SMIRNOV, V.K.

The 1L70 automatic production line for machining beds of electric
motors. Biul.tekh.-ekon.inform. no.8:24-25 '59.
(MIRA 13:1)

(Machine tools) (Automation)

MYAMLIN, A.N. (Moskva);SMIRNOV, V.K. (Moskva)

Operational memory device using electron-beam tubes. Probl. kib.
no.2:191-201 '59   (MIRA 13:3)
                (Storage tubes)

Tube Storage Device   191
   The authors describe the principle of operation of the storage
   device for the Soviet computer "Strela-1", which consists of
   cathode-ray tubes of the "Potentsialoskop" type, with a storage
   capacity of 2048 words of 43 bits. No references are given.

SMIRNOV, V.K.
          Establishing norms for jig-boring work. Stan.i instr. 30
          no.4:40-41 Ap '59.   (MIRA 12:6)
                      (Drilling and boring)

KATSOBASHVILI, Ya.R.; EL'BERT, E.I.; SMIRNOV, V.K.; Prinimali uchastiye:
     POLIENKO, Z.G.; STRAKHOVA, M.A.

     Hydrocracking of pitch distillates. Khim. i tekh.topl. i masel
     9 no.2:5-11 F '64.   (MIRA 17:4)

     1. Institut neftekhimicheskogo sinteza AN SSSR.

SMIRNOV, V.K.

Amentical states in schizophrenia originating after previous
acute infectious diseases. Zh. nevr. i psikh. 65 no.1:
76-81 '65.   (MIRA 18:2)

1. Kafedra psikhiatrii (zaveduyushchiy – prof. D.S. Ozeretskovskiy)
I-go Leningradskogo meditsinskogo instituta im. Pavlova.

SMIRNOV, V.K.

Nature of asthenic states in schizophrenia following infectious
diseases. Vop. psikh. nevr. no.10,168-172 '64.
(MIRA 18:12)

1. Kafedra psikhiatrii (zav. kafedroy - prof. D.S.Ozeretskovskiy)
1-go Leningradskogo meditsinskogo instituta imeni akademika I.P.
Pavlova.

L 14951-66   EWT(1)/EWT(m)/EWP(w)/IJF(c)   EM/JD
ACC NR: AT6003153   SOURCE CODE: UR/2529/64/000/084/0067/0073

AUTHOR: Smirnov, V. K.

36

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

B+1

TITLE: Tensometric dynamometer ZKShD 30

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 84, 1964. Aviatsionnaya tekhnologiya
i organizatsiya proizvodstva (Aviation technology and production management), 67-73

TOPIC TAGS: metallurgic testing machine, tensile test, pressure transducer, strain
gage

ABSTRACT: A three-dimensional tensometric dynamometer for measuring forces generated
during band polishing is discussed. The principle of operation is based on the use
of strain gages as shown by a schematic drawing of the apparatus and sensing beam in
Fig. 1. The beam deformations in the x, y, and z directions were calculated by the
formulas

$$f = \frac{24}{5} \cdot \frac{\frac{P}{4} \cdot l^3}{B \cdot E \cdot h^3} \text{ mm};$$

$$f = \frac{24}{5} \cdot \frac{\frac{P}{2} \cdot l^3}{B \cdot E h^3} \text{ mm};$$

— 70 —

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2

L 14951-66

ACC NR: AT6003153

position of
strain gages
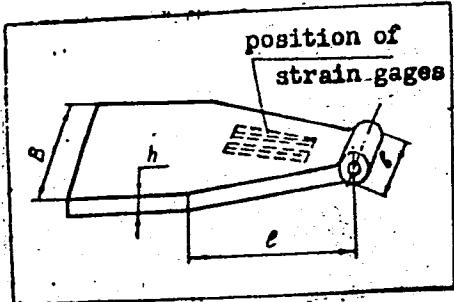
Fig. 1. Sensing beam.

where P is the load and B, h, and ℓ refer to the dimensions of the sensing beam. A wiring diagram for the stress transducers is presented, and a calibration graph of load vs. electrical resistance is given. It is concluded that the apparatus may be successfully used for determining cutting forces in various mechanical operations in which the maximum applied load is less than 30 kg. Orig. art. has: 5 graphs.

SUB CODE: 13, 11/   SUBM DATE: 01Oct63

Card 2/2

SMIRNOV, V.K.; TROFIMOVA, Ye.I., kand. tekhn. nauk, retsenzent

[Universal technological equipment in small-lot production] Universal'naia tekhnologicheskaia osnastka v melkoseriinom proizvodstve. Moskva, Mashinostroenie, 1965.
125 p.   (MIRA 18:12)

SMIRNOV, V.K.; KATSNEL'SON, S.Kh.; KRUCHININ , V.I.,redaktor; VEKSER, A.A.,
redaktor; SHPAK, Ye.G.,tekhnicheskiy redaktor

[Chemical bases of "arzamit" coating and lacquers with cold hardening
properties] Khimicheski stoikie zamazki arzamit i laki kholodnogo
otverzhdeniia. Pod red. V.I. Kruchinina. Moskva, Gos. nauchno-tekhn.
izd-vo khim. lit-ry, 1957. 49 p.   (MLRA 10:5)
            (Lacquers and lacquering) (Corrosion and anticorrosives)

SOV/81-59-8-27836

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 8, p 329 (USSR)

AUTHORS: Smirnov, V.K., Vovshina, Ye.S.

