BARINOV, G.V

f. Absorption and translocation of mineral elements applied to the leaves of plants. N I Ratner and G V Barinov, USSR Academy of Sciences, Moscow

g. Proteolytic processes under the conditions of an adverse water balance. N M Sisakian, A N Bakh, Institute of Biochemistry, Academy of Sciences USSR, Moscow

h. The role of oxidative enzymes in the ripening and storage of fruits. B A Rubin, A N Bakh Institute of Biochemistry, Academy of Sciences, USSR, Moscow

i. Dependence of mineral composition of plants on the environmental conditions. [illegible] I Zurbicki, Academy of Sciences USSR, Moscow

j. Introduction of topic at seminar on growth substances and their action. A F Bel'Menkova and I N Konovalov, V L Komarov Botanical Institute Academy of Sciences, USSR, Leningrad

k. Nucleic acids and plant morphogenesis. V G Konarev, Bashkirian Branch of Academy of Sciences USSR, [illegible] Ufa, USSR

l. The state of desoxyribonucleic acid in the nucleus and age changes in the plant cell. V G Konarev, S I Zakirov, T N Ilyakova, A F Polovyanyuk and I F Chekvin, Bashkirian Branch of Academy of Sciences, USSR, [illegible], Ufa

m. Biochemical properties of plant cell nuclei. N M Sisakian and N A Vasilieva, A N Bakh Institute of Biochemistry, Academy of Sciences, USSR, Moscow

n. Interrelationships between respiration and photosynthesis. O V Zalensky, V L Komarov Botanical Institute, Academy of Sciences USSR, Leningrad

o. Oxidases other than cytochrome oxidase in plants. P A Kolesnikov, A N Bakh Institute of Biochemistry, Academy of Sciences, USSR, Moscow

p. On vernalization problems. V I Razumov, Institute of Plant Industry, Leningrad, USSR

q. Promoting effect of micronutrients on the resistance of plants to unfavorable conditions. M Y Shkolnik, Academy of Sciences, USSR, Leningrad

r. L'application des changements morphologiques et chimiques des organes reproductifs embryonnaires pour la diagnose du besoin des plantes en engrais. V V Tserling, l'Academie des Sciences de l'URSS, Moscow

s. Peculiarities of the changes of physiological processes in plants correlated with frost hardiness. I M Konovalov, R I Larman, E N Mikhaleva, A I Smetannikova, and N V Shilova, V L Komarov Bot Inst, Academy of Sciences, USSR, Leningrad

t. Photoperiodism in trees. B S Moshkov, Laboratory of Light Physiology, Leningrad, USSR

u. The vegetation of natural grasslands of the USSR, T V Larin, Leningrad

v. The cytology of fertilization in flowering plants. N Gerassimova-Navashina, Botanical Institute, Academy of Sciences, USSR, Leningrad

w. The correlation between the concepts "forest ecosystem" and "forest [illegible]" and their importance for the classification of forests. V N Sukachev, [illegible] Institute, Academy of Sciences USSR, Moscow

BARINOV, G.V.; RATNER, Ye.I.

Uptake of nutrients through leaves in foliar feeding of plants.
Fiziol.rast. 6 no.3:324-332 My-Je '59.   (MIRA 12:8)

1. K.A.Timiryazev Institute of Plant Physiology, the U.S.S.R.
Academy of Sciences, Moscow and Institute of Biology, West Si-
berian Affiliate of U.S.S.R. Academy of Sciences, Novosibirsk.
     (Leaves) (Fertilizers and manures)

17(4), 30(1)

AUTHOR: Barinov, G. V.   SOV/20-129-1-63/67

TITLE: Comparative Absorption Rate of P^{32} and Ca^{45} and Their Mobility
              in the Plant in the Course of Foliar Nutrition (Sravnitel'naya
              skorost' postupleniya P^{32} i Ca^{45} i ikh podvizhnost' v rastenii
              pri vnekornevoy podkormke)

PERIODICAL: Doklady Akademii nauk SSSR, 1959. Vol 129, Nr 1, pp 227-228
              (USSR)

ABSTRACT: For the determination of the rate mentioned in the title the
              author used a twice marked compound $Ca^{45}(H_2P^{32}O_4)_2$. It was
              presumed that in case the ratio of P^{32} and
              Ca^{45} absorbed in the plant amounts to two, phosphorus is
              obviously absorbed in molecular form. If this ratio is not two,
              especially if it is below two, this would be reason enough to
              assume the absorption of phosphorus to be of ionic form. For
              experiments tomato plants of the type "Luchshiy iz vsekh" (the
              very best) were taken in the stage of blossom-bud blossom
              formation. The mentioned phosphate was applied in a 0.01 N
Card 1/1   concentration (experiments Nr 1 and 2) and a 0.05 N

Comparative Absorption Rate of P^{32} and Ca^{45} and   SOV/ ...
Their Mobility in the Plant in the Course of Foliar
Nutrition

(experiments Nr 3 and 4) with a specific total activity of
~... mC/ml in 0.02 ml big drops to the leaves of the two
upper parts, altogether 1.1 ml solution. The activity of
P^{32} and Ca^{45} was found by deduction of the P^{32} activity from the
total activity. The isotopic discharge is equal to the total
activity of the whole plant, minus activity of the leaves to
which the isotopes were applied. The discharge which characterizes
the mobility of P^{32} and Ca^{45} in the plant was computed in
percent of the total activity of the plant with respect to both
isotopes. Table 1 shows that the ratio
P^{32} : Ca^{45} approaches two in experiment Nr 1. This ratio is,
however, in experiments Nr 2 and 4 much higher than 2. On the
other hand it must be admitted that the experiments Nr 2 and 4
are no proof of an ionic phosphate absorption. Experiment Nr 3
is more convincing where

Card 2/4 P^{32} : Ca^{45} < 2. Apparently it is possible in foliar nutrition

Comparative Absorption Rate of P^{32} and Ca^{45} and   SOV/20 125 1 63/6
Their Mobility in the Plant in the Course of Foliar
Nutrition

that salts can be absorbed either in molecular form or in
ionic form. Although Ca is regarded as an immobile element
(Refs 2, 4, 6, 7) more and more data are collected proving that
calcium is nevertheless mobile (Refs 1, 3, 5). Phosphorus belongs
to the highly mobile elements in plants (Ref 7). Under certain
conditions, however, P behaves like a weakly mobile element
(Ref 8). Thus, the mobility of the two elements is relative
and is determined by the physiological state of the plant and
its individual organ. Finally the mobility of both mentioned
elements in dependence on each other is discussed (Table 1).
Professor Ye. I. Ratner supervised the work. There are 1 table
and 8 references, 6 of which are Soviet.

ASSOCIATION: Biologicheskiy institut Sibirskogo otdeleniya Akademii Nauk
SSSR (Biological Institute of the Siberian Branch of the
Academy of Sciences, USSR)

PRESENTED: November 14, 1958, by A. L. Kursanov, Academician
Card 3/4

BARINOV, G.V.

Comparative mobility of P^{32} and Ca^{45} in plants. Izv. SO AN
SSSR no.4.Ser. biol.-med. nauk no.1:41-46'63.   (MIRA 16:8)

1. TSentral'nyy sibirskiy botanicheskiy sad Sibirskogo ot-
deleniya AN SSSR, Novosibirsk.
     (MINERAL IN PLANTS)

ACCESSION NR: AP4042030   S/0026/64/000/007/0082/0083

AUTHOR: Barinov, G. V. (Candidate of biological sciences)

TITLE: Radioactive isotopes in algae

SOURCE: Priroda, no. 7, 1964, 82-83

TOPIC TAGS: ulva rigida, radio ecology, radioactivity, accumulation coefficient, algae

ABSTRACT: Investigations of biophysical processes of the exchange of elements between algae and sea water are necessary for the general understanding of radio-ecological conditions, the extent of radioactive contamination of organisms, and the influence of these factors on the productivity of the sea. The period of balance and the coefficients of accumulation of Ca^{45}, Cs^{137}, and Ce^{144} in the algae, ulva rigida, in green sea water is calculated in this paper. The author found that in ulva Ca is exchanged after 1 min, Cs after 320 hours, and Ce after 217 hours. The study of the rules which govern the removal of radioactive substances from organisms is necessary for the calculation of the rate and period of deactivation of these organisms during their transition from radioactivity into "clean" sea water.

Card 1/2

ACCESSION NR: AP4042030

ASSOCIATION: Institut biologii yuzhny*kh morey im. A. O. Kovalevskogo AN UkrSSR, Sevastopol' (Institute of Biology of the South Seas, AN UkrSSR)

SUBMITTED: 00   ENCL: 00

SUB CODE: LS, NP   NO REF SOV: 000   OTHER: 000

Card 2/2

BARING, G.G.

Isotope exchange in the hydrobiological system and its significance. Gidrobiol. zhur. 1 no.2:27-34 '65.
(MIRA 18:6)

1. Institut biologii yuzhnykh morey AN UkrSSR, Sevastopol'.

BARINOV, G.V.

Dynamics of Cs-45, S-137, and Ce-144 uptake, accumulation and transfer.
Radiobiologiia 5 no.1:111-115 '65.   (MIRA 18:4)

1. Institut biologii yuzhnykh morey ... ... Kara ... ...
... ...

BARIN, I.A.

Peredovaio tekhnologiia v liteinon
proizvodstve (Progressive technology in foundry art).
Leningrad, Lenizdat, 1961. 132 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 5, August 1961.

TIMOKHIN, N.A.; BARINOV, I.G.; KRASINOVA, K.G.

Interfactory school for studying the chrome-emulsion tanning
method. Kozh.-obuv.prom. 3 no.8:15-16 Ag '61.   (MIRA 14:10)
(Tanning)

TIMOKHIN, N.A.; BARINOV, I.G.

Visiting session of the Scientific Council for the Light Industry
at the Volga-Vyatka Economic Council. Biul.tekh.-ekon.inform.Gos.
nauch.-issl.inst.nauch.i tekh.inform. 16 no.8:70-72 '63.

