L 26581-66

ACC NR: AP6008762

5

The most revolutionary discoveries are expected from the study of physicochemical life processes from the subcellular level to the molecular level. Study of these processes may yield new understanding of the mechanism of heredity, and may allow control of heredity, permitting man to create new and valuable forms of microorganisms, plants, and animals.

In the field of energetics power engineering the author cites the development of new methods for the direct conversion of thermal and nuclear energy to electrical energy, and the mastery of the MHD techniques.

The facilities for communications, control, the gathering and processing of information, and more complete automation in industry are stressed as the most important elements of technical progress. Particular attention must be paid to the problems of computor technology and reliability. Technical cybernetics will find broad application in production, planning, project design, and management.

Further investigations are necessary in the following areas: the principles of self-adjustment and self-organization in technical systems; the development of the principles of form identification; the theory of

Card 3/6

L 26581-66

ACC NR: AP6008762   0

relay systems and finite automata; and information theory and bionics. Research on the development of complex automated systems for engineering calculations, selection of optimal variants, and retrieval of technical information is most important.

Aspects of the quantum generator will be investigated: its efficiency and power, the assimilation of new wave ranges, increase in frequency stability, and the search for new sources of quantum generator excitation. Further improvements in the application of quantum electronics are anticipated.

The necessity of improved quality level in the machine-tool industry is emphasized, and the need for rapid adoption of new hydroextrusion, electric discharge, electrochemical, and ultrasonic machining processes is underlined. Also, new electronic beam, ultrasonic, and cold welding techniques must be mastered and assimilated.

The importance of research in the science of materials leading to the production of new high-strength and heat-resistant materials is asserted. Solving the problem of plasticity will require serious theoretical research on electronic structure, crystal defects, and the effect of fillers.

Card 4/6

L 26581-66

ACC NR: AP6008762

The development of perfect, defect-free single crystals of certain oxides will make the production of high-plasticity materials possible. These materials will be superior to metals, as they will be much stronger than the best steels and will have greater infusibility and resistance to the action of aggressive environments.

The nomenclature of branches of the chemical industry is reviewed and the importance of this industry in the development of the national economy is emphasized. Particular attention must be paid to the development of scientific principles for the mechanics and chemistry of polymers in order to produce materials possessing high- and low-temperature, chemical, and radiation stability, and synthesis of semi-conducting polymers, ion and electron exchange resins. The search for new stabilizers and plasticizers for polymers and their effective protection against biological corrosion must be further developed.

In the field of inorganic chemistry research must be oriented to the improvement of strength and other mechanical properties of pyroceramic, ceramic, and other materials.

Attention must also be given to the development of new geophysical and geochemical methods, and to more precise geophysical instruments,

Card 5/6

L 26581-66

ACC NR: AP6008762   0

and also to new methods for mineral prospecting. The final part of the
report deals with the organization of the scientific community, its problems,
and conditions governing successful achievements. Millionshchikov stresses
the importance of concentrating scientific skills and means for developing
the most urgent trends. Increased efficiency on the part of scientific
personnel and rapid practical applications of scientific results are
mentioned.
      The author points out that not all branches of industry and economy in
USSR operate at the same level of efficiency. Despite the availability of
first-class scientists and research institutes (for example in the chemical
field), there is a lag in the development of technological processes and
in building plants and facilities which utilize new developments.

      The author emphasizes the necessity of economic analysis of the
industrial structure to demonstrate the difficulties and expressed hopes
that the recently established profit-incentive system will expedite the
successful development of science, technology, and economy. /ATD PRESS: 4229-E/

SUB CODE: 20, 05, 07, 09, 10 / SUBM DATE: none

Card 6/6 . BLG

MILLIONSHCHIKOV, V.M. (Moskva)

Contribution to the theory of differential equations in locally
convex spaces. Mat. sbor. 57 no.4:385-406 Ag '62. (MIRA 15:8)
(Differential equations) (Topology)

S/020/62/146/005/003/011
B112/B186

AUTHOR: Millionshchikov, V. M.

TITLE: Theory of differential equations with a small factor at the derivatives in linear topological spaces

PERIODICAL: Akademiya nauk SSSR.. Doklady, v. 146, no. 5, 1962, 1021-1024

TEXT: A. N. Tikhonov's and I. S. Gradshteyn's theory of differential equations

$$\varepsilon^{n_i} dx_i/dt = f_i(x_1,\ldots,x_k,t) \quad (i = 1,2,\ldots,k);\qquad (3)$$

$$n_1 > n_2 > \ldots > n_k \geqslant 0 \quad (i = 1,\ldots,k)$$

(cf. Matem. sborn., 27 (69), No. 1 (1950); DAN, 65, No. 6 (1949); DAN, 66, No. 5 (1949); DAN, 81, No. 6 (1951); DAN, 82, No. 1 (1952)) is generalized for arbitrary linear topological spaces L. The following theorem is derived: Let the following conditions be fulfilled: The set of equations $dx/d\tau = f_1(x_1,x_2,\ldots,x_k,t)$ is uniformly asymptotically stable with respect

Card 1/2

Theory of differential equations ...   S/020/62/146/005/003/011
                                              B112/B186

to a certain set R of singularities; the equations

$$dx_1'/d\tau = f_1(x_1', x_2', \ldots, x_k', t^* + \varepsilon^{n_1}\tau),$$

$$dx_i'/d\tau = \varepsilon^{n_1 - n_i} f_i(x_1', x_2', \ldots, x_k', t^* + \varepsilon^{n_1}\tau) \quad (i = 2, \ldots, k) \tag{5}$$

depend continuously on the parameter; Cauchy's problem for system (3) is unambiguously solvable for all the initial data of a certain domain S: then the solution $z(\varepsilon, t)$ of the initial value problem

$$(x_1(t_0), x_2(t_0), \ldots, x_k(t_0)) = (\bar{x}_1, x_{2,0}, \ldots, x_{k,0}) \tag{3'}$$

will uniformly tend to $z(0, t)$ if ε tends to $+0$.

PRESENTED: May 12, 1962, by I. G. Petrovskiy, Academician

SUBMITTED: May 8, 1962

Card 2/2

MILLIONSHCHIKOV, V.M.

Recursive and almost periodic limit trajectories of nonautononous
systems of differential equations. Dokl. AN SSSR 161 no.1:43-44
Mr '65.   (MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet. Submitted October 13,
1964.

MILLIONSHCHIKOV, V.M.

Asymptotic behavior of solutions to linear systems with small
perturbations. Dokl. AN SSSR 162 no.2:266-268 My '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet. Submitted January 19,
1965.

MILLIONSHCHIKOV, V.M.

Stability of the characteristics indices of limiting solutions
to linear systems. Dokl. AN SSSR 166 no.1:34-37 Ja '66.
(MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet. Submitted July 23,
1965.

MILLIRUD, B.T.

Increase the production of sugar and decrease its cost. Sakh.prom.
30 no.10:5-7 O '56.   (MLRA 10:1)

1. Shpolyanskiy sakharnyy savod.
            (Sugar industry)

MILLNER I.

Spinel type semiconductors with ferric oxide base. Déry and I. Millner. *Epitomige Thig. Ma...* 100-17(1954); *Hung. Tech. Abstr. 7...* Semiconductors, functioning by valence exchange and belonging to the ternary system FeO, ZnO, TiO_2, were prepd. by ceramic methods. Upon investigating the relation between and compo... it was found that the Fe_2O_3 crystals used as starting material ... constitute the base

MILLNER, J.

Iron oxide-base semiconductors of spinel structure. M. Déri and L. Millner (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 9, 215-33(1955) (In English).—The cond. of valence-change semiconductors of the ternary system Fe_3O_4-ZnO-TiO_2 is a function of the compn. The changes of the cond. can be explained by the presence of partly occupied octahedral sites in the spinel lattice of Fe_3O_4. Addns. of TiO_2 in excess of the concn. of the empty spaces are not incorporated into the lattice. Zn^{++} is only incorporated at these spaces if there is an insufficient no. of Ti^{4+} ions present to occupy all empty spaces. Zn^{++} however occupies tetrahedral interstices. The changes in resistivity and probability of the electron exchange in relation to temp. and compn. are shown in figures.   F. Schossberger

MILLNER, J.

Distr: 4B2c/4B4j

Iron Oxide-Base Semiconductors of Spinel Structure. Part II.--
M. Koncz-Déri, J. Millner and L. Waldhauser (Institute for
Electrochemistry, Technical University, Budapest)
Received October 2, 1956
Acta Chimica-Academiae Scientiarum Hungaricae
1958, Vol 16, Nr 1, p 71

SUMMARY.

The development of crystal structure as a function of composition of semiconductors belonging to the ternary system $Fe_2O_3-TiO_2-ZnO$ was established by X-ray diffraction methods. On the basis of structural alterations, the changes in specific resistivity as a function of composition can be satisfactorily interpreted by considering the possibilities of electron exchange calculated from the number of iron(III) and iron(II) ions occupying the octahedral places of the spinel lattice.

