66647

SOV/21-59-11-3/27

On the Solution of One Integral Equation

which at $\xi = 0$ can become infinite; b) there exists a continuous (in both arguments) derivative

$$K'_\xi (\xi; \xi_1) < 0, \quad 0 < \xi \leq \xi_1 < 1$$

There is 1 Soviet reference.

ASSOCIATION: Kyyivs'kyy inzhenerno-budivel'nyy instytut (Kiyev Construction Engineering Institute)

PRESENTED: By Y.Z. Shtokalo, Member, AS UkrSSR

SUBMITTED: March 7, 1959

Card 3/3

L 17183-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD

S/0185/63/008/005/0569/0574

ACCESSION NR: AP3000235

AUTHOR: Vasylev'ka, V. M., Datsenko, L. I.

TITLE: Investigation of the effect of annealing on dislocations in germanium

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 569-574

TOPIC TAGS: annealing, dislocation, germanium, etching, x-ray transmission, anomalous transmission, dislocation line, dislocation density, point defect

ABSTRACT: The effect of high temperatures on dislocations in germanium was investigated by employing both the etching method and the method of the anomalous transmission of X-rays, the latter making it possible to estimate both the change in density of the dislocations and the nature of their interactions. The specimens used were ground monocrystals of pure germanium with a density of dislocations $10^2 - 10^4 \text{ cm}^{-2}$, as well as without dislocation, 0.8-1.0 mm thick. The specimens were annealed in vacuum $1 \cdot 10^{-5}$ mm Hg, at the temperature of 800C for 2, 4, 8, and 16 hours, and cooled at the rate of 30C per hr to room temperature. Following the annealing, a certain decrease in the density of dislocations was observed. In a number of cases doubling of the dislocation line

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L-17183-63

ACCESSION NR: AP3000235

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was detected, as well as point defects which possibly are aggregates of vacant
states. "The authors wish to express their gratitude to O. G. Minelyuk and
V. I. Trefilov for their interest in this project and their valuable counsel."
Orig. art. has: 4 photographs.

ASSOCIATION: Insty*tut napivprovidny*kiv AN URSR (Institute of Superconductors
AN URSR)

SUBMITTED: 12 Oct 62   DATE ACQ: 18 Jun 63   ENCL: 00

SUB CODE: PH   NO REF SOV: 004   OTHER: 004

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36096

S/185/62/007/003/006/015
D299/D301

24.7500

AUTHORS: Vasylevs'ka, V.M., Datsenko, L.I. and Miselyuk, O.H.

TITLE: Study of structural imperfections in germanium single
              crystals

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 3, 1962,
              278 - 286

TEXT: Methods are compared for revealing dislocations in
germanium single crystals, as well as the bulk distribution of the dis-
locations as a function of various technological factors. Metallographic
- and X-ray diffraction techniques were used. The most commonly used et-
chants were investigated: (I) CP-8 (a mixture of HF and HNO_3), (II) --
a mixture of $K_3Fe(CN)_6$ + KOH + H_2O, (III) -- a mixture of HF + HNO_3 +
CH_3COOH + KI + H_2O. The etchants were compared by testing their effect
on crystal surfaces with different crystallographic orientation. It was
found that the density of the revealed dislocations depends to a large
extent on the type of etchant. Etchant III revealed dislocations on the

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S/185/62/007/003/006/015
Study of structural imperfections ... D299/D301

(100)-, (110)- and (111)- planes, with a dislocation density by 2-3 orders of magnitude higher than that revealed by etchants I and II. Etchant III revealed, in addition to the edge dislocations revealed by etchant II, also smaller edge-dislocations, as well as screw- and mixed dislocations, of a total density of $10^5 - 10^6$ cm^{-2}. Thereby the pronounced steplike structure of the etching figures is preserved. The bulk distribution of dislocations was studied in single crystals with the following structure: octahedral with (111)-faces, cubic with (100) -faces and polyhedral with (100)-, (110)- and (111)- faces; thereby the etchants II and III were used. No preferential orientation in the dislocation distribution was observed. This makes it feasible to determine the density of dislocations on one of the crystallographic planes, irrespective of its position with respect to the growth axis. The effect was studied of sharp changes in the crystallization process (due to changes in growth rate and introduction of impurities), on the density and distribution of dislocations; as a result of these changes, the distribution of the dislocations becomes very irregular. At the sites where the crystallization process has been disturbed, an

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Study of structural imperfections ...   S/185/62/007/003/006/015
D299/D301

accumulation of the impurities, injected in the melt, was observed. To these sites correspond maxima and minima of the curve $n_d = f(r)$ (dislocation-density versus length of single-crystal). The angle of misorientation 0 increases at the edge of the single crystal. The above results show that disturbed crystallization conditions and the ensuing structural imperfections are responsible for the irregular impurity distribution in the single-crystal. There are 8 figures, 3 tables and 17 references: 4 Soviet-bloc and 13 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: R.K. Mueller, J. Appl.Phys., 30,2015, 1959; S.G. Ellis, Phil.Mag.,2, 1285, 1957; P. Pennig, Philips Techn. Rev., 19, 357, 1957/58; S.G. Ellis, J. Appl.Phys., 28, 1262, 1957.

ASSOCIATION: Instytut napivprovidnykiv AN URSR (Institute of Semiconductors of the AS UkrRSR), Kyyiv

SUBMITTED: May 22, 1961

Card 3/3

L 24656-65   EWT(m)/T/EWP(t)/EWP(b)   IJP(c)/AFWL/RSD/SSD/ASD(a)-c/RSD/ES)/

ACCESSION NR: AP4046660   S/0185/64/009/009/0956/0961

AUTHOR: Barans'ky*y , P. I. ; Vasy*levs'ka, V. M.

TITLE: Investigation of the electrophysical properties and structures of dislocation free germanium crystals

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 9, 1964, 956-961

TOPIC TAGS: germanium, semiconductor, dislocation free germanium, low temperature annealing, germanium crystal, dislocation density, current carrier concentration, vacancy

ABSTRACT: Comparative experiments were conducted to elucidate the effect of low temperature annealing on n-type germanium crystals containing antimony as an impurity and differing greatly in dislocation density. The annealing noticeably decreased the concentration of the current carriers n_e in the dislocation-free n-germanium samples, but had little effect on the current carrier concentration in the samples with $N_D \approx 5 \cdot 10^3$ cm^{-2}. It was proposed that this decrease in cur-

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L 24656-65
ACCESSION NR: AP4046660

2

rent carrier concentration resulting from low-temperature annealing of typical dislocation-free crystals is characteristic of such material and is caused by the higher density of vacancies in comparison to crystals with dislocations. The assumption that the vacancies, and not the change in the electrical activity of the impurity atoms, were connected with the decrease of n_e was supported by the following factors: (1) low temperature annealing reduced typical thermal acceptors to the passive state, which would have increased and not decreased n_e in the conductance zone. (2) Formation of GeO_4 -type associated complexes with oxygen must be accompanied by the appearance of additional donor centers which would also increase and not decrease n_e. (3) It was impossible to change the observed decrease in n_e by diffusion of copper (acceptors) into the bulk of the crystals by the annealing process. "The authors thank O. G. Miselyuk for attention to the work and discussion of the results." Orig. art. has: 5 figures.

ASSOCIATION: Institut napivprovidnikiv AN URSR m. Kiyiv (Institute of Semicon-ductors AN URSR)

SUBMITTED: 30Dec63

SUB CODE: SS   ENCL: 00
Card 2/2   NO REF SOV: 001   OTHER: 007

VASILEVSKIY, V.S., [Vasylevs'kyi, V.S.]

Participation of the cerebellum in the regulation of intestinal ab-
sorption. Fiziol. zhur. [Ukr.] 10 no.3:334-341 My-Je '64. (MIRA 18:9)

1. Kafedra fiziologii cheloveka i zhivotnykh Odesskogo gosudarstvennogo
universiteta im. I.I.Mechnikova.

VASYLUK, Rostislav, Inz.

