ACCESSION NR: AP4042499

the stabilization of the unstable second-order plants with variable parameters. A phase representation of the system is given, from which it follows that the system is stable for arbitrary initial conditions and arbitrary values of K when there are no constraints upon μ. When μ is constrained by the condition $|\mu| < 1$, then it is shown that the control system is unstable for certain domains of initial conditions. It is shown how, in this case, by proper choice of gain factor K (of the controller), stability of the control system can be secured in the entire domain of variation of parameters of the controlled object and for arbitrary finite values of F. Orig. art. has: 5 figures and 14 formulas.

ASSOCIATION: none;

SUBMITTED: 25Apr63 ATD PRESS: 3070 ENCL: 00

SUB CODE: MA NO REF SOV: 004 OTHER: 000

Card 2/2

BAKAKIN, A.V. (Moskva); BERMANT, M.A. (Moskva); YEZEROV, V.B. (Moskva)

Use of systems with variable structure in stabilizing objects with changing parameters and displacement limitation of the controlling component. Avtom. i telem. 25 no.7:1134-1139 Jl '64.

(MIRA 17:12)

67664

18.8200 SOV/126-8-6-12/24

AUTHORS: Lyubarskiy, I.M., Lyubchenko, A.P. and Bakakin, G.N.

TITLE: Resistance to Wear of Case-Hardened Steel and Its Submicrostructure

PERIODICAL: Fizika metallov i metallovodeniye, 1959, Vol 8, Nr 6, pp 872-877 (USSR)

ABSTRACT: Lyubarskiy, Lyubchenko et al (Ref 1,2) have suggested that the apparently different effect of residual austenite in the carburized layer os steel on wear resistance is due to differences in submicrostructure. The present authors suggest that other phases should also be considered and give the results of their experimental study of the wear resistance, submicrostructure and degree of alloying of the phases in the carburized layer of steel containing different quantities of residual austenite. A carburized layer in 18 KhNVA steel subjected to various heat treatments (table) was used, wear being determined with the aid of radioactive iron and cobalt. The radioactivity of the lubricant was measured and the autoradiography of the wear products was effected. The submicrostructure of the alpha and gamma phases were established by harmonic analysis of the form of the (211)

Card 1/3

Resistance to Wear of Case-Hardened Steel and Its Submicrostructure

and (311) interference lines, respectively (Ref 7). Results are tabulated for specimens heat treated in various ways and before and after wear. The wear and rates of wear are plotted against the logarithm of testing time in Fig 1 for the different conditions. Curves of microhardness against time for two of the conditions are shown in Fig 2. The results show that the cooling conditions after case-hardening affect wear resistance greatly, eg a high resistance with the same residual-austenite content by rapid cooling is obtained. Friction conditions also affect wear resistance and during friction the submicrostructure changes. It has previously been shown (Ref 2) that cooling rate does not influence carbide distribution with respect to depth but does affect the degree of saturation of the carbide phase with alloying elements, particularly chromium, and the authors discuss these factors in relation to the present investigation and the behaviour of different components during wear. Their general conclusions are that the best wear resistance surface can be obtained through a correct assessment of processes occurring in the active layer

4

67664

SOV/126-8-6-12/24

Resistance to Wear of Case-Hardened Steel and Its Submicrostructure

during friction. In the test procedure used (pure sliding of the radioactive specimen over a standard disc, or under conditions resembling gear meshing - Ref 6 -) high wear-resistance is obtained when there is a considerable residual-austenite content in the carburized layer in which the gamma- and alpha-phase crystals are in the "un-work-hardened" and "work-hardened" states, respectively. Professor L.S.Palatnik contributed valuable advice in this work. There are 2 figures, 1 table and 15 Soviet references.

ASSOCIATION: Zavod transportnogo mashinostroyeniya g. Kharkov (Transport Machine Construction Works, Khar'kov)

SUBMITTED: March 9, 1959

Card 3/3

11720

S/126/61/011/002/011/025
E111/E452

AUTHORS: Bakakin, G.N. and Lyubchenko, A.P.

TITLE: Substructure of the Carburized Layer

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11, No.2, pp.247-251

TEXT: The authors give results of an experimental study of the phase composition and substructure of phases at various depths of carburized layer. The substructure of a phase is represented by the dimensions and disorientations of mosaic blocks and the size and nature of the change of micro-deformation of the crystal lattice with distance. The resistance to wear of the layer depends on both composition and substructure but published work on substructure has been limited to some definite depth (Ref.2 to 4). The forms of heat treatment used in the investigation were those adopted at many works but some experimental variants were also tried. Type 18ХНВА (18KhNVA), used for important parts of machines, was subjected to carburization to a depth of 1.7 to 1.9 mm with a solid carburizer at 920°C followed by one of the following: 1) cooling in furnace at about 1°C/min; 2) as (1) but at 3°C/min;

Substructure of ...

3) oil quenching; 4) as (3) followed by oil quenching from 810°C and tempering at 150°C; 5) as (4) but followed by treatment with liquid oxygen; 6) as (2) followed by double tempering at 650°C, quenching from 810 and tempering at 150°C. Successive 0.1 to 0.2 mm thick layers were removed from the 4 x 8 x 15 mm specimens. At each depth, X-ray diffraction patterns were taken with iron radiation in a Debye camera, the (211) and (311) lines being focused for alpha- and gamma-phase respectively; microhardness was measured with a ПМТ-3 (PMT-3) machine at a load of 50 g. The carburized layer for all treatments consisted of alpha-, gamma- and carbide-phases. The nature of microhardness (kg/mm^2) changes with depth (hundredths of cm) is shown in Fig.1 in which the curve numbers correspond to the above treatment numbers: the least difference between the surface and deeper zone of the carburized layer is obtained with rapid cooling. Fig.2 gives corresponding curves for maximum relative deformation of the alpha-phase crystal lattice and Fig.3 those of alpha-phase mosaic block size. Treatment 6 gives least block size over the greater part of the layer and intensive work hardening of the alpha-phase.

Card 2/5

Substructure of ...

The latter makes diffraction maxima so diffuse that reliable block-size and deformation data cannot be obtained. The work hardening of the gamma-phase is less than that of the alpha and is very small at "working" depths of the carburized layer when quenching from the carburization temperature is carried out. This is in line with the observation of A.P.Lyubchenko and others (Ref.1,2) that such quenching increases resistance to wear compared with that obtained with treatment 6 (which is used in practice). The results of the present investigation support the views of the present authors (Ref.1,2 and 6) that rapid cooling from the carburizing temperature produces a favourable form of substructure of carburized-layer phases. Slow cooling after carburization to a considerable extent exhausts the possibilities of good wear resistance even before the part is installed because of the high degree of phase work hardening which the heat treatment produces over the whole depth of the carburized layer. There are 3 figures, 2 tables and 7 Soviet references.

ASSOCIATION: Zavod im. V.A.Malysheva g.Khar'kov
(Works imeni V.A.Malyshev, Khar'kov)

Substructure of ...

S/126/61/011/002/011/025
E111/E452

SUBMITTED: June 1, 1960

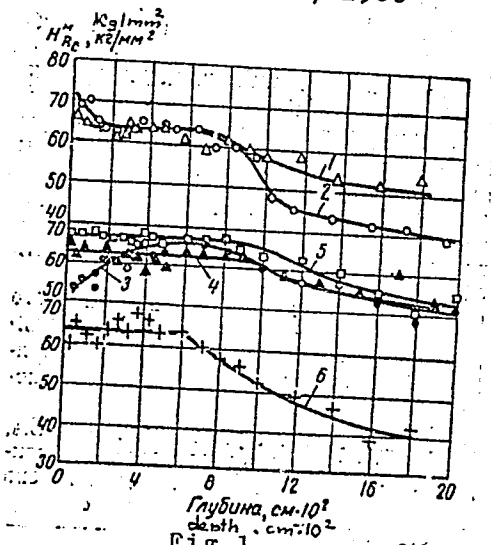


Fig.1.

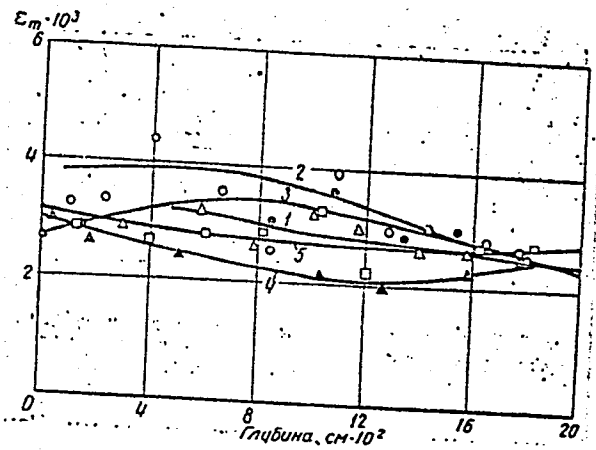


Fig.2.

Fig. 2 on page 249 attached, Ea Mat 30

Card 4/5

Substructure of ...