TITLE: Impregnated Graphite and Its Application in the Chemical Industry

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov Vses. sov. nauchno-tekhn.
             o-v, 1958, Nr 5, pp 88 - 100

ABSTRACT: The experience of impregnating graphite (G) with phenolformaldehyde (I)
             and silicon-organic (II) resins has shown that in the impregnation with I
             G can be obtained which is resistant to alkaline and acidic media up to
             170°C, and in the impregnation with II impregnated G can be obtained which
             is resistant to aggressive media up to 350°C. The description of the
             technology of manufacturing I and the methods of impregnating G with I and
             II, data on the physico-mechanical and chemical properties of impregnated
             G and the fields of its application are cited.

                                                          T. Fabrikant

Card 1/1

SOV/81-59-7-23758

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 7, p 302 (USSR)

AUTHORS: Smirnov, V.K., Katsnel'son, S.Kh.

TITLE: The Technology of Manufacturing Heat-Conductive Arzamit Putties
            and Their Application in the Chemical Industry

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov Vses. sov. nauchno-
            tekhn. o-v, 1958, Nr 5, pp 131 - 139

ABSTRACT: The heat-conductive putties: acid-resistant arzamit-4 and acid-
            alkali-resistant arzamit-5 combine the properties of the known
            putties arzamit-1,2,3 with the properties of heat conductivity.
            The arzamits are self-hardening putties, they have high physical-
            mechanical properties and a good chemical resistance, they are
            resistant against HF (acid), but not resistant against the action
            of oxidants, acetone and ethylacetate. The putties are used as
            binding material, but in some cases can be used also as in-
            dependent protective material. The lining is made on the sub-
            layer, for which purpose resorcino-formaldehyde resin in a mixture
            with graphite is used, for instance. At some plants bakelite

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5(1)   PHASE I   BOOK EXPLOITATION   SOV/2551

Smirnov, V. K., and Ye. S. Voshina

Propitannyy grafit i yego primeneniye v khimicheskoy promyshlen-
nosti (Impregnated Graphite and Its Application in the Chemical
Industry) Moscow, Goskhimizdat, 1959. 70 p. (Series: Korroz-
iya v khimicheskikh proizvodstvakh i sposoby zashchity, vyp.
12) 3,500 copies printed.

Ed. (Title page): V. I. Kruchinin (Deceased); Ed. (Inside book):
S. M. Belen'kaya; Tech. Ed.: L. G. Kleyman; Editorial
Board: N. A. Baklanov, V. Ye. Volodin, V. S. Kiselev (Chair-
man), I. Ya. Klinov, V. I. Kruchinin (Deceased) (Secretary),
G. V. Sagalyev (Deputy Chairman), and P. G. Udyma.

PURPOSE: This booklet is intended for industrial engineers in
establishments of the chemical industry and those in scientific
research institutes studying anticorrosive materials.

COVERAGE: The booklet, one of a general series entitled Korroziya
v khimicheskikh proizvodstvakh i sposoby zashchity (Corrosion
in the Chemical Industry and Methods of Protection), contains

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Impregnated Graphite (Cont.)   SOV/2551

general information on graphite and the properties of graph-
itized materials. Production methods and fields of application
of these materials are reviewed. No personalities are mentioned.
There are 10 references, all Soviet.

TABLE OF CONTENTS:

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Impregnated Graphite (Cont.)   SOV/2551

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S/081/62/000/021/058/069
B160/B186

AUTHORS: Smirnov, V. K., Lyamshina, Ye. N., Bogatyrev, P. M.

TITLE: New chemically stable coating systems

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 480
abstract 21P300 (Lakokrasochn. materialy i ikh primeneniye, : -
no. 6, 1961, 23-25)

TEXT: New chemically stable paints and varnishes have been developed
on the basis of resol phenol formaldehyde resin produced in the presence
of an ammonia catalyst; glycerine dichlorhydrine and n-toluene sulfo-acid
are introduced into the composition of the coatings as hardening
accelerators. The coatings dry more quickly and at a lower temperature
than films of bakelite varnish and varnish No. 86. Recipes are given for
primers and top-coat varnishes recommended for the protection of chemical
apparatus exposed to various aggressive media. 7 references.
Abstracter's note: Complete translation,

Card 1/1

15 1124

33286
S/191/62/000/002/007/008
B101/B110

AUTHORS: Smirnov, V. K., Vovshina, G. Z.

TITLE: The new "Arzamit-6" cement

PERIODICAL: Plasticheskiye massy, no. 2, 1962, 69 - 71

TEXT: A cement on the basis of binding agent and graphite, which is stable in aggressive media at temperatures to above $200^\circ C$, is described. The cements Arzamit-4 and Arzamit-5 developed so far are stable only up to $170^\circ C$. Arzamit-6 consists of phenol-formaldehyde resin and organosilicon compounds at a certain ratio (as binding agent), graphite powder (as filler), and an acid catalyst which accelerates hardening of the cement in air. The heat stability test (heating for 230-500 hr at $220-250^\circ C$) showed a tensile strength of about 40-50 kgf/cm^2, in thick layers (21-23 mm) of 25-35 kgf/cm^2. The waterproofness was tested on 5 mm thick platelets at 1-2 atm water pressure. Unheated cement specimens, as well as specimens after heating for 39 hr at $220-280^\circ C$, did not let through any water in the course of 2-3 days. The cement was stable for 200-300 hr to

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33286

S/191/62/000/002/007/008
B101/B110

The new "Arzamit-6" cement

the effect of the following aggressive media at their boiling temperatures:
70% acetic acid, 20 and 40% sulfuric acid, hydrochloric acid of all con-
centrations, phenyl acetic acid, dichloro ethane, concentrated orthophos-
phoric acid, mixture of orthophosphoric acid and hydrochloric acid. Since
the acid catalyst of the cement might corrode the steel apparatus, various
prime coats were tested: resorcin phenol-formaldehyde resin with graphite,
$\phi\Gamma$ 9 (FG-9) varnish with aluminum, etc. Best results were obtained with
organosilicon varnish (mixture of organosilicon resin FG-9 with intermedi-
ate product type ϕX-02 (FKh-02)) dissolved in toluene or xylene with filler.
Three coats were applied, and the apparatus heated after the first coating
for 10-12 hr, after the second and third coatings for 5-6 hr at 130-150°C.
Finally, a 13-liter apparatus of steel 3 was lined with graphite plates by
means of the cement. The lining was not affected by phenyl acetic acid at
250°C, by 20-30% hydrochloric acid (31 days) at room temperature, by tri-
ethylene glycol (23 days) at 220-250°C, and by 20% hydrochloric acid at
boiling temperature. There are 1 table and 1 Soviet reference.