(MIRA 16:10)

30662
S/137/61/000/010/012/056
A006/A101

18,3100   1521, 1454, 1067

AUTHORS: Yevstyukhin, A. I., Barinov, I. P., Abanin, D. D.,

TITLE: Investigation of the iodide process to obtain zirconium using zirco-
             nium carbide as raw material

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 10, 1961, 21, abstract 10G164
             (V sb. "Metallurgiya i metalloved. chist. metallov", no. 1, Moscow,
             1959, 78 - 83)

TEXT: Experimental investigations were made of the possibility to obtain
iodide Zr from Zr carbide. The latter was obtained by sintering ZrO_2 with C pow-
der at gradual heating up to 1,900 - 2,000°C in a vacuum furnace with a graphite
heater. After sintering the powder-like product was remelted in an   МНФН-9-3
(MNFN-9-3) arc furnace with a water-cooled Cu-crucible. The remelted product was
crushed in a cast-iron mortar and screened through a 100 - 150 mesh sieve. The
interaction of Zr carbide with I_2 was studied in quartz ampoules. The ampoule
was evacuated until a vacuum of 1.10^{-4} mm Hg and heated to 900 - 1,000°C. After
cooling, I_2 was distilled into the ampoule and then the ampoule end containing Zr
carbide was gradually heated. The I_2 vapors interacted freely with the carbide.

Card 1/2

Investigation of the iodide process...

30662
S/137/61/000/010/012/056
A006/A101

In all experiments 1 g Zr carbide powder and 0.5 g I_2 were employed. The reaction proceeds at a sufficient rate already at 700 - 800°C. The Zr I_4 yield was 97%. The design of a quartz laboratory device for obtaining ZrI_4 from ZrC was developed and experimentally checked.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

31732

18 3100

S/081/61/000/021/042/094
B149/B101

AUTHOR: Yevstyukhin, A. I., Barinov, I. P., Abanin, D. D.

TITLE: Investigation of the iodide process for the preparation of zirconium using zirconium carbide as starting material

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 280 abstract 21K4 (Sb."Metallurgiya i metalloved. chist. metallov", M., no. 1, 1959, 78 - 83)

TEXT: The temperature conditions for obtaining ZrI_4 directly from ZrC were investigated. When 0.5 g ZrC (85% Zr, 15% total C) was heated for 15 hours at 780-800°C with 2.5 g I_2 in a quartz ampoule, the yield of ZrI_4 was 97% and the I:Zr ratio was 3.94:1. A quartz apparatus was devised for larger-scale preparation of ZrI_4 from ZrC at 800°C, designed to obtain 50 g carbide per cycle (duration of cycle ≤2 hrs). The feasibility of obtaining pure metallic Zr from the product of carbide conversion into ZrI_4 has been verified. Abstracter's note: Complete translation

Card 1/1

YEVSTYUKHIN, A.I.; BARINOV, I.P.

Equipment for measuring the vapor elasticity of zirconium and
hafnium chlorides and iodides. Met. i metalloved. chist. met.
no. 2:49-57 '60.   (MIRA 13:12)
        (Zirconium--Metallurgy)   (Hafnium--Metallurgy)
                        (Vapor pressure)

AUTHORS: Yemel'yanov, V. S., Yevstyukhin, A. I., Barinov, I. P., Samonov, A.M.

TITLE: Separation of zirconium and hafnium chlorides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1962, 27, abstract 7G187
             (In collection: "Metallurgiya i metalloved. chist. metallov".
             Moscow, Gosatomizdat, no. 3, 1961, 17 - 27)

TEXT: A method of separating Zr and Hf in the vaporous phase is described.
The method is based on the reduction of $ZrCl_4$ and $HfCl_4$ by means of zirconium
or aluminum to lower chlorides and on the disproportioning of low chlorides on
heating. At the reduction by means of Zr the maximum reduction for $ZrCl_4$ was ob-
served at 400°C and made up ∼92%. The best results of the disproportioning of
trichlorides were achieved at 500°C and 3-hour exposure. To reach the highest
coefficient of separation, the reduction process by means of Al should be carried
out in the low temperature region (330 - 350°C). There are 8 references.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

YEVSTYUKHIN, A.I.; KOROBKOV, I.I.; BARINOV, I.P.

      Investigating the oxidation kinetics of hafnium iodide in the
      temperature range of 600 - 1000°C. Met. i metalloved. chist.
      met. no.3:64-73 '61.   (MIRA 15:6)
                (Hafnium iodide) (Oxidation)

S/755/61/000/003/008/027

AUTHORS: Barinov, I. P., Dashkovskiy, A. I., Yevstyukhin, A. I.

TITLE: The internal friction and shear modulus of iodide hafnium and of alloys of the hafnium-zirconium system.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallove-deniye chistykh metallov. no.3. 1961, 74-81.

TEXT: The paper describes an attempt to obtain inferential information on the phase transformations in alloys of the Zr-Hf system from a study of their tempera-ture (T) curves of the internal friction, the shear modulus, and the linear expansion coefficient. The alloys tested comprised Hf with a 5% Zr impurity, Hf with 20, 50, and 70% Zr, and pure Zr. The alloys tested were prepared in the form of smooth rods (290 mm long) with a lengthwise uniform diam (2.7-2.9 mm), obtained by the iodide refining method. Microstructural studies revealed a single-phase structure and a fairly large grain size. The measurements were made by means of a vacuum torque pendulum at a frequency of about 3.6 cps; the decay of the oscillations was recorded photographically. The internal friction of Hf grows monotonously and almost linearly from room T to 600°C, then more steeply to an inflection point in the 650-800° region, finally yet more steeply and uneventfully to at least 1,250°C.

Card 1/3

The internal friction and shear modulus of iodide ...   S/755/61/000/003/008/027

The shear modulus decreases linearly up to 650°C, beyond which point relaxation
of the modulus is observed and a slight steepening of the curve leads to another
nearly linear line segment to 1,250°. The inflection of the internal-friction curve
in the 650-800° region is attributed to a viscous behavior of the grain boundaries.
The 80% Hf – 20% Zr alloy exhibits a near-linear internal-friction curve from room
T to 700° (lower than the Hf curve; see Postnikov, V.S., Usp. fiz. n., v.96, no.1,
1958, 43). An inflection occurs in the 800-1,000° region, attributable to grain-
boundary viscosity. A steep increase follows to a maximum or step in the curve at
1,200° which may be the result of a transition from the α solid solution into a two-
phase region. The shear-modulus behavior of the alloy is similar to that of Hf.
Curves are shown for the other alloys and for pure Zr which gives evidence of a
grain-boundary maximum at about 550°C and a sharp maximum and subsequent drop
at 865° due to α - β transformation. The detail characteristics of each curve are
discussed. The changes in the shear moduli in the phase-transformation region
correlate well with the internal-friction curves. Inasmuch as the experimental T
intervals were 15-20°C, the accuracy of the beginning and end of the α - β trans-
formation in the alloys are to be taken as being accurate within ±20°C. The points
obtained from the internal-friction, shear-modulus, and dilatometric curves, re-
spectively, concur with good agreement to trace a phase diagram of the Zr-Hf
system. The phase diagram is typical of a system with unlimited solubility; the

Card 2/3

The internal friction and shear modulus of iodide ...   S/755/61/000/003/008/027

shear modulus of Hf is $G = 5,250 \pm 500$ kg/mm^2, decreasing less with T than either Zr or the Zr-Hf alloys. The variation of the internal friction versus composition at room T in alloys of the Zr-Hf system follows a smooth paraboloid curve with a minimum in the region of 70% Hf. The linear expansion coefficient of alloys of the Zr-Hf system increases linearly with Hf content. There are 6 figures, 3 tables, and 10 references (4 Russian-language Soviet, 5 English-language, and 1 Russian translation of an English-language book: "The metallurgy of zirconium," B. Lustman and F. Kerze, Jr., eds., McGraw-Hill, 1955; Foreign Lit. Publ. House, Moscow, 1959).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 3/3

S/828/62 (A C /664/017
E039/E420

AUTHORS: Yemel'yanov, V.S., Yevstyukhin, A.I., Baranov, I.P.,
              Samonov, A.M.

TITLE: The separation of zirconium and hafnium by the
              selective reduction of their tetrachlorides by
              zirconium and aluminium

SOURCE: Razdeleniye blizkikh po svoystvam redkikh metallov.
              Mezhvuz. Konfer. po metodam razdel. blizkikh po svoyst.
              red. metallov. Loscow, Metallurgizdat, 1962, 51-56

TEXT: Although Zr and Hf are separated on a commercial scale the
present methods used are so cumbersome and difficult that the cost
of the metals is high.   This work is aimed at investigating a new
and possibly more efficient method of separation.   It is shown
that the separation process involving the selective reduction of
the tetrachlorides of Zr and Hf by Zr and Al is entirely feasible
under laboratory conditions.   Using powdered Zr as a reducing
agent the maximum reduction of $ZrCl$ is observed at $400°C$ and
attains nearly 92% while for $HfCl_4$ maximum reduction occurs at
$390°C$ and reaches 17%.   When using powdered Al better
separation is attained at a lower temperature than in the case of
Card 1/2

The separation of zirconium ...   S/628/60/000/000/004/017
                                           E039/E420

reduction by Zr.   In the latter case the content of hafnium
chloride in ZrCl₃ has a minimum value equal to 0.029% for a
reduction temperature of 350°C.   For the best conditions of
reduction by Zr (at 400°C) the minimum quantities of hafnium
chloride in ZrCl₃ are 0.10% and 0.13%.   The quantity of ZrCl₄
reduced by Al at 350°C is, however, only 21% while for Zr at
400°C it is 91.7%.   Reducing with Al at 400°C gives an 89%
reduction and a hafnium chloride concentration in the ZrCl₃ of
0.091%.   The data obtained confirms that this process can be
performed on a large scale.   There are 4 figures and 2 tables.