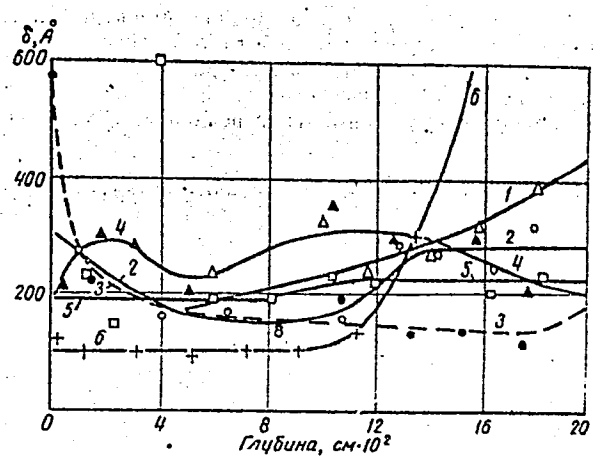


Fig.3.

Card 5/5

S/123/61/000/023/009/018
A052/A101

AUTHORS: Bakakin, G. N., Gerasimenko, K. S., Doshchechkin, V. I., Lyubarskiy, I. M., Lyubchenko, A. P.

TITLE: The selection of the optimum heat treatment conditions of case hardened 18 XHBA (18KhNVA) steel

PERIODICAL: Referativnyy zhurnal Mashinostroyeniye, no. 23, 1961, 63, abstract 23B449 (V sb. "Radioakt. izotopy i yadern. izlucheniya v nar. kh-ve SSSR, v. 3," Moscow, Gostoptekhizdat, 1961, 90-92)

TEXT: The structure and physico-mechanical properties of the case-hardened layer of 18KhNVA, 20X2H4A (20Kh2N4A) and other steels were investigated from the viepoint of the chemical heat treatment. The heat treatment conditions differ by the speed of cooling after case hardening. The speed of cooling after case hardening affects the phase composition, the substructure of phases and their saturation with alloying components, which in its turn affects the wear resistance of the case hardened layer. Compared with the conditions adopted at the plant, the recommended conditions (for large machine elements - case hardening with additional oil hardening at 810°C; for small parts - case hardening with

Card 1/2

The selection of the optimum ...

subsequent oil hardening, tempering at 650°C or case hardening with subsequent water hardening, tempering at 150°C) increase considerably the wear resistance of the case hardened steel layer.

N. Il'ina

[Abstracter's note: Complete translation]

Card 2/2

BAKAKIN, G.N.; LYUBCHENKO, A.P.

Substructure of a cemented layer. Fiz. met. i metalloved. 11 no. 2:247-251 F '61. (MIRA 14:5)

1. Zavod im. V.A. Malysheva, g. Khar'kov.
(Cementation (Metallurgy)) (Phase rule and equilibrium)

ACCESSION NR: AT4045008 S/0000/64/000/000/0037/0039

AUTHOR: Bakakin, G. N.; Vy*godskiy, A. I.; Nesterenko, V. G.

TITLE: The ITP-LI4 plating thickness meter

SOURCE: Soveshchaniye po probleme izpol'zovaniye atomnoy energii. Kiev, 1961. Radiatsionnaya avtomatika, izotopy* i yaderny*ye izlucheniya y nauke i tekhnike (Radiation automation control systems, isotopes, and nuclear radiation in science and technology); doklady* soveshchaniya. Kiev, Izd-vo AN UkrSSR, 1964, 37-39

TOPIC TAGS: thickness measurement, plating thickness, clad metal, clad steel, metal coating, radioactive measurement / ITP-LI4 meter

ABSTRACT: The ITP-LI4 plating thickness meter, which operates on the principle of backward scattering of beta-radiation, is manufactured at the Khar'kovskiy zavod im. V. A. Maly*sheva (V. A. Maly*shev Factory in Khar'kov). The author points out that methods of thickness measurement by the use of radioactive isotopes have many advantages over other methods, and lists several of these advantages. The new instrument uses the radioactive isotope Tl^{204} as the source of beta radiation. The energy of the beta rays is 0.77 Mev and the radioactivity of the annular source is 15 millicuries. This rather high source radioactivity was chosen to make it possible to measure the thickness of nickel-phosphorus platings on steel. The design of

Card 1/2

BAKAKIN, G.N., inzh.; LYUBARSKIY, I.M., kand. tekhn. nauk; LYUBCHENKO, A.P., kand. tekhn. nauk; MOZHAROV, M.V., inzh.; TUNIK, A.A., inzh.

Comparative laboratory wearing tests of cast irons with globular and flaky graphite. Vest. mashinostr. 44 no.6:62-64 Je '64. (MIRA 17:8)

KOROTKOV, A.I.; PREOBRAZHENSKIY, Yu.A., otv.za vypusk; BAKAKIN, P.I., red.; GRAKOVA, Ye.D., tekhn.red.

[Technology of casting in shell molds; a guide] Tekhnologiia lit'ia v obolochkovye formy; rukovodiashchie materialy. Moskva, Otdel tekhn.propagandy, 1958. 62 p.

(MIRA 13:12)

1. Moscow. Nauchno-issledovatel'skiy institut tekhnologii avtomobil'noy promyshlennosti.

(Shell molding (Founding))

BAKAKIN, Sergey Anatol'yevich; SIMKIN, M.Ye., red.; KOZLENKO, L.B., red.; LEVITSKAYA, N.N., tekhn. red.

[Insulation of heat-using apparatus in textile finishing factories] Izoliatsiia teploizpol'zuiushchei apparatury otdelochnykh fabrik tekstil'noi promyshlennosti. Pod red. M.E.Simkina. Moskva, Izd-vo nauchno-tekhn. lit-ry RSFSR, 1960. 62 p. (MIRA 14:5)
(Textile factories--Equipment and supplies)
(Insulation (Heat))

BAKAKIN, V.P.; ZHUKOV, V.F., kandidat tekhnicheskikh nauk; CHVANOV, V.G., redaktor; MAKUNI, Ye.V., tekhnicheskiy redaktor

[The use of ice for packing in mine workings] Led v kachestve materiala dlia zakladki vyrabotannogo prostranstva. Moskva, Izd-vo Akademii nauk SSSR, 1955. 79 p. (MIRA 9:3)
(Ice) (Mining engineering)

BAKAKIN, Valentin Petrovich -- awarded sci degree of Doc Tech Sci for the 26 May 55 defense of dissertation: "Methods for raising the effectiveness of mining work in regions of perennial frost and deep winter freezing" at the Council, Inst of Frost Science imeni Obruchev, AS, USSR; Prot No 17, 21 Jun 58.

(BMVO, 12-58,20)

BAKAKIN, V.P.; BUBOK, K.G.; BUGAREV, L.A.; BUNIN, A.I.; VOROB'YEV, K.V. DROZDOV, V.V.; DOROKHOV, M.S.; ZUBRILOV, S.V.; IGNAT'YEV, L.A. KARGOPOLOV, I.G.; KLUSHIN, D.N.; KOMAROV, A.M.; KURILOV, N.S.; LOMAKO, P.F.; MIKULENKO, A.S.; MIKHAYLOV, M.M.; NEMTINOV, B.A.; OL'KHOV, N.P.; OSIPOVA, T.V.; PAKHOMOV, Ya.D.; PLAKSIN, I.N.; PODCHAYNOV, S.F.; PUSTYL'NIK, I.I.; ROZHKOV, I.S.; SAVARI, Ye.A.; SEMYNIN, A.P.; SPIVAKOV, Ya.N.; STRIGIN, I.A.; SUSHENTSOV, S.N.; SYCHEV, P.S.; TROITSKIY, A.V.; USHAKOV, K.I.; KHARLAMOV, A.Ye.; SHEMYAKIN, N.I.

Nikolai Konstantinovich Chaplygin. TSvet. met. 28 no.2:57-58 Mr-Ap '55. (MIRA 10:10)
(Chaplygin, Nikolai Konstantinovich, 1911-1955)

BAKAKIN, Valentin Petrovich; TSYTOVICH, N.A., retsenzent; KOLOSKOV, P.I., prof., retsenzent; YAKHONTOV, A.D., red. izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Fundamentals of mining in permafrost] Osnovy vedeniia gornykh rabot v usloviiakh vechnoi merzloty. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 231 p.(MIRA 11:8)

1. Chlen-korrespondent Akademii nauk SSSR (for TSytovich).
(Mining engineering) (Frozen ground)

BAKAKIN, V.P.

3(5,7) PHASE I BOOK EXPLOITATION SOV/2822

Mezhduvedomstvennoye soveshchaniye po merzlotovedeniyu. 7th, Moscow, 1956

Materialy po inzhenernomu merzlotovedeniyu (Materials on Engineering Aspects of Permafrost; the 7th Interdepartmental Conference on Studies of Permafrost) Moscow, Izd-vo AN SSSR, 19... 199 p. Errata slip inserted. 1,300 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk. Institut merzlotovedeniya.

Eds.: I. Ya. Baranov, N. A. Tsytovich, and A. M. Chekotillo; Ed. of Publishing House: A. L. Bankvitser; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This book is intended primarily for construction engineers and geologists interested in permafrost problems.

COVERAGE: This collection of articles contains reports originally discussed at the 7th Interdepartmental Conference on Permafrost held in Moscow in March, 1956. Materials of this conference were published in three issues: general permafrost studies, engineering aspects of permafrost [present work], and ground physics and mechanics. Individual articles of this work discuss basic problems of planning, building, and operating various buildings and structures in permafrost regions. Some of the information reported, particularly on hydraulic engineering construction, is new and appears for the first time in the literature on permafrost. Articles are accompanied by references.

Materials on Engineering Aspects (Cont.) SOV/2822

Card 4/6

BAKAKIN, V.P. (Vorkuta)

Building conditions in the Pechora coal basin. Osn.,fund. i mekh.grun. no.3:19-20 '59. (MIRA 12:8)
(Pechora Basin--Building) (Frozen ground)

BAKAKIN, V.P.; BRATSEV, L.A.