Card 2/2

SMIRNOV, V.K.

The ZK3hD-30 strain measuring dynamometer. Trudy KAI no.84:67-73
'64.
(MIRA 18:10)
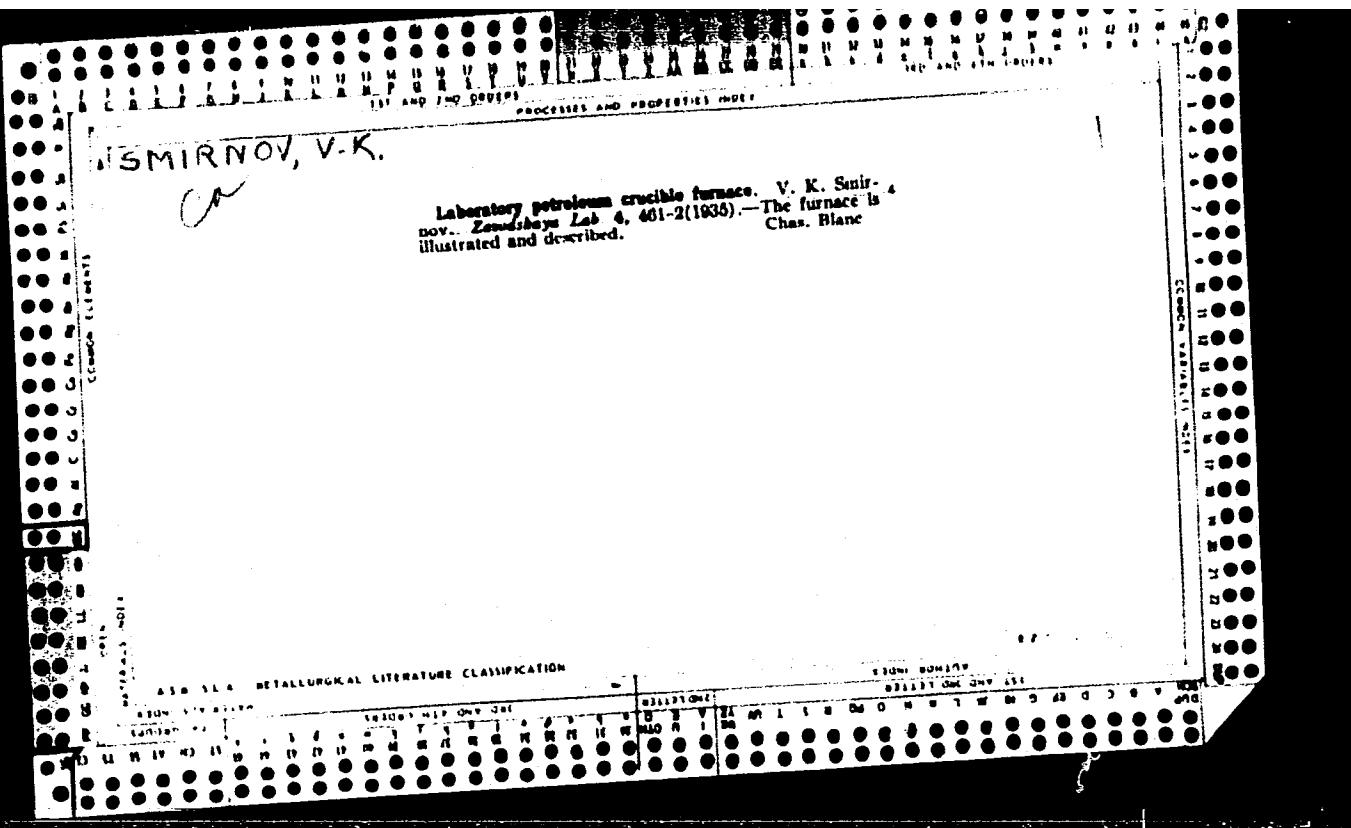
SMIRNOV, V. K.

Separation of copper and lead from copper-lead concentrates by flotation. V. K. Smirnov. *Tsvetnuie Metal.* 1934, No. 4, 37-49.—Pertzovsk' ore contg. Cu 1.5, Pb 7.09 and Zn 10.49% was ground wet with H_2O, Na_2CO_3, NaCN and $ZnSO_4$ until 92% passed a 200-mesh screen. The pulp was concd. by flotation, with Et xanthate and pine tar as reagents. The concentrate was then agitated with $K_2Cr_2O_7$ in acid medium and floated with small amts. of pine oil. In this way, with the consumption of $K_2Cr_2O_7$ 0.4 kg. per ton in a medium of

H_2S, a Cu concentrate, contg. Cu 18-20, Pb 8-10 and Zn 11-19%, and a Pb concentrate contg. Cu 0.8-2.5, Pb 50-55, Zn 6-9 and Fe 5-7% were obtained. These concentrates held 87-95% and 88-92% of the original Cu and Pb, resp.   S. L. Madorsky

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

SMIRNOV, V.K.