S/194/62/000/003/036/066
D256/D301

AUTHORS: Koncz, István, Millner, Jószef and Nagy, Oszkár

TITLE: Securing tightness of joints in high-vacuum systems

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
             no. 3, 1962, abstract 3-3-98zh (Veng. pat., kl. 21 f,
             31-44, no. 147593, 1.10.60)

TEXT: It is proposed using forced cooling of metal to insulator
joints (e.g. glass or ceramic) during soldering in order to elimi-
nate the otherwise occurring mechanical stresses. The parts are
thermally treated prior to soldering. The coolant is circulated in
a short-circuit system. /Abstracter's note: Complete translation./

Card 1/1

MILLNER, Jozsef, okleveles vegyeszmernok

Soldered joints of metal and ceramic parts. Finommechanika
2 no.6:177-182 Je '63.

1. Hiradastechnikai Ipari Kutato Intezet.

78-3-4-20/38

AUTHOR: Millner, Teodor

TITLE: The Rôle of Covalent Binding in the Intermetallic A_3B-Phase
             With the Structure β-W (Rol' kovalentnykh svyazey v inter-
             metallicheskikh A_3B-fazakh so strukturoy β-W)

PERIODICAL: Zhurnal Neorganicheskoy Khimii,1958,Vol.3,Nr 4,pp.945-945(USSR)

ABSTRACT: In the system Cr-Fe the non-magnetic σ-phase occurs within
             the range of from 43 - 50 % Cr in the homogeneous solid
             $\alpha\delta$-phase at less than 800°C.
             In the σ-phase the atoms are bound together by covalent
             bindings. The author assumes that all atoms of the A_3B-phase
             with β-W-structure can also form the σ-phase.
             There is 1 figure.

ASSOCIATION: Budapeshtskiy nauchno-issledovatel'skiy institut tekhniki svyazi
             i ob"yedinennoye lampovoye i elektricheskoye A/o "Tungsram"
             (Budapest Scientific Research Institute for Communication Tech-
             niques and the   Electric Bulb and Electric Company
             "Tungsram")

Card 1/2

The Rôle of Covalent Binding in the Intermetallic A_3B-Phase With the Struc-
ture β-W

78-3-4-20/38

SUBMITTED: June 25, 1957

Card 2/2

AUTHOR: Millner, Teodor   78-3-4-21/38

TITLE: The Rôle Played by Covalent Bindings in the Structure β-W
               of the Metallic Phases A_3B (Rol' kovalentnykh svyazey v
               strukture β-W-metallicheskikh faz A_3B)

PERIODICAL: Zhurnal Neorganicheskoy Khimii,1958,Vol.3,Nr 4,pp.946-948(USSR)

ABSTRACT: In the reduction of WO_3 in dry hydrogen at $550^\circ C$ WO_3 is com-
               pletely reduced to the unstable modification β-W. The re-
               duced final product has the formula: $WO_{0,005}$.

               In the β-W-modification covalent bindings occur. The author
               assumes that in the intermetallic compounds of the A_3B-type
               with β-W   hafnium crystallizes. In the UH_3-phase the
               uranium atoms are also exchanged corresponding to the struc-
               ture β-W with covalent bindings. The conversion β-W$\to\alpha$-W
               occurring at $630^\circ C$ can also be explained by the occurrence
               of covalent bindings. There are 1 figure, 2 tables, and 3
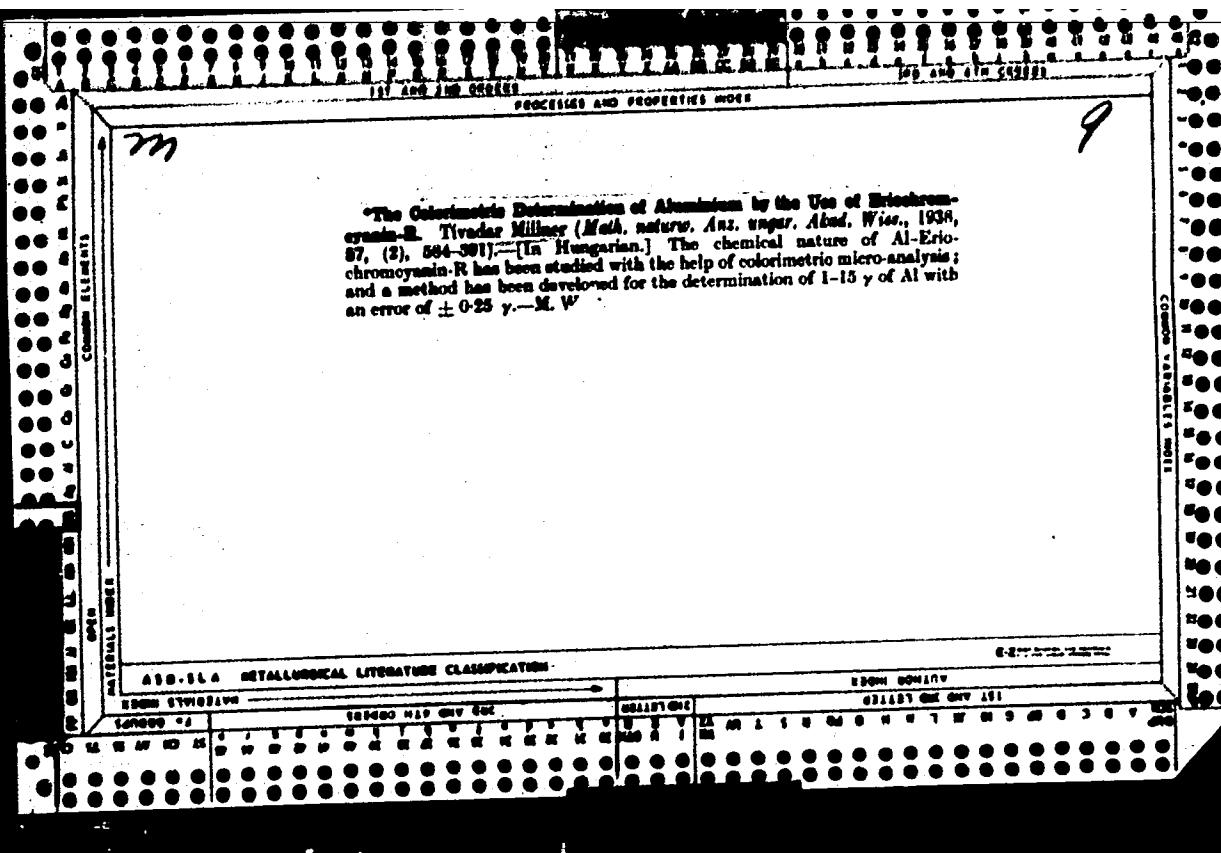   references, 0 of which are Soviet.

Card 1/2

78-3-4-21/38

The Rôle Played by Covalent Bindings in the Structure β-W of the Metallic Phases A_3B

ASSOCIATION: Budapeshtskiy nauchno-issledovatel'skiy institut tekhniki svyazi i ob"yedinennoye lampovoye i elektricheskoye A/o "Tungsram"
(Budapest Scientific Research Institute for Communication Techniques and the   Electric Bulb and Electric Company "Tungsram")
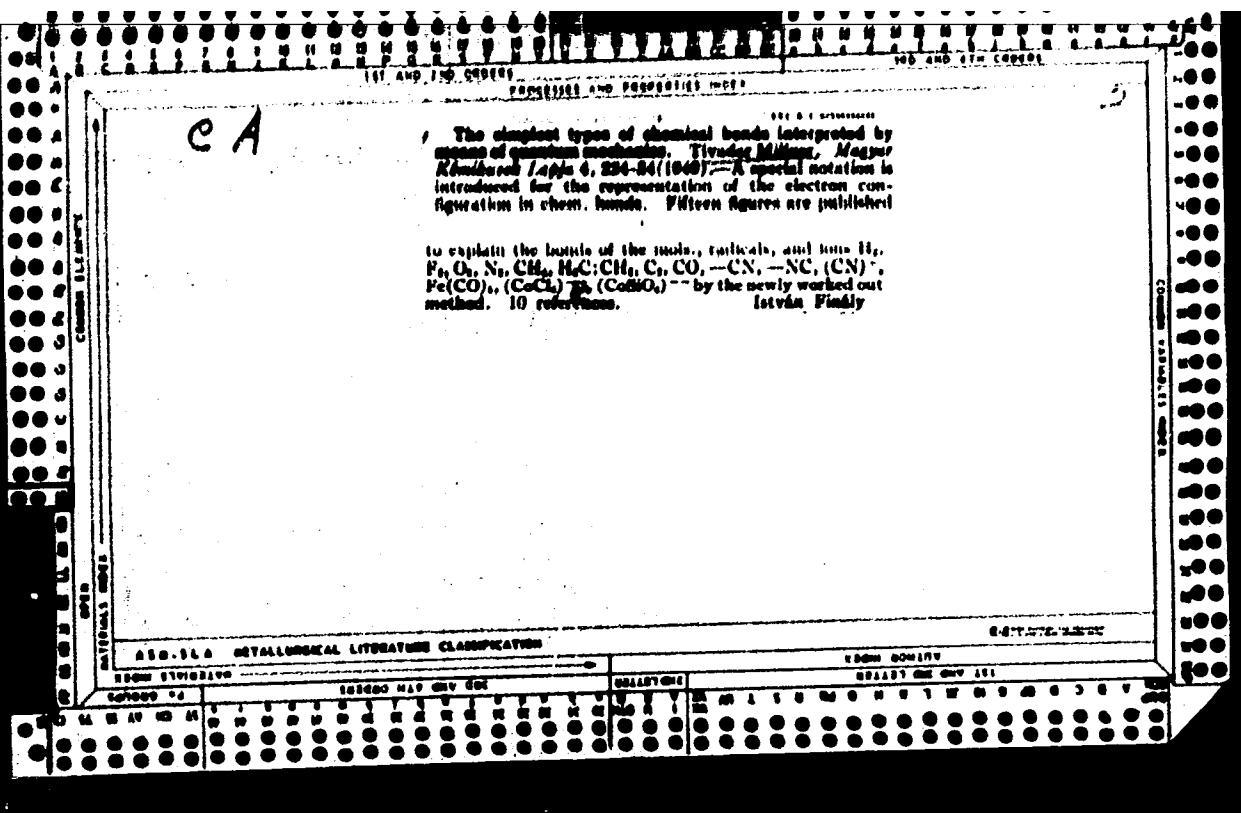
SUBMITTED: June 25, 1957