Specific mining problems in regions of frozen ground in the northern part of the European U.S.S.R. Trudy Komi fil. AN SSSR no.7:108-119 '59.
(MIRA 13:11)
(Russian, Northern--Mining engineering)
(Frozen ground)

BAKAKIN, V.P.

Principal results achieved and future outlook for permafrost studies in the Pechora coal basin. Trudy SOPS no.1:7-16 '60.
(MIRA 14:11)
(Pechora Basin--Frozen ground)

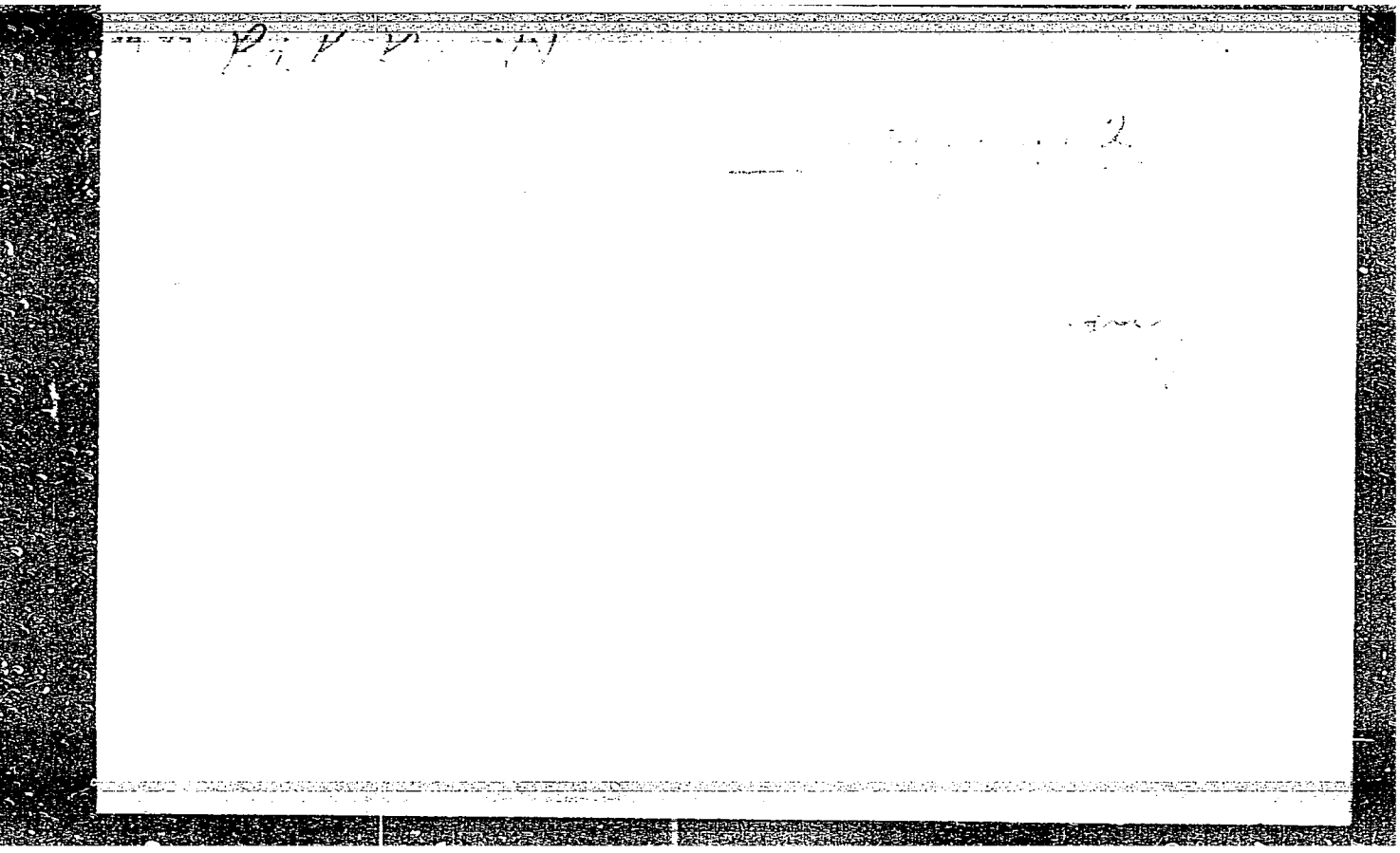
BAKAKIN, V. P., ZELENIN, A. N.,

"Prospecting of frozen soils"

report to be submitted for the Intl. Conference on Permafrost, Purdue Univ., Lafayette Indiana, 11-15 Nov 63

KUKLIN, A.I.; BAKAKIN, V.P.

Petroleum products storage in the Far North. Neft. khoz. 42 no.11:49-54 N '64 (MIRA 18:2)



BAKAKIN, V. V.

24-9-13/33

AUTHORS: Bakakin, V. V., Plaksin, I. N. and Chaplygina, Ye. M.

TITLE: On the effect of gases on the flotation properties of fluorite and barite. (O vozdeystvii gazov na flotiruyemost' flyuorita i barita).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp.96-100 (USSR)

ABSTRACT: In earlier work of the authors (Ref.1), it was found that barite maintains in a stable manner the initial flotation ability in the process of long duration treatment of its surface by nitrogen after preliminarily treating the surface with oxygen. In contrast to this, fluorite is capable of changing the flotation properties of the surface by reducing the flotation activity in the case of inadequate oxygen in the pulp and reaching a flotation effect which is the higher the higher the concentration of the dissolved oxygen in the liquid phase; correspondingly, the quantity of oxygen adsorbed by the fluorite will change. After removing the adsorbed oxygen from the surface of the fluorite by appropriate treatment of the mineral and long duration blowing of nitrogen through the pulp, the fluorite loses to a considerable extent its flotation ability and the collector sticks to the mineral. In this paper

Card 1/2

24-9-13/33

On the effect of gases on the flotation properties of fluorite and barite.

investigations are described which were effected on a precision test set-up inside a hermetically sealed flotation machine and it is stated that these confirm and supplement views expressed earlier by the authors. The tests were carried out on pure fluorite and barite; the mineral charge consisted of 20 g of grain sizes of 0.10 to 0.074 mm with a sodium oleate dosage of 50 g/ton. The flotation was effected in a neutral medium. The information given in this paper explains certain features of the flotation behaviour of fluorite and barite and, particularly, the differing hydration of their surface which is due to the electrostatic energy of interaction of the rigid dipole of the water molecule with the ions of the lattice and is determined by the degree of non-compensated electric charges of the ions and the character of their distribution at the crystal faces. The results described in this paper indicate the possibility of obtaining and utilising structural data for elucidating certain flotation properties of minerals. There are 3 figures and 9 references, 8 of which are Slavic.

Card 2/2

SUBMITTED: May 11, 1957.
AVAILABLE: Library of Congress.

BAKAKIN, V.V.

AUTHORS: Bakakin, V. V., Plaksin, I. N., Corresponding Member of the AN SSSR, Chaplygina, Ye. M. 20-4-27/51

TITLE: Note of the Influence of Gases on the Floatability of Some Non-Sulfidic Minerals as Dependent on the Crystal Structure (Vliyaniye gazov na flotiruyemost' nekotorykh nesul'fidnykh mineralov v zavisimosti ot ikh kristallicheskoy struktury)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 625-628 (USSR)

ABSTRACT: The Study of the influence of gases on the floatability of non-sulfidic minerals made possible the determination of several adsorption and floatation properties of fluorite and baryte, which are caused by the effect of gases. A prolonged treatment with nitrogen has no essential effect on baryte, which first was subjected to a treatment with oxygen. The floatation activity decreases on a oxygen lack. The mineral was prepared and floated for the experiments in a current of argon and of nitrogen. Nitrogen free from oxygen was employed for the experiments. The experiments showed, that because of the floatation on a normal concentration of oxygen 44% of fluorite pass into the concentrate. Further properties are enumerated. The floatation activity of baryte depends only little on the concentration of oxygen in the solution, if only oxygen was adsorbed previously on the surface. On the contrary, the floatation properties of fluorite

Card 1/3

Chlen-Korrespondent AN SSSR (for Plaksin)

depend strongly on the oxygen content in the pulpa (pul'pa). The properties discussed here are probably caused by the peculiarities of the crystal structure. In this way the differences inthe ability to hydrate of fluorite and baryte may be explained above all. The degree of the increase of the hydrophobia because of the physical adsorption of gases from the solution in general depends on the field strength of the surface field. This dependence also holds inversely; The lesser the field strength, the more the field is screened by the adsorbed molecules. The irreversability of the influence of oxygen on the floatation of baryte is probably connected with a particularly strong binding of a proportion of the oxygen molecules in certain centres of the surface of the baryte. In the case of oxygen a chemical adsorption is added without doubt. The chemically adsorbed oxygen ions or oxygen molecules activate the surface of the adsorbent in their turn.

Note of the Influence of Gases on the Floatability of Some non-Sulfidic Minerals as Dependent on the Crystal Structure 20-4-27/51

There are 2 figures, and 10 references, 3 of which are Slavic.