Laboratory petroleum crucible furnace. V. K. Smir-
nov. Zavodskaya Lab. 4, 461-2(1935).—The furnace is
illustrated and described.   Chas. Blanc

SMIRNOV, V. K.

"Investigation of the Longitudinal Rolling of Shapes Having Varying Cross Sections." Cand Tech Sci, Ural Polytechnic Inst imeni S. M. Kirov, Min Higher Education USSR, Sverdlovsk, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

25(1)

PHASE I   BOOK EXPLOITATION   SOV/2727

Obrabotka metallov davleniyem; sbornik statey, vyp. 5 (Metal Forming;
Collection of Articles, No. 5) Moscow, Metallurgizdat, 1959. 197 p.
3,000 copies printed.

Scientific Ed.:   L.Kh. Al'shevskiy, Candidate of Technical Sciences; Ed. of
Publishing House: N.A. Valov; Tech. Ed.: A.I. Karasev.

PURPOSE: This collection of articles is intended for technical personnel and
scientific workers in the metallurgical and machinery-construction industries.

COVERAGE: This collection of articles deals with problems of rolling and tube
manufacture. Results of research done on roll design and new methods of deter-
mining basic manufacturing parameters in the production of tubes and other
rolled shapes are presented. Methods of analyzing the kinematics of processes
in helical piercing mills and rolling mills by means of motion pictures are
discussed. Also discussed are several phenomena associated with tube rolling.
No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

Card 1/7

Metal Forming (Cont.)

Drafts, Taking the Index of Plasticity Into Account   SOV/2727
Data on the relationship between the plastic properties of a metal and the   47
degree of deformation in rolling are summarized. A simple equation for
calculating allowable drafts is presented.

Zasukha, P.F. [Engineer, Ural'skiy institut chernykh metallov (Ural Institute
of Ferrous Metallurgy)]. Means of Increasing the Productivity of Mechanized
Sheet Mills
    This article deals with the results of an investigation conducted at the   53
Severskiy Zavod (Severskiy Plant). N.S. Smirnov, I.V. Kukanov, E.R. Rimm,
and N.P. Shirinkin took part.

Astrov, Ye.I. [Candidate of Technical Sciences], A.I. Chichkanov, N.N. Tikhonov,
V.N. Biryukova [Engineers], [Gor'kovskiy metallurgicheskiy zavod (Gor'kiy
Metallurgical Plant)]. Rolling Khl7N2 Stainless Steel Into Universal Plates
    The technique of heating and rolling ingots of Khl7N2 stainless steel in a   62
universal rolling mill is described. Mechanical properties and structures
obtained are discussed.

Gel'derman, L.S. [Candidate of Technical Sciences, Nauchno-issledovatel'skiy

Card 3/7

Metal Forming (Cont.)

SOV/2727

Plyatskovskiy, O.A. [Candidate of Technical Sciences, Vsesoyuznyy nauchno-issledovatel'skiy trubnyy institut (All-Union Scientific Research Institute for Pipe)]. Investigation of the Kinematics of Processes in Helical Piercing Mills by Motion Picture Filming and Other Methods
 This article deals with industrial and laboratory tests of a method of in-   114
 vestigating kinematic processes in rolling by means of motion pictures.
 The mechanism of the process is discussed, and experiments on piercing and
 three-high mills are described. Results are shown in tables and diagrams.

Plyatskovskiy, D.A., N.L. Oslon [Candidate of Technical Sciences], and E.O. Nodev [Engineer], [Novotrubnyy zavod (Novotrubnoye Plant)]. Rolling Medium-diameter Stainless Steel Tubes With Increased Rate of Deformation
 This article deals with an experimental investigation of the use of stainless   129
 steel with a high deformation coefficient in piercing processes. Results
 show an increase in the rate of production and greater economy of materials.

Vatkin, Ya.L. [Candidate of Technical Sciences]; A.A. Shevchenko [Doctor of Technical Sciences]; and I.D. Kronfel'd, S.V. Rozhnov, and I.A. Chekmarev , [Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute), and All-Union Scientific Research Institute for Pipe]. Investigation

Card 5/7

Metal Forming (Cont.)

   experimental data.

AVAILABLE: Library of Congress

Card 7/7

SOV/2727

GO/jb
1-6-60

, V.K.

Causes for buckling of forgings subjected to rolling in mills.
Kuz.-shtam.proizv. 1 no.3:6-8 My '59.   (MIRA 12:10)
                    (Rolling (Metalwork))

TARNOVSKIY, I.Ya.; SHIROV, V.K.; KOTSAR', S.L.

Replacing drop forging by rolling in mills. Kuz.-shtam.proizv.
1 no.3:18-22 My '59.   (MIRA 12:10)
                    (Rolling (Metalwork))

TARNOVSKIY, I.Ya.; SMIRNOV, V.K.; KOTSAR', S.L.; BEDIN, N.A.; BELYAKOV, V.I.

Intensifying the rolling of billets for forging. Kuz.-shtam. proizv. 1 no.6:1-6 Je '59.   (MIRA 12:9)
(Rolling (Metalwork))

S/137/61/000/007/031/072
A060/A101

AUTHORS: Tarnovskiy, I. Ya., Smirnov, V. K.; Kotsar', S. L.

TITLE: Main results of the study of longitudinal rolling of varying section profiles

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 11, abstract 7D75
("Tr. Konferentsii: Tekhn. progress v tekhnol. prokatn. proiz-va".
Sverdlovsk, Metallurgizdat, 1960, 381-394)

TEXT: The authors consider the elements of the theory of longitudinal periodic rolling determination of the limiting conditions for obtaining varying-section profiles on the basis of the analysis of metal flow, determination of the limiting conditions for obtaining varying section profiles on the basis of the analysis of force conditions in the strain seat, the production of links for the caterpillar track of the tractor C-100 (S-100), replacement of stamping and machining by rolling in the production of various tractor parts, manufacture of varying section blanks on forging rolls after their stamping in mechanical stamping presses. The possibility of applying longitudinal periodic rolling in the manufacture of tractor parts is demonstrated.   A. Bulanov
[Abstracter's note: Complete translation]
Card 1/1

TARNOVSKIY, I.Ya.; SMIRNOV, V.K.