Card 2/2

9

*The Colorimetric Determination of Aluminium by the Use of Eriochrom-cyanin-R. Tivadar Millner (*Math. naturw. Anz. ungar. Akad. Wiss.*, 1938, 87, (2), 564-591).—[In Hungarian.] The chemical nature of Al-Erio-chromoyanin-R has been studied with the help of colorimetrio micro-analysis; and a method has been developed for the determination of 1-15 γ of Al with an error of $\pm$ 0·25 γ.—M. W

METALLURGICAL LITERATURE CLASSIFICATION

MA

9

Estimation of Traces of Aluminium in Tungstic Acid and in Metallic Tungsten. Tivadar Millner and Ferenc Kunos (Magyar Kém. Egyesület Közleményei, 1940, 111, (III), 240).—[In Hungarian.] Cf. Met. Abs., 1940, 6, 240. A detailed description of the colorimetric method using Eriochromcyanine R, modified by M. and K., which enables the estimation of a few γ of Al in 0·1 grm. W.

1943

C A

The simplest types of chemical bonds interpreted by means of quantum mechanics. Tivadar Millner, Magyar Kémiai rom Lapja 4, 224-34(1949). A special notation is introduced for the representation of the electron configuration in chem. bonds. Fifteen figures are published to explain the bonds of the mols., radicals, and ions H_2, F_2, O_2, N_2, CH_4, $H_2C:CH_2$, C_2, CO, --CN, --NC, $(CN)_2$, $Fe(CO)_5$, $(CoCl_4)$, $(CoNO_4)$ -- by the newly worked out method. 10 references.   István Finály

METALLURGICAL LITERATURE CLASSIFICATION

A NEW METHOD FOR POLISHING AND ETCHING OF
METALLOGRAPHIC SPECIMENS OF TUNGSTEN AND
MOLYBDENUM METAL.   T. Millner and L. Sass. Trans-
lated from Aluminum Budapest 5, p. 14-15 (1953). 5p.
Available from Henry Brutcher (Trans. No. 3251), Altadena,
Calif. (AEC-tr-1995)

   A study on an etching solution for developing the grain
boundaries of metallographic specimens of tungsten in the
recrystallised as well as wrought state and the advantages
of the solution over the currently used etchants are reported.
Reduction of polishing time to one-tenth of the time hither-
to needed by making certain additions to alumina suspension
was made. Results obtained with the use of the same solu-
tion (but in a different quantity) in the etching and polishing
of molybdenum metal are given: (auth)

MILLNER, T.

HUNG

9. Simultaneous flame spectrophotometric deter-mination of calcium, strontium and barium —
Kalcium, strontium és bárium lángfotométeres mikromeg-hatdrozdsa egymds mellett — A. Hegedűs, T. Millner and
E. Pungor, (Hungarian Journal of Chemistry — Magyar
Kémiai Folyóirat — Vol. 59, 1953, No. 10., pp. 304—309,
7 figs., 4 tabs.)

Determination of calcium, strontium and barium in aqueous solutions containing all three elements at the same time, using the Beckman Model DU spectrophoto-meter and its flame attachment with oxyhydrogen flame. (Optimum pressure for hydrogen was found to be 0.14 atm and for oxygen 1.00 atm.) Emission spectra of calcium, strontium and barium were measured in the range of 300 mμ to 1000 mμ. It was found that strontium and bar-ium interferes with the characteristic spectral lines of calcium at 424, 554 and 624 mμ; furthermore, calcium and barium interfere with the lines of strontium at 460 and 670 mμ, and calcium and strontium in turn interfere with the lines of barium at 745 and 870 mμ. Therefore calcium was determined at 424 mμ using an ultraviolet-sensitive photocell and a 0.1 mm slit, and barium at 870 mμ using a red-sensitive photocell and a 0.2 mm slit. By the introduction of this procedure error was negligible if the elements to be determined were present in amounts of 0 to 800 μg/ml and the concentration of the interfering elements ranged from 0 to 1200 μg/ml. Error was ± 2%. Determination of calcium, strontium and barium in a sing sample, dissolved in 1 ml of water, atomized into the flame took only a few minutes. Composition of the cathode emission layer of a single electronic tube or fluorescence light could be determined by this method.

MILLNER, T. M.

3

4. Iron oxide-base semiconductors of spinel structure
(in English) — M. Déri, T. Millner. (Acta
Chimica Academiae Scientiarum Hungaricae. — Vol. 5.
1955. No. 3—4. pp. 215—233. 7 figs., 3 tabs.)

The conductivity of spinels belonging to the ternary
system $ZnO-Fe_2O_3-TiO_2$ was found to vary as a function
of the chemical composition. Assuming the $\gamma-Fe_2O_3$
lattice to be basically a spinel-type structure with several
vacancies at octahedral positions this relation is inter-
preted as the formation of the mixed oxides beginning at
these vacant places. Another proof supporting this
assumption is that titanium dioxide or zinc oxide added
in a stoichiometric excess is not incorporated into the
lattice. The octahedral vacancies are occupied at first by
the Ti^{4+} ions and the Zn^{2+} ions enter at points of tetra-
hedral symmetry. The remaining octahedral vacancies
are occupied by Fe^{2+} ions displaced by the Zn^{2+} ions
from their original tetrahedral positions.

MILLNER, T. : HEGEDUS, A. : DVORSZKY, M.

New method for determination of impurities in metallic titanium, particularly the oxygen and carbon content.   p. 554.

Vol 10, no. 12, Dec. 1955.   KOHASZATI LAPOK.   Budapest, Hungary.

So: Eastern European Accession.   Vol 5, no. 4, April 1956

MILLNE, T.

MILLN ER, T. Report of research in the field of wolfram; also, remarks by P. Tury
and others. p. 99.

Vol. 16, No. 1, 1955.
KOZLEMENYEI
TECHNCLCGY
Budapest, Hungary

So: East, European Accession, Vol. 5, No. 5, May 1956

Effect of manganese content on the thermal expansion coefficient and magnetic properties of the so-called Dumet iron-nickel alloys. T. Millner and R. Weisz (Hung. Acad. Sci., Budapest). Acta Tech. Acad. Sci. Hung. 14, 279-91 (1956)(in English).—In the vacuum-tube industry the Fe-Ni alloys of the Dumet type that are used for sealing to glass must have an av. thermal expansion coeff. which approxi-
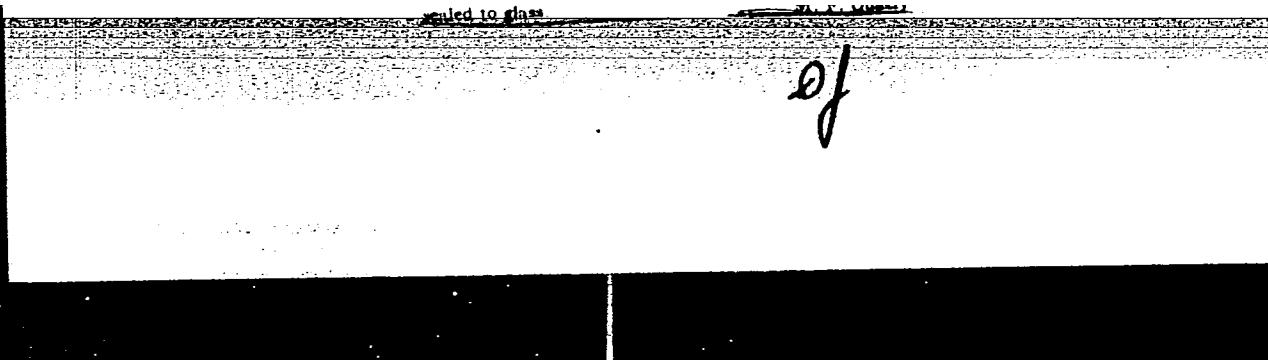
Millner, T.

HUNGARY/ Analytical Chemistry. Analysis of Inorganic   G-2
            Substances.

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27221.

Author : T. Millner, A. J. Hegedus, M. Dvorszky.

Inst   : Academy of Sciences of Hungary.

Title   : New Method of Determination of Impurities, in
           Particular of Oxygen and Carbon, in Various
           Samples of Titanium.

Orig Pub: Acta techn. Akad. sci. hung., 1956 15, No. 3-4,
           361 - 372.