The frequency dependence of the dielectric constant in solid
dielectrics. Slaboproudy obzor 21 no.3:145-152 Mr '60. (EEAI 9:8)

1. Vyzkumny ustav sdelovaci techniku A.S.Popova.
        (Dielectrics)

23669

Z/039/61/022/003/001/006
E192/E382

(handwritten notes)

AUTHOR: Vasyluk, Rostislav, Engineer

TITLE: Entropy and Permittivity

PERIODICAL: Slaboproudy obzor, 1961, Vol. 22, No. 3,
         pp. 136 - 142

TEXT: A relationship between the permittivity of a dielectric
and its entropy is determined and this is used to explain the
temperature dependence of the permittivity. In the statistical
thermodynamics the entropy is expressed as

$$S = k \, \ln W$$

where   k   is the Boltzmann constant and
        W   is the statistical probability of a given state of
             the system considered.
In the case of a dielectric, the entropy would represent the
degree of randomness of the molecular electrical dipoles in a
unit volume of the dielectric. On the basis of the Maxwell

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Entropy and Permittivity

equations it is found that if the electric displacement or induction D is changed by dD , the energy stored in a unit volume of the substance would change by $dU_1 = E\ dD$. On the other hand, a change in temperature, the volume being constant, results in a change of the energy in the dielectric $dU_2 = dQ$ so that the total energy increment when the temperature and the external field of the dielectric are changed is:

$$dU = dU_1 + dU_2 = dQ + E\ dD \qquad (1) .$$

On the other hand,

$$dQ = T\ dS \qquad (2)$$

where the entropy dS is the total differential expressed by

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Entropy and Permittivity

$$dS = \frac{\partial S}{\partial T}\ dT + \frac{\partial S}{\partial E}\ dE \qquad (3) .$$

Since

$$D = \varepsilon_s \varepsilon_o E$$

the entropy of the dielectric can be expressed as

$$S = S_o(T) + \frac{\partial \varepsilon_s}{\partial T} \cdot \frac{\varepsilon_o}{2}\ E^2 \ldots \doteq S_o(T) + S_E(E,\ T) \qquad (5)$$

where ε_s is the static permittivity of the dielectric.

The first term in Eq. (5) expresses the entropy of the dielectric independently of the electric field. The second term shows that for a given constant electric field E the

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Entropy and Permittivity

increase in entropy S_E is proportional to the derivative of the static permittivity with respect to temperature, i.e.

$$S_E = \frac{\varepsilon_o}{2} E^2 \cdot \frac{\partial \varepsilon_s}{\partial T} = \text{const.} \cdot \frac{\partial \varepsilon_s}{\partial T} \qquad (5a)$$

from which it follows that:

$$\varepsilon_s = \text{const.} \cdot \int S_E(T) dT \qquad (5b) \cdot$$

It is seen, therefore, that if the temperature is increased the component S_o of the entropy is changed and if the dielectric is situated in an electric field, a component S_E is also produced, which is also dependent on temperature. A graph of the entropy component S_E produced by the external

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field is illustrated in Fig. 1a. On the other hand, Fig. 1b shows an integral curve obtained by integrating the graph of Fig. 1a; this illustrates the static permittivity ε_s as a function of temperature T. It is seen that at zero temperature the permittivity is ε_o and this then increases gradually to a temperature T_o. As the temperature is further increased, ε_s becomes reduced. Most of the solid dielectrics behave in the manner illustrated in Fig. 1b. However, there are some deviations from this behaviour. In the case of a non-polar substance a characteristic maximum of ε_s is not observed since the permanent dipoles are missing. As regards the crystalline substances, these exhibit certain steplike discontinuities. Crystalline ionic substances and glass follow the same pattern as that illustrated in Fig. 1b. Polymers also follow the same pattern, while ferro-electric exhibit a very sharp peak. Liquids and gases behave in the manner illustrated in Fig. 1b. The frequency dependence of permittivity at a constant temperature can be best described by the so-called Cole-Cole diagram, such as
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Entropy and Permittivity

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illustrated in Fig. 6 (Ref. 6: Vasyluk, R. Slaboproudy obzor
Vol. 21, 1960, No. 3, pp. 145-152). Such diagrams can be
constructed for various temperatures. an example of such a
system is shown in Fig. 7. By investigating this figure it is
concluded that the permittivity modulus ε^{*} behaves in the
following manner:
a)   absorption maxima occur at the temperature of the first
inflection point of $\varepsilon^{1}(T)$;
b)   the maximum absorption occurs at higher temperatures as
the frequency increases,
c)   the absorption maxima decrease with increasing frequence, and
d)   the values of the dynamic permittivity $\varepsilon^{!}$ decrease with
increasing frequency.
On the basis of Fig. 7 it is also possible to determine the
behaviour of the permittivity temperature coefficient. In
the measurement of dielectrics at various temperatures and
frequencies it is necessary to represent the measured

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Entropy and Permittivity

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by constructing the graphs of the type illustrated in Fig. 8.
There are 9 figures and 6 references: 1 Czech and 5 non-Czech.
The three English-language references quoted are:
Ref. 1: H. Fröhlich - Theory of Dielectrics, London, 1950;
Ref. 2 - Smyth, Ch.Ph. Dielectric behaviour and Structure,
International Chemical Series, 1955; Ref. 4 - Hippel, A.R.
Dielectric Materials and Applications, New York, London, 1954.

ASSOCIATION: Výzkumný ústav sdělovací techniky A.S. Popova,
                Praha (A.S. Popov-Telecommunications Research
                Institute, Prague)

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·23669
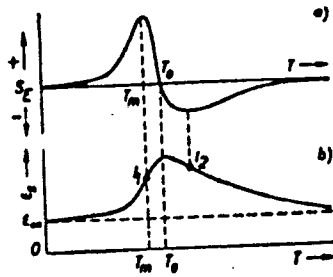Z/039/61/022/003/001/006
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Entropy and Permittivity

Fig. 1:

Fig. 6:
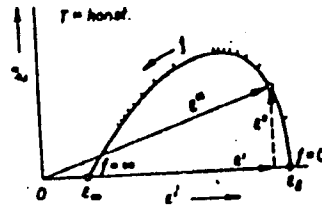
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Z/039/61/022/003/001/006
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Entropy and Permittivity

Fig. 7:

Fig. 8:

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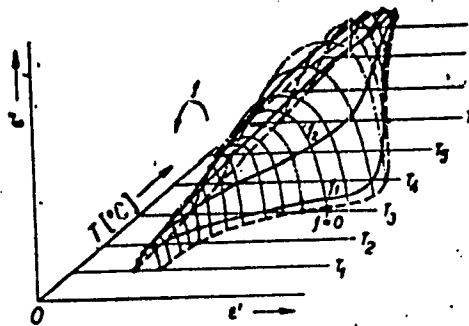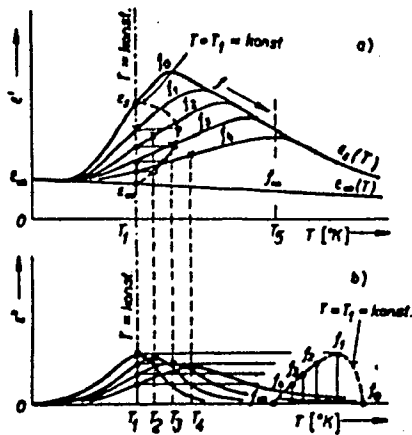
VASYLUK, Rostislav, inz.

High-loss dielectric, a new component for electric circuits.
Slaboproudy obzor 23 no.9:489-495 S '62.

1. Vyzkumny ustav pro sdelovaci techniku A.S. Popova, Praha.

Z/039/63/024/003/001/003
E192/E382

AUTHOR: Vasyluk, Rostislav, Engineer, Candidate of Sciences

TITLE: A new method of synthesis of linear bipoles

PERIODICAL: Slaboproudý obzor, v. 24, no. 3, 1963, 126 - 134

TEXT: A numerical method of synthesis, in which the approximation is neither directly used nor do the roots of high-order polynomials have to be evaluated, is presented. For the synthesis it is necessary to have a measured or prescribed frequency characteristic of the bipole. This is assumed to be represented by a positive real function of the variable p. The impedance Z of a bipole consists of a series combination of a frequency-dependent resistance $R_e(\omega)$ and frequency-dependent inductance $L_e(\omega)$ and its admittance Y consists of a frequency-dependent conductance $G_e(\omega)$ and a parallel capacitance $C_e(\omega)$:

$$Z(\omega) = R_e(\omega) + j\omega L_e(\omega) \qquad (4)$$

$$Y(\omega) = G_e(\omega) + j\omega C_e(\omega) \qquad (5) .$$

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A new method of ....