Loading in longitudinal periodic rolling. Izv.vys.uchob.zav.;
chern.met.   no.3:51-58 '60.   (MIRA 13:4)

1. Ural'skiy politekhnicheskiy institut.
          (Rolling(Metalwork))

S/148/61/000/006/005/013
E193/E480

AUTHORS: Smirnov, V.K. and Tarnovskiy, I.Ya.

TITLE: Forward slip in the transition zones in rolling of
periodic profiles

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya
metallurgiya. 1961, No.6, pp.95-104

TEXT: Most periodic profiles, produced by longitudinal rolling,
constitute various combinations of flat and tapered sections.
In rolling profiles of this type, there are moments when two or
more parts of the rolls with different curvatures are in the
deformation zone.   In the present paper, an analysis is carried
out of the conditions for the case when no more than two different
portions of the rolls are simultaneously in the deformation region.
All possible combinations of flat and tapered sections are shown in
Fig.1, where the direction of rolling is from left to right.
When a strip of this type is rolled, roll portions with diminishing
and increasing radii can be simultaneously in the deformation zone;
this corresponds to a transition from rolling with decreasing draft
to rolling with increasing draft.   When roll portions with
increasing and constant radii are in the deformation zone, this
Card 1/6

Forward slip in the transition ...   S/148/61/000/006/005/013
E193/E480

corresponds to transition from rolling with increasing draft to
rolling at a constant draft etc.   The variants shown in Fig.1 are
divided into two groups: one comprising the variants a,δ,β and
$\tilde{c}$.   the other comprising variants ∂ , e, χ and μ.   Rolling of
tapered strip under conditions of diminishing draft can be regarded
as a particular case of the first group; similarly, rolling of
tapered strip with increasing draft is a particular case of the
second group. (Variants $\tilde{c}$ and μ , less common than the remaining
ones, are not considered in the present analysis.)   The geometry of
rolling according to variants a and ∂ , relevant to the subject
under consideration, are shown in Fig.2a and 2δ respectively.
It is with reference to this figure that general formulae are
derived in the following paragraphs for the central angle of
contact θ , and for the critical angle γ , the latter being
determined from the equilibrium of the horizontal components of
forces in the deformation region.   The change of the critical
angle γ with the rotation of the rolls is then considered and
the relationship between γ and various rolling parameters is
discussed.   A formula for the momentary forward slip is then
derived, the term "momentary" signifying the fact that the forward
Card 2/6

Forward slip in the transition ...

S/148/61/000/006/005/013
E193/E480

slip in the case under consideration continually varies.   The validity of this formula was checked by experiments carried out on lead strip of the type shown on top of Fig.7.   Test pieces of various sizes were rolled under various rolling conditions. Typical results for 2 sets of experimental conditions are shown in Fig.7 (bottom), where the forward slip S" is plotted against the distance (given in mm on the circumference of the rolls or in degrees of the angle 6)   from the point of minimum roll radius. Although the validity of the analytically established relationships was qualitatively confirmed by the experiments, in many cases the experimental values of S" differed from the calculated values. This was attributed to the fact that the formula S" derived by the present authors, did not take into account the zone of sticking friction.   There are 8 figures and 11 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
             (Ural Polytechnical Institute)

SUBMITTED: January 4, 1960

Card 3/6

TARNOVSKIY, I.Ya.; SMIRNOV, V.K.; KHAYKIN, B.Ye.

    Estimate of power parameters for periodic rolling with burrs.
    Izv. vys. ucheb. zav.; chern. met. 4 no.11:86-93 '61. (MIRA 14:12)

    1. Ural'skiy politekhnicheskiy institut.
                           (Rolling mills)

TARNOVSKIY, I.Ya; SMIRNOV, V.K.; KOTSAR', S.L.

Kinematics of the nonstationary center of deformation in rolling.
Izv. vys. ucheb. zav.; chern. met. 4 no.11:97-109 '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut.
                        (Rolling (Metalwork))
                        (Deformations (Mechanics))

SMIRNOV, V.K.

Formation of transition areas in longitudinal rolling of
changing cross-section shapes, Trudy Ural. politekh. inst.
no.127:33-47 '61.   (MIRA 16:8)

SMIRNOV, V.K.

Calculating transition lag areas in rolling with grooved rolls. Trudy Ural. politekh. inst. no.127:48-55 '61.

(MIRA 16:8)

TARNOVSKIY, Iosif Yakovlevich; SMIRNOV, Vitaliy Kuz'mich; KOTSAR',
    Sergey Leonidovich; PAL'MOV, Ye.V., prof., retsenzent; LEDNEV,
    M.P., kand.tekhn.nauk, retsenzent; KRYZHOVA, M.L., red.izd-va;
    TURKINA, Ye.D., tekhn. red.

[Longitudinal rolling of merchant shapes with a varying cross
section] Prodol'naia prokatka profilei peremennogo secheniia.
Sverdlovsk, Metallurgizdat, 1962. 366 p.   (MIRA 15:7)
                (Rolling (Metalwork))

TARNOVSKIY, I.Ya.; SMIRNOV, V.K.; KOTSAR', S.L.