Card 2/2

AUTHORS: Yemel'yanov, V.S., Yevstyukhin, A.I., Barinov, I.P., Samonov, A.M.

TITLE: The separation of zirconium and hafnium chlorides.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallove-deniye chistykh metallov. no.3. 1961, 17-26.

TEXT: The paper deals with the need for Hf-free Zr for nuclear-powerplant applications. The two elements were separated by selective reduction of their tetrachlorides by Zr and Al. Optimal separation procedures for lab use and the prerequisites for large-scale processing are set forth. One prime reason for the usefulness of Zr, namely, its small capture cross-section relative to thermal neutrons, is nullified by the presence of Hf with its 103-157 barn capture cross-section. The proposed method consists in the reduction of the Zr and Hf tetrachlorides into lower(tri- and di-) chlorides and their disproportionation (D) by heating. Three reactions are involved: (1) In the presence of an n-valent metallic or metal-lcidal reducer M, $nZr(Hf)Cl_4 + M \rightarrow nZr(Hf)Cl_3 + MCl_n$, wherein the reduction of $ZrCl_4$ proceeds more readily than that of $HfCl_4$; (2) upon heating, D occurs as $2Zr(Hf)Cl_3 \rightarrow Zr(Hf)Cl_2 + Zr(Hf)Cl_{(gas)4}$; and (3) both dichlorides are subject to D when heated as $2Zr(Hf)Cl_2 \rightleftharpoons Zr(Hf)Cl_4 + Zr(Hf)$, where the lower chlorides of Zr

Card 1/3

The separation of zirconium and hafnium chlorides.   S/755/61/000/003/002/027

are more stable than those of Hf. The differences in reducibility and D of the Zr
and Hf provide the basis for the separation process. Three successive operations
must thus be performed to obtain $ZrCl_4$ with a small content of $HfCl_4$ and, ulti-
mately, metallic Zr with a small Hf content. The preparation of the chlorides by a
chlorination by CCl_4 of ZrO_2 and HfO_2 in a 100:1 ratio is described. The lab
equipment has been previously described in the sbornik "Metallurgiya i metallove-
deniya chistyky metallov," no.1, Izd-vo MIFI, 1959. The initial separation proced-
ure in a 10^{-4}-torr vacuum, with the tetrachloride vapors passing over Zr shavings
heated to 430°C,was found to be ineffective. In a second attempt, some 10-11 g in-
tensely degassed Zr powder and a like amount of $ZrCl_4$ and $HfCl_4$ were held for 8
hrs at 400°C in a quartz ampule 30 mm diam and 100 mm long; upon completion of
reduction and removal of the nonreduced chlorides, D of the trichlorides was
performed in 3 hrs at 550° in the same ampules. The tetrachloride formed was con-
tinuously removed. The method reduced the $HfCl_4$ content from 4-5% in the non-
reduced tetrachlorides to 0.2-0.3% in the $ZrCl_4$ after D of the trichlorides. The
need for a rapid and more sensitive radiometric method prompted development of a
method based on the use of radioactive Hf^{181}, which is described in detail. Optimal
temperature and time relationships for the D were determined experimentally
(third-step dichloride D in 16 hrs at 650°C). Experiments with Al as a metallic

Card 2/3

The separation of zirconium and hafnium chlorides.   S/755/61/000/003/002/027

reducer met with trouble in the dichloride-D stage, because an Al-and-$AlCl_3$ fusion formed in which $ZrCl_2$ and $HfCl_2$ dissolved. The radiometric method of Hf-concentration determination is detailed. Upon completion of the optimal procedure, the $ZrCl_4$ contained only 0.029% $HfCl_4$; the final amount of $ZrCl_4$ constituted about 20% of the initial $ZrCl_4$ which contained 1% $HfCl_4$. The resulting metallic Zr was suitable for nuclear-powerplant applications. It is anticipated that an improvement in the reduction technique can result in a substantial improvement in the Zr-Hf separation ratio. One obvious improvement is the enlargement of the contact area between the tetrachloride with the Zr powder (the initially formed brown surface crust in the present procedure appears to inhibit such diffusion). A new lab equipment based on this consideration has been designed and built (cross-section shown). A quartz chamber contained a tree with tiered Zr trays, each covered with a thin layer of Zr or other reducer metal. Other suitable tray materials are Ni, stainless steel, etc. There are 4 figures, 2 tables, and 8 references (2 German and 6 English-language).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 3/3

S/755/61/000/003/007/027

AUTHORS: Yevstyukhin, A.I., Korobkov, I.I., Barinov, I.P.

TITLE: Investigation of the oxidation kinetics of iodide hafnium in the
          600-1,000°C temperature interval.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallove-
          deniye chistykh metallov. no.3. 1961, 64-73.

TEXT: The paper reports the experimental investigation defined in the title.
The study was motivated both by the technical importance of Hf and by the ex-
ceptionally favorable relationship of the properties of the Hf parent metal and those
of the oxide film formed on its surface up to high temperatures (T). Basic references
are the Russian translation (Moscow. For. Lit. Publ. House, 1959) of "The metal-
lurgy of Zr", ed. by B. Lustman and F. Kerze, Jr. (McGraw-Hill, 1955), and a
paper by Smeltzer, W., et al. (Acta metallurgica, v.5, no.6, 1957) which is desig-
nated here as the only published work on the subject matter. The latter work and
its conclusions apply not to pure Hf, but to Hf with 5% Zr. The present investi-
gation is focused on Hf with less than 1% Zr which had been freed of any other im-
purities by the iodide method of purification. HfO_2 was reduced to Hf powder by
the Ruff-Brintzinger Ca method (Z. anorg. & allgem. Chemie, no.129, 1923, 267).

Card 1/2

Investigation of the oxidation kinetics of iodide ...   S/755/61/000/003/007/027

The iodide-purification method described by Yemel'yanov, V.S., et al., (no.1 of the present sbornik, Izd-vo MIFI, 1959) yielded 2-mm diam rods of metallic sheen, good plasticity, and typical "tin crackling." The rods of iodide Hf were remelted in an atmosphere of Ar and rolled in air into sheets 1.2 mm thick, which were vacuum-annealed at 800°C for 3 hrs. The 1x7x13-mm specimens were sanded with emery paper through the entire fineness range and then washed in purified acetone. The kinetics investigation was performed by the method of continuous weighing on a vacuum torque microbalance, described on pp.175-182 of the present sbornik by B. N. Revyakin et al. The oxidation tests were performed in O at 150 torr (appx. the sea-level partial pressure of O) at T from 600 to 1,000°C. Within the 600-800° range the third power of the oxidational gain in weight per unit area is proportional to time; the respective constant of cubic proportionality increases logarithmically by about two orders of magnitude from 600 to 800°C. At 900-1,000°C the second power of the oxidational gain of weight per unit area is proportional to time until the oxide film attains a certain critical thickness and begins to crack, whereupon the rate of oxidation increases. This break of the kinetic curve coincides in time with the transformation of the dark oxide film into a whitish oxide. There are 7 figures, 2 tables, and 12 references (5 Russian-language Soviet, 2 German, 4 English-language, and 1 Russian translation of the English-language "The metallurgy of zirconium," Lustman-Kerze, eds.).
ASSOCIATION: MIFI (Moscow Engineering Physics Institute).
Card 2/2

BARINOV, I.V.; RODE, V.V.; RAFIKOV, S.R.

Synthesis of pyrocatechol phosphite. Izv. AN SSSR Ser. khim. no.11:
2115 N '64   (MIRA 18:1)
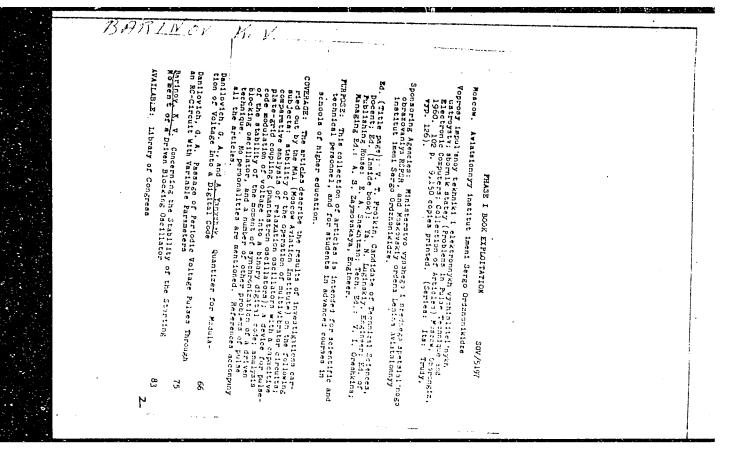
1. Institut elementoorganicheskikh soyedineniy AN SSSR.

BARINOV, K.N.

Designs of wells and drilling techniques suitable for fields in the
Volga Valley protion of Saratov Province. Trudy VNIGNI no.28:213-
226 '60.
(MIRA 14:4)

1. Nizhne-Volzhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
geologo-razvedochnogo neftyanogo insitutua.
(Saratov Province--Oil well drilling)

BARLINOV K. V.

PHASE I BOOK EXPLOITATION   SOV/5197

Moscow. Aviatsionnyy Institut imeni Sergo Ordzhonikidze

Voprosy impul'snoy tekhniki i elektronnykh vychislitel'nykh
ustroystv; sbornik statey (Problems in Pulse Technique and
Electronic Computers; Collection of Articles) Moscow, Oborongiz,
1960. 102 p. 9,150 copies printed. (Series: Its: Trudy,
vyp. 126).

Sponsoring Agencies: Ministerstvo vysshego i srednego spetsial'nogo
obrazovaniya RSFSR, and Moskovskiy ordena Lenina Aviatsionnyy
Institut imeni Sergo Ordzhonikidze.

Ed. (Title page): V. T. Frolkin, Candidate of Technical Sciences,
Docent; Ed. (Inside book): Ya. N. Luginskiy, Engineer; Ed. of
Publishing House: E. A. Sheshtenn; Tech. Ed.: V. I. Oreshkina;
Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This collection of articles is intended for scientific and
technical personnel, and for students in advanced courses in
schools of higher education.