SUBMITTED: May 20, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHORS: Bakakin, V.V., Plaksin, I.N. and Chaplygina, Ye.M. SOV/24-58-6-13/35

TITLE: Action of Oxygen and Nitrogen on the Separation of Titanium and Zirconium Minerals by Selective Flotation and the Role of their Crystal Structure (Vozdeystviye kisloroda i azota na razdeleniye selektivnoy flotatsiyey mineralov titana i tsirkona i rol'ikh kristallicheskoy struktury)

PERIODICAL: Izvestiya Akademii Nauk, SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 6, pp 84-90 (USSR)

ABSTRACT: It has recently been shown that flotation is the most effective way of beneficiating titanium-zirconium sands but difficulties arise in separating the useful products of the collective flotation. The first part of the work described in this article was carried out under laboratory conditions by Ye.M. Chalpygina supervised by I.N. Plaksin and dealt with the effects of oxygen and nitrogen on flotation in a soda liquid using oleic acid as the collector. Tests were made with the pure minerals, their mixtures, collective gravity concentrate and pulps. Results obtained (Table) showed that treatment with air or oxygen was about equally effective in increasing

Card 1/4

Action of Oxygen and Nitrogen on the Separation of Titanium and Zirconium Minerals by Selective Flotation and the Role of their Crystal Structure

flotation of rutile and zircon, the relative effects with ilmenite being somewhat less since its flotation was appreciable without gas treatment. Treatment with nitrogen had no effect on zircon flotation but suppressed that of the other two minerals. This depressive effect could not be removed by aeration or oxygenation without the introduction of fresh portions of oleic acid and soda (1.5 kg/tonne and 250 g/tonne, respectively). On the basis of these results it was found possible to achieve a high degree of separation of titanium minerals from zirconium: a saleable zirconium concentrate containing 66% ZrO_2 with a recovery of 80% was obtained cheaply and simply, the titanium losses in it being 2%. The authors have previously (Ref 2,3) attempted to explain differences in flotation behaviour of fluorite and baryte in terms of the fine crystal structure and they now extend their discussion to zircon, rutile and ilmenite. To find the differences in the surface layers of these minerals the authors analysed the crystal structures and determined

Action of Oxygen and Nitrogen on the Separation of Titanium and Zirconium Minerals by Selective Flotation and the Role of their Crystal Structure

the most probable cleavage planes. They show the corresponding surfaces for ilmenite (Fig 1), rutile (Fig 2) and zircon (Fig 3) with indications of the ionic distribution and the values of the uncompensated electric charges. The flotation experimental results are explicable on the assumption that the strength of binding of oxygen adsorbed on the mineral surface depends firstly on the oxygen concentration in the pulp and, secondly, on the activity of the adsorbent (particularly the value of the uncompensated charge). The authors examine the factors producing differences between ideal and real crystal surfaces in general and for the three minerals. They admit that because of the complexity of effects involved their views on structural factors are not the only ones possible but claim that they enable a

Action of Oxygen and Nitrogen on the Separation of Titanium and Zirconium Minerals by Selective Flotation and the Role of their Crystal Structure

selection to be made of the more important factors in the influence of gases on flotation so that a complete theory of the process can be formulated.

There are 3 figures, and 10 Soviet references

SUBMITTED: March 17, 1958

Card 4/4

3(8) SOV/20-125-2-41/64

AUTHORS: Bakakin, V. V., Belov, N. V., Academician

TITLE: On the Crystalline Structure of Hurlbutite (O kristallicheskoy strukture kherlbutita)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 383-385 (USSR)

ABSTRACT: The mineral mentioned in the title $CaBe_2P_2O_8$ is known since 1952 (Ref 1). On the basis of crystallographic and radiographic investigations carried out by the discoverer the mineral was ascribed to rhombic syngony, especially to the older holohedral class D_{2h} = mmm. Its further constants are recalled.

In the following year a structural similarity between hurlbutite and dunburite (Ref 2) was found. It may be seen from the mentioned data that the lattice constants of both minerals and their physical characteristics are very closely related in general; in the case of hurlbutite, however, the parameter a is somewhat larger. According to this fact (less solid packing) all refraction indices are lower. Both minerals mostly differ by the Fedorov groups. The authors could not solve this problem by a comparison of the indicated lines of

Card 1/3

the Debyegrams. For the purpose of determining the crystalline structure of hurlbutite the authors investigated this mineral in detail by means of X-ray analysis. For this purpose they used samples from South Rhodesia (Harvard Collection of Professor K. Frondel' and Hurlbut = Khemibut). The completely transparent splinters of a structure as isometric as possible of about 0.3 - 0.5 mm were adjusted according to the Laue-diagrams on the basis of the Umanskiy-Kvitko method. The Laue-class of hurlbutite was not defined to be D_{2h} = mmm, as had been expected, but to be C_{2h} = 2/m. This mineral therefore does not belong to the rhombic syngony but to the monoclinic one with an angle $\beta \approx 90^{\circ}$. The identity periods in the directions of the 3 double axes which were determined from the radiograms agree (within the experimental error limits) with the data given in reference 1. The mineral clearly belongs to the Fedorov group. C_{2h}^{5} = $P2_1/a$ with a center of symmetry which is beyond any doubt. Two further beryllium phosphates: beryllonite (Ref 5) and herderite (Refs 5, 7) belong to the same group. The fact that hurlbutite belongs to the aforesaid group seems quite natural if one considers the circumstance that all 3 minerals are found closely intergrown which is due to their

metasomatic development (Ref 8). In conclusion it is referred to the luminescence of hurlbutite under the action of X-ray and cathode ray which is not mentioned in publications. It is light-bluish-green and remains so for 5-10 minutes after the cease of the irradiation. Its reason has not yet been explained. This may be an important diagnostic criterion. There are 8 references, 1 of which is Soviet.

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR
(Institute of Inorganic Chemistry of the Siberian Branch of the Academy of Sciences, USSR).
Institut kristallografii Akademii nauk SSSR
(Institute of Crystallography of the Academy of Sciences, USSR)

SUBMITTED: December 26, 1958

BAKAKIN, V.V.

Relation between the structure of minerals and their flotation properties. Zhur. struk. khim. 1 no.2:162-169 Jl-Ag '60.
(MIRA 13:9)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.
(Flotation) (Lead compounds)

BAKAKIN, V.V.; BELOV, N.V.

Crystal structure of paracelsian. Kristallografiia 5 no.6:864-868 N-D '60. (MIRA 13:12)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.

(Celsian)

S/020/60/135/003/021/039
B019/B077

AUTHORS: Bakakin, V. V., and Belov, N. V., Academician

TITLE: The Crystal Structure of Hurlbutite

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 587-590

TEXT: In earlier papers, the authors presented the results of X-ray diffraction studies with $CaBe_2P_2O_8$ and compared them with data of $CaB_2Si_2O_8$. Since they lacked exact data of the x-coordinate, it was not possible to determine the structure of hurlbutite, which is the task of this paper. In Table 1 39 coordinates of the 13 basic atoms of the hurlbutite are given. The spacings of the P and O atoms are between 1.55 and 1.60 A, those of the Be and O atoms between 1.57 and 1.61 A, and the O-O summits of the PO_4 and BeO_4 tetrahedrons are between 2.50 and 2.66 A or between 2.51 and 2.72 A. The seven Ca-O spacings are between 2.42 and 2.52 A. It can be seen that the dimensions for the PO_4 and the BeO_4 tetrahedrons are very similar and are found between the dimensions of the SiO_4 and BO_4

Card 1/2

The Crystal Structure of Hurlbutite

S/020/60/135/003/021/039
B019/B077

tetrahedrons. The similarity between hurlbutite and the feldspars is mentioned especially that of $CaAl_2Si_2O_8$ and it is found that the structure of hurlbutite is a key to decode the structure of the paracelsian (δ-$BaAl_2Si_2O_8$). There are only preliminary data given for the paracelsian, a detailed research is announced. There are 3 figures, 2 tables, and 3 Soviet references.

SUBMITTED: August 15, 1960

	x	y	z		x	y	z
Ca	0,386	0,085	0,753	O_3	0,121	0,367	0,438
Be_1	0,059	0,196	0,435	O_4	0,126	0,364	0,055
Be_2	0,265	0,421	0,933	O_5	0,412	0,308	0,565
P_1	0,264	0,418	0,560	O_6	0,415	0,309	0,931
P_2	0,059	0,197	0,060	O_7	0,006	0,150	0,247
O_1	0,188	0,083	0,508	O_8	0,184	0,421	0,745
O_2	0,189	0,085	0,993				

Card 2/2

BAKAKIN, V.V.; AL'TSHULLER, V.M.

Crystal structure of euclase. Zhur. strukt. khim. 2 no.1:66-67 Ja-F '61. (MIRA 14:2)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Euclase)

BAKAKIN, V.V.; BELOV, N.V.

Crystallochemistry of beryl. Geokhimiia no.5:420-433 '62. (MIRA 15:7)

(Beryl crystals—Analysis)

BAKAKIN, V. V.; BELOV, N. V.; PLYUSNINA, I. I.

"The crystal chemistry and infra-red spectra of beryl."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Inst Crystallography, AS USSR, Moscow.

BAKAKIN, V.V.; GAGARINSKIY, Yu.V.; BORISOV, S.V.; ZAPNEPROVSKIY, G.M.; DURASOVA, S.A.

Certain crystal chemical features of hydrated uranium tetrafluoride of cubical form. Zhur. strukt. khim. 6 no. 4:562-566 Jl-Ag '65 (MIRA 19:1)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR, g. Novosibirsk. Submitted August 24, 1964.