Abstract: The sample of Ti is treated with Br_2 vapors in an
           evacuated and hermetically closed vessel of fire-
           proof glass. The forming $TiBr_4$ is separated from
           bromides of Fe, Mg and other metals, as well as
           from TiO_2, which forms in the result of the inter-

Card 1/2

MILINER, T.; WEISZ, R.

Effect of manganese content on heat expansion and magnetic
properties of so-called Dumet iron-nickel alloys. P. 131
KOZLEMENYEI Budapest, Vol. 18, no. 1/4, 1956

SOURCE: East European Accessions List (EEAL) Library of Congress
Vol. 5, no. 8, August 1956

Distr: 4B3d /4B2c

424. Influence of small quantities of impurities on the hardness at high temperatures of tungsten. [In German] T. Millner, L. Sass, Acta Technica Academiae Scientiarum Hungaricae. Vol. 19, 1957, No. 1—2, pp. 115—125, 8 figs., 1 tab.

The favourable properties of tungsten wires used in incandescent lamps and radio tubes may be ensured by adding about 1% of K, Na, Al, Si, etc. compounds to the initial tungstic acid, then processing it into metal powder and pressed rods. During the sintering of these rods, the additions evaporate to such an extent that finally only a 10^{-8} mm concentration of foreign atoms remains. In order to investigate the influence of the various additives, an apparatus was built for the determination of the hardness at high temperatures of various kinds of tungsten metals in the temperature range of 20°C to 800°C. The tungsten wires made with additives containing Si had an average hardness of 250 PHN at 800°C while wires without such additives had average values of 180 PHN. Traces of Si considerably impeded the loss of hardness of the tungsten wires investigated at 800°C.

MILLNER, T.

Effect of small quantities of impurities on the temperature-dependent hardness
of tungsten; also, remarks by P. Turi.

p. 333. (Magyar Tudomanyos Akademia. Muszaki Tudomanyok Osztalya. Kozlemenyei.
Vol. 20, no. 3/4, 1957. Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

MILLNER, T.

Questions of the production and properties of technical vacuum-processed tungsten
from the point of view of natural science. p. 243.
(KOZLEMENYEI, Vol. 21, no. 1/4, 1957, Budapest, Hungary)

SO: Monthly List of East European Accessions (LEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

Millner Tivadar

HUNGARY/Solid State Physics - Structure of Deformed Materials   E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 6029

Author   : Millner Tivadar, Prohaszka Janos, Harvoth Antal
Inst   : Not Given
Title   : Influence of Small Impurities on Secondary Recrystallization
           of Tungsten Wire.

Orig Pub : Magyar tud. akad. Musz. tud. oszt. kozl., 1957, 21, No 1-4,
           349-361

Abstract : No abstract

Card   : 1/1

MILLER, T.

The influence of inequalities appearing on the diameter of a tungsten wire and
 the influence of the heat-extracting effect around an incandescent filament
upon the life of an incandescent lamp. p. 369.
(KOZLEMENYEI, Vol. 21, no. 1/4, 1957, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

MILNER T

The conditions of formation and properties of β-tungsten.
Further report on the reduction of tungsten trioxide. T.
Milner, A. H. G. and J. Neugebauer,
A.-G., "Thuringia," Rudolstadt. Z. anorg. u. allgem. Chem.
289, 288-312(1957); cf. C.A. 50, 3938g.—Thermogravi-
metric and x-ray crystallographic studies were made of the H
reduction of WO_3 and of the oxidation of β-W by 3% O_2 in
N or 3% H_2O in N. Attempts to prepare β-W electro-
lytically from phosphate melts of C.A. 25 successful, and

Millner, T

Distr: 4E2c

Data on the W-N system. Ammonium tungstate and WO₃ reduction with NH₃. Jeno Neugebauer, Tivadar Millner, and Andras Hegedus. *Magyar Tudomanyos Akad. Kem. Tudomanyos Osztalydnak Kozlemenyei* 12, 37-44(1959).—The thermal decompn. and redn. of ammonium tungstate in air, a stream of H, a H–N mixt., dry and moist NH₃, the redn. of WO₂ in dry and moist NH₃, and the nitridation of β- and α-W in gases of varying N content were studied by thermal and x-ray analytical methods. In redn. of ammonium tungstate with NH₃ first on ammonium W bronze, then W oxide nitride, then β-W nitride, and finally α-W near 900° are obtained. During nitridation of β-W with NH₃ a new phase ε-W nitride is obtained, the characteristics of which are between those of β- and δ-W nitrides. X-ray data are given for ε-W nitride.

Andrew W. Zulay

MILLNER, ☮.T.

Distr: 4E2c

Reduction of ammonium tungstate and tungsten trioxide /-mju/JD
by ammonia. The tungsten-nitrogen system. J. Neuge-
bauer, A. T. Hegedus, and T. Millner (Nachrichtentech.
Ind. u. Ver. Glühlampen-u-Elektrizitäts Akt.-Ges., "Tung-
sram," Budapest, Hung.). Z. anorg. u. allgem. Chem.
302, 50-9(1959).—Thermogravimetric and x-ray diffrac-
tion studies are made of the decompn. of $(NH_4)_2WO_4$
(I) in air; the redn. of I in H, 30/70 H-N mixts., and dry
and wet NH_3; the redn. of WO_3 in dry and wet NH_3;
and the nitridation of α- and β-W in N-contg. gases. In
the atm. decompn. of I and in its redn. by H or H-N mixts.
a deep-orange ammonium tungsten bronze $(NH_4)_{0.03}$-
$WO_3(H_2O)_{0.11}$, tetragonal, $a = 7.60$, $c = 6.36A$., is formed
at 380–400°. Further heating gives WO_3, which is then
reduced as found earlier (C.A. 51, 12716h). In dry or wet
NH_3 beginning at 560°, I gives a pseudo-tetragonal am-
monium tungsten bronze, metallic in appearance, not iso-
morphous with the alkali metal tungsten bronzes. At
higher temps. are formed an oxide-nitride phase, then a
β-nitride phase (W_2N), and finally, at ~900°, α-W. No
β-oxide $(WO_{2.m})$ or β-W step is found. The redn. of
WO_3 by NH_3 gives β-oxide at ~500°, then the oxide-
nitride phase, which is further reduced as above. Powd.
β-W and dry NH_3 at 350–470° form WN, a new nitride
phase designated as γ-tungsten nitride (II). At 700–900°
in NH_3 II is gradually reduced to α-W, which when cooled
to 500° in NH_3 forms β-nitride. II decomp. in N at 700–
900° or in H at 20–500° without change of crystal structure;
the β-nitride phase is not formed. II is tetragonal, $a =$
5.786, $c = 6.048A$. Nitridation of α-W gives the β-nitride,
even at compn. $WN_{0.9}$.   Richard H. Jaquith

SZADECZKY-KARDOSS, Elemer, akademikus; VADASZ, Elemer, elnok; FOLDVARINE
        VOGL, Maria, a fold es asvanytani tudomanyok doktora; EGYED, Laszlo,
        lev.tag.; MILLNER, Tivadar, lev.tag; KERTAI, Gyorgy

        From merogeology to hologeology; also, remarks by E.Vadasz and others.
        Muszaki kozl MTA 27 no.1/2:35-68 '60.   (EEAI 10:4)

        1. Magyar Tudomanyos Akademia, Muszaki Tudomanyok Osztalya (for
        Szadeczky-Kordoss, Vadasz, Foldvarine Vogl, Egyed, Millner)
                (Geology)

MILLNER, Tivadar, lev.tag.; BOGNAR, Geza, elnok

National economic importance of technical physical reaearch in the past
and its prospects in the field of the vacuum engineering industry. III.
Also, remarks by G.Bognar. Muszaki kozl MTA 27 no.1/2:111-132 '60.

(EEAI 10:4)

1. Magyar Todumanyos Akademia, Muszaki Tudomanyok Osztalya.
   (Electron tubes)

S/081/62/000/017/062/102
B158/B186

AUTHORS: Millner, Tivadar, Fukker, Károly, Martin, Kornél,
Dvorszky, Magda

TITLE: Procedure for producing alumina of high electric insulating
capacity

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 383, abstract
17K258 (Hungarian patent 148074, March 31, 1961)

TEXT: A coating of corundum is used for insulation of heating coils (for
instance, an electron tube) at high temperatures. The authors have found
that the electric insulating capacity of this coating is considerably
improved if it is introduced as pure α-corundum and burnt in a neutral,
but preferably in a reducing, atmosphere. Pure alumina, burnt at 1050°C,
is used as raw material. The powder is burnt in a tubular furnace (thermal
response to 1500°C - 1 hr, holding at 1550°C - 3 hours, cooling to
1100°C - 1 hour). The alumina must be burnt in a stream of hydrogen,
nitrogen, or a mixture of these or any other gas in vacuum. The product is
ground in a ball mill with the addition of 0.1% steatite. A film obtained

Card 1/2

Procedure for producing alumina...   S/081/62/000/017/062/102
                                          B158/B186

from this powder by already well-known methods (for example, electro-
phoresis) is applied to tungsten coils. The electric insulating capacity
of such a film is demonstrated by the fact that among 10 electron tubes
incandesced for 1000 hours no breakdown was observed, whereas in the same
period of time 6 breakdowns occurred with the same type of lamp using a
film-coated coil prepared by an old method. [Abstracter's note: Complete
translation.]

