curves of charging for investigating the phenomena of
passivity and the tendency of stainless steels to pitting corrosion.
Zav.lab.  26  no.3:288-290  '60.                          (MIRA 13:6)

1. Institut fizicheskoy khimii Akademii nauk SSSR.
           (Steel, stainless--Corrosion)
            (Passivity (Chemistry)(

/8.8300

68995
S/020/60/131/02/041/071
B004/B007

AUTHORS: Maksimchuk, V. P., Rozenfel'd, I. L.

TITLE: Investigation of the Mechanism of the Activating Action of Chlorine Ions by Means of Tracer Atoms

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 2, pp 354 - 356 (USSR)

ABSTRACT: The authors stated in reference 6 that the activating action of chlorine ions is suppressed not only by oxidizing agents, but also by sulfate ions. They presumed that the passivation of stainless steel is caused by the adsorption of anions on the surface of the alloy. For the purpose of checking the correctness of this assumption, the adsorption of chlorine ions on a chromium electrode from a 0.1 N NaCl solution was investigated by using $Cl^{36}$ (half-life $4 \cdot 10^{5}$ years) with a specific activity of 0.058 millicurie/g. The use of an electrode pressed from chromium powder instead of from stainless steel was considered to be permissible by the authors, because it is just the chromium content of stainless steel that causes the passivating action of sulfate ions. Figure 1 shows the dependence of the adsorption of chlorine ions on the potential of the electrode. In spite of equal experimental conditions, the quantity of adsorbed chlorine was different.

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Investigation of the Mechanism of the Activating
Action of Chlorine Ions by Means of Tracer Atoms

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B004/B007

In the first experiment, adsorption began only at +1.3 v, and
the quantity of adsorbed Cl continued to remain low. In the second
experiment, adsorption already began at +0.8 v, and attained maxi-
mum values. In the following (third and fourth) experiments, ad-
sorption again decreased. Herefrom the authors draw the conclusion
that, in the first experiment, the surface becomes activated only
after a certain barrier has been overcome. The lower degree of ad-
sorption in the 3rd and 4th experiment is explained by the fact
that the irreversibly adsorbed chlorine ions in the preceding ex-
periments inhibit further adsorption. Figure 2 shows the time de-
pendence of chlorine ion adsorption at 1.0 v. The adsorption in-
creases linearly during the first two hours, after which it at-
tains saturation. Figure 3 shows the adsorption of chlorine ions
in the presence of $Na_2SO_4$. From a solution of 0.01 N NaCl +

+ 0.01 N $Na_2SO_4$ less chlorine is adsorbed than from a pure NaCl
solution. If the ratio of the concentrations NaCl : $Na_2SO_4 > 10$
is increased, hardly any further chlorine adsorption
occurs. It follows from figure 4 that the $OH^-$-ions have a stronger
inhibitory effect upon chlorine adsorption than the sulfate ions.

Card 2/3

Investigation of the Mechanism of the Activating
Action of Chlorine Ions by Means of Tracer Atoms

68995
S/020/60/131/02/041/071
B004/B007

The pitting of stainless steel may therefore be prevented by
suppressing the activating effect of chlorine ions by the ad-
dition of sulfate ions or hydroxyl ions. There are 4 figures
and 7 references, 5 of which are Soviet.

ASSOCIATION:  Institut fizicheskoy khimii Akademii nauk SSSR (Institute of
              Physical Chemistry of the Academy of Sciences, USSR)

PRESENTED:    November 21, 1959, by A. N. Frumkin, Academician

SUBMITTED:    November 5, 1959

Card 3/3

26550

18.8300    4016 2808 1418         S/076/61/035/008/014/016
                                  B110/B101

AUTHORS:     Rozenfel'd, I. L., and Maksimchuk, V. P. (Moscow)

TITLE:       Passivity of stainless alloys in chloride solutions

PERIODICAL:  Zhurnal fizicheskoy khimii, v. 35, no. 8, 1961, 1832 - 1838

TEXT:  The causes of the activation of stainless, highly oxidation-resistant alloys by electrolytes containing chlorine ions are as yet unknown. The results obtained from an investigation of the effect of alloy composition upon the condition of stainless alloys are presented here. Passivation with anodic polarization served as a standard. The authors (Zavodsk. laboratoriya, 1959) showed that the method of charge curves taken in the automatic potential recording was suited for studying passivity. The automatic electron potentiometer ЭПП-09 (EPP-09) was connected to the emf over a d-c amplifier with an input resistance of $10^8$ ohms. When recording the curves, the current strength in the circuit was stabilized by a $10^7$ ohm resistance connected in series with the electrochemical cell. Samples with 0.5 $cm^2$ open surface and placed in polystyrene cases were ground, degreased, and kept for 12 - 24 hr in the exsiccator. A calomel electrode

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served for a reference. The following steel types were examined in a 0.1 N NaCl solution: 1Kh13 (1Kh13); Kh17 (Kh17); Kh28 (Kh28); 1Kh13M2 (1Kh13M2); 1Kh18N9T (1Kh18N9T); Kh18N12M2T (Kh18N12M2T); Kh18N13M3T (Kh18N13M3T); Kh20N80 (Kh20N80); Kh30N70 (Kh30N70); Kh50N50 (Kh50N50); in addition, Fe, Ni, Cr, Mo. The alloys polarized up to a potential ("activation potential"), at which they passed over into the active state. The said potential characterizes the resistance of alloys to the activating action of chlorine ions. Curves 1, 3, 5 (Fig. 1) concerning chromium steels present a rising passivation against chlorine ions with growing Cr content; the overvoltage of the ionization reaction of the alloy is thereby caused to rise. From among individual steel components: Fe, Mo, Ni, and Cr, the latter is passivated the easiest. Fe remains active. The rates of anodic dissolving of Ni and Mo remain almost the same, as they do not undergo any strong anodic polarization. Thus, a chromium content favors passivation. Fe and Ni in binary solutions with Cr display almost the same behavior. Ni addition to Fe-Cr alloy, however, raises passivation. Thus, with equal Cr content, 1Kh18N9T steel is polarized more strongly than Kh17 (Fig. 1), because Ni modifies the alloy structure by an austenite formation. Various sets of the same Kh18N12M2T with equal chemical composition differed in their

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Passivity of stainless...
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behavior due to differences in structure. Whereas ferrite structure diminished anodic passivation, austenite structure increased it. Ni-Cr alloys are passivated at high current densities. The threshold of current density effecting passivation drops with rising Cr content (Kh50N50: 100$\mu$a/cm$^2$; N70Kh30: 2000$\mu$a/cm$^2$; N80Kh20: 10 ma/cm$^2$). The $Cr_2O_7^{2-}$ ions resulting from the anodic polarization of Cr alloys probably suppress the activating action of chloride ions. In the presence of sufficiently high positive potentials, chromium alloys dissolve to form $Cr_2O_7^{2-}$. Due to selective dissolution, the surface is enriched by the second component, Ni or Fe. $Cr_2O_7^{2-}$ ions accumulated in the solution near the electrode passivate the Ni surface of a Ni-Cr solution to a higher degree than the Fe surface of a Cr steel. A chlorine ion action upon Ni is already fully suppressed with a chromate concentration: $c_{CrO_4^{2-}} / c_{Cl^-} \gg 10$, but not yet with Fe for $c_{CrO_4^{2-}}/c_{Cl^-} = 25$. Molybdenum content also passivates:

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Passivity of stainless...