ACC NR: AP6032950 SOURCE CODE: UR/0363/66/002/010/1861/1864

AUTHOR: Mill', B. V.; Zadneprovskiy, G. M.; Bakakin, V. V.

ORG: Institute of Inorganic Chemistry, SO, Academy of Sciences, SSSR (Institut neorganicheskoy SO Akademii nauk SSSR)

TITLE: New compounds with garnet structure

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 10, 1966, 1861-1864

TOPIC TAGS: ceramic material, crystal lattice structure, garnet, ~~structure~~, ferrite, gallium garnet, iron garnet, CHEMICAL SYNTHESIS, GALLIUM

ABSTRACT: Fifteen new compounds with garnet-type structure were synthesized by standard ceramic technique in the search for less expensive substitutions for rare earths in garnet-type compounds to be used in uhf technology or in lasers. The new compounds, without any expensive components, belong to three types: $(Ca_3)[M^{4+}M^{5+}](M^{3+}_3)O_{12}$ (I), where M^{4+} = Ti, Zr, Hf, or Sn, M^{5+} = Ta or Nb, and M^{3+} = Ga or Fe; $(Ca_3)[M^{4+}_2](V^{5+}_{0.5}M^{3+}_{2.5})O_{12}$ (II), where M^{4+} = Zr, Hf, or Sn and M^{3+} = Ga or Fe, and $(Ca_{2.5}M^{4+}_{0.5})[M^{4+}_2](Ga_3)O_{12}$ (III), where M^{4+} = Zr or Hf. The synthesized compounds of all three types may be derived from the rare-earth element ferrites or gallates by substituting in $Ln_3M^{3+}_5O_{12}$ Ca^{2+} or Ca^{2+} and M^{4+}

 UDC: 549.73

ACC NR: AP6032950

for Ln^{3+} (Ln = rare-earth element or Y) or by partially substituting M^{4+}, M^{5+}, or both cations for Fe^{3+} or Ga^{3+}. The Fe garnets and certain Ga garnets of type I could not be made single-phase. Only five Ga garnets of this type were prepared as a single-phase ceramic material. The Ta^{5+} containing garnets I were synthesized for the first time. Apparently, the V^{5+} containing I garnets cannot be formed, but five new garnets of the II type were prepared, in which V^{5+} occupies tetrahedral vacancies. Only Ga-garnets of this type were single-phase. The two Ga garnets of type III were prepared as single-phase ceramics by sintering the mixtures $3CaCO_3 + 3M^{4+}O_2 + Ga_2O_3$ or $2.5CaCO_3 + 2.5M^{4+}O_2 + 1.5Ga_2O_3$, where M^{4+} = Zr or Hf. These two compounds offer the first examples of the octahedral in addition to hexahedral coordination of Zr^{4+} and Hf^{4+} and of the implantation of four valent cations in general into dodecahedral vacancies in the garnets. This implantation is limited by the relative size of Ca^{2+} and Zr^{4+} as was shown by the unsuccessful attempt to prepare Ga-garnets containing even more Zr^{4+} in dodecahedral vacancies than in formula III. The feasibility should be explored of preparing a continuous series of solid solutions in the $(Ln_{3-2x}^{3+}Ca_xM_x^{4+})M^{3+}O_{12}$ system, where M^{4+} = Ce, U, Th and M^{3+} = Ga or Fe. Orig. art. has: 1 table.

SUB CODE: 11/ SUBM DATE: 28Aug65/ ORIG REF: 002/ OTH REF: 007/

Card 2/2

S/137/61/000/010/013/056
A006/A101

AUTHORS: Yevstyukhin, A. I., Bakakina, A. A.

TITLE: On a method of recovering zirconium and iodine in iodide refining process

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 10, 1961, 21, abstract 100165 (V sb. "Metallurgiya i metalloved. chist. metallov", no. 1, Moscow, 1959, 84 - 90)

TEXT: It was experimentally confirmed that I_2 can be fully recovered during the process of iodide Zr refining, excepted small mechanical losses during the unloading of the devices and processing of the wash water. The chemical department of the iodide Zr refining shop must therefore be equipped with the following basic units: reactors for washing Zr chips after its discharge from the apparatus; filters to separate the wash water from Zr chips, collectors of wash water, reactors for Zr hydroxide precipitation from the wash water with alkali or ammonia, filters or centrifuges to filter and wash the hydroxide; apparatus for iodide decomposition and I_2 sublimation, furnaces to roast the hydroxide, drying cabinets

Card 1/2

On a method of recovering...

S/137/61/000/010/013/056
A006/A101

for recovered chips and I_2 sublimation apparatus for its removal.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

BAKAKINA, V.V.

Calculation of the time interval of plasma breakdown in super-high frequency dischargers with limiting of the spark gap. Nauch. dokl. vys. shkoly; radiotekhn. i elektron. no.2:320-329 '59.
(MIRA 14:5)

(Plasma (Ionized gases))

S/051/60/009/006/013/018
E201/E514

AUTHOR: Bakakina, V.V.

TITLE: Some Results of Spectroscopic Study of a Pulsed SHF Discharge in a Restricted Discharge Gap

PERIODICAL: Optika i spektroskopiya, 1960, Vol. 9, No. 6, pp. 784 - 786

TEXT: The present author has investigated discharges in helium and neon, excited by high-power SHF pulses in a narrow discharge gap placed at right-angles to a coaxial line (Fig. 1). The pulse length was 2-12 μsec and the gas pressure was in the range 1 to 100 mm Hg. The experiments were carried out in the decimetre-wavelength range. The design of the discharge gap is illustrated in Fig. 1, in which a shows the front view and b the side view. The width of the discharge gap b indicated by 3 in Fig. 1 was 0.2 - 1 mm. The observations were carried out through windows of ЗС-5 (ZS-5) glass indicated by 4 and 5 in Fig. 1. The inner and outer electrodes are indicated by 1 and 2 . The intensities of the helium and neon lines were recorded as functions of time with the aid of a УМ-2 (UM-2)

Card 1/2

Some Results of ....

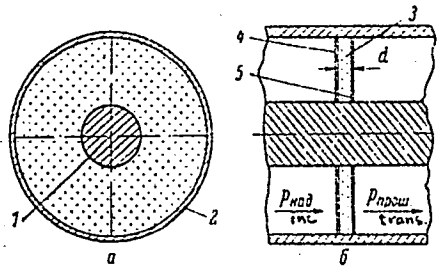
monochromator with a photoelectric attachment. Provision was made for recording the envelope of the SHF pulse on an oscilloscope screen. The SHF power was measured calorimetrically and was of the order of a few hundreds of kW. The bandwidth of the amplifier of the oscillograph was not less than 1 Mc/s, which ensured the absence of distortion in the cases of pulses longer than 2 μsec. It was found that the neon and helium line intensities followed almost exactly the form of the SHF signal, provided the pressure was not greater than 10 mm Hg in helium and 5 mm Hg in neon. As the pressure increased, an emission peak appeared at the beginning and the end of each light pulse, the middle part of the light pulse remaining flat, as before. However, the intensity of the light corresponding to the flat part fell with increasing gas pressure. Above 20 mm Hg a background was observed in some parts of the emission spectrum and this was most easily noticeable in the neighbourhood of the 4143 A line. The appearance of the peak at the beginning of the light pulse and the increase in its amplitude with increasing pressure may be associated with an increase in

Some Results of ....

the electron velocity during the development of the discharge. There are 2 figures and 2 references: 1 Soviet and 1 a translation from English.

SUBMITTED: July 1, 1960

Fig. 1:



Card 3/3

S/058/61/000/011/020/025
A058/A101

AUTHOR: Bakakina, V. V.

TITLE: Some results of investigation of pulse superhigh frequency discharge in a bounded discharge gap by spectral and superhigh frequency methods

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1961, 269, abstract 11Zh92 ("Tr. Mosk. energ. in-ta", 1961, no. 34, 253-269)

TEXT: The author investigated the parameters of the plasma of a discharge excited in He and Na in a narrow (0.5 mm) discharge gap by pulses of decimeter waves with a power of up to 100 kw and a duration of a few microseconds. She describes the experimental setup, which enables one to carry out investigations of the decaying plasma by spectral and superhigh frequency methods. Pressure in the chamber varied from 2 to 100 mm Hg. It was discovered that incident to super-high frequency discharge under bounded gap conditions, a constant level of spectral line intensity was established for $\sim 10^{-6}$ sec. Under high pressure at the commencement and after the termination of pulses, "splashes" of the discharge glow were noted. The "excitation temperature" was computed and the electron