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"Polar" graphs of the bipoles are obtained by plotting such impedances, $Z(\omega)$, and admittances, $Y(\omega)$, in coordinates R_e and L_e or G_e and C_e . Examination of these graphs shows that in C, G systems the following characteristic quantities can be discerned: a parallel ohmic conductance G_p, a parallel capacitance C_p and a series capacitance C_s . G_p is given by the distance of the polar graph from the vertical axis C_e ; This component is separated by shifting the graph in the negative direction of the axis G_e . C_p is given by the distance of the graph from the horizontal axis G_e and its value is determined by shifting the graph in the negative direction of the axis C_e . C_s represents a segment on the axis C_e which the polar graph cuts at the frequency $\omega = 0$. The characteristic quantities which can be separated in LR systems are a series resistance R_s, a series inductance L_s and a parallel inductance L_p . These can again be determined by shifting the graph. It is therefore possible to determine the following frequency-independent parameters
Card 2/3

A new method of ....

Z/059/63/024/003/001/003
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from CG and the corresponding LR graphs: R_s, R_p, L_s, L_p, C_s and C_p. The synthesis of a bipole is now carried out by starting either with an LR or a CG system and separating the frequency-independent components. If LR is first employed and its frequency-independent parameters are eliminated, the remaining components are transformed into the CG system and again the frequency-independent parameters are eliminated; this is followed by another LR and then CG transformation and so on, until the system in either LR or CG coordinates represents a point. This completes the synthesis. The method is illustrated by a numerical example. The extension of the method to include mutual inductance circuits is outlined. A mathematical justification of the method is attempted and it is compared with the continuous rational-fraction method. There are 20 figures and 2 tables.

ASSOCIATION: Výzkumný ústav pro sdělovací techniku A.S.
                 Popova, Praha (A.S. Popov Telecommunications
                 Research Institute, Prague)

SUBMITTED: October 27, 1962
Card 3/3

S/102/62/000/005/002/003
D201/D308

AUTHOR: Vasyl'yev, V.I. (Kiev)

TITLE: Investigation of steady-state and dynamic regimes
               of differential extremal systems

PERIODICAL: Avtomatyka, no. 5, 1962, 27-34

TEXT: The author analyses theoretically the performance of
two differential extremal system circuits, one utilizing the princi-
ple of deformation of the extremum characteristic and the other in
which the object to be controlled is represented by an analog having
a linear component with inertia and a nonlinear inertialess element.
The analysis shows that both systems operate without hunting oscilla-
tions, the first of the two systems being absolutely immune with
respect to disturbances which shift the extremal characteristic of
the controlled object along the vertical axis. The first system
should be used with objects with small disturbances. Since in the
most general case it maintains the object away from the extremum,
it is inaccurate. The system with analogs is shown to be the most

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Investigation of steady-state ...

S/102/62/000/005/002/003
D201/D308

accurate. It can be used in all cases when an analog of the con-
trolled object can be realized. Both systems are shown to be affec-
ted by changes in the gain of amplifiers. When the gain of ampli-
fiers is not stable, the error will depend also on the changes in
the slope of characteristics. Both systems are stated to be valid
for any shape of the extremum characteristic. The author analyzes
their operation in the presence of both linearly varying and stepped
disturbances. The second system was applied successfully to the
control of chemical purification of water of the Mins'kaya TEU,-2
(TYeTs-2). There are 5 figures.

SUBMITTED: February 16, 1962

Card 2/2

VASYNIN, M.G.

Chemical Abat.
Vol. 48
Apr. 10, 1954
Sugar, Starch, and Gums

(L)

Methodical washing of filter presses. M. G. Vasynin,
Sakharnaya Prom. 27, No. 0, 32-3(1953).—Description and
sketch of a mechanized method for washing filter-press
cake are described.
V. B. Baikow.

VASYNIN, M.G.

Increasing condenser productivity. Sakh.prom.29 no.5:31-32 '55.
(MLRA 8:11)

1. Olymskiy sakharnyy zavod
(Sugar machinery) (Condensers (Steam))

VASYNIN, M.G.

Simplify the inspection of polarimeters. Sakh. prom. 31 no.1:30 Ja '57.
(MIRA 10:4)

1. Olymskiy sakharnyy zavod.
   (Polariscope)

VASYNIN, M.G.

Spray sulfitation. Sakh. prom. 32 no.4:39-40 Ap '58.   (MIRA 11:6)

1.Olymskiy sakharnyy zavod.
(Sugar manufacture)

Unsyntinskiy, B.M.

AID Nr. 983-1   5 June

STRUCTURE OF TANTALUM AT HIGH TEMPERATURES (USSR)

Amonenko, V. M., B. M. Vasyntinskiy, G. N. Kartmazov, Yu. N. Smirnov,
and V. A. Finkel'. Fizika metallov i metallovedeniye, v. 15, no. 3,
Mar 1963, 444-449.   S/126/63/015/003/016/025

The Physicotechnical Institute, Academy of Sciences USSR, has studied the
structure of Ta at 20 to 2600°C and the effect of vacuum heat treatment on the
structure and properties. X-ray diffraction patterns obtained with a high-
temperature x-ray camera in a vacuum of $3 \cdot 10^{-5}$ mm Hg showed that the body-
centered cubic structure of Ta remains unchanged at all temperatures tested.
The lattice parameter "a" increases from ~3.3030 kX at 20°C to 3.3750 kX at
2600°C. The coefficient of thermal expansion was calculated from "a." An-
nealing in a vacuum of $3 \cdot 10^{-5}$ to $1 \cdot 10^{-3}$ mm Hg at temperatures up to 2200°C
was found to increase "a" and microhardness. Curves of these two param-
eters versus temperature show maxima under all conditions tested; their
magnitude increases with increasing pressure. With a constant annealing

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AID Nr. 983-1   5 June

STRUCTURE OF TANTALUM [Cont'd]   S/126/63/015/003/016/025

time of 10 min these maxima occur at 1600° to 1800°C under all pressures tested.
With prolonged annealing the maxima are shifted toward lower temperatures,
occurring at ~1500-1600°C with annealing for 6 hrs. Both phenomena are at-
tributed to gas absorption by the Ta. X-ray diffraction patterns of a specimen
annealed for 15 hrs showed the lines of two high-temperature modifications of
Ta_2O_5 at 1460 to 1490°C and 1500 to 1540°C. .   [ND]

Card 2/2

VASYS, I.M., inzhener.

Redesigning valve grid of water-jet air pumps for steam engines.
Energetik 5 no.6:17 Je '57.   (MIRA 10:7)
                    (Steam engines)

VASYUCHENKO, Sofiya Ivanovna; LUK'YANOV, A.B., redaktor; POPRYADUKHIN, K.A.,
        tekhnicheskiy redaktor

    [Chemistry for technical schools] Khimiia; dlia tekhnikumov. Moskva,
    Gos. izd-vo "Sovetskaia nauka," 1956. 302 p.   (MLRA 9:9)
            (Chemistry)

VASYUCHENKO, Sof'ya Ivanovna; PERKOVSKAYA, G.Ye., red.; MURASHOVA, V.A., tekhn.red.

[Chemistry] Khimiia. Izd.3. Moskva, Gos.izd-vo "Vysshaia shkola," 1960. 340 p.
(MIRA 13:12)
(Chemistry--Handbooks, manuals, etc.)

VASYUCHENKO, Sofiya Ivanovna; POZDYUNINA, Ye.L., retsenzent;
AVRAMENKO, Ye.I., red.; GOROKHOVA, S.S., tekhn. red.

[Chemistry for technical schools] Khimiia dlia tekhnikumov.
Izd.4., perer. i dop. Moskva, Gos. izd-vo "Vysshaia shkola,"
1961. 395 p.   (MIRA 15:2)
          (Chemistry)

VASYUCHENKO, Sof'ya Ivanovna; PERKOVSKAYA, G.Ye., red.; MURASHOVA, V.A., tekhn. red.

[Problems and exercises in chemistry]Sbornik zadach i up-razhnenii po khimii. Moskva, Vysshaia shkola, 1963. 183 p. (MIRA 16:3)

(Chemistry--Problems, exercises, etc.)