Card 2/2

ЦЦ56

S/196/62/000/017/004/005
E194/E155

_26, 2351_

AUTHORS: Millner, Tivadar;   Fukker, Károly;   Martin, Kornél;
             Dvorszky, Magda.

TITLE: A method of preparing alumina of superior electrical
             insulating properties

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
            no.17, 1962, 8, abstract 17 B 70 P. (Hungarian Patent
            Cl. 12m, 5-9, no.148074, March 31, 1961).

TEXT: To improve the electrical insulating properties, it is
proposed to purify alumina by heating it to a temperature between
700 and 1700 °C either under vacuum, or in an atmosphere of nitro-
gen or of hydrogen. Alumina is used for the heaters of indirectly-
heated electro-vacuum devices. For example, ground clay is fired
in an atmosphere of hydrogen under the following conditions:
in 0.5 hours the temperature is raised from normal ambient to
1100 °C and then in the next half hour it is raised to 1500 °C.
The temperature is maintained for three hours at 1550 °C and then
is reduced in the course of one hour to 1100 °C and then gradually

Card 1/2

S/196/62/000/017/004/005

A method of preparing alumina of ... E194/E155

to room temperature. The resulting alumina, mixed with 0.1%
steatite and milled in a ball mill, is used for electrical
insulation on the tungsten cores of heaters (in electronic tubes),
being deposited by cataphoresis. The insulation of the heater is
checked by measuring the leakage current when 150 V is applied
between the cathode (which is negative) and the incandescent
tungsten heater. If the alumina has been treated in hydrogen
atmospheres, then of 100 lamps all have leakage current less than
20 microamps, and 60 of them have leakage current less than
5 microamps. If the alumina has been treated in air, of 100 lamps
only 17 have leakage current less than 100 microamps, and 83 are
in the range of 100-900 microamps.

[Abstractor's note: Complete translation.]

Card 2/2

MILLNER, Tivadar, akademikus

Behavior of strange materials in tungsten. Muszaki kozl
MTA 34 no. 1/2: 55-106 '64.

L 31339-66   EWP(e)/EWP(t)/EWP(k)/ETI   IJP(c)   JD/JG
SOURCE CODE: HU/2504/65/050/000/0203/0227

ACC NR: AT6021148

AUTHOR: Millner, T.—Mil'ner, T. (Member MTA)

ORG: none

TITLE: Behavior of foreign-substance traces in tungsten prepared by powder-metallurgy

SOURCE: Academia scientiarum hungaricae. Acta technica, v. 50, 1965, 203-227

TOPIC TAGS: trace analysis, tungsten conductor, powder metallurgy, incandescent lamp, creep, solid mechanical property

ABSTRACT: The performance of tungsten wires made especially for use in incandescent lamps by powder-metallurgical techniques with various types and concentrations of dopes was investigated in terms of mechanical and crystallinity characteristics. Creep experiments and autoradiographic studies on the tin-silver model system were described. It was found that the significance of the dope type and concentration on the performance of the tungsten wires is great and that the effects should be considered in manufacture. Tabulated data and photomicrographs were presented to illustrate the salient findings. Orig. art. has: 14 figures and 8 tables. [JPRS]

SUB CODE: 13 / SUBM DATE: 17May63 / ORIG REF: 004 / OTH REF: 025

Card 1/1

MILLOK, Ferenc

Systematic maintenance of collective farm machinery.
Mezogazd techn 1 no.8:22   '61.

MILLOK, Ferenc

Remark on the maintenance. Mezogazd techn 3 no.4:19-20 '63.

MILLOK, Ferenc
Service guarantee. Mezogazd techn 3 no.10:10 '63.

MIL'MAN, A.Sh.

Changes in representation quotas and terms of sessions of local
governmental organs and systems of local governmental organs in the
Azerbaijan S.S.R. during the postwar period (1945-1957) Uch.zap.
AGU no.5:113-121 ' 58.   (MIRA 12:1)
            (Azerbaijan--Local government)

LESHCHENKO, V.G.; MIL'MAN, A.Ya.

Use of photoresistance in automation circuits for textile industry.
Izv.vys.ucheb. zav.; tekh.tekst.prom. no.4:102-107 '61.
(MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo i
legkogo mashinostroyeniya.
(Automatic control) (Textile machinery)

MIL'MAN, A.Ya.; KHAYKIN, V.P.

Some problems in yarn winding from the warping beam. Izv.
vys. ucheb. zav.; tekh. tekst. prom. no.4:82-89 '63.
(MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut legkogo
i tekstil'nogo mashinostroyeniya.

MIL'MAN, A.Ya.

Investigating the transient processes in thread tension during its transport by friction rollers. Izv. vys. ucheb. zav.; tekh. tekst. prom. no.4:126-133 '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut legkogo i tekstil'nogo mashinostroyeniya.

MIL'MAN, A.Ya.

Investigating the dynamics of yarn tension in its unwinding from rolls.
Izv.vys.ucheb.zav.; tekh.tekst.prom. no.5:107-112 '64.
(MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut legkogo i tekstil'nogo
mashinostroyeniya.

MILMAN4B8S84ENG8

600

1. MIL'MAN, B.S., Engineer,

2. USSR (600)

Engineer, Stankolit Plant "Modified Pig Iron in Machine-Tool Building" Stanki i
Instrument, 12, No. 5, 1941

9. ▬ Report U-1503, 4 Oct. 1951

MIL'MAN B.   S

Vysokokachestvennyy Modifitsirovannyy Chugun   (High-grade modified pig
iron)   Moskva, Mashgiz, 1945

102 p. Illus., Diagrs.
Literatura: P. 102 - 103

Brief account of the properties of modified pig and some of the basic
methods fro the production of subject pig. Supplementary methods for
increasing the quality of modified pig by annealing and tempering.
Brief discussion of internal changes during modification.

MIL'MAN, B. S.

185T93

USSR/Metals - Cast Iron   Feb 51

"Regulation of the Structure and Properties of
Cast Iron With Spheroidized Graphite," B. S. Mil'-
man, Cand Tech Sci, Laureate of Stalin Prize,
TsNIITMASh

"Litey Proiz" No 2, pp 6-11

Discusses addn of Ce, Ca and Mg to liquid cast
iron to obtain spheroidal shape of graphite. An-
alyzes relation between structural factors and
mech properties of cast iron with spheroidized
graphite and outlines tech methods for obtaining
required structure. Gives classification of

USSR/Metals - Cast Iron (Contd)   185T93   Feb 51

so-called high-strength cast irons by structure of
metal matrix (perlitic, ferritic, needle structures)
and tabulates mech properties of several grades.
Several examples illustrate industrial application
of high-strength cast iron as substitute for steel.

185T93

MILMAN, B.S.

The Introduction of a New Foundry Technology.—B. S. Milman. (Engineering News (Moscow), 1951, 5, 5-12; Mel. u. Giesserei Techn., 1953, 3, Mar., 106-109). The method of co-operation between the Russian scientific research institute for technology and machine construction (ZNIITMASCH) and the steelworks of the U.S.S.R. is described and a survey of recent research is given.—L. J. L.

MIL'MAN, B.S., kandidat tekhnicheskikh nauk.

Basic characteristics of high-strength spheroidal graphite cast
iron and possibilities of using it as a substitute for steel in
machine construction. [Trudy] TSNIITMASH no. 55:5-15 '53.(MLRA 7:7)
(Cast iron)

MIL'MAN, B.S., kandidat tekhnicheskikh nauk, redaktor; KRYLOV, V.I., inzhener, redaktor; MODEL', B.I., tekhnicheskiy redaktor.

[High-strength cast iron with graphite spherules. Part 2. The technology of cast iron production] Vysokoprochnyi chugun s sharovidnym grafitom. Chast' 2. Tekhnologiia polucheniia chuguna. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. (Moscow. TSentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashinostroeniia. ([Trudy], vol.75)   (MLRA 9:5)
(Cast iron)

MIL'MAN, B.S., laureat Stalinskey premii, kandidat tekhnicheskikh nauk; TSIPIN, I.O., laureat Stalinskey premii, kandidat tekhnicheskikh nauk; DURASOV, P.I., kandidat tekhnicheskikh nauk.