COVERAGE: The articles describe the results of investigations car-
ried out by the MAI (Moscow Aviation Institute) on the following
subjects: stability of the operation of multivibrator circuits;
comparative analysis of relaxation oscillators with a capacitive
plate-grid coupling (phantastron oscillators); a device for pulse-
code modulation of voltage into a binary digital code; analysis
of the stability of the moment of synchronization of a driven
blocking oscillator, and a number of other problems of pulse
technique. No personalities are mentioned. References accompany
all the articles.

Danilovich, G. A., and A. Yanygin.   Quantizer for Modula-
tion of Voltage into a Digital Code   66

Danilovich, G. A.   Passage of Periodic Voltage Pulses Through
an RC-Circuit With Variable Parameters   75

Barinov, K. V.   Concerning the Stability of the Starting
Moment of a Driven Blocking Oscillator   83

AVAILABLE: Library of Congress   2

BARINOV, K.V., inzh.

Stability of the starting moment of a delayed blocking oscillator.
Trudy MAI no.126:83-100 '60.   (MIRA 14:1)
(Oscillators, Electric)
(Pulse techniques (Electronics))

LISITSYN, A.P.; BARINOV, L.P.

       The new large-diameter corer "Antarctica." Trudy Inst. okean.
       44:123-133 '60.   (MIRA 14:2)
               (Deep-sea sounding)

UDINTSEV, G.B.; LUNARSKIY, G.N.; MARAKUYEV, V.I.; BARINOV, L.G.;
SEDEL'NIKOV, V.N.

Use of the "Ladoga" phototelegraph apparatus for recording
depth measurements obtained with echo sounders. Okeanologiia
2 no.6:1093-1103 '62.   (MIRA 17:2)

1. Institut okeanologii AN SSSR.

L 64540-65   EWT(m)/EWP(t)/EWP(b)   IJP(c)   JD

ACCESSION NR: AP5018730

UR/0070/65/010/004/0576/0577

548.0

AUTHORS: Nesterenko, P.S.; Barinov, L.P.

TITLE: Photoelectret state in single crystals of CdS in the wave-length region of approximately 1.4 microns

SOURCE: Kristallografiya, v. 10, no. 4, 1965, 576-577

TOPIC TAGS: photoelectret, cadmium sulfide, single crystal, IR spectrum

ABSTRACT: Pure single-crystal CdS samples with ohmic indium contacts were introduced into a capacitor setup. A ZMR-3 mirror monochromator was used to illuminate the crystals. The intensity of the monochromatic light was measured with a vacuum thermocouple. The spectral distribution of the photoelectret state (per unit incident energy) and the IR quenching of the longitudinal photoconductivity

Card   1/3

L 64540-65

ACCESSION NR: AP5018730

(at the same intensity of the quenching light) were measured. It was
found that photopolarization appears on illumination both in the
range of the selective maximum of the photoelectret state and in the
1.2--1.7 μ spectral region, the spectral distributions of the photo-
electret state and IR quenching coinciding, with maxima at 1.4 μ.
To explain the duration of the existence of the photoelectret state,
the dark decrease of the photoelectret charge was observed after il-
lumination at the maximum of the photoelectret state. The dark de-
crease of the photoelectret charge occurs much faster in the case of
photopolarization in the region of the second maximum (1.4 μ) than in
the region of the first maximum (0.9 μ). The charge decrease in a
broad time interval is exactly described by a hyperbolic dependence.
The obtained results indicate the hole character of the excitation
of the photoelectret state by IR light in CdS single crystals. "We
express our gratitude to V. M. Fridkin for interest in the work and
useful advice." Orig. art. has: 2 figures.

Card   2/3

L 64540-65
ACCESSION NR: AP5018730

ASSOCIATION: Rostovskiy-na-donu gosudarstvennyy universitet (Rostov-on-Don State University)

SUBMITTED: 18Nov64   ENCL: 00   SUB CODE: OP

NR REF SOV: 004   OTHER: 002

Card 3/3

ACC NR: AP6026685   SOURCE CODE: UR/0181/66/008/008/2370/2373

AUTHOR: Nesterenko, P. S.; Barinov, L. P.

ORG: Rostov on the Don State University (Rostovskiy-na-Donu gosudarstvennyy universitet)

TITLE: Isopotential curves of the depolarization of CdS monocrystals

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2370-2373

TOPIC TAGS: photoelectret, electrophotography, electric polarization

ABSTRACT: The study of isopotential curves of the photoelectret state is important for electrophotography. Analysis of these curves makes it possible to estimate certain parameters of local levels characterizing the kinetics of polarization and depolarization of several photoelectrets. Since there is a unique correspondence between the isopotentials and the luxampere characteristic of the crystal, the latter curves can be studied in terms of the former in those regions of the spectrum where the photoelectret state is too weak for direct measurement of photocurrents. Investigations were carried out on pure CdS crystals 4 × 3 × 0.2 mm. Results show that it is necessary to take the isopotential depolarization curves in the absence of through conductivity. The shape of the isopotentials so obtained and the shape of the luxampere characteristics for the crystals are in good agreement with theory. Orig. art. has: 5 figures.

SUB CODE: 20/   SUBM DATE: 08Jan66/   ORIG REF: 012/   OTH REF: 001
Card 1/1

BARINOV, L.V.; GEODAKOV, A.1.; GRINEVICH, G.Ya.; IOFIS, Ye.A., kand.
tekhn. nauk; KRIMERMAN, P.M.; LAPAURI, A.A.; MINENKOV, I.B.;
PANFILOV, N.D.; PELL', V.G., kand. tekhn. nauk; PERTSIK, A.G.;
POLYANSKIY, N.N.; POPOV, A.N.; SIMONOV, A.G.; SUROV, S.G.;
SHASHLOV, B.A.; TELESHEV, A.N., red.; MALEK, Z.N., tekhn. red.

[Manual for the amateur-photographer] Spravochnik fotoliubitelia.
Pod obshchei red. E.A.Iofisa i V.G.Pellia. Moskva, Iskusstvo,
1961.   530 p.   (MIRA 15:7)
              (Photography---Handbooks, manuals, etc.)

BARINOV, L.V.; GEODAKOV, A.I.; GRINEVICH, G.Ya.; IOFIS, Ye.A.,
    kand. tekhn. nauk; KRIMERMAN, P.M.; LAPAURI, A.A.;
    MINENKOV, I.B.; PANFILOV, N.D.; PELL', V.G., kand.
    tekhn. nauk; PERTTSIK, A.G.; POLYANSKIY, N.N.; POPOV,
    N.A.; SIMONOV, A.G.; SUROV, S.G.; SHASHLOV, B.A.;
    TERESHEV, A.N., red.

[Handbook for the amateur photographer] Spravochnik fo-
toliubitelia. Izd.2., ispr. i dop. Moskva, Iskusstvo,
1964. 472 p.   (MIRA 18:1)

L 44038-66   ...

ACC NR: AP6030246   SOURCE CODE: UR/0147/66/000/003/0003/0010

AUTHOR: Yermolenko, S. D.; Barinov, M. T.

ORG: none

TITLE: Calculation of downwash angles behind rectangular wings of small aspect ratio in subsonic flow by nonlinear theory

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 3, 1966, 3-10

TOPIC TAGS: subsonic aerodynamics, subsonic flow, downwash, angle of attack, nonlinear theory

ABSTRACT: A method is described for calculating the downwash angle, taking account of singularities of the flow over rectangular wings of small aspect ratio. The method is based on a nonlinear theory which utilizes a certain number of assumptions developed by the author (IVUZ. Aviatsionnaya tekhnika, no. 2, 1966), which makes it possible to reduce the problem to solving a system of nonlinear algebraic equations by the method of successive approximations. It is sufficient to replace the wing by two vortices in order to obtain acceptable accuracy. The downwash angle is calculated by the formula tan $\varepsilon = -U_y/(V_0 + U_x)$, where U_x and U_y are the projections of the induced velocity u at the point considered. The experimental data presented in graphs show that the method developed here makes it possible to calculate the downwash angles behind

Card   1/2   UDC: 533.6.013.1

ACC NR: AP6030246   *()*

rectangular wings of small aspect ratio at either small or large angles of attack
when the linear theory yields incorrect results. Orig. art. has: 5 figures and·
25 formulas.
[AB]

SUB CODE: 20/ SUBM DATE: 22Jun65/ ORIG REF: 003/ ATD PRESS: 5076

Card   2/2   blg

9. <u>Monthly</u> <u>List</u> <u>of</u> <u>Russian</u> <u>Accessions</u>, Library of Congress, _____June_____ 1953. Unclassified.

BARINOV, N.; MAREEV, D.

Effective use of clay for molding mixtures. p. 21.
(Tezhka Promishlenost, Vol. 5, no. 12, 1956, Bulgaria)

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

BARINOV, N.

"Documents of the foreign policy of the U.S.S.R." Reviewed by
N.Barinov. Vnesh.torg. 43 no.2:34-38 '63.   (MIRA 16:2)
                    (Russia--Commerce)
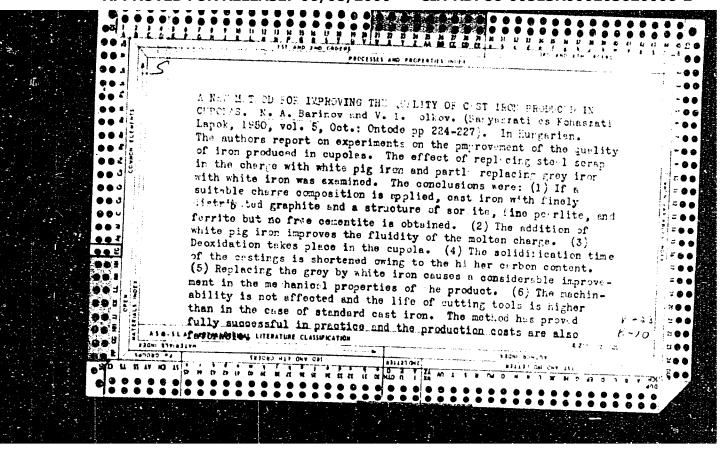
BARINOV, N.A.