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B110/B101

Kh18N12M2T and Kh18N12M3T steels are polarized more strongly than 1Kh18N9T (Fig. 1). Mo content likewise influences the corrosion structure of steels and reduces the number of pittings. The diagrams of Fig. 6 consist of two parts: (I) at a low strip-chart speed, the entire course of potential change is observed during 90 min; (II) at a high strip-chart speed, individual changes in a narrow timespan are observed. The steep potential change after switching on corresponds to the load of a twofold electric layer; in this case, the potential of stainless steels becomes unstable due to chlorine ion action. Frequency and boundaries of oscillations depend upon composition. A Mo addition to NiCr steels causes the upper and lower oscillation boundaries to shift toward positive values. Thus, Kh18N12M3T must have most positive potentials with the least changes. The authors (Dokl. AN SSSR, 1960, 131, No. 2) used radioactive indicators to show the adsorption character of the surface activation by chlorine ions. A positive shift of potential renders the adsorption of the latter easier. The dislodge loosely bound oxygen; this disturbs passivation. As the potential drops, active-passive galvanic cells operate. The total potential shifts toward negative values with desorption and a drop of the activating action of Cl ions. The adsorbed residual oxygen effects passivation as the cycle

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S/076/61/035/008/014/016

Passivity of stainless...                                B110/B101

is repeated. The appearance of pittings gives rise to activity of local
galvanic cells, and the total potential turns negative as activation
drops. Thus, pittings acting as punctiform protectors prevent the forma-
tion of corrosion centers in the neighborhood. There are 6 figures,
2 tables, and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc. The
reference to the English-language publications reads as follows:
M. A. Streicher, J. Electrochem. Soc., 103, 375, 1956.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii (Academy of
             Sciences USSR, Institute of Physical Chemistry)

SUBMITTED:  December 30, 1959

Card 5/8

ROZENFEL'D, I.L.; MAKSIMCHUK, V.P. (Moscow)

Passivating properties of anions.  Zhur.fiz.khim. 35 no.11:2561-
2568 N '61.                                (MIRA 14:12)
                        (Passivation)
                        (Anions)

ACCESSION NR: AT4010277                 S/3053/62/000/000/0006/0018

AUTHOR: Rozenfel'd, I. L. ; Maksimchuk, V. P.

TITLE: The passive state of stainless alloys in the presence of chloride ions

SOURCE: Trudy* Vsesoyuznoy mezhvuzovskoy nauchnoy konferentsii po voprosam bor'by*s korroziyey, Baku, 1962. Moscow, 1962, 6-18

TOPIC TAGS: alloy, alloy steel, stainless steel, nickel alloy, chromium alloy, corrosion, corrosion resistance, chloride ion activation, passive state, anode polarization

ABSTRACT: It is well known that stainless alloys which show marked stability in oxidizing media can readily be activated in the presence of chloride ions. The mechanism of this activation, however, is not yet clear. In the present paper, a new electrochemical method, based on anode polarization, has been used to study the effect of alloy composition and the presence of other anions on the activation of stainless alloys by chloride. As was also indicated by practical observations, the corrosion resistance of stainless steel in 0. 1 N NaCl was found to increase in the order 1Kh18N9T < Kh18N12M2T < Kh18N12M3T. Similarly, the corrosion resistance of a number of alloys in the Fe-Cr, Ni-Cr, Fe-Ni-Cr and
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ACCESSION NR: AT4010277

Fe-Ni-Cr-Mo systems was found to depend on the type and amount of alloying elements. In the Fe-Cr and Ni-Cr systems, the resistance to chloride increased with the Cr content, while Fe was always in the active state; Ni and especially Mo, although fairly readily activated by chloride, contribute to the stability of the passive state by altering the alloy structure. Studies on the inhibitory effect of other anions on activation of Kh18N9T steel by chloride showed that the passive state is stabilized by $NO_3 > ClO_3 > ClO_4 > CrO_4 > SO_4$. There is thus no definite relationship between the oxidizing activity of anions and their effectiveness in maintaining the passive state. Finally, the mechanism of these effects was studied by investigating the adsorption of isotopically labeled chloride ($Cl^{36}$) to Cr electrodes in the presence of various anions; these studies showed that adsorption of Cl can be prevented by sulfate and hydroxyl ions, and that these ions can even displace Cl from the electrode, thus preventing activation of the metal. This is interpreted to favor the adsorption theory of Cl ion activation. Orig. art. has: 17 figures and 3 tables.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry AN SSSR)

Card  2/3

ACCESSION NR: AT4010277

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 28Jan64

NO REF SOV: 007

ENCL: 00

OTHER: 002

Card 3/3

MAKSIMENKO, A. A.

MAKSIMENKO, A. A. (Chief Veterinarian, Main Administraion of Animal Husbandry, of Siberia and the East, Ministry of Animal Husbandry, USSR.) From the practice of the treatment of acute meteorism of the stomach in horses.

So: Veterinariya; 23; (10-11); October/November 1946; Uncl.
TABCON
        Tympanites;
    /gas in the stomach or intestine  - Med. Dictionary/

MAKSIMENKO A. A.

Stophylococcal antiphagin for treating suppurative skin diseases in a district outpatient clinic. Vest.derm. i ven. 31 no.1:48 Ja-F '57.

1. Iz Severskogo rayonnogo kozhno-venerologicheskogo kabineta.
(SKIN--DISEASES)    (STAPHYLOCOCCUS)

MAKSIMENKO, A. F.

Maksimenko; A. F.   -      "The scalene musches (Mm. scaleni) of certain mammels,"
                          Trudy Alma-At.  vet.-zootekhn. in-ta, Vol. V, 1948, p. 322-26

So:  U-3566,  15 March 53,  (L-topis  'Zhurnal 'nykh  Statey, No. 13, 1949)

MAKSIMENKO, A. F.