SUSHCHUK-SLYUSARENKO, I.I.; VASYUCHKOV, V.S.

International exhibition of welding equipment in London. Avtom.
svar. 16 no.10:90-96 O '63.
(MIRA 16:12)

VASYUCHKOV, Yu.F., student III kursa; BOBYLEV, A.P., kand.tekhn.nauk

Narrow-draw cutting in the mines of the Soviet Union (Donets
Basin). Nauch. rab. stud. GNSO MGI no.7:41-46 1959. (MIRA 14:5)
(Donets Basin--Coal mines and mining)

SHEVELEV, B.N.; VASYUCHKOV, Yu.F.; gornyy inzh.

Fighting to lower coal costs. Ugol' 36 no.3:45-47 Mr '61.
(MIRA 14:5)

1. Nachal'nik shakhty No.32 kombinata Vorkutugol' (for Shevelev).
(Coal mines and mining—Costs)

ACCESSION NR: AP4012337

S/0096/64/000/001/0013/0018

AUTHORS: Kontorovskiy, A. Z. (Candidate of technical sciences); Vasyuchkova, K. I.
(Engineer); Kuznetsova, T. P. (Engineer)

TITLE: Resistance to scaling of boiler steel

SOURCE: Teploenergetika, no. 1, 1964, 13-18

TOPIC TAGS: resistance to scaling, heating cycle, corrosiveness, furnace gas,
microstructure, chromium steel, steel 12Kh1MF, steel 15Kh1M1F, steel 12Kh2MFB,
steel 12Kh2MFSR, steel EI756, steel 1Kh12V2MF

ABSTRACT: The resistance to scaling of 12Kh1MF, 15Kh1M1F, 12Kh2MFSR, and EI756,
1Kh12V2MF steel specimens (tubes and rings) used in boilers was investigated in
great detail, and the composition of each steel was tabulated. The specimens were
subjected to cycles of heating (1000, 3000, and 5000 hrs duration) and cooling (for
125 hrs) all done in air. The specimens were weighed before and after each experi-
ment, and the depth of scaling was measured. The results show an intensity of
scaling higher than those used in the Leningrad Heat Power Machine Design Congress
of 1958. This difference is attributed to the inherently higher corrosiveness of

Card 1/2

ACCESSION NR: AP4012337

air as compared to a furnace gas. The scales had the same multilayer structures, the hardness and microstructure of which were analyzed closely. The external layers were primarily Fe_2O_3 (0.01 to 0.04 mm thick) followed by thinner layers of FeO and Fe_3O_4. The most sensitive steel to cooling was type 12Kh2MFB. The chromium steel EI756 showed the greatest amount of scaling, amounting to a thickness of 0.2 mm during a 5000-hr treatment at a mass loss rate of 0.047 mm/year. The corresponding thicknesses in 12Kh1MF, 15Kh1M1F, and 12Kh2MFSR steels were 1.55, 1.0, and 0.8 mm respectively, but the oxidation rates with these steels were 8 to 10 times as high as in the EI756 steel. It is concluded that the 5000-10 000-hr tests suggested by GOST 6130-52 standards are insufficient and that test durations should last at least as long as 10 000 hrs. Orig. art. has: 7 figures and 5 tables.

ASSOCIATION: Orgenergostroy;MOTsKTI; VTI

SUBMITTED: 00   ENCL: 00

SUB CODE: MM   NO REF SOV: 000   OTHER: 000

Card 2/2

KONTOROVSKIY. A.Z., kand.tekhn.nauk; VASYUCHKOVA K.I., inzh.;
        KUZNETSOVA, T.P., inzh.

Resistance to scale formation of boiler steel. Teploenergetika
11 no.2:13-18 F '64.
                                                            (MIRA 17:4)

1. Vsesoyuznyy institut p' royektirovaniyu organizatsiy
energeticheskogo stroitel'stva, Moskovskoye otdeleniye
TSentral'nogo kotloturbinnogo instituta i Vsesoyuznyy nauchno-
issledovatel'skiy teplotekhnicheskiy institut.

S/0096/64/000/004/0034/0037

ACCESSION NR: AP4025420

AUTHORS: Kontorovskiy, A. Z. (Candidate of technical sciences); Vasyuchkova, K. I. (Engineer); Kuznetsova, T. P. (Engineer)

TITLE: Aging certain types of boiler steel

SOURCE: Teploenergetika, no. 4, 1964, 34-37

TOPIC TAGS: steel, boiler steel, aging, aging boiler plate, 12Kh1MF steel, 12Kh2MFB steel, 12Kh2MFSR steel, 15Kh1M1F steel, EI756 steel, steel strength, ordered metal, disordered metal, holding time, metal structure stability, carbide phase variation, plasticity, impact strength, dispersion hardening

ABSTRACT: The variations in the structure and physical properties of boiler steels during aging with relation to holding time at high temperatures (600-650C) were studied. The metals tested were: 12Kh1MF, 12Kh2MFB, 12Kh2MFSR, 15Kh1M1F, and EI756 steels. Experimental results showed that strength of all the types investigated was impaired by the increase in aging temperature and in the holding time. This effect was more pronounced during the first 500-1000 hours of holding. The authors explain the causes for the variation in metal hardness, plasticity, tensile

Card 1/2

ACCESSION NR: AP4025420

strength, and impact strength under thermal treatments in terms of structural changes due to phase transformation. They emphasize the effect of the alloying elements redistribution in the solid solution and the carbide phase. Steels 12Kh1MF, 15Kh1M1F and EI756 showed a noticeable weakening in the process of aging, while the response of steels 12Kh2MFB and 12Kh2MFSR was insignificant. The variation in physical properties of steel EI756 will require further study before conclusions can be made. Orig. art. has: 2 tables and 5 figures.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: ML

DATE ACQ: 20Apr64

NO REF SOV: 001

ENCL: 00

OTHER: 000

Card 2/2

18(5)

SV/118-59-1-13/16

AUTHOR: Vasyuk, A.S., Engineer

TITLE: A Rotor Excavator with Linked Projecting Conveyers
            (Rotornyy ekskavator s sochlenennymi vydayushchimi
            konveyerami)

PERIODICAL: Mekhanizatsiya i Avtomatizatsiya Proizvodstva, 1959,
            Nr 1, pp 50-52 (USSR)

ABSTRACT: The author enumerates the deficiences in rotor excava-
            tors RPM-1 and RPM-2 (inability to load rock onto dump
            cars, shaking rock off the conveyers, etc.) and des-
            cribes his design, a modified version of the rotor ex-
            cavator RPM-1 built by the Suvorovskoye Rudoupravleniye
            (Suvorov Ore Administration) of the Tulskiy Sovnarkhoz
            (Tula Council of the National Economy) (Figure 1). It
            can convey excavated rock to and dump it at any desired
            point within the working radius of the excavator, and
            can rotate without inerrupting the excavating-conveying

Card 1/2

SCV/118-59-1-13/16

A Rotor Excavator with Linked Projecting Conveyers

process. The new excavator's technical features include:
Capacity up to 450m³ of rock per hour; diameter of the
rotor 4.5 m; number of buckets 10; volumetric capacity
of bucket 150 liters; speed of rotor rotation 4.8 re-
volutions per minute; width of conveyer belts 1 m;
speed of conveyer belts 2.2 m/sec; radius of cutting-
in-12 m.; maximum in height of cutting-in-12m, total
electric capacity 207 kw; weight 142tons; ground unit
pressure 1.2 kg/cm². Testing on frozen ground showed,
that the new excavator reacted well, yet lowered produc-
tion to 55%. The main flaw in the excavator's design
as established by tests on sandy ground in winter is
the quick abrasive wear of the bucket's teeth. There
are 4 diagrams.

Card 2/2

18(5)

AUTHOR: Vasyuk, A. S.