Casting standards for high-strength spheroidal-graphite cast iron. Standartizatsiia no.6:45-48 N-D '55.   (MIRA 9:2)
                    (Cast iron--Standards)

AVRASIN, Ya.D., kandidat tekhnicheskikh nauk; BERG, P.P., professor,
doktor tekhnicheskikh nauk, BERNSHTEYN, M.L., kandidat tekhnicheskikh
nauk; GEMEROZOV, P.A., starshiy nauchnyy sotrudnik; GLIMER, B.M.,
inzhener; DAVIDOVSKAYA, Ye.A., kandidat tekhnicheskikh nauk; YELCHIN,
P.M., inzhener; YEREMIN, N.I., kandidat fiziko-matematicheskikh nauk;
IVANOV, D.P., kandidat tekhnicheskikh nauk; KNOROZ, L.I., inzhener;
KOBRIN, M.M., kandidat tekhnicheskikh nauk; KORITSKIY, V.G., dotsent;
KROTKOV, D.V., inzhener; KUDRYAVTSEV, I.V., professor, doktor tekhni-
cheskikh nauk; KULIKOV, I.V., kandidat tekhnicheskikh nauk; LEPETOV,
V.A., kandidat tekhnicheskikh nauk; LIKINA, A.F., inzhener; MATVEYEV,
A.S., kandidat tekhnicheskikh nauk; MIL'MAN, B.S., kandidat tekhniche-
skikh nauk; PAVLUSHKIN, N.M., kandidat tekhnicheskikh nauk; PTITSYN,
V.I., inzhener [deceased]; RAKOVSKIY, V.S., kandidat tekhnicheskikh
nauk, RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; RYABCHENKOV,
A.V., professor, doktor khimicheskikh nauk; SIGOLAYEV, S.Ya., kandi-
dat tekhnicheskikh nauk; SMIRYAGIN, A.P., kandidat tekhnicheskikh
nauk, SUL'KIN, A.G., inzhener; TUTOV, I.Ye., kandidat tekhnicheskikh
nauk, KHRUSHCHOV, M.M., professor, doktor tekhnicheskikh nauk;
TSYPIN, I.O., kandidat tekhnicheskikh nauk; SHAROV, M.Ya., inzhener;
SHERMAN, Ya.I., dotsent; SHMELEV, B.A., kandidat tekhnicheskikh nauk;
YUGANOVA, S.A., kandidat fiziko-matematicheskikh nauk; SATEL', E.A.,
doktor tekhnicheskikh nauk, redaktor; SOKOLOVA, T.F., tekhnicheskiy
redaktor

[Machine builder's reference book] Spravochnik mashinostroitelia; v
shesti tomakh. izd-vo mashinostroit. lit-ry. Vol.6. (Glav. red.toma
E.A.Satel'. Izd. 2-oe, ispr. i dop.) 1956. 500 p.   (MLRA 9:8)
(Machinery--Construction)

DUBASOV, P.I. [deceased], kandidat tekhnicheskikh nauk; MIL'MAN, B.S., kandidat tekhnicheskikh nauk; ALEKSANDROV, N.A., inzhener.

Heat-resistant cast iron. Standartizatsiia no.2:58-61 Mr-Ap '57.
(MIRA 10:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut tyazhelogo mashino-stroyeniya.
(Cast iron--Standards)

LEONT'YEV, Ye.A.; LUK'YANOVICH, V.M.; MIL'MAN, B.S.

Electron microscopic investigation of the structure of
spheroidal graphite in cast iron. Dokl. AN SSSR 112 no.
3:461-463 Ja '57.   (MLRA 10:4)

1. Institut fizicheskoy khimii Akademii nauk SSSR i TSentral'nyy
nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
Predstavleno akademikom M.M. Dubininym.
     (Cast iron) (Graphite)

SOV/24-58-4-37/39

AUTHOR: Belyayev, S.S.

TITLE: Conference on Crystallization of Metals (Soveshchaniye po kristallizatsii metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institut mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc.) on June 28-31, 1958. About 400 people participated in the conference. The participants included specialists in the fields of heat, metallurgy, crystallography, physics, welding, physical chemistry, mathematical physics and other related subjects. In addition to Soviet participants, foreign visitors included Professor D. Cziki (East Germany) and I.I. Chvorinov (Czechoslovakia). This conference on crystallization of metals was the fourth conference relating to the general problem of the theory of foundry processes.

Conference on Crystallization of Metals   SOV/24-58-4-37/39

Crystallization of Cast Iron. I.A. Shapranov and I.V. Izgraeva, in their paper "Investigation of the Crystallization of magnesium-inoculated iron" reported on experimental data relating to the conditions of solidification and the structure of castings made of magnesium-inoculated iron; they presented a theory of crystallization of magnesium-inoculated iron. B.S. Mil'man, in his paper "Investigation of the Process of Formation of Spheroidal Graphite in Iron", considered the influence of various factors and characteristics of the metal on the formation of graphite inclusions. Professor D. Cziki (East Germany) presented a paper on crystallization of graphite in cast iron, which was illustrated by extensive metallographic information. Ye.I. Malimshka and A. Zaxov dealt with the problem of intercrystalline liquation of silicon and its influence on the structural diagram of cast iron. I.I. Chvorinov and I.Ye. Lev dealt with the mechanism of crystallization of centres of crystallization of graphite in castings made of white iron and the influence of the speed of crystallization on the distribution of alloying elements between the individual phases of iron-carbon alloys. I.V. Salli proposed a method of hardening alloys from the liquid state using an extremely high speed of cooling; investigations relating to this method enabled conservation of saturated solutions of carbon in iron which correspond to the liquid state. B.B. Gulyayevskiy dealt with the investigation of crystallization, the primary structure and the properties of quasi-eutectic grey iron.

MIL'MAN, B. S.   (Cand. Tech. Sci.,   TSNIITMASH)

"The Formation of Ball-Shaped Graphite and Prospects for Receiving High Test Iron"

     All-Union Conference of Foundry Workers, endof 1957.   Moscow
Mashinostroitel', 1958.   No. 5, p. 48.

Mil'man, B.S.

AUTHOR: Mil'man, B.S., Candidate of Technical Sciences   128-58-6-5/17

TITLE: The Formation of Spheroidal Graphite and the Progress in the
               Technology of High Test Cast Iron (Obrazovaniye sharovidnogo
               grafita i razvitiye tekhnologii vysokoprochnogo chuguna)

PERIODICAL: Liteynoye Proizvodstvo, 1958, Nr 6, pp 11 -17 (USSR)

ABSTRACT: An experimental investigation of magnesium treated iron by
               the use of a special device(designed by engineer I.V.Vali-
               sovskiy) (Fig. 1) for measuring the surface tension of metal,
               and another device for determining the changes in inter-phase
               tension (Figure 2), was carried out at TsNIITMASh to determine
               the nature of phenomena leading to nodular crystallization of
               graphite. Additions of various elements were tried and the
               influence of sulphur and gas contents was studied. It was
               stated that the spheroidizing element concentrates more in the
               center of graphite spheroids than on their periphery, and that
               the quantity of this element contained in the spheroid has no
               influence on its formation. This proves that surface films
               (on spheroids) with a high content of such elements are not
               the main factor in the process of spheroidization. Typical
               graphite spheroids were obtained by melting low-sulphur iron

Card 1/2

128-58-6-5/17

The Formation of Spheroidal Graphite and the Progress in the Technology
of High Test Cast Iron

in a vacuum. In this case the graphite contained no spheroi-
dizing elements at all. Fundamentally, spheroidizing effect
of magnesium consists in de-sulphurizing, binding and removing
the gases desolved in liquid iron, and in the lowering of the
temperature range within which graphite crystallizes. Recom-
mendations concerning the technology of melting magnesium iron
are given. L.V. Il'yicheva and N.Yu. Popova participated in
investigations at TsNIITMASh. M.A. Studnits participated in
experiments connected with the use of radioactive isotopes.
There are 7 photos, 11 figures, and 23 references, 16 of which
are Soviet, 2 English, 4 German and 1 Japanese.

AVAILABLE: Library of Congress

Card 2/2   1. Graphite-Crystal structure   2. Cast iron-Chemical properties
             3. Magnesium-Applications

SOV/128-58-11-9/24

AUTHORS: Mil'man, B.S., Il'icheva, L.V. and Studnits, M.A.

TITLE: On the Desulfurization of Cast Iron by Magnesium (O desul'-
              furatsii chuguna magniyem)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 11, pp 15-17 (USSR)

ABSTRACT: Contradictory opinions exist in works published on the
              problem of desulfurization by magnesium of cast iron (Ref.
              1-5). TsNIITMASh carried out investigations on the desul-
              furization of cast iron with the use of radioactive isotopes
              and by autoradiography. The theory on the inefficiency of
              liquid cast iron desulfurization by treating it with mag-
              nesium is rejected, and it is proved that all the sulfur,
              bound with magnesium into magnesium sulfides or more com-
              plex compounds, passes from the metal into the slag and
              partially into the upper layers of the cast metal. It is
              concluded that a particularly careful separation of the
              slag, formed after addition of magnesium, from the liquid
              metal is necessary to ensure a full desulfurization, which

Card 1/2

On the Desulfurization of Cast Iron by Magnesium   SOV/128-58-11-9/24

is independent of the subsequent heating.
There are 3 sets of microphotos, 1 graph, 1 diagram and
6 references, 5 of which are Soviet and 1 German.