Maksimenko, A. F. — "The dorsal serrate muscles of mammals (Mm. serrati dorsales)."
Trudy Alma-A$_+$. vet.-zootekhn. in-ta, Vol. V, 1948, p. 327-32

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

MAKSIMENKO, A. F.


        "Topographic anatomy of the withers area of the horse."  Alma-Ata.
Kazgosizdat. 1952, 112 pages with illustrations.

SO:  Vet., July 1952, Unclassified.

MAKSIMENKO, A.F., zasluzhenyy deyatel' nauki KazSSR, prof.

On the 70th birthday of Bronislav Aleksandrovich Dombrovskii,
professor and active member of the Academy of Sciences of the
Kazakh S.S.R.  Trudy AZVI 9:3-11 '56.          (MIRA 15:4)
          (Dombrovskii, Bronislav Aleksandrovich, 1885-)

MAKSIMENKO, A.F., prof.; PANIN, V.M., aspirant

Treatment of chronic purulent and catarrhal pneumonia of calves with a novocaine block of the stellate ganglia in conjunction with intrasternal penicillin. Trudy AZVI 10:298-305 '57.
(MIRA 12:8)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. kafedroy - doktor prof. A.F.Maksimenko) Alma-Atinskogo zoovetinstituta.
    (Calves--Diseases)    (Novocaine)    (Penicillin)

MAKSIMENKO, A.F., prof.

Effective approach to the stellate ganglion of calves in
blocking it. Trudy AZVI  10:306-309  '57.        (MIRA 12:8)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
(zav.kafedroy - doktor prof. A.F.Maksimenko) Alma-Atinskogo
zoovetinstituta.
                        (Novocaine)

*MAKSIMENKO   A. N.*

USSR / Human and Animal Morphology (Normal and          S
           Pathological).   General Problems.

Abs Jour   : Ref. Zhur - Biologiya, No. 3, 1959, 12203

Author     : Maksimenko, A. N.
Inst       : -
Title      : Doctrine on the Changeability of Organs and
             Systems of Human Bodies.

Orig Pub   : Vestn. khirurgii, 1957, 79, No. 8, 3-19


Abstract   : Using the histotopographic method of investiga-
             tion of transverse sections performed on one and
             the same level of basic nerve trunks in various
             persons, the radices of brachial and lumbar
             plexuses, the nerves of the upper and lower ex-
             tremities, V and VII nerves were studied.  It
             was established that the radices and nerves dif-
             fer from each other in the same person and in

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USSR / Human and Animal Morphology (Normal and
         Pathological).   General Problems.

S

Abs Jour   : Ref. Zhur - Biologiya, No. 3, 1959, 12203

various individuals according to the quantity
of fibers.  Assymetry in the number of myelin-
ated fibers in the radices of the brachial plex-
us is noted.  The number of myelinated fibers
is greater in the posterior radices than in the
anterior.  In the intercostal nerves, the seg-
mentation and symmetry in the distribution of
myelinated fibers is absent.  However, at the
same time, regularity in the distribution of
separate types of fibers is noted, i.e.:  in
the intercostal nerves, small (diam 1-4$\mu$) and
middle (4-6$\mu$) are prevalent; in the cutaneous,
small; in the muscular, large (6.1-10$\mu$), and
in the vascular, small fibers.  Interreplacement

Card 2/4

USSR / Human and Animal Morphology (Normal and
        Pathological).  General Problems.

Abs Jour  : Ref. Zhur - Biologiya, No. 3, 1959, 12203

S

of the innervation area (overlapping zone) and
connection between the nerves is mostly observed
at the limits of the nerve complexes, i.e. nerves
which have the same segmentary and genetic simil-
arity.  The quantitative formation of nerve fi-
bers is the more stable at the limits of a par-
ticular nerve complex, the earlier was the nerve
trunk differentiated in the phylogenetic sequence.
For clarification of the existing connections
between the anatomical diversities and the func-
tional peculiarities in some parts of the venous
system, experiments on animals were conducted.
Venous plexuses around the organs of the small
pelvis, in the intestinal tract, in the brain
and heart sinuses in the vena Galen magna were

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MAKSIMENKO, A. N.

Correction of vertical strabismus by the method of capsulorrhaphy
in congenital hyperplasia and absence of the rectus inferior
muscles in both eyes. Vest. oft. no.2:55-57  '62.

(MIRA 15:4)

1. Kafedra glaznykh bolezney (zav. - zasluzhennyy deyatel' nauki
prof. M. L. Krasnov) TSentral'nogo instituta usovershenstvovaniya
vrachey.

(EYE—MUSCLES—ANOMALIES)    (STRABISMUS)

VILIUSHIN, V.A., et al. "Advantages of breaking out the coal in narrow strips when working along seam margin to contacts in a coal of Donetskugol' Combine." Uvor. tekh'ni v uzi:774-84 '64.

L 6911-65   EWT(m)/EWP(q)/EWP(b)   IJP(c)/RAEM(t)   JD
ACCESSION NR:  AR4039923                      S/0058/64/000/004/E043/E043

AUTHOR:  Maksimenko, A. P.

SOURCE:  Ref. zh. Fiz., Abs. 4E333

TITLE:  On the calculation of state diagrams of binary alloys

CITED SOURCE:  Nauchn. zap. Dnepropetr. un-t, v. 61, 1963, 33-40

TOPIC TAGS:  binary alloy, alloy property, solid solution, silver
alloy, phase diagram

TRANSLATION:  Expressions are obtained for the plotting of the
simplest diagrams of state of binary metallic alloys in the approxi-
mation of I. M. Lifshits (with account of the influence of the in-
teraction between atoms on their mutual placement). It is shown
that the approximation of I. M. Lifshits and the approximation of
the theory of regular solutions for the Cu-Ni system with complete

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L 6911-65
ACCESSION NR: AR4039923

mutual solubility of the components lead to practically the same
results. Calculations are presented for the diagrams of state of
alloys whose components do not dissolve in each other in the solid
solution. In the case of the Ag-Pb system the results of the cal-
culations differ in the two approximations. For the decay curve of
supersaturated solid solutions at temperatures below the melting
point, an account of the influence of the interaction of the atoms
on their mutual placement exerts an appreciable influence on the
displacement energy of the system and on the course of the calcu-
lated decay curve of the supersaturated solid solution. L. Mirkin.

SUB CODE: MM                                          ENCL: 00

Card 2/2

MAKSIMENKO, A.P.; TVERDOKHLEBOV, V.I.

Work function of electrons from the surface of small-size particles.
Izv. vys. ucheb. zav.; fiz.   no.1:84-87 '64.          (MIRA 17:3)

1. Dnepropetrovskiy gosudarstvennyy universitet i Dnepropetrovskiy
gornyy institut imeni Artema.

MAKSIMENKO, A.P.