LOV/131-59-3-4/18

TITLE: Shovel Dredge With Connected Distribution Band Conveyors
              (Rotornyy ekskavator s sochlenennym razdatochnym konveyyerom)

PERIODICAL: Ogneupory, 1959, Nr 3, pp 112-114 (USSR)

ABSTRACT: The shovel dredge loading machines RPM-1 and RPM-2 are used in
              mining for prospecting and search work in combination with band
              conveyors. Their capacity is, however, reduced because of the
              uncomplete way of surrender of the material from the shovel dredge
              to the band conveyor. Apart from this the band conveyor is connect-
              ed with the dredge platform in such a way that in the case the plat-
              form rotates also the band conveyor rotates and thus leaves the
              given point. Upon the request by the author of the present abstract
              in the Suvorovskoye rudoupravleniye (Suvorov Ore Pit Administration)
              a shovel dredge with two connected band conveyors (Fig 1) was con-
              structed on the basis of the RPM-1 machine which facilitates the
              transport of the material to any point. The material is taken from
              the shovel dredge into the intermediary band conveyor and from there
              into the loading band conveyor. The tilting device of the loading
              band conveyor is shown on figure 2 and described in detail. The
Card 1/2   tilting of the band conveyor may be performed during the operation

Shovel Dredge With Connected Distribution Band Conveyors   SOV/131-59-3-4/15

       of the shovel dredge. Apart from this in connection with the
modernization of the RPM-1 machine a number of improvements were
carried out. The re-built dredge supplies up to 1560 m³ rock per
working shift and proved to be efficient in practice. Finally, its
technical data are given.- There are 3 figures and 1 table.

ASSOCIATION: Suvorovskoye rudoupravleniye (Suvorov Ore Pit Administration)

Card 2/2

VASYUK, A.S.

Device for mold changing on friction presses. Ogneupory 28
no.10:479 '63.   (MIRA 16:11)

1. Shamotnyy zavod "Krasnaya Zvezda."

VASYUK,A.S.

A double support track mover. Ogneupory 17 no.5:231-232
My '52.   (MIRA 8:9)
              (Mine railroads)

VASYUK, A.S.

Modernization of vacuum belt presses. Ogneupory 28 no.9:422-424 '63. (MIRA 16:10)

1. Kondrat'yevskiy shamotnyy zavod "Krasnaya Avezda".

VASYUK, A.Ye. (Rovenskaya obl., Kostopol', ul. Rovenskaya, d. 30)

Surgery for thyrotoxicosis in a district hospital. Nov. khir. arkh. no.2:115-116 Mr-Ap '59. (MIRA 12:7)

1. Khirurgicheskoye otdeleniye (zav. - A. Ye. Vasyuk), Kostopol'skoy rayonnoy bol'nitsy Rovenskoy oblasti.
(THYROID GLAND--SURGERY)

VASYUK, A.Ye.; SHOR, G.P.

Appendicitis in children as revealed by data of a district hospital.
Sov. med. 25 no.3:120-122 Mr '61. (MIRA 14:3)

1. Iz Kostopol'skoy rayonnoy bol'nitsy (glavnyy vrach S.Ya.Gormakh)
Rovenskoy oblasti.
(APPENDICITIS)

VASYUK, A. Ye.

Subcutaneous traumatic rupture of the retroperitoneal segment of the duodenum. Khirurgiia no.6:123-124 Je '62.
(MIRA 15:7)

1. Iz khirurgicheskogo otdeleniya (zav. A. Ye. Vasyuk) Kostopol'-skoy rayonnoy bol'nitsy (glavnyy vrach S. Ya. Gormakh) Rovenskoy oblasti.

(DUODENUM--RUPTURE)

VASYUK, A.Ye. (Kostopol', Rovenskoy oblasti, ul. Rovenskaya d.30)

Injuries to the abdomen; according to data from a district hospital.
Klin.khir. no.12:45-48 D '62. (MIRA 16:2)

1. Kostopol'skaya rayonnaya bol'nitsa Rovenskoy oblasti.
(ABDOMEN—WOUNDS AND INJURIES)

VASYUK, A.Ye.

Repeated perforations of gastric and duodenal ulcers. Sov.
med. 26 no.11:114 N'62   (MIRA 17:3:

1. Iz khirurgicheskogo otdeleniya Kostropol'skoy rayonnoy
bol'nitsy Rovenskoy oblasti (glavnyy vrach S. Ya. Gormakh).

VASYUK, A.Ye. (Kostopol' Rovenskoy oblasti)

Errors of fel'dshers in diagnosis and in rendering aid to patients with serious surgical diseases. Fel'd. i akush. 27 no.9:41-43 S '62.   (MIRA 16:8)
                    (DIAGNOSIS)
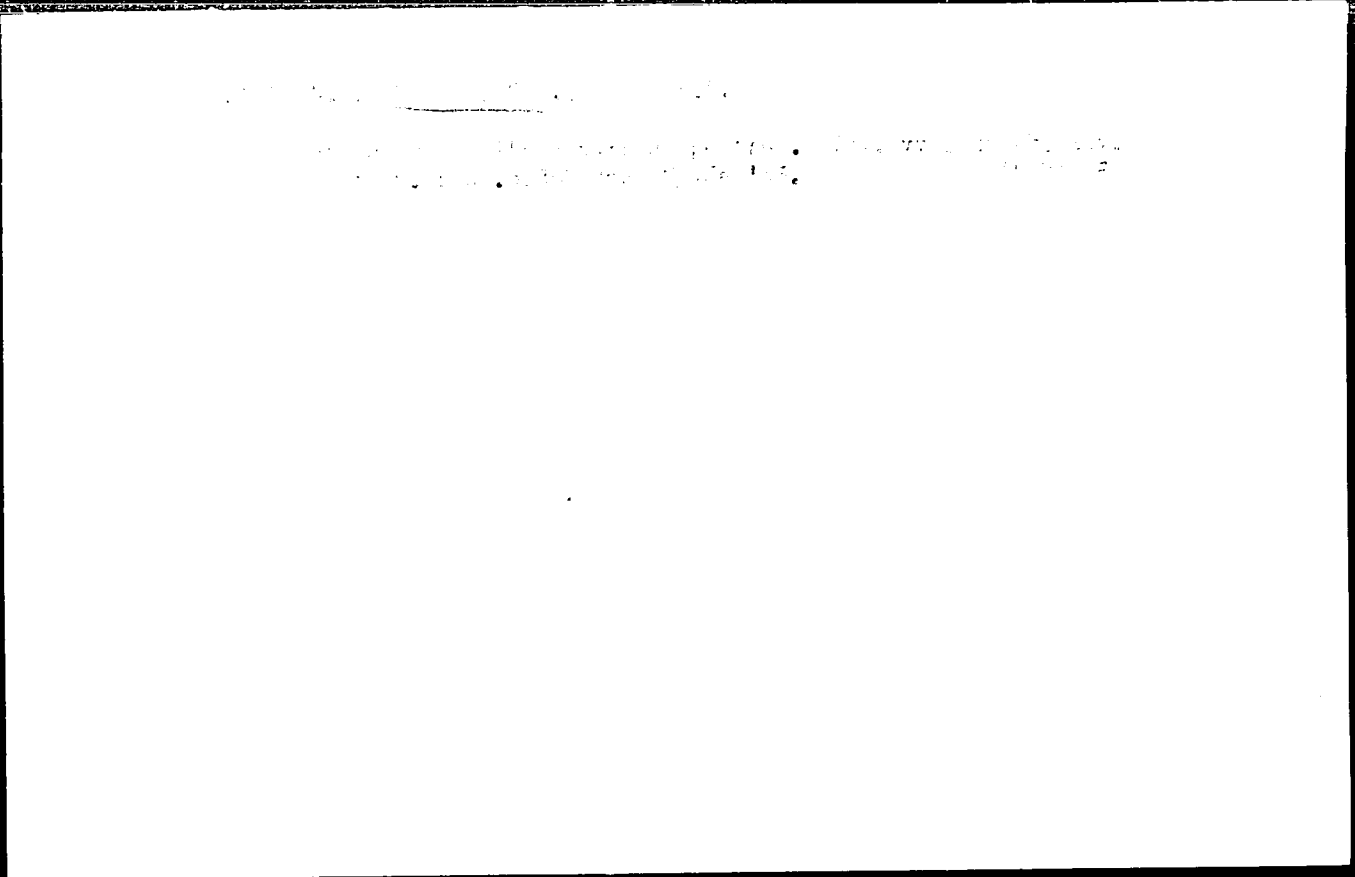
VASYUK, B.,mashinist

Useful efficiency promotion suggestion. Elek. i tepl. tiaga 2
no.2:41 F '58.
(MIRA 11:4)

1. Depo Barabinsk Omskoy dorogi.
         (Electric locomotives)

VASYUK, G.I.; CHAYKOVSKIY, V.I.