1. Cast iron—Processing   2. Sulfur—Separation   3. Radioisotope
—Performance

Card 2/2

BERG, P.P., doktor tekhn.nauk; BIDULYA, P.N., doktor tekhn.nauk; GRECHIN, V.P., kand.tekhn.nauk; DOVGALEVSKIY, Ya.M., kand.tekhn.nauk; ZHUKOV, A.A., inzh.; ZINOV'YEV, N.V., inzh.; KRYLOV, V.I., inzh.; KUDRYAVTSEV, I.V., doktor tekhn.nauk; LANDA, A.F., doktor tekhn. nauk; LEVI, L.I., kand.tekhn.nauk; MALAKHOVSKIY, G.V., inzh.; MIL'MAN, B.S., kand.tekhn.nauk; SOBOLEV, B.F., kand.tekhn.nauk [deceased]; SKOMOROKHOV, S.A., kand.tekhn.nauk; STEPIN, P.I., kand.tekhn.nauk; USHAKOV, A.D., kand.tekhn.nauk; FRIDMAN, L.M., inzh.; KHRAPKOVSKIY, E.Ya., inzh.; TSYPIN, I.O., kand.tekhn.nauk; SHKOL'NIKOV, B.M., kand.tekhn.nauk; POGODIN-ALEKSEYEV, G.I., prof., doktor tekhn.nauk, red.; BOLKHOVITINOV, N.F., prof., doktor tekhn. nauk, red.toma; LANDA, A.F., prof., doktor tekhn.nauk, red.toma; RYBAKOVA, V.I., inzh., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Handbook on materials used in the machinery industry] Spravochnik po mashinostroitel'nym materialam; v chetyrekh tomakh. Pod red. G.I.Pogodina-Alekseeva. Moskva, Gos.nauchno-tekhn.izd-vo mashino-stroit.lit-ry. Vol.3. [Cast iron] Chugun. Red.toma N.F.Bolkhovi-tov i A.F.Landa. 1959. 359 p.   (MIRA 13:1)
    (Machinery industry)   (Cast iron)

18(2,3)

SOV/128-59-9-12/25

AUTHOR: Mil'man B.S., and Aleksandrov N.N., Candidates of Technical Sciences

TITLE: Heat-Stability of Siliceous Cast-Irons

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 9, pp 35-37 (USSR)

ABSTRACT: The contents of silicon in cast iron determine the structure and properties of the latter. Silicon lowers the solubility of carbon in cast iron, diminishing thereby the graphite contents in perlite. For cast irons, containing 2% to 3.5% of silicon, the inclusions of lamellar graphite are specific. But, the cast irons containing over 5% of silicon possess a more dispersed graphite structure. Silicon belongs to those alloying elements which help to form an antioxidation protective film on metal surface. On the basis of research, the authors of this article maintain that siliceous cast irons with Si-contents amounting to 5%-6% possess a high heat-stableness, this being due to the following factors: Formation of ferrite structure which is stable at high temperatures; formation on the metal surface of a spinel-type film

Card 1/2

Heat-Stability of Siliceous Cast-Irons

SOV/128-59-9-12/25

which prevents diffusion of oxygen through it; formation of dispersed globular graphite inclusions that do not hinder the appearance of a continuous protective film which eliminates the possibility of cast iron oxidation from the inside. There are 5 graphs, 3 tables, 3 photographs and 5 Soviet references.

Card 2/2

GOROZHANKIN, A.N., kand.tekhn.nauk; NOVITSKIY, V.K., kand.tekhn.nauk;
KRYANIN, I.R., doktor tekhn.nauk; IODKOVSKIY, S.A., kand.tekhn.
nauk; LADYZHENSKIY, B.N., kand.tekhn.nauk; MIL'MAN, B.S., kand.tekhn.
nauk; KLOCHNEV, N.I., kand.tekhn.nauk; TSYPIN, I.O., kand.tekhn.
nauk; LEVIN, M.M., kand.tekhn.nauk; BALDOV, A.L., inzh.; LYASS,
A.M., kand.tekhn.nauk; CHERNYAK, B.Z., kand.tekhn.nauk; ASTAF'YEV,
A.A., kand.tekhn.nauk; YERMAKOV, K.A., inzh.; GRIBOYEDOV, Yu.N.,
kand.tekhn.nauk; MYASOYEDOV, A.N., inzh.; BOGATYREV, Yu.M., kand.
tekhn.nauk; UNKSOV, Ye.p., doktor.tekhn.nauk, prof.; SHOFMAN, L.A.,
kand.tekhn.nauk; PERLIN, P.I., inzh.; MOSHNIN, Ye.N., kand.tekhn.
nauk; PROZOROV, L.V., doktor tekhn.nauk; CHERNOVA, Z.I., tekhn.
red.

[Some technological problems in the manufacture of heavy machinery]
Nekotorye voprosy tekhnologii tiazhelogo mashinostroeniia. Moskva,.
Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Part 1:[Steel smelt-
ing and casting, founding, heat treatment, shaping metals by pres-
sure] Vyplavka i razlivka stali, liteinoe proizvolstvo, termiche-
skaia obrabotka, obrabotka metallov davleniem. 1960. 266 p. (Moscow.
TSentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashi-
nostroeniia. [Trudy] no. 98).   (MIRA 13:7)
        (Steel)   (Founding)   (Forging)

PHASE I BOOK EXPLOITATION   SOV/4344

Sverchkov po teorii literaturh professor, 4th

Krietallizatiya metallov; trudy soveshchaniya (Crystallization of Metals; Transactions of the Fourth Conference on the Theory of Casting Processes) Moscow, Izd-vo AN SSSR, 1960. 325 p. 3,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: B. B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V. I. Kabraikov; Tech. Ed.: S. G. Tikhomirov.

PURPOSE: This book is intended for metallurgists and scientific workers. It may also be useful to technical personnel at foundries.

COVERAGE: The book contains the transactions of the Fourth Conference (1958) on the Theory of Casting Processes... (The previous 3 conferences dealt with hydrodynamics of molten metals (1955), solidification of metals (1956), and shrinkage processes in castings (1957)). General problems in the crystallization of metals, including the crystallization of constructional steels, alloy steels with special properties, cast iron, and of nonferrous alloys, are discussed. Recognition is given to B. B. Chernov and K. T. Guldmov and their associates, B. B. Gulyayev and A. G. Spassky, for their contributions to the understanding of the basic problems involved in the theory of crystallization of ferrous and nonferrous cast and alloys. Academician A. V. Shubnikov is also mentioned in connection with his work on the planning of research on crystal formation. References accompany several of the articles.

II. CRYSTALLIZATION OF SPECIAL-PROPERTY STEELS AND ALLOYS

Gorynov, I. N. Influence of Modification on the Structure and Physical-Mechanical Properties of High-Alloy Steels 158

Samarin, A. M., E. P. Labkin, and Yu. Ya. Skolov. Structure Formation During Solidification of Turbine Blades Made by Investment Casting ... 166

Ellis, L. L., and A. A. Horshin. Effect of Ultrasonic Vibration of the Melt being Crystallized in a Welding Puddle 176

IV. CRYSTALLIZATION OF CAST IRON

Bunin, K. P., and Ya. N. Taran. Eutectic Crystallization of Gray Iron 180

Girshovich, N. G. Graphite Crystallization in Iron-Carbide Alloys 192

Malinochka, Ya. N. Intercrystalline Liquation of Silicon in Cast Iron and Steels 205

Baum, A. A. Silicon Liquation in Iron-Carbon-Silicon Alloys and the Structure of Cast Iron 220

Lev, I. Ye. Influence of the Cooling Rate During Crystallization on the Distribution of Alloying Elements between Phases in White Cast Iron 231

Rippel, D. Investigation of the Spheroidal Graphite Formation in Nodular Cast Iron (In the Cast State) 237

Spassky, A. G., B. A., and Z. V. Risova. Crystallization of Magnesium Cast Iron (with 15 to 18 ns) 251

Bartov, K. P. On the Modification of Malleable Cast Iron with Bismuth and Boron 262

V. CRYSTALLIZATION OF NONFERROUS ALLOYS

Brote, K. M., T. L. Lebiding, and K. M. Anokrenko. Crystallization of Alloys in an Ultrasonic Field 268

Spassky, A. G. Factors Influencing the Structure of a Casting 272

Belousov, N. N., and A. A. Bochvar. Crystallization of Nonferrous Alloy Castings Under Pressure 279

Verick, F. I., and E. N. Belousov. Influence of Pressure During Crystallization and its Effect in Substructure of AlD and AlE Alloys 283

Samokhin, M. V., K. I. Saburov, and V. I. Elanikov. Characteristic Features of the Crystallization and Structure of Copper Alloys Obtained by the Electroplating-Diffusion Method (Copper Electroplating followed by Diffusion Alloying in Special Media at Elevated Temperatures) 301

Movchan, B. A. Characteristic Features of Microscopic Chemical Heterogeneity in Alloys 314

MIL'MAN, B. S.

Doc Tech Sci - (diss) "Problems of the theory and practice of
the production of high-strength cast-iron containing ball-shaped
graphite in the cast state." Moscow, 1961. 32 pp; (State Com-
mittee of the Council of Ministers USSR for Automation and Machine-
Building, Central Scientific Research Inst for Technology and
Machine-Building "TsNIITMash", ONTI); 150 copies; price not given;
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212)

GORSHKOV, Andrey Andreyevich, doktor tekhn. nauk; VOLOSHCHENKO, Mikhail
Vasil'yevich, kand. tekhn. nauk; DUBROV, Vasiliy Vladimirovich,
kand. tekhn. nauk; KRAMARENKO, Oksana Yur'yevna, kand. tekhn.
nauk; MIL'MAN, B.S., kand. tekhn. nauk, retsenzent; KLOCHNEV,
N.I., kand. tekhn. nauk, retsenzent; TSYPIN, I.O., kand. tekhn.
nauk, retsenzent; RIKBERG, D.B., red.; GORNOSTAYPOL'SKAYA,
M.S., tekhn. red.