Increase in width during the rolling of strips of variable
thickness. Izv. vys. ucheg. zav.; chern met. 5 no.1:101-
111 '62.   (MIRA 15:2)

1. Ural'skiy politekhnicheskiy institut.
                    (Rolling(Metalwork))

SMIRNOV, V.S.; ANISIMOV, V.A., kand. tekhn. nauk, retsenzent;
MICKIN, Yu.L., inzh., red.

[Rolling blanks for forging] Val'tsovka zagotovok pod
shtampovku. Moskva, Mashinostroenie, 1964. 122 p.
(MIRA 18:1)

CHEKH V, E.L., FRENKEL', B.R., inzh., SAMOYLYUK, N.P., kand. tekhn. nauk;
KROT, V.P.; OKIPNOV, V.K., kand. tekhn. nauk

Results of the experimental testing of the SP-63 scraper
conveyor. Ugol' 40 no.4:53-56 Ap '65.   (MIRA 18:5)

1. TSNII AN UkrSSR (for Polyakov, Smirnov). 2. Gosudarstvennyy
proyektno-konstruktorskiy i eksperimental'nyy institut ugol'nogo
mashinostroyeniya (for Samoylyuk, Frenkel'). 3. Dnepropetrovskiy
ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema
(for Krot).

S

AUTHORS: Zeytlenok, G. A., Rumyantsev, V. V., Smirnov,V. L.,
                Fomin, L. P., Khokhlov, V. K., Grishayev, I. A.,
                Zeydlits, P. M.

TITLE: Principles of the Selection of the **Basic** Parameters of a
                Linear Accelerator **of** Electrons **to** High Energy (Osnovaniya
                dlya vybora osnovnykh parametrov lineynykh uskoriteley
                elektronov na bol'shiye energii)

ABSTRACT: By a comparative analysis the dependence of the accelerator
                len th, the number of sections, the input power, the con-
                struction costs, and the possibilities of use on the value
                of the electric field strength in the axis of the waveguide
                are shown. The section of the waveguide in this case is fed
                independently by a high-frequency generator.
                The minimum of the construction cost and of the possibilities
Card 1/3   of use is not determined by the final energy of the electrons.

89-4-5-6/26

Principles of the Selection of the Chief Parameters of a Linear Accelerator
for Electrons of High Energy

There is no relation between these points. It could be shown
that for the feeding of the accelerator sections a high-
frequency generator with a power of more than 2o MW is best
suited. The problem of the increase of the duration of the
useful part of the high-frequency impulse is ventilated. If a
rectangular waveguide is used, the duration of the impulse at
the input of the excitation line must be increased by the
amount of L/V_{limit} - L/C. In this case it is as well necessary
that the high-frequency impulse reaches the amplifying klystron
of the first section with a deceleration of the same amount.
For that purpose a special synchronizing scheme is needed which
simultaneously transfers the phase shift to the other sections.
The relation between the duration of the useful part of the
impulse and the total duration of the impulse is independent
of the final energy of the accelerated electrons. There are
13 figures, 1 table and 2 references, 1 of which is Soviet.

Card 2/3

SMIRNOV, V. L.   95

S/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo
             instituta (Scientific Conference of the Moscow Engineering
             Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400
delegates participating. A review is given of these lectures that are
assumed to be of interest for the readers of Atomnaya energiya. They are
following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev,
design of accelerators for superhigh energies; I. Ya. Pomeranchuk,
analyticity, unitarity, and asymptotic behavior of strong interactions at
high energies; A. B. Migdal, phenomenological theory for the many-body
problem; Yu. D. Fiveyskiy, deceleration of medium-energy antiprotons in
matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect;
M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium;
Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of subcritical plasma;

Card 1/4

35

Nauchnaya konferentsiya...

design of 30-Mev electron linear accelerator; Ye. G. Pyatnov, A. A. Glazkov,
V. G. Lopato, A. I. Finogenov, G. N. Skepskiy, V. D. Seleznev, experimental
characteristics of low-energy electron linear accelerators; G. A. Zeytlenk,
V. M. Levin, S. I. Piskunov, V. L. Smirnov, V. K. Khokhlov, radiocircuit
parameters of ЛУЭ(LUE)-type accelerators; O. A. Tyagunov, O. A. Val'dner,
B. M. Gokhberg, S. I. Korshunov, V. I. Kotov, Ye. M. Moroz, accelerator
classification and terminology; O. S. Milovanov, V. B. Varaksin, P. R.
Zenkevich, theoretical analysis of magnetron operation; A. G. Tragov,
P. R. Zenkevich, calculation of attenuation in a diaphragmated waveguide;
Yu. P. Lazarenko, A. V. Ryabtsev, optimum attenuation length for linear
accelerator; A. A. Zhigarev, R. Ye. Yeliseyev, review on trajectographs;
I. G. Morozova, G. A. Tyagunov, review on more than 500 ion sources;
M. A. Abroyan, V. L. Komarov, duoplasmatron-type source; V. S. Kuznetsov,
A. I. Solnyshkov, calculation and production of intense ion beams;
V. M. Rybin (Ye. V. Armenskiy), inductive current transmitters of high
sensitivity; V. I. Korosa, G. A. Tyagunov, kinetic description of linear
acceleration of relativistic electrons; A. D. Vlasov, phase oscillations
in linear accelerators; E. L. Burshteyn, G. V. Voskresenskiy, beam field
effects in the waveguide of an electron linear accelerator; R. S. Bobovikov,

Card 3/4

ACCESSION NR: AT4035116   S/3092/63/000/001/0166/0172

AUTHORS: Smirnov, V. L.; Uspenskiy, N. B.