Card 1/2

S/058/61/000/011/020/025
A058/A101

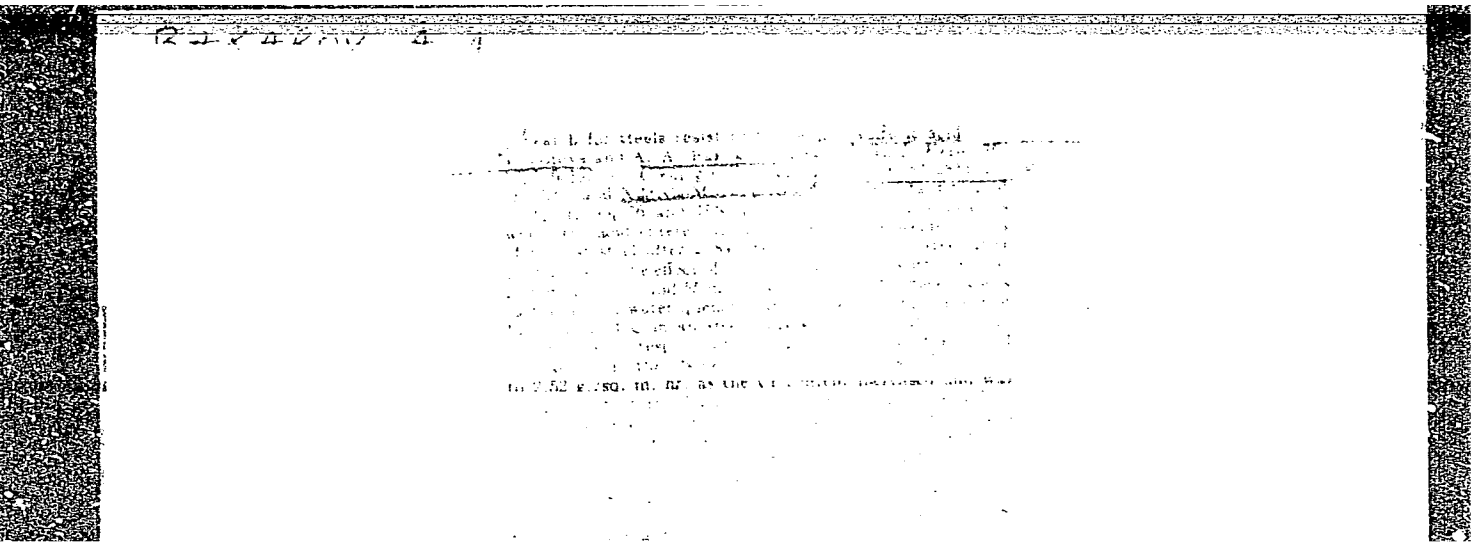
Some results of investigation ...

temperature of the plasma was evaluated by measuring the relative line intensity. Absence of appreciable broadening of spectral line contour attests to negligible reabsorption of radiation. It was demonstrated that stable impulsive desorption of impurities in the discharge is absent and that plasma decay is not connected with electron capture. The author makes more precise the character of the processes taking place incident to plasma decay under low gas pressure. She attempts to explain the special features of radiation that appear with increase of pressure. There are 13 references.

F. Yeliseyev

[Abstracter's note: Complete translation]

Card 2/2



BAKAL, Andrey Andreyevich; polkovnik zapasa; SHARIPOV, Akram Agzamovich, kand.voyennykh nauk, podpolkovnik; MOROZOV, B.N., polkovnik, red.; SOLOMONIK, G.L., tekhn.red.

[Military operations of infantry units during combat in cities; combat characteristics of the reinforced infantry company and platoon] Boevye deistviia strelkovykh podrazdelenii v gorode; osobennosti boevykh deistvii usilennoi strelkovoi roty, usilennogo vzvoda. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 158 p. (MIRA 13:4)

(Street fighting (Military science))

MARFENIN, N., inzh.; BAKAL, D., inzh.

Harbors should work better. Rech.transp. 21 no.7:9-11 Jl '62.
(MIRA 15:8)

(Harbors) (Cargo handling--Equipment and supplies)

BAKAL, M., Cand Phys-Math Sci -- (diss) "Vacuum condenser of Millikan." Leningrad, 1960. 11 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Polytechnic Inst im M. I. Kalinin); 150 copies; price not given; (KL, 17-60, 138)

BAKAL, M.; DOBRETSOV, L.N.

Milliken vacuum capacitor. Part 1. Radiotekh. i elektron.6 no.4:637-641 Ap '61. (MIRA 14:3)
(Electric capacitors)

AFINOGENOV, L.P.; BAKAL, M.; FILIPPOV, Yu.A.

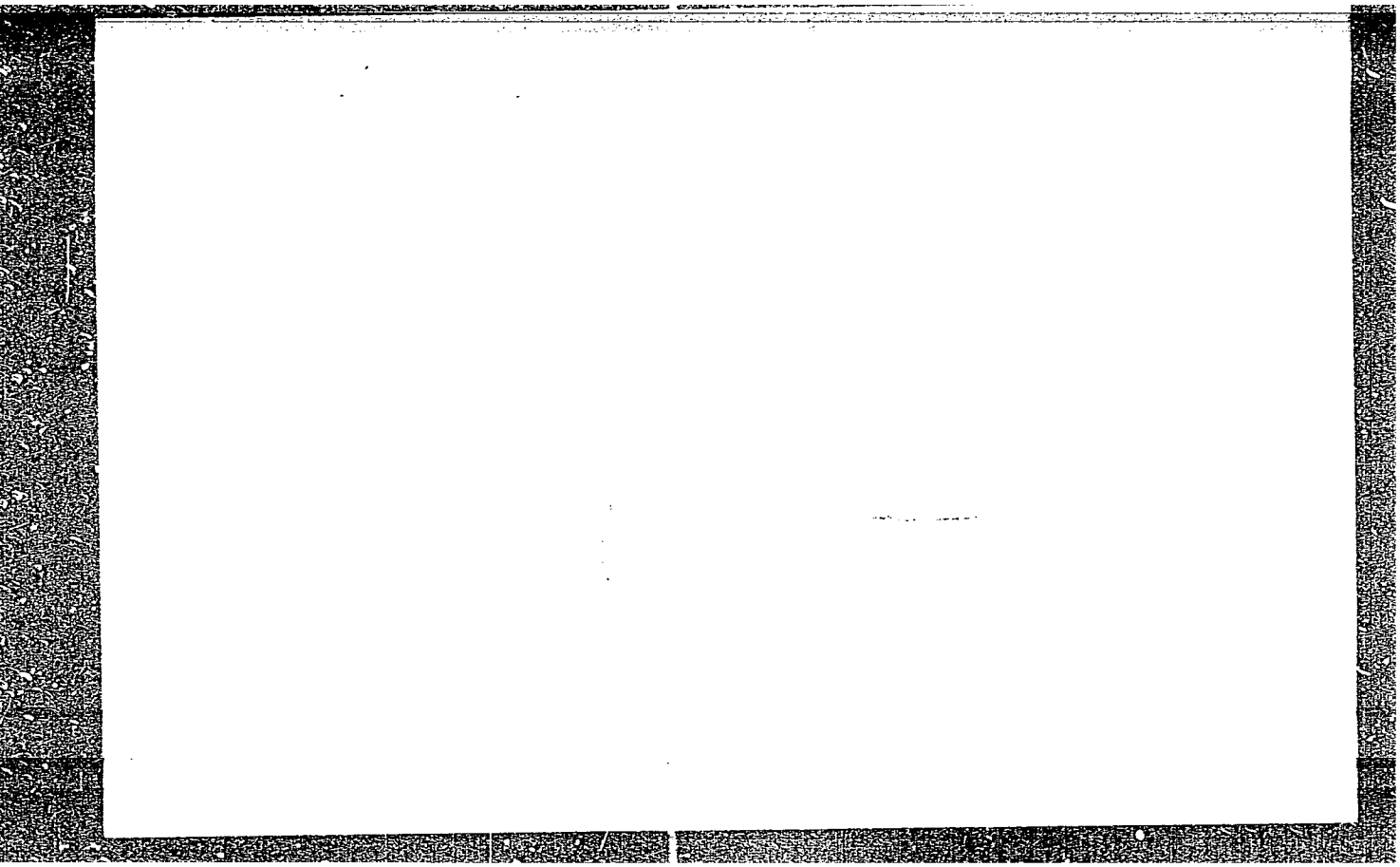
Milliken vacuum capacitor. Part 2. Radiotekh. i elektron. 6 no.4:642-648 Ap '61. (MIRA 14:3)
(Electric capacitors)

BAKAL, M.

BACAL, M.

Optical system for the localization of microscopic particles in a Millikan vacuum condenser. Studii cerc fiz 12 no.4:747-752 '61.

1. Institutul fizico-tehnic, Leningrad, U.R.S.S.



SOV/97-58-11-3/11

AUTHORS: Baytsur, A.I., Avotin, A.I., Bakal, M.Sh. and Samofal, S.F., Engineers

TITLE: Precast Reinforced Concrete Constructions Used for Underground Sections of Industrial Buildings (Sbornyye zhelezobetonnyye konstruktsii v podzemnykh kommunikatsiyakh promyshlennykh sooruzheniy)

PERIODICAL: Beton i Zhelezobeton, 1958, Nr 11, pp 414-417 (USSR)

ABSTRACT: At present precast reinforced concrete segments forming wells are used for the underground parts of industrial buildings. At the same time the construction serves as shuttering. The excavating work and the sinking of the well is fully mechanised. This type of construction is used in the underground parts of the Stalinskiy metallurgicheskiy zavod (Stalin Metallurgical Works) and Almaznyanskiy ferrosplavnyy zavod (Almaznyanskiy Ferro-alloy Factory) and designed by the Giprostal' Institute, Khar'kov. Figure 1 shows cross-section and plan of the underground part of the Stalin Metallurgical Factory. It has a cylindrical structure, 28 m deep and 25 m in diameter. The segmental

Cardl/3

slabs have thin reinforced concrete walls with flanges on all sides and one rib in the centre. The circular floor slabs serve as additional strutting for the well. They are supported on columns so that no weight from the floors is transmitted onto the outer wall. The precast reinforced concrete segments (Fig.3) have the following dimensions: 3.13 x 0.99 x 0.65 m; weigh up to 3 t, and are made of concrete mark 300 with welded mesh reinforcement. The segments are calculated to withstand a maximum loading of 40 tons/m^2. The wall of the segmental slab has a thickness of 15 cm. The ribs are 15 x 65 mm in cross section. The slab of the segment is provided with 2 openings of 63.5 mm in diameter which are used for placing the grout between the wall and the excavation. The segments are bolted together with bolts for which 41 mm diameter openings are provided in the ribs. Waterproofing is obtained by addition of 2% to 3% sodium aluminate to this concrete back-filling. The latter has a thickness of 15 to 20 cm. Fig.4 illustrates the process of construction.