Dissertation: "Investigation Into the Theory of Solid Solutions."
Cand Phys-Math Sci, Dnepropetrovsk State U, Dnepropetrovsk, 1954.
(Referativnyy Zhurnal, Khimiya, Moscow, No. 16, Aug 54.)

SO: SUM 393, 28 Feb 1955

VARICH, N.I.; BUROV, L.M.; KOLESNICHENKO, K.Ye.; MAKSIMENKO, A.P.

Investigating strongly supersaturated Al-V, Al-Mo, and Al-W solid solutions prepared with high rates of cooling. Fiz. met. i metalloved. 15 no.2:292-295 F '63.          (MIRA 16:4)

1. Dnepropetrovskiy gosudarstvennyy universitet.
        (Aluminum alloys—Metallography)
        (Solutions, Supersaturated—Cooling)

YAGUPOL'SKIY, L.M.; VISHNEVSKAYA, G.O.; YAVORSKIY, D.F.; GRUZ, B.Ye.;
     MAKSIMENKO, A.S.; KHASKIN, I.G.; GONSETSKAYA, Ya.V.; KIPRIANOV,
     A.I.

Improvement in the method for producing p-nitrophenylchloro-
methylcarbinole. Med.prom. 13  no.3:20-21  Mr '59.
                                                  (MIRA 12:5)

1. Institut organicheskoy khimii AN USSR i Kiyevskiy khimiko-
farmatsevticheskiy zavod imeni M.V.Lomonosova.
                    (METHANOL)

L 27623-66   EWT(m)

ACC NR:   AP6018370                          SOURCE CODE:  UR/0241/66/011/001/0042/0047

AUTHOR: Chertkov, I. L.; Maksimenko, A. S.; Novikova, M. N.; Raushenbakh, M. O.

ORG: Section of Radiology/headed by Doctor of Medical Sciences F. E. Faynshteyn/ Central Order of Lenin Institute of Hemotology and Blood Transfusion, Moscow (Radiologicheskoye otdeleniye Tsentral'nogo ordena Lenina Instituta gematologii i perelivaniya krovi)

TITLE: Effect of the transplantation of bone marrow on the immunological transformation of hemopoiesis in dogs with acute radiation sickness

SOURCE: Meditsinskaya radiologiya, v. 11, no. 1, 1966, 42-47

TOPIC TAGS: bone marrow, dog, hematopoiesis, radiation biologic effect, radiation sickness, blood, immunology

ABSTRACT:   Previous experiments established that when allogeneous bone marrow is transplanted to dogs irradiated with doses of 1,000 r, the infused hemopoietic cells are transformed into lymphocytes, the normal hemopoiesis of the transplant is not retained, and the dogs die.  The experiments described were conducted for the purpose of preventing the transformation of the transplant into lymphoids. Twenty-four nonbred dogs, 15-20 kilograms in weight, were used in the experiments.  Six of the animals were used as bone marrow donors, three, as controls irradiated only, 15 of the animals were administered bone marrow on the day after their irradiation with 1,000 r.  All of the animals developed aplasia of hemopoiesis; death was

Card 1/2          UDC:  616.46-089.843-06:616-008.9-097.3-085.849

L 27623-66

ACC NR: AP6018370

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caused by a hemorrhagic syndrome. Attemps were made also to arrest the transformation of the bone marrow cells into lymphocytes by the administration of a standard bacterial pyrogen from Shigella dysenteriae in the dose of 2 micrograms. All of the animals died within 6, 8, and 11 days after the irradiation. Neither was the administration of the donors' hemopoietic cells incubated at a temperature of 37 degrees for a period of two hours successful in saving the irradiated dogs: the animals died within 10 and 12 days after the irradiation. Three of the dogs were given 6-mercaptopurine in doses of 25 milligrams per kilogram body weight 2 and 5 days prior to the irradiation. A day after the irradiation, bone marrow in quantities of $8.4 \cdot 10^9$ cells was infused into the animals. Acute radiation sickness developed in the dogs and all died within 4.5-5 days after the irradiation. Thus, all of the attempts to prevent the death of the animals by the administration of allogeneous bone marrow on a background of irradiation with 1,000 r were unsuccessful. This reaction can be somewhat reduced by postponing bone marrow transfusion for 4-5 days after the irradiation. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 15Jul64 / ORIG REF: 001 / OTH REF: 001

Card 2/2

*2*

# MAKSIMENKO, A.S.

L 15287-65   EWG(j)/EWT(m)   Pb-4   SSD/AFWL/AMD
ACCESSION NR: AR4045857                  S/0299/64/000/014/M021/M021

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 14M139

AUTHOR: Chertkov, I. L.; Sukyasyan, G. V.; Novikova, M. N.;   *B*
Rogacheva, L. S.; Shepshelovich, L. L.; Maksimenko, A. S.; Raushen-
bakh, M. O.

TITLE: New data on the morphological basis of secondary sickness
with bone marrow transplantation in irradiated dogs

CITED SOURCE: Sb. 3 Vses. konferentsiya po peresadke tkaney i
organov, 1963. Yerevan, 1963, 243-244

TOPIC TAGS: secondary sickness, bone marrow, transplantation, dog,
irradiation, irradiation lethal dose, radiation sickness

TRANSLATION: The experiment was staged on 23 dogs irradiated with a
lethal dose (1,000 r). Bone marrow was introduced intravenously in
a dose of 5 X 5 X $10^9$ - 15 • $10^9$ nuclear cells. Donor erythrocytes
were determined by differential agglutination using dogs A- as donors
and dogs A+ as recipients. Leukocytes were determined by sex

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chromation (donors - females, recipients - males). To determine the
activity of immunologically competent cells, the donors were immunized
with a pure Vi-antigen of typhoid bacilli and the Vi-antibodies were
determined in the recipients. A myelogram investigation showed that
aplasia and hypoplasia appear in 2 to 3 days, and hemopoiesis is
partially restored in 4 to 5 days. Young myeloid cells appear in the
recipient's blood and in 5 to 7 days donor erythrocytes (2 to 3.5%)
also appear. From the seventh day hyperbasophilic cells are found
which the authors regard as transitional forms from hemocytoblasts to
lymphocytes. Later on hemopoiesis stopped, but the number of
lymphocytes increased sharply reaching 60 to 80% of the total number
of leukocytes by the 8th to 9th day. Opening of the bone marrow
disclosed reticular hyperplasia typical for radiation sickness. The
time required for transformation of blood formation was determined by
antigen differences between donor and recipient. The conclusion is
drawn that secondary sickness is caused by the transformation of
basic blood-forming cells into immunologically competent ones.