CAND TECH SCI

Dissertation: "Application of Open Hearth Pig Iron in Foundry Practice."

3 October 49

   Moscow Order of Labor Red Banner Higher Technical School imeni K.E. Bauman.

SO Vecheryaya Moskva
Sum 71

PROCESSES AND PROPERTIES INDEX

A NEW METHOD FOR IMPROVING THE QUALITY OF CAST IRON PRODUCED IN CUPOLAS. K. A. Barinov and V. I. Volkov. (Banyaszati es Kohaszati Lapok, 1950, vol. 5, Oct.: Ontode pp 224-227). In Hungarian. The authors report on experiments on the improvement of the quality of iron produced in cupolas. The effect of replacing steel scrap in the charge with white pig iron and partly replacing grey iron with white iron was examined. The conclusions were: (1) If a suitable charge composition is applied, cast iron with finely distributed graphite and a structure of sorbite, fine perlite, and ferrite but no free cementite is obtained. (2) The addition of white pig iron improves the fluidity of the molten charge. (3) Deoxidation takes place in the cupola. (4) The solidification time of the castings is shortened owing to the higher carbon content. (5) Replacing the grey by white iron causes a considerable improvement in the mechanical properties of the product. (6) The machinability is not affected and the life of cutting tools is higher than in the case of standard cast iron. The method has proved fully successful in practice and the production costs are also

LITERATURE CLASSIFICATION

BARINOV, N. A.

USSR/Metals - Cast Iron, Manufacture,   Dec 51
                        Furnaces

"Cupola Furnaces With Water Cooling," N. A. Barinov,
Cand Tech Sci, V. P. Mizikin, Engr, Plant imeni
Voykov

"Litey Proizvod" No 12, pp 15, 16

Describes construction changes of cupola furnaces
to increase capacity from 7 to 10 tons of metal
melted per hr. Water jacket around melting zone of
furnace permitted decreasing refractory lining
thickness from 250 to 60 mm, ID being increased to

USSR/Metals - Cast Iron, Manufacture,   Dec 51
            Furnaces, (Contd.)

1,250 mm. Experience for 4 months showed no
burning through shell, higher temp of liquid
metal, and lower consumption of refractory
materials and repair costs.

203T93

203T93

BARINOV, N.A., VOLKOV, V.I. [deceased]; KONVISSER, L.I., redaktor;
PANOVA, L.Ya., tekhnicheskiy redaktor.

[Production of cast-iron heat radiators] Proizvodstvo chugunnykh
otopitel'nykh radiatorov. Pod red. M.A.Ustinova. Moskva, Gos. izd-
vo lit-ry po stroitel'nym materialam, 1952. 202 p.   (MLRA 7:11)
        (Radiators)

1.   BARINOV, M.A.

2.   USSR (600)

4.   Founding

7.   New oil-free binder for complex cores, and others. Lit. proizv. no. 4, 1953.

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

112-1-1395

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p. 214 (USSR)

AUTHOR: Barinov, N.A.

TITLE: Automation of the Casting of Radiators (Avtomatizatsiya liteynogo proizvodstva radiatorov)

PERIODICAL: Sbornik: Avtomatizatsiya tekhnol. protsessov v mashinostr. Goryachaya obrabotka metallov, Moscow, AN SSSR, 1955, pp.401-409.

ABSTRACT: Bibliographic entry.

Card 1/1

BARINOV, N, A,

417" Experiment in the Operation and Use of Water Cooled Cupola Furnaces. Opyt ekspluntatsii vagranok s vodianym okhlazhdeniem. (Russian.) N. A. Barinov. Liteinoe proizvodstvo, 1955, no. 9, Sept., p. 9-12.

Design of cupolas; comparison of yield, temperature factors, fuel consumed, and repair requirements for water-cooled and non-water-cooled cupolas; chemical compoistion of slags; cupola for melting spheroidal cast iron. Tables, diagrams, micrographs.

BARINOV N.A.

1023° (Russian.) Effective Use of Clay in Mixtures for
Mold Manufacture. Effektivnoe ispol'zovanie gliny v formo-
vochnykh smesiakh. N. A. Barinov and D. I. Mareev. *Liteinoe
Proizvodstvo*, 1958, no. 9, Sept. 1958, p. 13-14.
Advantages of using clay in suspension instead of powder in
mixtures for shell molds.

BARINOV, N.A.; USTINOV, M.A.; MIRONOV, P.P.,nauchnyy redaktor; SHPAYER, A.L., redaktor; GLADKIKH, N.N., tekhnicheskiy redaktor.

[Plumbing and industrial heating equipment] Sanitarno-tekhni-cheskie izdeliia i khoziaistvenno-pechnye pribory. Moskva, Gos.izd-vo lit-ry po stroit.materialam, 1957. 260 p.

(MLRA 10:6)

(Plumbing) (Heating)

Barinov, N. A.

: 37 1957-12-23866

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p142 (USSR)

AUTHOR   Barinov, N. A

TITLE   The Melting and Pouring of Cast Iron (Plavka i zalivka chuguna)

PERIODICAL   V sb : Novoye v liteyn. proiz-ve. Nr 2 Gor'kiy, Knigoizdat.
             1957 pp 58-66

ABSTRACT· A series of experiments is described dealing with the augmentation
           of the output of a cupola (C). 1. The use of water cooling in a cup-
           ola of outside diameter of 1680 mm resulted in a decrease in the
           thickness of the lining from 325 to 120 mm under continuous oper-
           ation of the C during a 16-18 hr. period. At the same time the
           output of the C increased from 8 to 11 t/hr, the relative fuel con-
           sumption diminished from 12 to 11.2 percent, while the tempera-
           ture of the cast iron increased by 10-20°; the unit air consump-
           tion remained unchanged at 93 m^3/m^2/min. 2. Successful melt-
           ing was carried out in a water-cooled C without lining. This C
           remained in continuous operation for 6 days. 3. The employment
           of a centrifugal fan may considerably increase from 8 to 11 t/hr
Card 1/2   the production of the C by permitting a lowering of the charge

137-1957-12-23860

The   Melting and Pouring of Cast Iron

column and an expansion of its diameter (from 1050 to 1400 mm). In this procedure the temperature of the cast iron and the fuel consumption remain unaltered.   4. It was shown that, for the sake of economy, it is advantageous to enrich the blast periodically with O_2, which is to be introduced into the air collector in a proportion of $5-6 \text{ m}^3$ per ton of cast iron.

E. Sh.

1. Cast iron-Casting   2. Cast iron-Preparation

Card 2/2

Translation from: Referativnyy zhurnal, Mashinostroenie, 1959, Nr. ...
38658

AUTHOR: Barinov, N. A

TITLE: The Development of the Metallurgy of the Cupola Process

PERIODICAL: V sb., Persp-ktivy razvitiya litomo proizova. Tr. ..., ...
             riva, Fazd Chugun litya, Moscow, 1958, pp 176-183

TEXT   For the production of magnesium cast iron and cast iron with subse-
quent conversion into steel in the converter, the author recommends to use cupolas
with basic lining, while cupolas with acid lining are recommended for the produc-
tion of malleable cast iron. The use of cupolas with a water jacket in the melt-
ing zone (of 1,680 mm diameter) made it possible in the course of prolonged
operation to attain a capacity of 12.2 tons/hour of cast iron with a tapping
temperature of 1,390 – 1,410°C, at a coke consumption of 11.2% and a water consump-
tion of approximately 0.75 m^3/hour per a square meter of water-cooled surface.
The consumption of refractory materials was lowered to 12.5 kg per 1 ton of cast

Card 1/2

S/123/59/000/010/0_____
A004/A00_

The Development of the Metallurgy of the Cupola Process

iron. Such a cupola cooling is used at present at a number of plants in the Soviet Union. Experimental melts which were carried out in water-cooled cupolas of 315 mm diameter without lining over the whole cupola height confirmed the possibility of operating such cupolas. The author gives an account on the effects of the fuel quality, quantity of supplied blast, air preheating, and O_2-enriched blast on the burning intensity. He recommends the use of the pig iron grades M-1 and M-2 and the blast-furnace Fe-Si grade in the cupola for the production of gray cast iron and malleable cast iron. There are 9 figures.

L. G. M.

Translator's note: This is the full translation of the original Russian text.

Card 2/2

BARINOV, N.A., kand.tekhn.nauk, dots.

Raising the quality of cast iron and reducing the weight of castings. Nauch.dokl.vys.shkoly; mash.i prib. no.2:108-121 '58. (MIRA 12:10)

(Cast iron)

BARINOV, A. A.

128-58-4-3/18

AUTHOR: Barinov, N.A., Candidate of Technical Sciences

TITLE: Low-Silicon Cast Iron and Pig Iron Used in the Manufacture
           of High-quality Castings(Nizkokremnistyye liteynyye i peredel'
           nyye chuguny v proizvodstve kachestvennykh otlivok)

PERIODICAL: Liteynoye Proizvodstvo, 1958, No. 4, pp 7-10 (USSR)

ABSTRACT: The article presents the results of an investigation
           carried out to find the optimum charge composition for high
           quality and reduced cost in cast iron castings. Smelting
           was carried out in an experimental cupola of 250 mm diameter
           and in two cupolas, operating under shop conditions, of 900
           and 1,100 mm diameter. The following charge components were
           used: cast irons of Novotul'skiy and Kosogorskiy plants, of
           grades "00", "0", "No.1" and "2"; "M 1" and M 2" pig irons of
           Dnepropetrovsk and Zaporozhstal' plants; cast iron scrap con-
           taining no pieces of ingot molds, and large-piece steel scrap;
           return of experimental smeltings, and blast furnace ferro-
           silicon containing 10 to 12% silicon. The influence of
           separate charge components is considered. The charge compo-
Card 1/2   sitions are given. The best results were obtained with the

128-58-4-3/13

Low-Silicon Cast Iron and Pig Iron Used in the Manufacture of High-
Quality Castings

charge composition designated with No.2, which was finally
chosen for production. As a consequence the quantity of
rejects was reducing considerably. It is stated that charge
No.2 produces sorbitization of pearlite and increase the quan-
tity of graphite, but the high dispersion of graphite compen-
sates its high content, and machining properties of such cast
iron is better than usual. The cost of cast iron made of this
charge is - with equal summary quantity of carbon and sili-
con in castings - 30 to 50 rubles (presumably per ton) lower
than with other charge compositions. The article is published
for discussion.
     There are 2 photographs, and 5 tables.