Determination of an autocorrelation function using selected
values of a random process. Izv. vys. ucheb. zav.; radiotekh.
8 no.3:357-360 My-Je '65.   (MIRA 18:9)

SOV/142-58-5-3/23

· 9(2)
AUTHOR: Vasyuk, G.I.

TITLE: Nonlinear Distortion in Broad-Band Push-Pull Class B Amplifiers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, radiotekhnika, 1958, Nr 5,
               pp 538-543 (USSR)

ABSTRACT: It is shown, that the output power of broad-band push-pull ampli-
               fiers, working with cutting-off anode-current, does accompany
               non-linear distortions. These originate in a sudden rise of the
               2nd harmonic voltage on the anode tubes, registrations of the
               circuits resonance characteristics, generating within the tubes
               plate circuit out of the capacitance and the inductance of the
               output transformer. Tubes with high inner resistances are used.
               High inner resistance means in this case, that the resistance R_i
               is much higher than the terminal impedance of the loaded trans-
               former. This proportion is realized for the amplifier on pentodes
               and tetrodes. The appearance of asymetry between the seperate ele-
               ments of the scheme on non-linear distortions on the amplifier
               output, with a registration of only the 2nd harmonic is shown.
Card 1/2   Two cases are described: 1) The asymetry appears only in unequal

Nonlinear Distortion in Broad-Band Push-Pull Class A Amplifiers

amplitudes on the terminals input voltage; 2) $W_1 \neq W_2$; $\delta_{e1} \neq \delta_{e2}$ (equation (3),(4)). The cause of distortion lies in the appearance of parasite circuits within the anode circuit, which consists of the terminals capacitance and the induction of the dispersion between the halves of the output transformers primary winding. With inductive loads, the nonlinear distortion increases somewhat, with a capacitive load it decreases. In audiofrequency amplifiers, the described phenomena do not appear. Quasi-transient phenomena, by A.M. Pisarevskiy investigated with an active load, do not reach remarkable quantities either. The article is recommended by the Kafedra radiopriyemnykh ustroystv Kiyevskogo ordena Lenina politekhnicheskogo instituta   (Chair of Radio Receiving Devices of   the Kiyev Politechnical Institute of the Order of Linin). There are 3 block diagrams, 2 graphs, 5 equations and 2 references, 1 of which is Soviet, and 1 English.

Card 2/2

SUBMITTED: February 17, 1958

L 6397-66   EWT(1)   WR

ACC NR: AP5020928

SOURCE CODE: UR/0142/65/008/003/0360/0362

AUTHOR: Vollerner, N. F. (Prof.); Vasyuk, G. I.; Fuks, L. B.

ORG: none

TITLE: The problem of a probing pulse with a narrow spectrum

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 3, 1965, 360-362

TOPIC TAGS: radar pulse, pulse shape, radar frequency bandwidth

ABSTRACT: To achieve highest velocity resolution (minimum ΔV) in a radar pulse, pulses with the narrowest possible bandwidth are required. The direct relationship between echo-signal attenuation N and limiting ΔV is used in selection of the best pulse shape. Development of quantitative relationships or examination of cases of radical alteration of parameters of the radar other than pulse shape is avoided. Two cases are considered: the first involves discrimination between objects with widely differing echo cross sections (this requires resolution of signal "tails" and therefore normalization of pulses over the full duration of the emission); and the second guarantees high discrimination of a stationary object on a reflective

Card 1/2

UDC: 621.391.82

L 6397-66

ACC NR: AP5020928

background (here normalization over the time interval containing the major portion of the energy is important, and the length and form of "tails" are secondary). The rectangular pulse shape has the highest concentration of energy in time at a given peak power; the sin x/x shape has highest concentration of energy in a bandwidth at a constant spectral density; the bell shape has in practice the highest possible concentration of energy simultaneously in time and in a bandwidth. Comparison of the different pulse shapes for the first case shows superiority of the sin x/x pulse. In the second case the bell-shaped pulse is best. The rectangular pulse can be used in the event of low values of N but does not reduce ΔV. The sin x/x pulse has some advantages for high values of N but is not very promising in a real noise environment. The bell-shaped pulse is in general the best choice for low ΔV, but in practice the rectangular pulse is sufficiently effective and requires simpler apparatus. The rigorous treatment of M. S. Gurevich [Gurevich, M. S., *Spektry radiosignalov*, Svyaz'izdat, 1963] is similar to the first case and indicates the need for the same type of treatment of the second case. Orig. art. has: 2 figures.

SUB CODE: EC/ SUBM DATE: 05Jun64/ ORIG REF: 007/ OTH REF: 000

Card 2/2

PERTSEVA, A.N.; VASYUK, L.F.

The ratio among various groups of micro-organisms in the root
system of flax and buckwheat during different developmental stages
following application of the AMB bacterial fertilizer. Trudy Vses.
inst. sel'khoz. mikrobiol. no.14:263-274 '58.   (MIRA 15:4)
                (Soil inoculation) (Flax) (Buckwheat)

VASYUK, V.N., red.

[Sand-lime and gypsum materials and products] Silikatnye i
gipsovye materialy i izdeliia. Kiev, Gosstroiizdat USSR,
1964. 104 p.   (MIRA 17:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut
stroitel'nykh materialov i izdeliy.

GORPACH, S.T., dorozhnyy master; VASYUK, V.P., dorozhnyy master

      Pay more attention to track in railroad yards. Put' i put.khoz.
      no.11:29 N '58.   (MIRA 11:12)

      1. Darnitskaya distantsiya puti Yugo-Zapadnoy dorogi, stantsiya
      Darnitsa.
              (Railroads--Yards) (Railroads--Track)

L 01465-66   EWT(1)/EWP(m)/EP (sp)-2/EPA(w)-2/T-2/EWA(m)-2   IJP(c)

ACCESSION NR: AP5018653   UR/0302/65/000/002/0055/0066
                                                           533.91 : 531.6

AUTHOR: Bertinov, A. I.; But, D. A.; Vasyukevich, P. V.; Kulugin, V. N.

TITLE: Designing channels for vortex flows of a weakly ionized gas in a transverse magnetic field

SOURCE: Magnitnaya gidrodinamika, no. 2, 1965, 55-66

TOPIC TAGS: MHD flow, turbulent flow, supersonic flow, subsonic flow

ABSTRACT: The behavior of a vortex flow of an ionized gas under the retarding force of a transverse magnetic field is studied. Magnetohydrodynamic equations are employed without the heat loss and heat transfer terms to describe radial flow in subsonic and supersonic regimes. Three types of channels are considered and it is shown that temperature and Joule heating depend on the channel contours; both behave differently in subsonic and supersonic regimes. The detailed analysis is limited to subsonic cases. Finite solutions are found for constant temperature, constant tangential velocity and constant Mach number. The Appendix contains the solution of the Abel's equation of the second kind. Orig. art. has: 91 formulas, 3 figures.

Card 1/2

L 01465-66

ACCESSION NR: AP5016653   ◯

ASSOCIATION: none

SUBMITTED: 01Feb65   ENCL: 00   SUB CODE: ME, EM

NO REF SOV: 003   OTHER: 000

Card 2/2

L 3411L-66   EWP(1)/EWI(m)/T-2   IJP(c)

ACC NR: AP6008830   SOURCE CODE: UR/0294/66/004/001/0066/0072

AUTHOR: Bertinov, A. L. (Moscow); But, D. A.; Kalugin, V. N.; Vasyukevich, P. V.
Vasyukevich, P. V. (Moscow)

ORG: None

TITLE: The approximate computation of the variation in the electric conductivity of a gas in a vortex magnetohydrodynamic flow

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 1, 1966, 66-72

TOPIC TAGS: MHD flow, electric conductivity, gas conductivity

ABSTRACT: A majority of articles devoted to the investigation of vortex MHD flow average out gas conductivity and assume it to be constant. It is known, however, that the conductivity of a weakly ionized gas depends on pressure and to a considerable degree on temperature which may vary substantially along the radius during axisymmetric twisting of a conducting gas in an axial magnetic field. The present authors perform an analysis of vortex MHD flow with the assumption that conductivity depends on temperature as a power function. An ideal conducting gas is studied with part of the total enthalpy being converted to electric power. The authors demonstrate the influence of taking into account the variations of conductivity on the basic parameters of the flow. Orig. art. has: 6 figures and 42 formulas.