SUB CODE: LS          ENCL: 00

Card 2/2

CHERTKOV, I.L.; NOVIKOVA, M.N.; ROGACHEVA, L.S.; SHEPSHELEVICH, I.L.;
    MAKSIMENKO, A.S.; RAUSHENBAKH, M.O.

Transformation of hemopoietic cells of transplanted allogenous
bone marrow into immunologically competent cells in irradiated
dogs.  Med. rad. 8 no.6:51-60  Je '63.          (MIRA 17:4)

1. Iz radiobiologicheskoy laboratorii (zav. - prof. M.O. Raushenbakh)
TSentral'nogo ordena Lenina instituta gematologi i perelivaniya
krovi.

CHERTKOV, I.L.; MAKSIMENKO, A.S.; NOVIKOVA, M.N.; RAYSHENBAKH, M.O.

Lymphoid changes of hematopoiesis in bone marrow transplantation in irradiated dogs. Med. rad. 9 no.6:8-19 Je '64.

(MIRA 18:2)

1. Radiobiologicheskaya laboratoriya (zav.- prof. M.O. Raushenbakh) TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - dotsent A.Ye. Kiselev).

*MAKSIMENKO, A-V*

MAKSIMENKO, A.V., insh.

Causes for the formation of air noises in reduction gear and
ways to reduce them. Sudostroenie 23 no.9:32-35 S '57. (MIRA 10:12)
(Gearing)    (Marine engineering)

MAKSIMENKO, A.V., inzh.

Considering the mutual effect of shaped elements in the fluid flow
calculations of ventilation systems. Sudostroenie 25 no.8:16-20
Ag '59.                                        (MIRA 13:2)
                (Ships--Heating and ventilation)

89353

S/089/61/010/002/003/018
B102/B209

11.9100

AUTHORS:    Maksimenko, B. I., Nikitin, K. N., Bashkirov, L. I.

TITLE:    On the thermo-elastic tensions in the walls of a reactor with
internal unsteady heat sources

PERIODICAL:    Atomnaya energiya, v. 10, no. 2, 1961, 131-137

TEXT:    In unsteady processes, thermo-elastic tensions exceeding those during
steady operation may occur on places of contact and in single parts. In
order to be able to guarantee operation in the case of varying thermal loads,
an investigation of temperature propagation is necessary, i. e. the problem
of unsteady heat conduction must be solved under the following conditions:
1) the internal heat sources are uniformly distributed in the wall material,
2) the coefficient of thermal conductivity of the material is independent of
temperature, 3) the amount of the thermo-elastic tensions does not surmount
the tensile strength of the material, the shape of the walls remains un-
changed, 4) the temperature field is uniform. This problem is subject to
the present paper, viz. for the cases of a plane and of a cylindric wall.

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89353

On the thermo-elastic ...

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B102/B209

Since internal heat sources chiefly give rise to tangential strains, the present calculations are restricted to the latter only. First, the equation of heat conduction $\partial t/\partial \tau = a \dfrac{\partial^2 t}{\partial y^2} + \dfrac{q_v}{c_p \gamma}$ for a plane $2\delta$ thick wall is solved with the boundary condition $\partial t/\partial y \big|_{y = \pm \delta} = \pm h(t_T - t)$ and the initial condition $\cdot \,_{=0} = t_o$, where $h = \alpha/\lambda$ denotes the ratio: heat transfer to heat conduction coefficient, $t_T = t_o + c\tau$ the coolant temperature ($^\circ$C), $t_o$ the initial temperature of the medium in contact with the wall, and c the rate of temperature change of the coolant. The coolant temperature is assumed to vary linearly with temperature and the power of the internal heat sources to be constant with respect to time ($q_v$ = const). Thus, the steady-state solution

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On the thermo-elastic ...

$$t = t_1 + c\tau + \frac{w\delta^2}{2a}\left(1 - \frac{y^2}{\delta^2} + \frac{2}{h\delta}\right) -$$

$$- \frac{\delta^2}{a}\left(w - \frac{q_0}{c_p\gamma}\right)\sum_{n=1}^{\infty}\frac{2\sin\beta_n\cos\left(\beta_n\frac{y}{\delta}\right)}{\beta_n^2(\beta_n + \sin\beta_n\cos\beta_n)} \times$$

$$\times \exp\left(-\beta_n^2\frac{a\tau}{\delta^2}\right), \qquad (3)$$

is obtained, where $w = c - q_v/c_p\gamma$ denotes the rate of temperature variation
of a point in the wall. Expressions for the thermo-elastic tangential
stresses $\sigma$ are derived for various initial conditions. These expressions
show the following: The $\sigma$ are directly proportional to w and $\delta^2$, and in-
versely to the coefficient of temperature conductivity; the absolutely high-
est strain appears on the surface of the plates; the magnitude of the
strain on the surface rises with time. After some time,

$$\sigma = \frac{t E}{1-u}\frac{w}{2a}^{'2}(1/3 - y^2/\delta^2).$$ Only now, the authors proceed to considering
heat sources of variable power and the variation of the coolant temperature.
This is performed for step-wise variation of coolant temperature and source

Card 3/10

On the thermo-elastic ...

capacity (cf. Fig. 2);; the linear and/or continuous conditions which were
studied for introduction hold for the individual steps.  In this case,

$$\sigma_m = \frac{a_l E}{1-\mu} \left\{ \frac{w_m \delta^2}{2a} \left( \frac{1}{3} - \frac{y^2}{\delta^2} \right) + \frac{\delta^2}{a} \times \right.$$

$$\times [w_1 (\overline{\Phi}_\tau - \Phi_\tau) + (w_2 - w_1)(\overline{\Phi}_{\tau-\tau_1} - \Phi_{\tau-\tau_1}) + \cdots$$

$$\left. \cdots + (w_m - w_{m-1})(\overline{\Phi}_{\tau - \sum_{i=1}^{m-1} \tau_i} - \Phi_{\tau - \sum_{i=1}^{m-1} \tau_i} )] \right\}.$$

is obtained for $\sigma$, with

$$\tag{14}$$

$$\Phi_{\tau-\tau_1} = \sum_{n=1}^{\infty} \frac{2 \sin \beta_n \cos \left( \beta_n \frac{y}{\delta} \right)}{\beta_n^2 (\beta_n + \sin \beta_n \cos \beta_n)} \times$$

$$\times \exp \left[ - \beta_n^2 \frac{a(\tau - \tau_1)}{\delta^2} \right] ;$$

$$\Phi_{\tau-\tau_1-\tau_2} = \sum_{n=1}^{\infty} \frac{2 \sin \beta_n \cos \left( \beta_n \frac{y}{\delta} \right)}{\beta_n^2 (\beta_n + \sin \beta_n \cos \beta_n)} \times$$