TITLE: Resonant method of investigating loaded waveguides

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizich-
eskoy apparatury*. Elektrofizicheskaya apparatura; sbornik statey,
no. 1, 1963, 166-172, and chart A facing p. 204

TOPIC TAGS: cavity resonator, waveguide element, resonance curve,
resonator Q factor, frequency shift, particle acceleration

ABSTRACT: In view of the laborious and frequently inaccurate pro-
cedures presently used to design loaded waveguides for particle ac-
celeration, and in view of the desire to reduce to a minimum the
accelerated-particle loss when such waveguides are inaccurately
manufactured, it is proposed to investigate loaded waveguides by a
resonant method which determines the absolute value of the resonant

Card   1/3
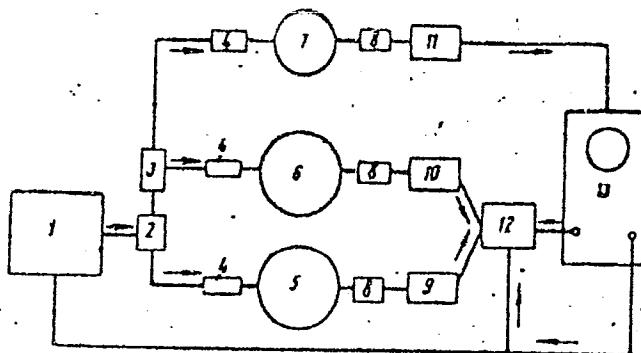
ACCESSION NR: AT4035116

natural frequency with accuracy $\pm 2.2 \times 10^{-5}$, the relative frequency
with accuracy $\pm 7 \times 10^{-6}$, and the Q accurate to $\pm 10\%$. The operation
of the apparatus and its principal units are described. The influ-
ence of the temperature and of the degree of vacuum on the accuracy
is analyzed. To show that the accuracy can be increased by more
careful calibration of the standard loaded cavity used for the mea-
surements, and by using a high grade echo-resonator. The knowledge
of the corrections for the influence of the temperature and of the
vacuum conditions makes it possible to reduce the measurement results
to conditions at which the loaded waveguide is used in linear elec-
tronic accelerator. The procedure has been used in laboratory and
plant conditions for several years. Orig. art. has: 6 figures and
1 formula.

ASSOCIATION: None

SUBMITTED: 00   DATE ACQ: 07May64   ENCL: 01

SUB CODE: EC, ME   NR REF SOV: 001   OTHER: 003

Card   2/3

Block diagram of apparatus. 1 — klystron generator for generator for
10 cm band, 2 — power divider; 3 — coaxial tee, 4 — fixed attenuator;
5 — investigated resonator; 6 — standard resonator; 7 — echo resona-
tor; 8 — detector, 9, 10, 11 — amplifiers; 12 — electronic commutator;
13 — EO-7 oscilloscope

Card 3/3

L 00941-66   EWT(m)/EPA(w)-2/EWA(m)-2   IJP(c)

ACCESSION NR: AT5015936   UR/3092/65/000/003/0037/0045

AUTHOR: V'yalitsyn, V. A.; Nadybin, A. I.; Prudnikov, I. A.; Ryabtsov, A. V.;
Smirnov, V. L.; Khokhlov, V. K.

TITLE: Investigation of the accelerating system of a 5-Mev linear accelerator

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy
apparatury. Elektrofizicheskaya apparatura; sbornik statey, no. 3, 1965, 37-45

TOPIC TAGS: electron accelerator, 5 Mev linear accelerator

ABSTRACT: The results of testing an experimental model of the 5-Mev linear
electron accelerator which is intended for beta and gamma therapy are reported.
The accelerating system is made in the form of a 2338.3-mm long septate wave-
guide operating at $\pi/2$ mode. The initial 767-mm long section of the waveguide
has variable dimensions so that the phase velocity and field-strength amplitude
can be continuously varied to ensure a high capture coefficient. These measured

Card 1/2

SMIRNOV, V.M.

Cutaneous signs and their application in the study of the second signal system. Fiziol. zh. SSSR 39 no.5:618-622 Sept-Oct 1953.   (CLML 25:4)

1. Department of Psychiatry of Khabarovsk Medical Institute.

KRYSHOVA, N.A.; KOK, Ye.P.; SMIRNOV, V.M.

Clinical physiological investigation of aphasia. Zhur. nevr. i psikh.
54 no.12:979-986 D '54.   (MLRA 8:2)

1. Institut fiziologii imeni I.P.Pavlova AN SSSR.
        (APHASIA, physiology,
            conditioned & unconditioned funct.)
        (REFLEX, CONDITIONED,
            in aphasia)
        (REFLEX,
            unconditioned in aphasia)

ASAFOV, B.D.; SMIRNOV, V.M.

Studying the dynamics of conditioned reflexes in normal sight
and in blindness. Vop. psikhol. 2 no.4:66-73 Jl-Ag '56.
(MLRA 9:10)

1. Leningradskiy nauchno-issledovatel'skiy institut ekspertizy
trudosposobnosti i trudoustroystva invalidov.
    (Conditioned response) (Blindness)

ASAFOV, B.D.; SMIRNOV, V.M.

Registration of speech and graphic conditioned reactions in studying
dermolexia, phonolexia, and inesthesiolexia. Zhur.vys.nerv.deiat.
6 no.2:333-337 Mr-Ap '56.   (MIRA 9:8)

1. Otdel fiziologii Leningradskogo nauchno-issledovatel'skogo
instituta ekspertizy trudosposobnosti i trudoustroystva invalidov.
        (REFLEX, CONDITIONED
            graphic & speech, method with dermolexia, phonolexia &
            kinesthesiolexia)

GORELOV, V.V., podpolkovnik med. sluzhby; SMIRNOV, V.M., kapitan med. sluzhby

Some aspects of events in aviation related to the state of health.
Voen. med. zhur no.4:52-55 Ap '57   (MIRA 12:7)
          (AVIATORS,
                    relation of flying activities to health (Rus))

METHODS OF DERMOLEXIA, PHOTOLEXIA, AND KINES(LEXIA)." LE-

1960. (ACAD SCI USSR, INST OF PHYSIOLOGY IM

I. P. PAVLOV). (KL, 2-61, 219).

SMIRNOV, V. M.