Card 1/2   UDC 537.311.37

L 34114-66
ACC NR: AP6008830

O

SUB CODE: 20 / SUBM DATE: 23Feb65 / ORIG REF: 003 / OTH REF: 002

Card 2/2 pla)

VASYUKEVICH, V.A., inzh.; GONCHAROV, S.F., kand.tekhn.nauk

     Spectrum analysis method and preliminary results of its application
in the investigation of diesel lubricants. Trudy TSNII MPS
no.25x:4-25 '63.   (MIRA 16:6)
     (Diesel locomotives--Lubrication) (Spectrum analysis)

VASYUKHINA, L.V.

Possibility of using some nonspecific reactions for determining the existing forms of plague and pseudotuberculosis bacilli. Izv. Irk. gos. protivochum. inst. 12:23-30 '54.   (MIRA 10:12)
    (PASTEURELLA PESTIS)
    (PASTEURELLA PSEUDOTUBERCULOSIS)

VASYUKHINA, L.V.; YAKUBOVSKAYA, G.V.

Pigment formation in the smooth variant of the plague microbe.
Izv. Irk.gos.protivochum. inst. 12:31-34 '54.   (MIRA 10:12)
(PASTEURELLA PESTIS)

VASYUKHINA, L.V.; YAKUBOVSKAYA, G.V.

Variability of different strains of plague and pseudotuberculosis
bacilli kept under laboratory conditions. Izv. Irk.gos.protivochum.
inst. 12:3-10 '54.   (MIRA 10:12)
        (PASTEURELLA PESTIS)
        (PASTEURELLA PSEUDOTUBERCULOSIS)

VASYUKHINA, L. V., Cand Hf Med Sci -- (diss) "Influence of the various

conditions in determining the preservation of the basic characteristics

of plague microbes." Saratov, 1957, 15 pp (State Scientific Research

Institute of Microbiology and Epidemiology of South Eastern USSR "Microbe")

200 copies (KL, 32-57, 97)

VASYUKHINA, L. V.

VASYUKHINA, L. V. -- "The Retention of the Specific Properties of the
Causative Agent of Plague by the Method of Vacuum-Freeze Drying."
Min Health USSR. Irkutsk State Science Research Anti-Plague Institute
of Siberia and the Far East. Irkutsk, 1955. (Dissertation for the
Degree of Candidate in Medical Sciences.)

So; Knishaya Letopis' No 3, 1956

DOMARADSKIY, I.V.; YAROMYUK, G.A.; VASIUKHINA, L.V.; KOROTAYEVA, A.V.

Coagulation of blood plasma by plague and pseudotuberculosis microbes. Bul. eksp. biol. i med. 56 no.7:79-82 Jl'63
(MIRA 17:3)

1. Iz Irkutskogo gosudarstvennogo nauchno-issledovatel'skogo protivochumnogo instituta Sibiri i Dal'nego Vostoka (dir. doktor med. nauk prof. I.V. Domaradskiy). Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym- Verezhnikovym.

KOROBKOV, G.G.; VASYUKHINA, L.V.

Effect of avirulent plague microbes on the resistance of the
body to infection during their simultaneous introduction with
virulent ones. Zhur. mikrobiol., epid. i immun. 42 no.11:
140-141 N '65.   (MIRA 18:12)

1. Irkutskiy nauchno-issledovatel'skiy protivochumnyy institut.
Submitted March 26, 1965.

L 28421-66   EWT(1)/T   JK

ACC NR: AP6019124   SOURCE CODE: UR/0016/65/000/011/0140/0141

AUTHOR: Korobkov, G.G.; Vasyukhina, L.V.   21

ORG: Irkutsk Scientific Research Antiplague Institute (Irkutskiy nauchno-issledovatel'skiy protivochumnyy institut)

TITLE: Effect of avirulent plague microorganisms injected simultaneously with virulent microorganisms on resistance to infection

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1965, 140-141

TOPIC TAGS: microbiology, immunology

ABSTRACT: Higushi and Smith (1961) showed that avirulent mutants regularly arise in a plague culture. Therefore, most plague cultures consist of both virulent and avirulent strains. The authors of this article undertook to determine whether the presence of avirulent microorganisms has any effect on the development of the infection process. Five series of experiments revealed that avirulent microorganisms (live and killed) injected simultaneously with virulent ones have an anti-infectious (protective) action regardless of the injection site. The authors attribute this effect to the capacity of avirulent microorganisms to intensify the phagocytic activity of cells of the reticuloendothelial system. It is comparable to the phenomenon of infection of animals with a large dose of a strain possessing unstable virulence wherein there is no direct relationship between the number of microorganisms injected and the death of the animals. /JPRS/

SUB CODE: 06 / SUBM DATE: 26Mar65
Card 1/1   YC   UDC: 616.981.452-097.3-02:615.371.576.851.45.097.21

VASYUKHNO, A.I., inzh. (g.Ufa)

Take into consideration safety factors. Put' i put.khoz. 6
no.2:46 '62.
(MIRA 15:2)
(Railroads--Safety measures)

VASYUKHNO, A.I.

Improving the working conditions. Put' i put.khoz. 7 no.4:36-37 '63.
(MIRA 16:3)

1. Nachal'nik Ufimskoy distantsii.
(Railroads--Equipment and supplies)

VASYUKHNO, A.I.

Potentials for the reduction of labor expenditures. Put' i put.
khoz. 8 no.5:11-12 My '64.
(MIRA 17:6)

1. Nachal'nik Ufimskoy distantsii puti Kuybyshevskoy dorogi.

NIKITIN, S.O.; PROKHOROV, V.N.; VASYUKINA, P.M.; BAKAYEV, S.M.

Drying the base and heating the layers of rolled roofing
materials in carrying out roofing work during winter. Rats. i
izobr. predl. v stroi. no.2:87-90 '57.   (MIRA 11:1)
(Drying apparatus) (Roofing--Cold weather conditions)

VASYUKOV, A.I.

     Experience in joint operations of the Central Office of
Technological Information and public organizations. Opyt. rab.
po tekh. inform. i prop. no.1:19-20 '63.   (MIRA 16:12)

     1. Zamestitel' nachal'nika TSentral'nogo byuro tekhnicheskoy
informatsii Vladimirskogo soveta narodnogo khozyaystva.

VASYUKOV, D., general-mayor inzhenerno-tekhnicheskoy sluzhby;
DREMOV, N., inzh.-polkovnik

We have reserves. Av. i kosm. 45 no.1:61-65 Ja '63.
(MIRA 16:1)

(Flight training)

ACC NR: AT6034443   (A)   SOURCE CODE: UR/0000/66/000/000/0109/0112

AUTHOR: Rastegayev, M. V.; Danil'chenko, A. N.; Kashin. V. I.; Zharov, V. M.;
Vasyukov, G. A.