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$$\times \exp \left[ - \beta_n^2 \frac{a(\tau - \tau_1 - \tau_2)}{\delta^2} \right] \text{ и т. д.};$$

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$$\overline{\Phi}_{\tau-\tau_1} = \sum_{n=1}^{\infty} \frac{2\sin^2\beta_n}{\beta_n^3(\beta_n+\sin\beta_n\cos\beta_n)} \times$$

$$\times \exp\left[-\beta_n^2\frac{a(\tau-\tau_1)}{\delta^2}\right];$$

$$\overline{\Phi}_{\tau-\tau_1-\tau_2} = \sum_{n=1}^{\infty} \frac{2\sin^2\beta_n}{\beta_n^3(\beta_n+\sin\beta_n\cos\beta_n)} \times$$

$$\times \exp\left[-\beta_n^2\frac{a(\tau-\tau_1-\tau_2)}{\delta^2}\right] \text{ и т. п.}$$

The mean wall temperature is given by

$$t = t_0 + c\tau - \frac{w_m\delta^2}{2a}\left(\frac{2}{3}+\frac{2}{\hbar\delta}\right) +$$

$$+ \frac{\delta^2}{a}[w_1\overline{\Phi}_\tau + (w_2-w_1)\overline{\Phi}_{\tau-\tau_1} + \cdots$$

$$\cdots + (w_m-w_{m-1})\overline{\Phi}_{\tau-\sum_{i=1}^{m-1}\tau_i}], \qquad 13)$$

m denotes the number of steps. After a respective time, $\sigma_m = \frac{\alpha t^E}{1-\mu}\frac{\dot{W}_m\delta^2}{12a}$

$(1/3 - y^2/\delta^2)$ is attained again, where $w_m = c_m - q_{v_m}/c_p\gamma$. Now, the analo-

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gous process is performed for the case of a cylindrical wall: The equation

of heat conduction $\frac{\partial t}{\partial t} = a\left(\frac{\partial^2 t}{\partial r^2} + \frac{1}{r}\frac{\partial t}{\partial r}\right) + \frac{q_v}{c_p J}$ is solved for two different

cases of heat deduction. 1) The case of internal heat deduction for linear variation in coolant temperature and isolated outer wall of the tube. With

$\frac{\partial t}{\partial r}\Big|_{r=r_2} = 0$, $\frac{\partial t}{\partial r}\Big|_{r=r_1} = -h(t_T - t)$, and $t\Big|_{\tau=0} = t_0$, where $t_T = t_0 + c\tau$, the expression

sion

$$t = t_0 + c\tau - \frac{wr_1^2}{4a}\left[\,1 + (k^2 - 1)\frac{2}{hr_1} - \varrho^2 + \right.$$
$$\left. + 2k^2\ln\varrho\,\right] + \frac{wr_1^2}{a}\,\Phi\left(\frac{a\tau}{r_1^2};\ \varrho;\ hr_1;\ k\right),\,(17)$$

is obtained; $k = r_2/r_1$, $\varrho = r/r_1$, where $r_2$, $r_1$, and r denote the outer, the inner, and the running radius of the tube, respectively. The mean temperature is

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$$\bar{t} = t_0 + c\tau - \frac{wr^2}{4a} \left[ \frac{3}{4} - \frac{5}{4} k^2 - \frac{1}{4} \varrho^2 - \frac{1}{4} \frac{k^2}{\varrho^2} + \right.$$

$$+ \frac{k^4}{k^2-1} \left( 1 + \frac{1}{\varrho^2} \right) \ln k + k^2 \ln \varrho + (k^2 - 1) \times$$

$$\left. \times \frac{2}{hr_1} \right] + \frac{wr_1^2}{a} \overline{\Phi} \left( \frac{a\tau}{r_1^2} ; \varrho; k; hr_1 \right). \quad (19)$$

and for the thermo-elastic tensions on the outer and on the inner wall, (22) and (23), respectively, are obtained:

$$\sigma_s^{\text{нар}} = \frac{\alpha_t E}{1 - \mu} \frac{wr_1^2}{a} \left[ \frac{1}{4} \left( \frac{1}{2} k^2 + \frac{1}{2} - \right. \right.$$

$$\left. \left. - \frac{2k^2}{k^2 - 1} \ln k \right) + (\overline{\Phi} - \Phi)^{\text{нар}} \right]; \quad (22)$$

$$\sigma_s^{\text{вн}} = \frac{\alpha_t E}{1 - \mu} \frac{wr_1^2}{a} \left[ \frac{1}{4} \left( \frac{3}{2} k^2 - \frac{1}{2} - \right. \right.$$

$$\left. \left. - \frac{2k^4}{k^2 - 1} \ln k \right) + (\overline{\Phi} - \Phi)^{\text{вн}} \right]. \quad (23)$$

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Furthermore,

$$\sigma_m = \frac{\alpha_t E}{1-\mu} \frac{w_m r_1^2}{4a} f(k, \varrho) + \frac{\alpha_t E}{1-\mu} \frac{r_1^2}{a} \times$$

$$\times \left[ w_1 (\overline{\Phi}_\tau - \Phi_\tau) + (w_2 - w_1)(\overline{\Phi}_{\tau - \tau_1} - \Phi_{\tau - \tau_1}) + \dots + (w_m - w_{m-1})(\overline{\Phi}_{\tau - \sum\limits_{i=1}^{m-1} \tau_i} - \Phi_{\tau - \sum\limits_{i=1}^{m-1} \tau_i}) \right], \quad (24)$$

where m again denotes the number of steps and $f(k, \varsigma) = \frac{1}{4} (1-\varsigma^2)(1+k^2/\varsigma^2) - \frac{k^4}{k^2-1}(1+1/\varsigma^2)\ln k + k^2 \ln \varsigma + k^2 - \varsigma^2$. After a respective time, when the difference $(\overline{\Phi} - \Phi)$ has become negligibly small,

$$\sigma_B^{\text{max}} = \frac{\alpha_t E}{1-\mu} \frac{w_m r_1^2}{4a} \left( \frac{1}{2} k^2 + \frac{1}{2} - \frac{2k^2}{k^2-1} \ln k \right); \quad (25)$$

$$\sigma_B^{\text{min}} = \frac{\alpha_t E}{1-\mu} \frac{w_m r_1^2}{4a} \left( \frac{3}{2} k^2 - \frac{1}{2} - \frac{2k^4}{k^2-1} \ln k \right). \quad (26)$$

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hold for the outer and inner temperature, respectively.  2) Deduction of heat to the outside with linear temperature variation in the coolant and isolated inner surface.