SOV/97-58-11-3/11

Precast Reinforced Concrete Constructions Used for Underground Sections of Industrial Buildings.

The ground is first excavated and an in-situ reinforced concrete wall is constructed. The segments are then fixed to the underside of this retaining wall forming a ring. Further segments are added as soon as the excavation makes this possible. The construction of a skiphole for the Almaznyanskiy Ferro-Alloy factory is shown in Fig.5. Details of this underground structure are also given. Advantages of this construction consist in the possibility of being able to use precast units, to mechanise all labour, saving time, reduction in the volume of excavation, and a considerable saving in reinforcement. There are 5 figures.

Card 3/3

AL'TSHULER, B.A., kand.tekhn.nauk; BAKAL, M.Sh., inzh.; DEKHANOV, N.M.

Domical vaults made of fireproof reinforced concrete for ferroalloy furnaces. Prom.stroi. 40 no.11:39-42 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Al'tshuler). 2. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy po proizvodstvu stali (for Bakal). 3. Zaporozhskiy zavod ferrosplavov (for Dekhanov).
(Metallurgical furnaces) (Refractory concrete)

BAKAL, M.Sh., inzh.

Practices in maintaining reinforced concrete crane elements in a rolling mill. Prom. stroi. 42 no. 6:17-18 '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy i proyektnyy institut metallurgicheskoy promyshlennosti.

BAKAL, S. S.

Bakal, S. S. - "The basis for calculating the productivity of a shelling machine", Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, Issue 17, 1949, p. 5-15.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

BAKAL, S. S.

Bakal, S. S. -"On methods for perfecting the technology of millet production", Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, Issue 17, 1949, p. 59-78.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

BAKAL, S., kand.tekhn.nauk; TSYS', N., inzh.

Principles of determining loads for groat mill machinery and equipment. Muk.-elev.prom. 26 no.8:19-23 Ag '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Grain-milling machinery)

L 10903-67 EWT(d)/EWT(l)/EWT(m)/EWT(w)

ACC NR: AR6022143 IJP(c) JD/EM SOURCE CODE: UR/0276/66/000/002/B086/B086

AUTHOR: Shmanev, V. A.; Potapova, N. I.; Bakal, V. V.

TITLE: Investigation of the state of the surface layer in milling compressor blades

SOURCE: Ref. zh. Tekhn mashinostr, Abs. 2B650

REF SOURCE: Tr. Kuybyshevsk. aviats. in-t, vyp. 20, ch. 1, 1965, 79-89

TOPIC TAGS: compressor blade, surface layer, milling, residual stress

ABSTRACT: Residual stresses were observed in the surface layers of the blades after milling leading to their eventual failure. The causes of residual stresses are nonuniform plastic deformations in the surface layer of the blades. To improve the quality of the surface layer and to increase the milling efficiency, two methods are recommended for milling airfoil using OF-31 and the 4F PL lathes: 1) by a single transverse line, or 2) by two narrow longitudinal lines. Milling with the OF-31 lathe produces compressive residual stresses $\sigma = -75$ kg/mm^2 whose penetration depth is 50 to 200 μ. In milling with the 4F PL lathe in the upper part of the surface layer, there occur tensile residual stresses with $\sigma = 40$ kg/mm^2, which at the depth of 20—40 μ turn into compressive residual stresses with $\sigma = -30$ kg/mm^2 at a penetration depth of 180 μ. The degree of work hardening for the

Card 1/2 UDC: 621.914.1.001.5

ACC NR: AR6022143

above milling methods ranges within 8 and 30%. With increased wear of the milling cutter, the depth of work hardening and penetration of residual stresses increase; however, the maximum value of residual stresses remains approximately at the same level. The minimum tolerance for grinding an airfoil milled with a modernized lathe is 0.35 mm; with the OF-31 lathe it is 0.2 mm, and with the 4F PL lathe it is 0.18 mm. Orig. art. has: 9 figures. L. Tikhonova. [Translation of abstract]

SUB CODE: 13/

Card 2/2

BAKALA, F.

POPEK, K.; DLUHOS, M.; MULLER, E.; KUCERA, K.; BAKALA, F.

Temporal arteritis. Lek.listy 5 no.9:241-246 1 My '50.(CLML 19:2)

1. Of the Clinic for Nervous Diseases (Head -- Prof. Karel Popek, M.D.) and of the Patho-Anatomical Institute (Head -- Prof. Vaclav Neuman, M.D.), Masaryk University, Brno, of the Neurological Department and Central Laboratory and Prosection Department (Head -- Head Physician, Docent Kamil Kucera, M.D.), Regional Hospital in Gottwald.

DAŇHEL, F.

"The Effect Of Vitamin A Upon The Laying Ability Of Hens And Upon The Fertilization, Hatching, And Vitamin Content Of Eggs" p. 173. (Sbiry. Vol. 19, No. 177-184, 1951, Brno.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3. Library of Congress, March 1954, Uncl.

BAKALA, F.

USSR.

"Addition of vitamin A to feed and its influence on laying, fertility, incubation, and its amount in chicken eggs. F. Bakala. *Spisy Vysoké Školy Vet. Brno* 29, 1-12(1951); *Biol. Abstr.* 27, 139(1953).—The feeding of vitamin A increased egg production during the 2nd year of production. The expti. group of birds showed a higher fertility (31.9%) and a higher hatchability (42.2%) than the control group, and the content of vitamin A in liver and in eggs of the expti. group was higher than in the control group.

A. M. M.

Bakala, J.

Bakala, J. Removal of old coatings from model equipment. p. 374.

Vol. 4, no. 12, Dec. 1956
SLEVARENSTVI
TECHNOLOGY
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957
No. 5

BAKALA, M.

TECHNOLOGY

Periodicals: HUTNICKE LISTY Vol 13, No. 9, Sept. 1958

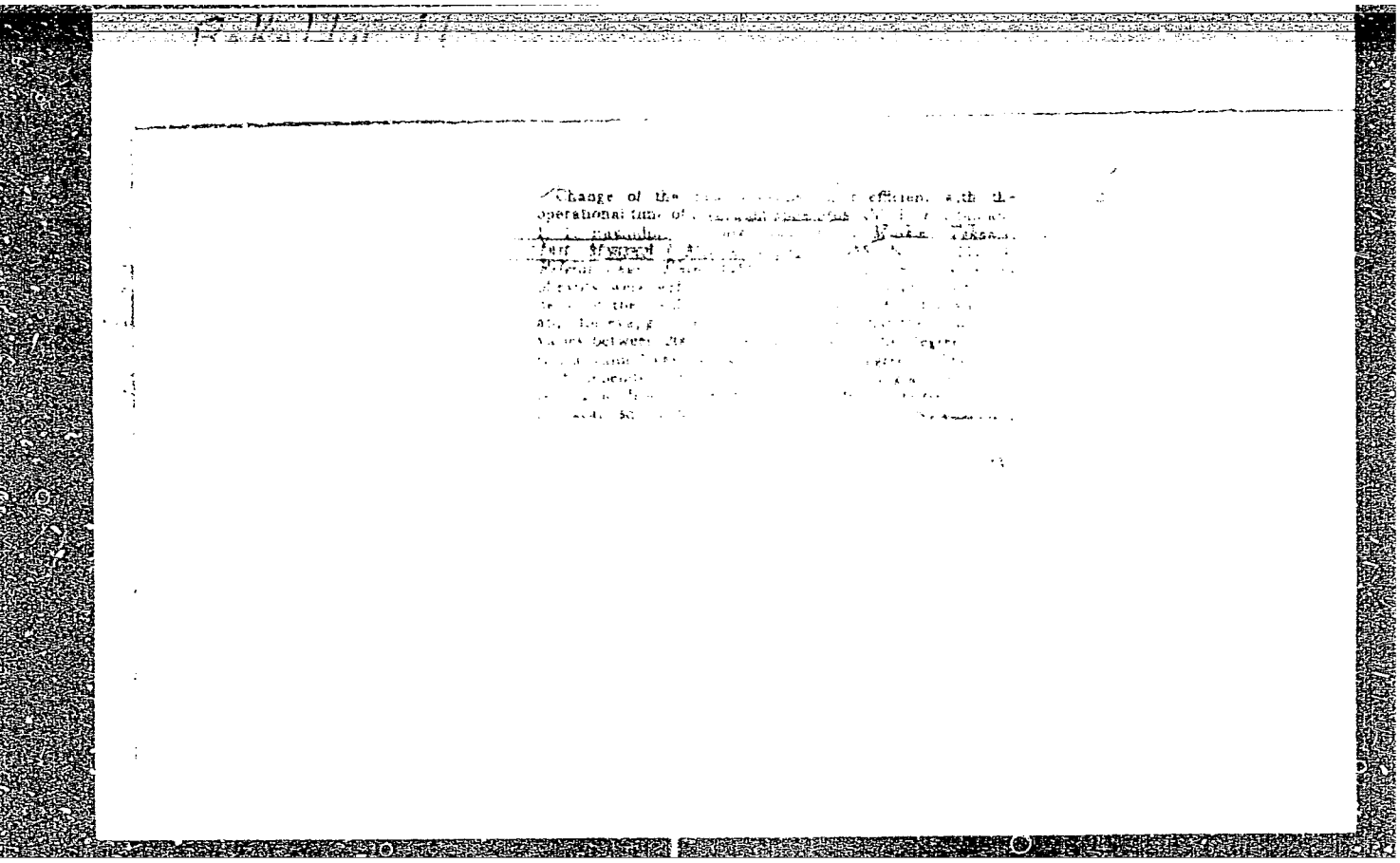
BURDA, S.: BAKALA, M. Industrial utilization of knowledge concerning the information of internal cracks in large forgings. p. 786.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 5, May 1959, Unclass.