ORG: none

TITLE: Investigation of the recrystallization process in tungsten

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh
splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka,
1966, 109-112

TOPIC TAGS: tungsten, metal recrystallization

ABSTRACT: The subject of the investigation was vacuum melted tungsten, reduced with
niobium. The tungsten billets with a diameter of 35 mm were worked down on a lathe to
a diameter of 16 mm and were cut into samples with a height of 39 mm. Upsetting of the
samples was done in a hydraulic press with a degree of reduction of about 40%. The
first part of the samples was subjected to stepwise annealing in a vacuum furnace
(vacuum 10^{-4} mm Hg) at temperatures of 1250, 1400, 1600, 1800, and 2000° for a period
of 40 minutes. After each anneal, the samples were cooled in the furnace to 20°;
polished samples were then prepared and examined for degree of recrystallization. The
experimental results are shown in a three dimensional diagram of the recrystallization

Card 1/2

ACC NR: AT6034443

bf the cast structure of tungsten. Analysis of the results shows that 100% recrystallization of the cast structure in the samples, deformed by approximately 40% in the temperature interval from 400-1200°, is completed at a stepwise annealing temperature of 2000°. With direct heating(without steps) of the second part of the samples, although complete recrystallization was assured, the boundaries of the old crystals were retained. With annealing temperatures in the interval from 1400-1800°, the cast structure recrystallized partially within the limits of 25-90%. At an annealing temperature of 1250°, the cast structure of the samples deformed by 40% in the temperature interval 200-1250° did not recrystallize. The cast structure, deformed at 200°, did not recrystallize in the temperature interval from 1250-1600°. However, in samples deformed at higher temperatures (800°) partial recrystallization was observed. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

L 37233-66   EWT(m)/EWP(k)/EWP(t)/EWP(e)/ETI   IJP(c)   JD/JG
ACC NR: AP6017104   (A)
                                 SOURCE CODE: UR/0226/66/000/001/0050/0054

AUTHORS: Burtsev, V. T.; Vasyukov, G. Kh.; Kashin, V. I.; Samarin, A. M.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Liberation of gas from tungsten at 2500C

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 50-54

TOPIC TAGS: tungsten, powder metal, powder metal compaction, powder metal sintering,
vacuum degassing, carbon monoxide, hydrogen

ABSTRACT: The nature and quantity of gas liberated at 2500C from sintered and vacuum
cast tungsten were determined by mass spectrometry. A schematic of the vacuum furnace
and the experimental installation is presented. The detailed description of the
experimental apparatus and procedure is given by V. T. Burtsev, Yu. I. Korbman, and
A. M. Samarin (Izv. AN SSSR, Metallurgiya i gornoye delo, No. 3, 58, 1964). The
experimental results are presented in graphs and tables (see Fig. 1). Vacuum smelting
of tungsten by electron-beam techniques is the most efficient procedure for the removal
of residual gases from the metal. It is suggested that sintered tungsten bars should
be subjected to a preliminary degassing treatment in vacuum resistance furnaces.
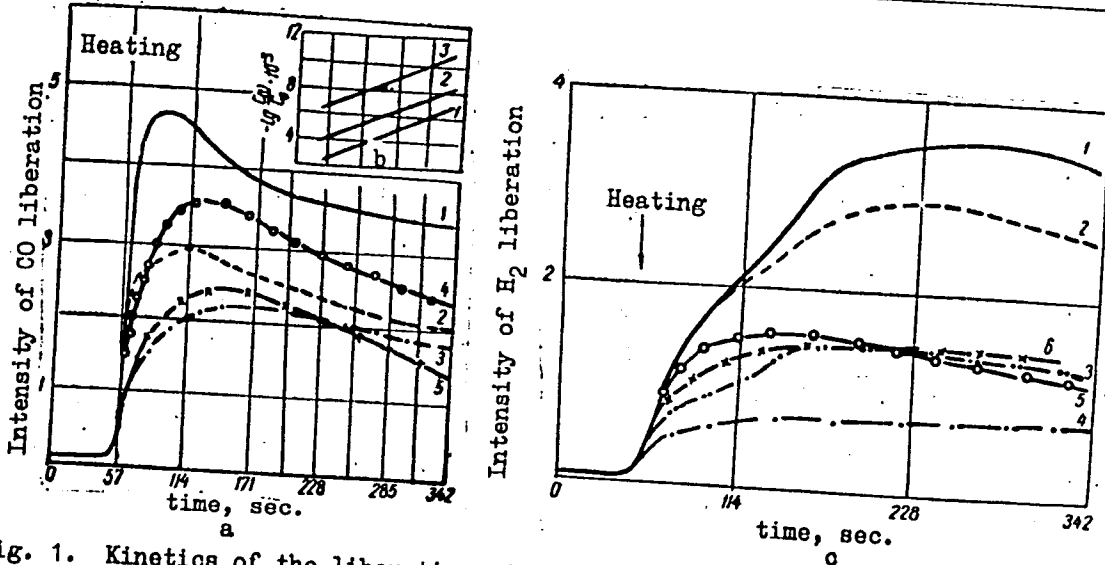
Card 1/2

L 37233-66
ACC NR: AP6017104

Fig. 1. Kinetics of the liberation of carbon monoxide (a and b) and hydrogen from tungsten at 2500C and 10⁻³ mm Hg as a function of the nature and type of treatment of specimens: (a and b): 1 - sintered, 2 - vacuum smelted in arc furnace, 3 - vacuum smelted in electron-beam furnace, 4, 5 - bar after 3 and 6 hours annealing; (c): 1 - sintered, 2, 3 - first and second smelting in arc furnace, 4 - electron-beam smelting, 5 and 6 - bar after 3 and 6 hours annealing. Orig. art. has: 3 figures and 1 table.

Card 2/2   SUB CODE: 11/ SUBM DATE: 27May65/ ORIG REF: 010

VASYUKOV, I. YE.

USSR/Engineering - Construction,   Jan 52
                    Equipment

"Installation for Vibrating Conveyance of Con-
crete and Mortars," I. Ye. Vasyukov, Engr,
Minmashstroy (Min of Mach Bldg)

"Byull Stroitel Tekh" No 1, pp 16-18

Describes method developed by B. S. Dubov,
Docent of Dnepropetrovsk Eng Constr Inst, for
delivery of concrete mix and mortar to placing
point using vibrating chutes. Method eliminates
sepn of concrete mixt during conveying,

USSR/Engineering - Construction,
                    Equipment (Contd)   Jan 52

considerably improving strength of concrete. Vi-
brating installation permits use of lean concrete
decreasing consumption of cement.

202T55

202T55

1. VASIL'YEV, I.Ye. Ann.

2. USSR (600)

4. Efficiency, Industrial

7. Work experience of the Bureau for Rationalization and Invention of the Ministry of Machine Building Industry. Biul. stroi. tekh. 10 No. 5, 1953.

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

VASYUKOV, I.Ye., inzhener.

Best efficiency workers of the Ministry of the Construction
Industry of the U.S.S.R. Nov.tekh.i pered.op.v stroi. 18 no.8:
13-16 Ag. '56.   (MLRA 9:10)

(Construction workers)

VASYUKOV, I.Ye., inzhener.

Automobile trailer used for transportation of large-sized reinforced-concrete panels. Izobr. v SSSR 2 no.1:17-18 Ja '57.   (MLRA 10:4)
(Truck trailers)

VASYUKOV, I.Ye., inzhener.

Machines for producing curb concrete stones. Izobr.z izc-P 2
no.5 :0 My '57.   (MIRA 10:7)
                    (Curbstones)

VASYUKOV, I.Ye., inzh.

Blades for cutting branches from felled trees. Izobr.v SSSR 2 no.2:
10-11 F '57.   (MIRA 12:3)
                        (Tree felling)

VASYUKOV, I.Ye., inzh.

Semiautomatic screwdriver. Mont. i spets. rab. v stroi. 23
no. 1:24-25 Ja '61.   (MIRA 14:1)
                    (Screwdrivers)

VASYUKOV, I.Ye., inzh.

Using bar iron in making flanges. Mont.i spets.rab.v stroi. 22
no.4:16 Ap '60.   (MIRA 13:8)
(Pipe flanges)

VASYUKOV, I.Ye., inzh.

Dump truck semi-trailer with a saddle-type mounting. Mont. i spets.
rab. v stroi. 24 no.1:30-31 Ja '62.   (MIRA 15:7)
                    (Dump trucks)

VASYUKOV, I.Ye., inzh.

Inventions and efficiency promoters' suggestions. Mont. i spets. rab.
v stroi. 24 no.4:25-27 Ap '62.   (MIRA 15:7)
                (Building—Tools and implements)

VASYUKOV, I.Ye., inzh.

Restoring cylinder sleeves of engines. Mont. i spets. rab. v
stroi. 24 no.5:26 My '62.   (MIRA 15:5)
                              (Cylinders)

VASYUKOV, I.Ye., inzh.

Pyrotechnical relay for controlling the delay of the explosion
of a detonating fuse. Mont. i spets. rab. v stroi. 24 no.8:
27 Ag '62.   (MIRA 15:8)

(Blasting)

VASYUKOV, I.Ye., inzh.

Crane for lifting loads and putting them through window or door apertures. Mont. i spets. rab. v stroi. 24 no.8:27-28 Ag '62.
                                                                    (MIRA 15:8)
                        (Cranes, derricks, etc.)