$$\sigma_{\text{н}}^{\text{нар}} = \frac{\alpha_t E}{1 - \mu} \frac{wr_1}{a} \left[ \frac{3}{8} - \frac{1}{8} k^2 - \frac{1}{2} \frac{\ln k}{k^2 - 1} + \right.$$
$$\left. + (\overline{\Phi} - \Phi)^{\text{нар}} \right];  \qquad (27)$$

is obtained for the outer and

$$\sigma_{\text{н}}^{\text{вн}} = \frac{\alpha_t E}{1 - \mu} \frac{wr_1^2}{a} \left[ \frac{1}{8} (k^2 + 1) - \frac{k^2 \ln k}{2(k^2 - 1)} + \right.$$
$$\left. + (\overline{\Phi} - \Phi)^{\text{вн}} \right].  \qquad (28)$$

for the inner surface of the cylinder.  In investigations at the Laboratoriya nagreva Nauchno-issledovatel'skogo trubnogo instituta (Heating Laboratory of the Scientific Research Institute for Tubings) it was shown that a hollow cylinder may always be regarded as a rolled up plate.  On this basis, some more formulas are given, expressing the temperature differences in terms of so-called form coefficients (m, n).  It is finally shown that a hollow
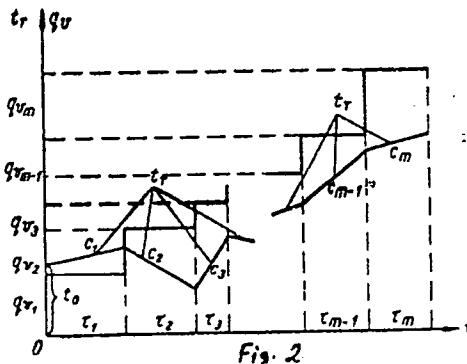
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cylinder may be treated as a rolled up plate with the thickness $\delta_1 = \delta\sqrt{m/n}$. The values of m, n, and m/n are tabulated for several $r_2/r_1$. $m_1 \cdots m_4$, $n_1$ and $n_2$ depend on k only. There are 4 figures, 1 table, and 2 references: 2 Soviet-bloc.

SUBMITTED: February 18, 1960



Fig. 2

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LUKOSHKIN, A.I.; MAKSIMENKO, B.P.; BAGIROV, R.Ye.; VARTANOV, B.N.

Efficiency of 3TS5A-β" trisectional turbodrills.
Azerb. neft. khoz. 41 no.11:12-14  N '62.        (MIRA 16:2)
                    (Turbodrills)

ACCESSION NR: AT4025307

S/0000/63/000/000/0173/0181

AUTHORS: Bogdanov, G. F.; Kozlov, P. I.; Maksimenko, B. P.

TITLE: Use of the field of the 'Ogra' itself for mass and energy analysis of fast ions emerging from a mirror

TOPIC TAGS: plasma injection, plasma research, plasma instability, magnetic mirror, ionized plasma, mass spectrometer, ion mass analyzer, plasma density

ABSTRACT: A simple ion mass analyzer was developed for the stream of fast ions emerging from a mirror. In addition, a spectrometer was developed for the measurement of the energy spectrum of the ions. The two instruments were located in the region of maximum of the magnetic field of the "Ogra" apparatus, which was also used to separate

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ACCESSION NR: AT4025307

the ions. The analyzer was used to measure the distributions of the $_0$
fluxes of atomic and molecular ions over the radius of the chamber
at azimuth angles 0 and 180°. The spectrometer was used to obtain
analogous distributions for 70 and 250°. These data were used to
determine the fluxes of the ions emerging from the "Ogra" through.
the mirrors. It was established that the fluxes of the $H_1^+$ and $H_2^+$
ions are proportional to the current of $_0$ the injected ions, and that
the density of the atomic ions is higher in the unstabilized mode
than would follow from data obtained with the aid of neutral-particle
detector after turning off the injected current. The spectrometer
was also used to investigate the spectra of atomic and molecular
ions leaving the mirror. At plasma densities above $10^6$ $cm^{-3}$ the ion
spectra have an anomalously great width which has not yet been ex-
plained. The construction and adjustment of the apparatus are de-
scribed in detail. Orig. art. has: 4 figures and 2 tables.

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ACCESSION NR: AT4025307

ASSOCIATION: None

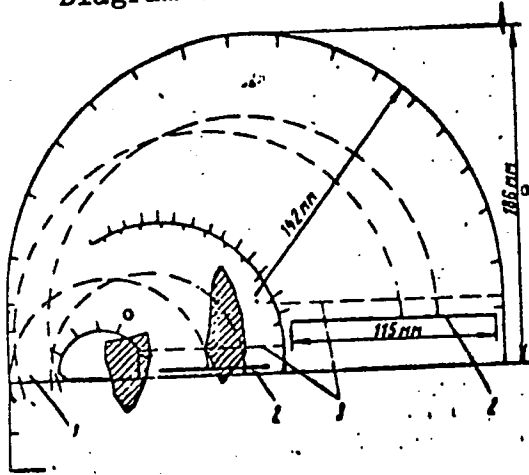SUBMITTED: 19Oct63             DATE ACQ: 16Apr64        ENCL: 02

                              NR REF SOV: 001           OTHER: 000
SUB CODE: ME

Card    3/5

ACCESSION NR: AT4025307

Diagram of ion mass analyzer



1 - entrance slit
2 - collector
3 - flange
shaded areas - geometric
    loci of Larmor centers
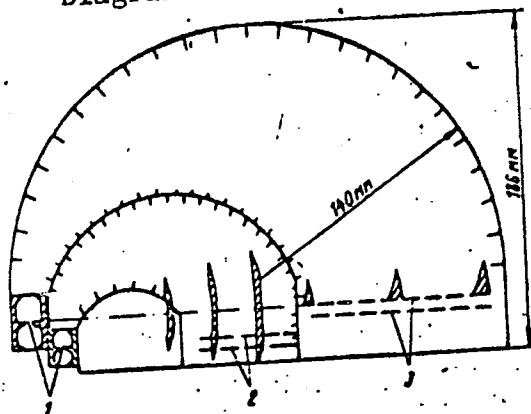    of the ions entering the
    collector.

The magnetic field is per-
pendicular to the plane of
the figure. The length of
the slot and of the collec-
tor in the magnetic field
direction is 120 mm

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Diagram of spectrometer:



1 - engrance slits
2 - blades of $H_1^+$ ion
   collector
3 - blades of $H_2^+$ ion
   collector

Shaded areas - geometric
   loci of Larmor centers of
   molecular ions with fixed
   Larmor radii and line shape
   for three values of the
   Larmor radius. The 18
   blades for the atom col-
   lectors and the 21 blades
   of the molecule collectors
   are arranged in two tiers.