AVAILABLE: Library of Congress

Card 2/2   1. Blast furnaces   2. Cast iron-Test methods   3. Cast iron-
             Test results

AUTHOR: Barinov, N.A.   SOV/129-58-12-3/21

TITLE: On the Use of Low-Silicon Cast-Iron (K voprosu ispol'zovaniya
             nizkokremnistykh liteynykh chugunov)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 12, pp 3 - 6 (USSR)

ABSTRACT: The "flowability", mechanical properties, heat resistance,
             sulfur and gas content of high and low-silicon cast iron
             were compared with the purpose of using it in high quality
             diesel-locomotive and tractor parts. It was proved that
             flowability (which depends on the C - Si content), the me-
             chanical properties and the heat resistance of low-silicon
             cast iron are higher than in high-silicon cast iron. The
             reduced gas saturation of low-silicon cast iron has a po-
             sitive effect on its technological properties and the quali-
             ty of the cast. An increased manganese content in low-sili-
             con cast iron causes more active desulfurization than in
             high-silicon cast iron. Computations proved that the use
             of pig iron or pig iron combined with low-silicon cast iron
             considerably reduces production costs. The obtained results
             were confirmed in practical use. There are 3 tables, and
             18 graphs.

18(5)   SOV/128-59-7-24/25

AUTHOR: Barinov, N.A., Candidate of Technical Sciences
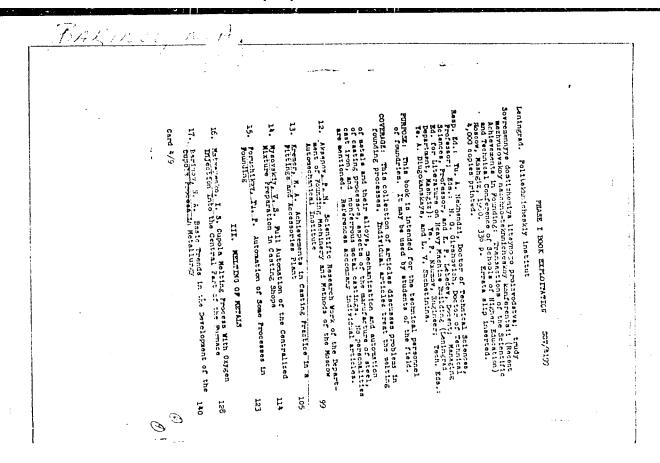
TITLE: Letter to the Editor

PERICDICAL: Liteynoye Proizvodstvo, 1959, Nr 7, p 47 (USSR)

ABSTRACT: The authors Bogdanovskiy and Yudkin take the view
             (Liteynoye Proizvodstvo, 1958, Nr 8) that the article
             on the production of high-quality casting iron, publi-
             shed in Liteynoye Proizvodstvo, 1958, Nr 4, contains
             a number of inaccuracies and treats the foundry prob-
             lem in a light manner. The author of this article de-
             fends his point of view and the importance of the
             tables published by him on his experiments. He sup-
             ports his thesis with the paper by I.I. Levi. Regar-
             ding the quality of cupola cast iron the investigations
             have been concluded already in 1942. For about 15
             years, experiments have been made and tens of thou-
             sands of tons of cast iron have been produced. There
Card 1/1   is 1 diagram

PHASE I BOOK EXPLOITATION SOV/4199

Leningrad. Politekhnicheskiy Institut

Sovremennyye dostizheniya liteynogo proizvodstva; trudy nauchno-tekhnicheskoy konferentsii. (Recent Achievements in Founding: Transactions of the Scientific and Technical Conference of Schools of Higher Education)
Moscow, Mashgiz, 1960. 336 p. Errata slip inserted.
4,000 copies printed.

Resp. Ed.: Yu. A. Nekhendzi, Doctor of Technical Sciences; Ed.: N. G. Girshovich, Doctor of Technical Sciences, Professor, and L. P. Lebedev, Docent; Managing Ed. for Literature on Heavy Machine Building (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer; Tech. Eds.: Ye. A. Dlugokanskaya, and L. V. Shchetinina.

PURPOSE: This book is intended for the technical personnel of foundries. It may be used by students of the field.

COVERAGE: This collection of articles discusses problems in founding processes. Individual articles treat the melting of metals and their alloys, mechanization and automation of casting processes, aspects of the manufacture of steel, cast iron, and nonferrous metal castings. No personalities are mentioned. References accompany individual articles.

12. Aksenov, P. N. Scientific Research Work of the Department of Founding Machinery and Methods of the Moscow Automechanical Institute 99

III. MELTING OF METALS

13. Kremer, M. A. Achievements in Casting Practice in a Fittings and Accessories Plant 105

14. Myasoyskiy, T. S. Full Automation of the Centralized Mixture Preparation in Casting Shops 114

15. Porushilyri, V. P. Automation of Some Processes in Founding 123

16. Matveyenko, I. S. Cupola Melting Process With Oxygen Injection Into the Central Part of the Furnace 128

17. Kartuzov, N. A. Basic Trends in the Development of the Cupola Process in Metallurgy 140

Card 4/9

BARINOV, N.A.

       Investigating cupola slags. Lit. proizv. no.6:32-37 Je '60.
                                   (MIRA 13:8)
        (Cupola furnaces)   (Slag)

BELYAYEV, Vera Vadimovna, prepodavatel'; KUPRIYANOVA, A.T., otv. za vy-
pusk; BARINOV, N.A., red.; SHAKHOVA, L.I., red.; DORODNOVA, L.A.,
tekhn. red.

[Teaching the course "General technology of metals" in technical
schools] Prepodavanie kursa "Obshchaia tekhnologiia metallcv" v
tekhnicheskom uchilishche. Moskva, Vses.uchebno-pedagog.izd-vo,
Proftekhizdat, 1960. 74 p.   (MIRA 14:12)

1. Tul'skoye tekhnicheskoye uchilishche No.1 (for Belyayeva).
              (Metals--Study and teaching)

S/128/60/000/003/006/007
A105/A133

AUTHOR: Barinov, N. A., Candidate of Technical Sciences

TITLE: On the further development of the cupola process

PERIODICAL: Liteynoye proizvodstvo, no. 3, 1960, 35-39

TEXT: From November 23 - 26, 1959 the 3rd All-Union Scientific and
Technical Conference on Cupola Process was convened in Moscow by the NTO
MASHProm. 592 specialists participated, including 11 foreign ones. The fol-
lowing papers were read: "The Effect of Charge Materials, Used for Cupola
Melting, on the Quality of Cast Iron Obtained" by Docent, Candidate of Tech-
nical Sciences N. A. Barinov; "The Quality of Blast-Furnace Cast Iron" by
Engineer of the TsNIIChermet L. I. Gol'denberg; "Investigation of the Cupola
Melting Zone by the Radioactive Co^{60} Isotope" by Candidate of Technical Sci-
ences Institut metallurgii UFAN (Institute of Metallurgy of the Ural Branch
of the Academy of Sciences USSR) V. P. Chernobrovkin; "Basic Problems of the
Use of Oxygen in Smelting Processes of Cast Iron" by Candidate of Technical
Sciences Moskovskiy vecherniy mashinostroitel'nyy institut (Moscow Evening
Institute of Mechanical Engineering) L. I. Levi; "Study of the Composition

Card 1/4

On the further development of the cupola process   S/128/60/000/003/006/007
A105/A133

and Temperature of the Gas-Phase in the Tuyere Zone" by A. A. Anan'yin (In-
stitute of Metallurgy of the Ural Branch of the Academy of Sciences USSR);
"Cupola With MVS Hot Blast" by Zh. Subar (Belgium); "Contribution to the In-
vestigation of the Reaction in Metallurgical MVS Hot-Blast Cupolas in Basic
Processes", by Dr. ing. R. Doa, President of the Technical Association of
Belgian Founders; "Main Trends of Development of the Cupola Process in Po-
land" by Magister of Engineering Ch. Podzhutskiy of the Mining and Metallur-
gic Academy in Poland and Magister of Engineering Ya. Voyrosik of the Foundry
Institute in Poland; "The Service Practice of Hot-Blast Cupolas" by Engineer
I. Shtekl (Czechoslovakia); "New Developments in the Cupola Process" by En-
gineer I. P. Petrov of the Syzranskiy zavod tyazhelogo mashinostroyeniy
(Syzran Heavy Machinery Plant); "High Temperature Blast Preheating in High
Capacity Cupolas" by Engineer D. I. Mareyev of the Plant imeni Voykov; "De-
velopment of Water Cooled Cupolas" by Candidate of Technical Sciences N. A
Barinov of the MVTU im. Bauman; "The Plant Practice in the Operation of Wa-
ter-Cooled Cupolas" by Engineer P. P. Doroshenko of the Zutuginskiy zavod
prokatnykh valkov (Lutugino Plant of Rolling Mill Rolls); "Working of Cupolas
With Diversion of Part of the Gases Into the Hearth and Receiver" by Yu. S.