[Handbook on iron founding of high-strength pig iron] Spra-
vochnik po izgotovleniiu otlivok iz vysokoprochnogo chuguna.
By A.A.Gorshkov i dr. Pod obshchei red. A.A.Gorshkova. Mo-
skva, Mashgiz, 1961. 297 p.   (MIRA 15:2)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for
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Search for new methods of obtaining spheroidal graphite cast iron.
Lit. proizv. no. 5:10-12 My '61.   (MIRA 14:5)
                        (Cast iron—Metallography)

MIL'MAN, B.S.; LYASS, A.M.; TSYPIN, I.O.; KRAPUKHIN, V.M.; VALISOVSKIY, I.V.;
KLOCHNEV, N.I.; AVERBUKH, N.M.; KADNITSOV, V.G.; LIPNITSKIY, A.M.;
RUSSIYAN, S.V.; SKOBNIKOV, K.M.

"Iron founding handbook" edited by [doktor tekhn.nauk, prof.] N.G.
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no.8:46-47 Ag '62.   (MIRA 15:11)
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"Investigations of some properties of spheroidal graphite cast iron in heavy castings."

paper submitted for 32nd Intl Foundry Congress, Warsaw, 13-17 Sep 65.

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PAZIN, G.M.; MIL'MAN, B.V., kand. tekhn. nauk, retsenzent; GLADKOV, K.M., insh., red.; TAIROVA, A.L., red. izd-va; UVAROVA, A.F., tekhn. red.

[New methods of manufacturing spindles for textile machinery]
Novye metody proizvodstva tekstil'nykh vereten. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 57 p.
(Spinning machinery)   (MIRA 11:7)

MIL'MAN, D.

"On One Property pf Regular Space," Dokl. AN SSSR 22, No.7, 1939

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"Concerning a Classification of the Spectral Points of a Linear Operator,"
Dokl. AN SSSR, 33, No.4, 1941

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Mil'man, P.

Mil'man, D. Characteristics of extremal points of regularly convex sets. Doklady Akad. Nauk SSSR (N.S.) 57, 119–122 (1947). (Russian)

This note considers extreme points of regularly convex sets in the conjugate R^* of a complex Banach space. [See Krein and Šmulian, Ann. of Math. (2) 41, 556–583 (1940), Krein and Mil'man, Studia Math. 9, 133–138 (1940), these Rev. 1, 335; 3, 90, for real spaces.] Theorem 1. If T is a bounded set in R^* and T' is its w^*-closure (that is, closure in the product-space neighborhood topology) then it

the set of extreme points of K.   M. M. Day (Urbana, Ill.)

Source: Mathematical Reviews,   1948, Vol 9,   No. 4

extremal points. Doklady 241-1244 (1948). (Russian) the representation theorem. Opérations Linéaires, War- erval $0 \leq q \leq 1$ and by Stone 75-481 (1937), theorem 83] ality. Let Q be a compact normed space of all real Q and let U be an isometric to itself. Then there exists and a homeomorphism φ of and only if $y(\tilde{q}) = \eta(q)x(\varphi(q))$ d on theorem) : if U is an of the Banach space E_1 onto in the w^*-topology between

the unit spheres in E_1^* and set of f of norm one such -homeomorphism of the sets ?. Corollary: each isometric extreme point of the set of exceeding L. To prove the mapping $q \to f_q$ defined by homeomorphism of Q with in the w^*-topology, where e Then U^* is a w^*-homeomor- reme points of P_U. The fact e unit sphere of C_Q is either $= \eta(q)f_{\varphi(q)}$ for all q in Q; this rues. A similar proof is given Kelley [Trans. Amer. Math. Rev. 9, 291].
M. Day (Princeton, N. J.).

I'm a N, D

Mil'man, D

Mil'man, D. On the theory of rings with involution. Doklady Akad. Nauk SSSR (N.S.) 76, 349–352 (1950). (Russian)

This paper contains a number of applications of a fixed point theorems to rings with involution as considered by Naimark [Uspehi Matem. Nauk (N.S.) 3, no. 5(27), (1948) = Amer. Math. Soc. Translation no. 25 (1950); Math. Rev. 10, 308; 12, 111] The ring R (with identity e and involution $x \to x^*$) is assumed to be "s-reduced" in the sense $f(x_0) = 0$, for every functional f positive on R ($f(x^*x) \geq 0$ for all x), implies $x_0 = 0$. An s-reduced ring is reduced in the sense of Naimark [cf. above translation, p. 49] and a reduced symmetric ring is s-reduced. The ring R is assumed to possess a regular norm (i.e. every positive functional on R can be extended to a positive functional on R under the given norm). The set K of completion of R such that $f(e) = 1$ is a convex positive functionals on R such that $f(e) = 1$ is a convex the space H conjugate to the space H of all Hermitian elements in R and is compact in the weak H-topology.

A homomorphism $x \to A_x$ of R into the ring of bounded operators on a Hilbert space $\mathfrak{H}$ (not necessarily separable or finite dimensional) is called a representation of ....

.... of cyclic elements of the .... in $\mathfrak{H}$. $\xi = -\xi$ and $f(x) = (A_x....$, then $f \in K$. Conversely, every $f \in K$ can be obtained in this way and the corresponding cyclic representation is uniquely determined by f up to an equivalence [op. cit.]. An element $h \in H$ is said to be "realized exactly" by a representation A_x with cyclic vector ξ_0, $\|\xi_0\| = 1$, if, in the representation of A_h with eigenvalue either $\min_{f \in K} f(h)$ or $\max_{f \in K} f(h)$. The representation in this case is said to be determined up to an equivalence if and only if, the associated positive functional is an extreme point of K. A subset of H, each of whose elements is realized exactly the same representation, is contained in a maximal set the same property (perhaps with a different representation) and every such maximal set has associated with it a .... irreducible representation. The set of all these irreducible representation is complete, i.e. through, then there exists representations of such that A_x .... The representations of ....

E. P........ H ...en, Co......

Source: Mathematical Reviews,   Vol 12 No. 8

Mil man, D. **The facial structure of a convex bicompact space and integral decompositions** of means. Doklady Akad. Nauk SSSR (N.S.) **83**, 357-360 (1952). Russian

This note applies results on coverings with special properties to the study of extreme points, notation and definitions follow those of the author's earlier notes (same Dokl., **57**, 119-122 (1947), **59**, 1045-1048 (1948), **60**, 25-27 (1948) (with D. A. Rutman); these Rev. **9**, 192, 440, 448.) ... with functionally determined

For each f_0 in K there is a Γ-minimum closed set $\Gamma(f_0)$ in Γ (a γ-minimum γ-closed set $\gamma(f_0)$ in A) such that f_0 is in the closed convex hull of $\Gamma(f_0)$ (of $\gamma(f_0)$). To each f_0 in K corresponds a normalized Borel measure σ_0 on $\Gamma(f_0)$. By a topological and measure-theoretic decomposition theorem there exist reduced canonical coverings $\{F_i, i \leq n\}$ of $\Gamma(f_0)$ with special properties, among them that $\sigma_0(F_i \cap F_j) = 0$ if $i \neq j$. It is shown also that to each canonical closed subset F of Γ there is an $f_F = [\sigma_0(F)]^{-1} \int_F f d\sigma_0(f_i)$ such that F is $\Gamma(f_F)$ ... integral decomposition

γ-topology, in which A is a bicompact space and the closed sets are the intersections of A with the facial sets of K. Relations are given between normalized Borel measures on Γ and somewhat more general Borel measures on A (in its γ-topology).

Source: Mathematical Reviews,   Vol   13 No. 9

1. MIL'MAN, D.

2. SSSR (600)

4. FUNCTIONS

7. Integral representations of functions of multiple variables.
   Dokl. AN SSSR 87 No. 1, 1952
        Odessa Engineering Inst. of Communications

        Describes a class of bounded closed sets Q in a real Euclidean
   n-dimesnional space E_n containing a certain closed subset (boundary) over
   which the following integral in integrated: $x(q_0) = / x(q)$ ds $(I_0; q_0)$ for
   all x in the linear space R consisting of real and continuous functions in Q.
   Indicates a method for determining the measure $s(I; q_0)$ in Q. Presented by
   Acad A. N. Kolmogorov 8 Sep 52.

                                                              252T75

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

MIL'MAN, D. I.

PA 250T70

USSR/Mathematics - Indeterminates   Jan/Feb 53

"A Method of N. I. Lobachevskiy for Finding the Integral Solutions of Whole-Numbered Linear Homogeneous Equations," P. G. Kontorovich and D. I. Mil'man

Usp Mat Nauk, Vol 8, No 1(53), pp 145-149

Show that N. I. Lobachevskiy's method ("Complete Collection of Works," (Polnoye Sobraniye Sochineniy), Vol 4, "Algebra or Calculus of Finites," State Tech Press, M-L, 1948) can be extended to an arbitrary linear homogeneous whole-numbered

250T70

system of eqs $\sum_{i=1}^{n} a_{ji}x_i = 0$ $(j=1,2,\ldots,m)$, where n/m.

States Th. Skolem's German-language survey (Diophantische Gleichungen, Berlin, 1939) fails to mention Lobachevskiy's priority. Submitted 7 Oct 52.

250T70