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L  11239-66  EWT(m)/T/EWP(t)/EWP(b)   IJP(c)   JD
SOURCE CODE: UR/0089/65/019/005/0449/0449

ACC NR:   AP6001696

AUTHOR: Bogdanov, G. F.; Maksimenko, B. P.

ORG: none

TITLE: Use of surface-barrier silicon detectors for measuring spectra of fast particles

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 449

TOPIC TAGS: radiation detector, surface barrier silicon detector

ABSTRACT: The possibility of using surface-barrier silicon counters for measuring spectra of charge-exchange neutral particles and ions with energies from 10 to 200 kev ejected from the "Ogra" device is briefly discussed. The counters were made of n-type silicon with a specific resistance of 700 ohm·cm and minority carrier life-time of 2100 μsec. Their effective area was 5 cm² with a thickness of the gold coating of 25 μg/cm². The reverse current for a 50-v bias did not exceed $3.4 \times 10^{-8}$ amp. The counters were tested on a magnetic separator under a beam of protons with energies of 28, 29.7, 49.5 and 69.3 kev. The amplitude distribution of counter pulses during the recording of 28-kev protons is shown in Fig. 1. Fig. 2 shows the spectrum of neutral particles ejected from the "Ogra" chamber. This spectrum was

UDC: 539.16.07
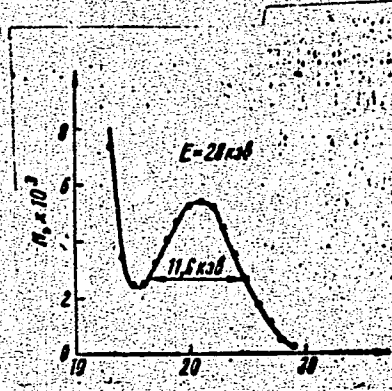
Card  1/2

L  11239-65

ACC NR:  AP6001696



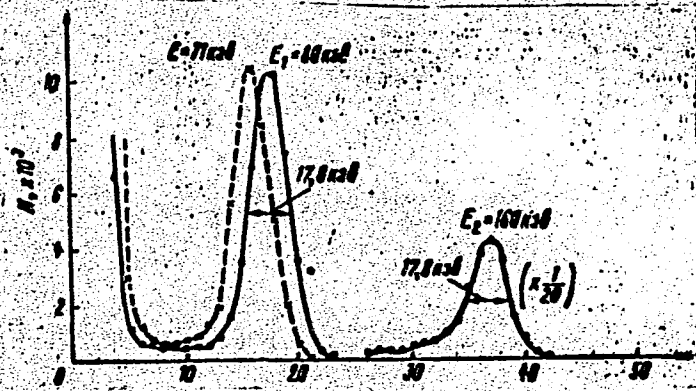Fig. 1. Amplitude distribution of counter pulses during recording of 28-kev protons

Fig. 2. Spectrum of neutral particles ejected from the "Ogra" chamber (dotted line-spectrum obtained when the window was covered by an aluminum foil)

measured when the energy spread of atomic ($E_1 \gtrsim 80$ kev) and molecular ($E_2 \gtrsim 160$ kev) neutral particles did not exceed 10%. Orig. art. has 2 figures.        [JR]

SUB CODE:  18/  SUBM DATE:  26Apr65/  ORIG REF:  001/  ATD PRESS: 4173
Card  2/2

1. MAKSIMENKO, D. F.

2. USSR (600)

4. Science

7. Poisonous plants of the Far East. Blagoveshchensk, Amurizday, 1952.

9. <u>Monthly List of Russian Accessions</u>, Library of Congress, _____January,_____1953. Unclassified.

SHIROKOV, A., kand. tekhn. nauk; MAKSIMENKO, F.; SAMETS, M.; GAVRILENKO, A.

Mining steep coal seams without stope timbering in Kuznetsk Basin mines. Ugol' 34 no.8:55-59 Ag '59.                    (MIRA 12:12)

1.Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Shirokov, Samets). 2.Glavnyy inzhener shakhty "Krasnyy Uglekop", Kuzbass (for Maksimenko). 3.Zamestitel' glavnogo inzhenera shakhty "Krasnyy Uglekop," Kuzbass (for Gavrilenko).
                    (Mining engineering)

L 14246-66    RD

ACC NR: AT6003857                        SOURCE CODE: UR/2865/65/004/000/0227/0236

AUTHOR: Voskresenskiy, A. D.; Gazenko, O. G.; Izosimov, G. V.; Kopanev, V. I.;
Maksimov, D. G.; Yazdovskiy, V. I.

ORG: none

TITLE: Some physiological data for evaluating the condition and work capacity of
cosmonauts under conditions of orbital flight

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii,
v. 4, 1965, 227-236

TOPIC TAGS: manned spaceflight, EEG, skin, cosmonaut, space psychology, brain,
biosensor, bodily fatigue, vision

ABSTRACT: This paper presents some graphic results of biomedical data from the
Vostok-5 (V. F. Bykovskiy) and Vostok-6 (V. V. Tereshkova) flights. These
include records of EEG's, EOG's, and skin galvanometry.
        In summing up these data, the authors observed that a distinguishing
feature of brain bioelectricity during the first hours and days of the flight
was the increase in the index of high-frequency oscillations. No increase in
the index of low-frequency oscillations was observed. Also characteristic
of the initial flight period were elevated oculomotor activity and a rise in the

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L 14246-66

ACC NR: AT6003857

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number of rapid variations in cutaneous electrical resistance per unit of time. These reactions probably reflected the emotional state associated with initial flight stages. Such factors as radio communications with ground control points and between spacecraft, the reception of commands and signals, and observation of the surface of the Earth and other heavenly bodies act as powerful stimuli eliciting a high level of psychoemotional reactions.

The process of adaptation to flight conditions was reflected in EOG and skin galvanometric indices, in that oculomotor activity and the mean number of rapid variations in the skin galvanic reaction showed significant decreases.

It is felt that the EEG, EOG, and skin galvanometric data from Vostok-5 and -6 reflected the psychoemotional adaptation of Bykovskiy and Tereshkova to prolonged spaceflight. EEG changes and a sharp decrease in oculomotor activity can act as prognostic indices of progressive fatigue. EOG data can be used to judge the effect of weightlessness on the function of the vestibular analyzer. However, it is noted that changes in all of the indices during the spaceflight did not correspond to subjective feelings of fatigue, vestibular symptoms, or a noticeable decrease in working ability. Orig. art. has: 3 figures. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 012 / OTH REF: 003

Card 2/2 FW