BAKAL'CHUK, M. O.

29307 Puti i metody svoyevremennogo raspoznavaniya pervichnogo raka legkikh. Voprosy onkologii i rentgenologii, No 1-2, 1948, s. 47-56

SO: Letopsi' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949



MIKUNOV, M.F.; SHMAKIN, B.M.; POLYKOVSKIY, V.S.; BAKALDINA, A.I.

Scientific conference of the Moscow Geological Prospecting Institute. Izv. vys. ucheb. zav.; geol. i razv. 3 no.12:109-120 D '60. (MIRA 14:5)

(Prospecting--Congresses)

BAKALDINA, A. P.

The petrographic characteristics of Cretaceous sedimentary rock in the neighborhood of the Village Iksanovo of the Burinsk region of the Chelyabinsk District. A. P. Bakaldina. *Doklady Akad. Nauk S.S.S.R.* 71, 737-9(1950).—The immediate goal of the work was the petrographic investigation of the deposits of the Campanian, Maestrichtian, and Danish stages of the Cretaceous system. The presence of the following minerals was established microscopically: quartz, orthoclase, andesite, glauconite, hydroxides of iron, epidote, staurolite, tourmaline, rutile, garnet, diopside, kyanite, hornblende, sericite, and carbonates. The sandstones studied seemed to be exceedingly rich in glauconite, a case very rare in nature. Gladys S. Macy

BAKALDINA, A.P., inzh.

Effect of the petrographic composition of coals on their content of absorbed methone. Izv. vys.uchev.zav.:gor.zhur. 7 no. 4:10-12 '64. (MIRA 17:7)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze. Rekomendovana kafedroy goryuchikh iskopayemykh.

BAKALDINA, A.P.

Sorption methane content of coals of various petrographic composition; based on a study of the coals of the Prokop'yevsk-Koselevsk region of the Kuznetsk Basin. Izv. vys. ucheb. zav.; geol. i razv. 7 no.9:59-64 S '64.

(MIRA 17:10)

1. Moskovskiy geologorazvedochnyy institut imeni Ordzhonikidze.

BAKALDINA, A.P., aspirant

Calculating the potential methane capacity of coals on the basis of the micro-component composition and degree of metamorphism. Izv. vys. ucheb. zav.; geol. i razv. 7 no.11:54-58 N '64. (MIRA 18:5)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.

BAKALDINA, K.V., inzh.

Cyclic washing of pipe conduits and equipment of mayonaise plants.
Masl.-zhir. prom. 29 no.10:35-36 O '63. (MIRA 16:12)

1. Krasnodarskiy maslozhirovoy kombinat imeni V.V. Kuybysheva.

RAYEV, B.V.; BAKALDINA, N.I.; L'VOVA, N.Ye.; TRET'YAKOV, A.A.

Review of three criteria in Borbov's complex hemotuberculin method and considerations on possible errors in determination of erythrocytes sedimentation time and in formula of leukocytes. Probl. tuberk., Moskva no. 5:51 Sept-Oct 1952. (CLML 23:5)

1. Docent. 2. Of the Department of Faculty Therapy (Head--Prof. A. V. Seleznev) of Molotov Medical Institute (Director -- Docent A. N. Kushnev) and of Molotov Municipal Anti-Tuberculosis Dispensary (Head Physician -- M. V. Tarasova).

BAKALENKO, Vasiliy Stepanovich, podpolkovnik; YEMEL'YANOV, V.T., polkovnik, red.; KONOVALOVA, Ye.K., tekhn. red.

[Training of the soldier for reconnaissance]Podgotovka soldata-razvedchika. Moskva, Voenizdat, 137 p. (MIRA 15:8)
(Military reconnaissance)

BAKALEYEV, B.N., kand. tekhn. nauk, dots.

[Abstract of the lectures for the course "Building machines"] Konspekt lektsii po kursu "Stroitel'nye mashiny." Moskva, Univ. druzhby narodov. Sec.1. Nos.1-2. 1964. (MIRA 18:8)

1. Moscow. Universitet druzhby narodov. Kafedra konstruktsii detaley, uzlov mashin i mekhanizmov.

BAKALEYEV, V.N., inzh.

Investigating vibrations of guy booms of dragline excavators. Sbor.trud.MISI no.26:198-213 '58. (MIRA 12:1)
(Excavating machinery--Vibration)

BAKALEYEV, V.N.

[Outline of lectures in the course on "Construction Equipment."] Konspekt lektsii po kursu "Stroitel'nye mashiny." Moskva, Univ. druzhby narodov. Sec.2. No.1. 1965. 81 p. (MIRA 18:12)

KHODANOVICH, I.Ye.; BAKALEYEV, V.P.

Effect of joint rings on gas-pipeline capacity. Trudy VNIIGAZ no.5:236-243 '59. (MIRA 12:9)
(Gas, Natural--Pipelines)

BAKALEYEV, V. P.

"Fusion of a Finite Thickness Plate."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

27561
S/170/61/004/010/016/019
B108/B102

26.5100

AUTHOR: Bakaleyev, V. P.

TITLE: A possibility of solving nonlinear heat-conduction problems

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 10, 1961, 119-122

TEXT: This study is devoted to the heat conduction in cases where the thermodynamic characteristics depend on temperature. The Carman-Polhausen method is used (Ref. 1: Goodman T. P. Trans. ASME, 80, no. 2, 1958). The one-dimensional heat-conduction equation has the form

$M(\theta)\frac{\partial\theta}{\partial\tau} = \frac{1}{x^\nu}\frac{\partial}{\partial x}\left[L(\theta)x^\nu\frac{\partial\theta}{\partial x}\right]$ (1), where $x = X/l$, $\theta = (T - T_0)/\Delta T$, $R = \rho/\rho_0$, $C = c/c_0$, $L = \lambda/\lambda_0$, $\tau = \lambda_0 t/c_0\rho_0 l^2$ denote the dimensionless quantities for the coordinate, temperature, density, specific heat, thermal conductivity, and time, respectively. $\nu = 0$ for a plane and 1 for a cylindrical problem, L, C, and R are assumed to be known. Integrating Eq. (1) over the thermal layer δ (Ref. 1) yields $\int_{x_0}^{\delta} M(\theta)\frac{\partial\theta}{\partial\tau}\,dx = \int_{x_0}^{\delta}\frac{1}{x^\nu}\frac{\partial}{\partial x}\left[L(\theta)x^\nu\frac{\partial\theta}{\partial x}\,dx\right]$ (2), where

Card 1/2

A possibility of solving nonlinear ...

x_0 is the coordinate of the surface of the body. When temperature is a known function of the coordinate, all temperature-dependent coefficients may be expressed in terms of the thickness δ of the thermal layer. In this case, the left side of Eq. (2) may be written as $F(\delta)\frac{d\delta}{d\tau}$, and the right side as $f(\delta)$. $\delta(0) = x_0$ is the boundary condition. The heat-conduction equation for a body is obtained by giving δ the value of the thickness of the body. The one unknown function of time α_k in the temperature distribution $\theta(\alpha_i, x)$ may be obtained from Eq. (2), when the coordinates of the front and back surfaces of the body are chosen the lower and upper limits of the integrals, respectively. Heating of one semispace is calculated as an example. There are 2 figures and 3 references: 2 Soviet and 1 non-Soviet.

SUBMITTED: March 11, 1961

Card 2/2

L 7967-66

ACC NR: AP5025765 SOURCE CODE: UR/0286/65/000/018/0151/0151

AUTHORS: Bakaleynikov, A. M.; Isakov, N. M.; Ol'bek, A. F. 44 55 44 55 44 55

ORG: none

TITLE: A ship transport hoist. / Class 65, No. 139944

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 151

TOPIC TAGS: elevating gear, elevator effectiveness, transport process, water traffic

ABSTRACT: This Author Certificate presents a ship transport hoist for transferring ships over a dam crest from one level to another. The hoist is made of a single-stage carriage moved by means of a hoisting drive mechanism along inclined runways of the upper and lower levels. The carriage is turned around on a turning wheel mounted on the crest of the dam. To increase the reliability of the transfer, the upper part of the turning wheel platform supporting the rail tracks is inclined to the horizontal. This inclination angle is equal to the angle of inclination of the ship hoisting runways of the two levels. When the runways are matched, one forms an extension of the other.

Card 1/2

L 7967-66

ACC NR: AP5025765

SUB CODE: GO/ SUBM DATE: 07Jan61

Card 2/2