Card 2/4

On the further development of the cupola process

S/128/60/000/003/006/007
A105/A133

Sukharchuk of the MAMI; "Application of Cupolas With Hot Blast and Water Cooling in the GDR" by Doctor of Engineering K. Stelzel; "Some Character- istic Features of the Process in Large-Size Cupolas" by Candidate of Technic- al Sciences V. A. Fuklev of the Sredneaziatskiy politekhnicheskiy institut (Central Asian Polytechnic Institute); "The Practice of the Malleable Cast Iron Shop of the Gor'kiy Automobile Plant in Regard to the Modernization of Cupolas and the Improvement of the Cupola Processes" by Engineer S. N. Nikol' skiy of the Gor'kovskiy avtozavod (Gor'kiy Automobile Plant); "The Utiliza- tion of Natural Gas for Cast Iron Smelting" by Docent B. A. Noskov of the Khar'kovskiy politekhnicheskiy institut (Polytechnical Institute Kharkov); "The Utilization of Natural Gas for Cast Iron Smelting in Cupolas" by Engi- neer Yu. G. Rozenberg of the Khar'kovskiy elektromekhanicheskiy zavod (Khar'- kov Electromechanical Plant); "The Pecularities of the Cast Iron Smelting Process With Natural Gas in Comparison With the Cupola Process" by Candidate of Technical Sciences M. E. Dolginova of the Bakinskiy sudoremontnyy zavod "Parizhskaya kommuna" (Baku Ship Repair Plant "Parizhskaya kommuna"); "The Utilization of Natural Gas for the Preheating of the Cupola Blast" by Engi- neer G. P. Dolotov of the Moskovskiy Avtomobil'nyy zavod im. Likhacheva (Moscow Automobile Plant im. Likhachev); "Mechanization and Automation of

Card 3/4

On the further development of the cupola process

S/128/60/000/003/006/007
A105/A133

Loading Cupolas" by Engineer G. E. Litvin of the Moscow Automobile Plant im.
Likhacheva; "Automatic Recorder for the Checking of Physical and Technolo-
gical Properties of Cast Iron During Melting" by Candidate of Technical Sci-
ences V. P. Chernobrovkin of the Institute of Metallurgy UFAN; "The Practice
of the 'Stankolit' Plant on the Improvement of the Cupola Process" by Candi-
date of Technical Sciences G. I. Kletskin of the Moscow "Stankolit" Plant;
"Design of Closed Cupolas" by Engineer A. I. Volkomich; "Investigation of
the Closed Cupola of TsNIITMash Design With Preheated Blast" by Candidate of
Technical Sciences I. O. Cypin of the TsNIITMash, and "Controlling Computers
the Automation of Cupola Process" by Candidate of Technical Sciences A. N.
Shapiro of the TNIISA.

Card 4/4

S/128/61/000/002/002/009
A054/A133

AUTHOR: Barinov, N.A.

TITLE: New crown design for steelmaking electric arc furnace

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1961, 11 - 13

TEXT: The refractory material of furnace crowns is subject to changing
heat effects and to the vapors of various oxides which results in its quick wear.
Frequent changes of the lining cause standstills in operation and increases the
consumption of refractory material. In 1957, the service life of Dinas brick
crowns in arc furnaces covered 85 heats, that of magnesite-chromite bricks 219
heats. When smelting steels of special composition, however, the lining does not
last more than 20 - 30 heats. In order to increase the service life of arc fur-
nace crowns, a new design was developed at the MVTU im. Bauman (Moscow), consist-
ing of a water-cooled, welded steel jacket with a heat-insulating lining, 80 -
100 mm thick, which is applied to the crown by pneumatic ramming. The crown
jacket is welded from steel plate 10 mm thick on the bottom and 4 - 5 mm on the
top, with a 100 - 120 mm clearance between top and bottom. The bottom plate has
ribs to hold the lining. The clearance between the plates is filled with water,
which flows through the upper part of the roof. Mains water is used for cooling,

Card 1/3

New crown design for steelmaking electric arc furnace   S/123/ti,   ᴜ2/002/009
                                                           A054/A13ᴋ

with an in-flow temperature of 10 - 20°C and an out-flow temperature of 60 - 70°C.
The average cooling water consumption is about 0.6 m3/h per m² of crown area,
When calculating the heat-transfer of Д3МП-8 (DEMP-8) water-cooled furnaces the
crown is divided into 4 zones: smelting zone, heat-insulating zone, iron-casing
and cooling zone, which are all of a different, but homogeneous medium, showing
constant thermal characteristics. The service life of the heat-insulating layer
and the operation of the furnace greatly depend on the refractory properties,
heat-conductivity, chemical stability and expansion coefficient of the heat-in-
sulating material. Various new refractory mixtures (heat-resistant concrete,
Dinas powder, magnesite, zirconium and chrome-magnesite oxides) have been studied
with the cooperation of T.V. Solomatina and Ya.S, Zalkind of ORGRES. The high-
est insulating capacity was found in a mixture "No. 7", containing chrome-mag-
nesite brick powder of 4 - 10 mm mesh: 50%; from 0.088 - 1 mm 15%; from 0 - 0.88
mm 35%. As bonds (above 100%) liquid glass (specific gravity 1.4 - 1.5) in an
amount of 5 - 10%, 1% siliceous sodium-fluoride and 6% refractory clay were used.
Chrome-magnesite should contain at least 42% MgO and 15% Cr_2O_3, while liquid
glass has to comply with ГОСТ (GOST) 87-41. Liquid glass and siliceous sodium
fluoride ensure a high compactness and stability of the insulating layer in a
wide temperature range. The heat-resistance of clay must be above 1,000°C, its

Card 2/3

New crown design for steelmaking electric arc furnace

S 12o/61/000/002/002/00o
A054/A133

plasticity above average. The solidification of the mixture takes place during colloid-chemical reactions, due to the interaction between sodium silicate and siliceous sodium fluoride $[NaF_4Si(OH)_4]$, while $SiOH_4$ separates in gel form. These substances penetrate the pores of the mass and produce a strong, monolithic material, which has a high mechanical strength at any temperature, shrinks only slightly and shows no shrinkage cracks. Liquid glass is added immediately before ramming the mixture on the crown. All components are first mixed in dry condition until a fully homogeneous mass is obtained, liquid glass is then added with an equal amount of water and mixed again. Before the crown is lined with the insulating layer, it should be humidified with liquid glass. The new roof was mounted in a 1.5-ton electric arc furnace, producing 800 heats in one year. Under the same operational conditions Dinas brick does not last more than 20 - 30 heats. S.I. Okunev, D.I. Kuznetsov, D.D. Timonich (MVTU im. Bauman) and O.A. Nesvizhskiy, V.K. Mishchenko, Yu.A. Govorov (Pavshino Engineering Plant) took part in the design of the new roof. There are 5 figures.

Card 3/3

BARINOV, N.A.

New design of arches for electric arc steel smelting furnaces.
Lit. proizv. no. 2:11-13 F '61.
(Electric furnaces)   (MIRA 14:4)

DUBININ, N.P.; BARINOV, N.A.; FOKIN, G.F.; TIMONICH, D.D.; IVANOV, V.I.

Practice of preparing highly resistant cast iron in basic cupola furnaces. Lit. proizv. no. 4:41-42 Ap '61.   (MIRA 14:4)
        (Cast iron—Metallurgy) (Cupola furnaces)

MARIYENBAKH, L.M., doktor tekhn. nauk, prof., red.; BARINOV, N.A., kand. tekhn. nauk, dots., red.; OSIPOVA, L.A., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Development of the cupola process; proceedings of the third All-Union Scientific and Technical Conference on the Cupola Process] Razvitie vagranochnogo protsessa; trudy Vsesoyuznoi nauchno-tekhnicheskoy konferentsii po vagranochnomu protsessu. Pod red. L.M.Marienbakha, N.A.Barinova. Moskva, Mashgiz, 1961. 438 p.
(MIRA 15:2)

1. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po vagranoch-nomu protsessu. 3d, 1959.
(Cupola furnaces)

BARINOV, Nikolay Aleksandrovich, kand. tekhn. nauk, dots.; LANDA, Aleksandr Fedorovich, doktor tekhn. nauk, prof. [deceased]; PAUTYNSKIY, Petr Stanislavovich, kand. tekhn. nauk, dots.; GONCHAROVA, L.A., red.izd-va; VETRINSKAYA, I.D., red.izd-va; PTITSINA, V.I., red.izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Technology of metals] Tekhnologiia metallov. Moskva, Metallurgizdat, 1963.   554 p.   (MIRA 16:12)
            (Metallurgy)   (Metalwork)

BARINOV, N.A., kand.tekhn.nauk; POPOV, V.M., inzh.; GOVOROV, Yu.A., inzh.

Practice in using the water-cooled roof of the DSN-1,5 furnace.
Mashinostroenie no.6:32-34 N-D '63.
(MIRA 16:12)

BARTLOV, N.A., kand. tekhn. nauk; TITOV, N.B., kand. tekhn. nauk, retsenzent; SUDAKIN, Ya.A., inzh., red.

[Water-cooled cupola furnaces and their metallurgical possibilities] Vodookhlazhdaemye vagranki i ikh metallurgiche-skie vozmozhnosti. Moskva, Izd-vo "Mashinostroenie," 1964. 225 p.
(MIRA 17:7)

VAGIN, Viktor Vasil'yevich; PIROGOV, Boris Ivanovich; BARINOV, N.A.,
kand.tekhn.nauk, retsenzent; SLACTIN, A.I., inzh., red.;
VLADIMIROVA, L.A., tekhn.red.

[Stone casting] Kamennoe lit'e. Moskva, Mashgiz, 1962.
93 p.   (MIRA 15:4)
                    (Stone)

MAKRUSHIN, P.V., dotsent; BARINOV, N.F., zootekhnik

Using diethylstilbestrol in fattening gelded rams. Trudy
SZVI 11:73-77 '62.   (MIRA 16:7)

(Stilbenediol)   (Rams)

BARINOV, K.G.

"The Problem of Constructing Transient Characteristics in Automatic Control Systems," Avtomatika i Telemekhanika, Vol XVIII, No 10, 1957, pp 947-949

All-Leningrad Seminar on the Theory of Automatic Control (1955-1956)

ABSTRACT: A system of ordinary differential equations expressed in vector nota-
tions (time, phase coordinates, and solutions within the grasp of both opponents
are the variables) serves as a model for combat control studies. The final out-
come can be fully evaluated with the aid of functions which measure the successes
or failures of each side per unit time. If only one side exercises control, the
criterion for achieving the maximum or minimum values is found by using the L. S.
Pontrjagin maximum principle or the R. Bellman optimizing principle. These prin-
ciples do not fully apply, however, because: 1) combat is not a stable process;
2) the opponents strive to obtain conflicting values; 3) all quantities are not
fully known, and the information may be in error. The mathematical model of

Card 1/2

L 1407-66

ACCESSION NR: AP5020412

combat is, therefore, best handled by game theories using differential play with a zero total, and evaluating the successes with a modified version of the I. S. Pontrjagin optimizing principle. This is called the minimum principle, and the maximum is carried through in detail. Both sides have offensive and defensive capabilities in which the offensive unit can eliminate all enemy units, while the defensive unit can deal only with the enemy's attack. Success of the strategies is achieved when the aims are completed during the course of the battle. The optimum strategy in relation to the effectiveness of defense is displayed in two-dimensional plots. Orig. art. has: 1 table, 3 figures, and 17 formulas.
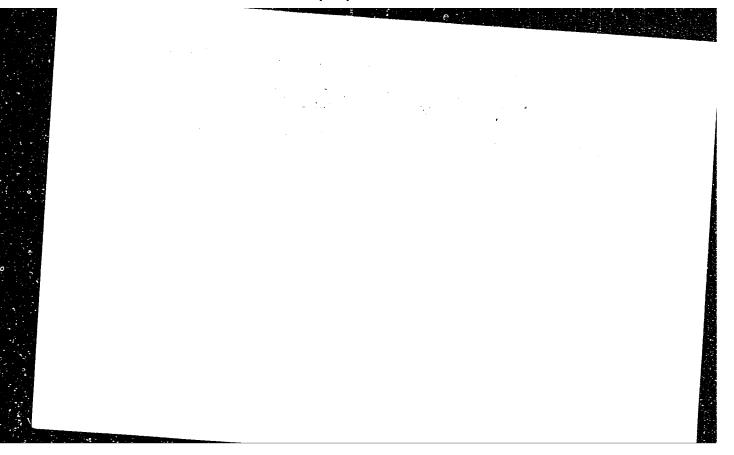
ASSOCIATION: none

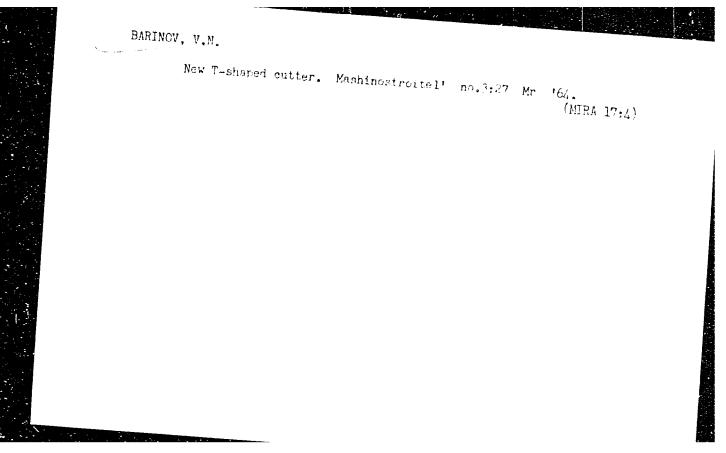SUBMITTED: 00   ENCL: 00   SUB CODE: MA, MS

NO REF SOV: 000   OTHER: 000

Card 2/2

BARINOV, V.N.

New T-shaped cutter. Mashinostroitel' no.3:27 Mr '64.

(MIRA 17:4)

BARINOV, P., general-mayor aviatsii

Let's systematically verify the execution of decisions.
Komm.Vooruzh.Sil 1 no.2:25-29 Ja '61.   (MIRA 14:8)
                     (Russia--Air Force)

BARINOV, PA.

Card: 1/3

74

```
Country     : USSR                                      Q-4
Category    : Farm Animals.
              Domestic Bird.
Abs. Jour   : Ref Zhur-Biol., No 13, 1958, 74122

Author      :
Institut.   :
Title       :

Orig Pub.   :

Abstract    : ...lengthened to 14 hours. During the test
              period, feed consumption ... 6.1 percent
              ... in the 1st group ... 6.0 percent
              ... in the 3rd group is compared to the 1st
              ... at the age of 3 months ... in the cock-
              ... 2nd group ... percent higher,
              ... 3rd group 3/ ... compared
              ... 1st group. At the age of 3 months, the
              ... weight of the cockerels of the 2nd
              group ... percent higher, and of the 3rd
              group 11.5 percent higher than of cockerels

Card:         2/3
```

Category   : P.   Q-4

Abs. Jour   : R.   No 16, 1958, 7410

Author   :

Institut.   :

Title   :

Orig. Pub. :

Abstract   : Of the 1st group. At 6 months of age, 10 per-
              cent of the children of the 1st group began
              having dogs. At the age 18, ... in the 3rd
              ... percent.

Card: 3/3

75

TYURIN, N.I.; BARINOV, V.A , prof., red.; MALIKOV, S.F., otv. red.

[Centennial of the State Service of Weights and Measures, 1845-1945]
Sto let gosudarstvennoi sluzhby mer i vesov, 1845-1945. Moskva, 1945.
22 p.   (MIRA 14:7)

1. Russia (1923-   U.S.S.R.) Komitet standartov, mer i izmeritel'-
nykh priborov.
            (Weights and measures)

KUZNETSOV, A.P., otv. red.; MALIKOV, M.F., zasluzhennyy deyatel' nauki i
    tekhniki, prof., red.; BARINOV, V.A., doktor tekhn. nauk, prof.,
    red.; LEONOV, B.M., red.; MALIKOV, S.F., kand. tekhn. nauk, red.
    KOL'CHENKO, G.N., red.

[Hundred years of the state weights and measures service in the
U.S.S.R.] Sto let gosudarstvennoi sluzhby mer i vesov v SSSR.
Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1945. 376 p. (SSSR.
Gosudarstvennye standarty)   (MIRA 14:7)

1. Russia(1923-   U.S.S.R.) Komitet standartov, mer i izmeritel'-
nykh priborov. 2. Predsedatel' Komiteta po delam mer i izmeritel'-
nykh priborov pri Sovete Narodnykh Komissarov SSSR (for Kuznetsov)
3. Chlen Komiteta po delam mer i izmeritel'nykh priborov pri Sovete
Narodnykh Komissarov SSSR (for Leonov)
                (Weights and measures)

BARINOV, N G.

AUTHORS: 1)Gorodskiy, D. A., Professor, Doctor   SOV/105-58-9-19/27
             of Technical Sciences, Volchkov, I. Ye., Engineer
             2)Ivanov-Smolenskiy, A. V., Docent, Candidate of Technical
             Sciences
             3)Veretennikov, L. P., Docent, Candidate of Technical
             Sciences, Barinov, N. G., Docent, Candidate of Technical
             Sciences, Babushkin, M. N., Candidate of Technical Sciences
             Potashin, A. I., Engineer
             (Leningrad)

TITLE: Dynamic Models of Power Systems (O dinamicheskikh modelyakh
             energosistem)

PERIODICAL: Elektrichestvo, 1958, Nr 9, pp 80 - 82 (USSR)

ABSTRACT: Remarks concerning the paper by I.S.Bruk in Elektrichestvo,
             1958, Nr 2. 1) According to the paper, the methods of
             using mathematical and physical models are contrary to
             each other. It is shown here that this is not correct
             and that a reasonable coordination of the two methods
             should rather be aimed at. 2) The author follows the
             opinion of M.P.Kostenko, V.A.Venikov and N.N.Shchedrin,
Card 1/2   and points out that for investigating transients in

Dynamic Models of Power Systems   SOV/105-58-9-19/31

electric power systems one should combine the results
gained with dynamic models with those obtained by the
use of electronic digital computers. 3) The authors
ask for a combined use of dynamic models and computers.
They show that even in such fields where digital computers
prevail, one cannot do without dynamic models. There
are 3 Soviet references.

ASSOCIATION: 1)Nauchno-issledovatel'skiy institut elektrotekhnicheskoy
promyshlennosti (Scientific Research Institute of Electrical
Industry)2) Moskovskiy energeticheskiy institut (Moscow
Institute for Power Engineering)

Card 2/2

BARINOV, P. A., Cand Agr Sci -- (diss) "Effects of various
methods of artificial illumination upon growth, development
and production of hens." Saratov, 1957. 21 pp (Saratov
State Zootechnical-Vet Inst), 150 copies (KL, 2-58, 114)

-43-

18 (5)   SOV/128-59-11-23/24

AUTHORS: Barinov, P.G., Pershin, M.R., Kovalenko, G.D. and
              Gubenkov, N.Ye., Engineers

TITLE: History of the Use of Oxygen During Cast Iron Melting

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 11, p 3 of cover (USSR)

ABSTRACT: The authors state: Priority in this field belongs to
              the Soviet Union. In 1932, at the former Khar'kov Lo-
              comotive Plant, on the initiative of A.F. Bondarenko,
              the cupola blast enriched with oxygen was for the
              first time applied. Since 1949, the Plant has used
              the same method. Efficiency of cupolas was increased
              by 20%; temperature of cast iron was elevated to
              1400°-1420°C; coke-consumption - cut down by 15%.

Card 1/1

BARINOV, P.P.

     Founding without using flasks. Lit.proizv. no.5:28 '54. (MLRA 7:8)
        (Founding)

BARINOV, V., inzhener.

Use of conveyer belts in coal preparation. Mast.ugl. 2 no.12:18 D '53.
(MLRA 6:11)

(Coal preparation) (Conveying machinery)

BARINOV, V., inzhener.

Automatic control of the filling of coal bunkers. Mast.ugl.3
no.1:22 Ja '54.   (MLRA 7:1)
                                            (Coal--Storage)