"Clinical and investigation of alexia"

Report submitted to the 7th International Congress of Neurology, Rome, Italy, 10-15 Sep 61

SMIRNOV, V.M.

Study of the pathophysiological mechanisms of alexia.
Vop. psikh. i nevr. no.9:505-517 '62.   (MIRA 17:1)

1. Sektor nervnykh bolezney (zav. - prof. N.A. Kryshova)
Instituta fiziologii imeni I.P. Pavlova (dir. - akademik
V.N. Chernigovskiy) AN SSSR.

SMIRNOV, V.M., kand.tekhn.nauk

Making asphalt binders to meet required properties. Trudy
MADI no.23:88-95 '58.   (MIRA 12:1)
        (Asphalt) (Bituminous materials)

GUNDER, O.A.; SMIRNOV, V.M.

     Thermographic study of petroleum bitumens. Izv. vys. ucheb. zav.;
     neft' i gaz 3 no.1:79-84 '60.   (MIRA 14:10)

    1. Khar'kovskiy avtomobil'dorozhnyy institut.
                  (Bitumen—Analysis)

SMIRNOV, V.M., dotsent; MASHKEVICH, L.N., assistent

Using the electric capacitance method in determining the water
content of bitumens. Avt.dor. 23 no.3:13 Mr '60. (MIRA 13:6)
(Bitumen)

45603
S/080/63/036/001/022/026
D204/D307

//· r/ r⁰

AUTHORS: Dobychin, S.L. and Smirnov, V.M.

TITLE: A study of the thermal decomposition
                 of ammonium nitrate by isotopic and
                 mass-spectrometric method
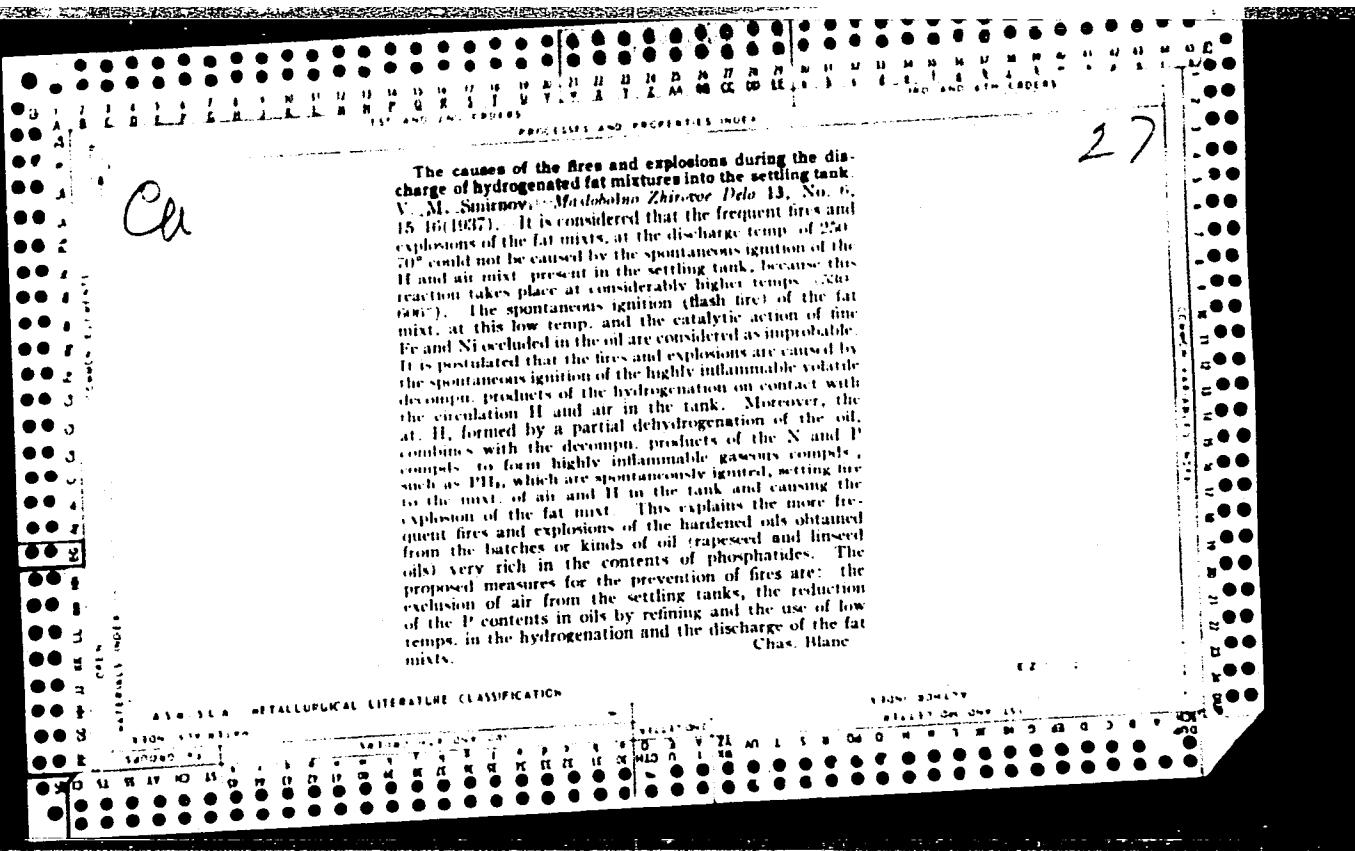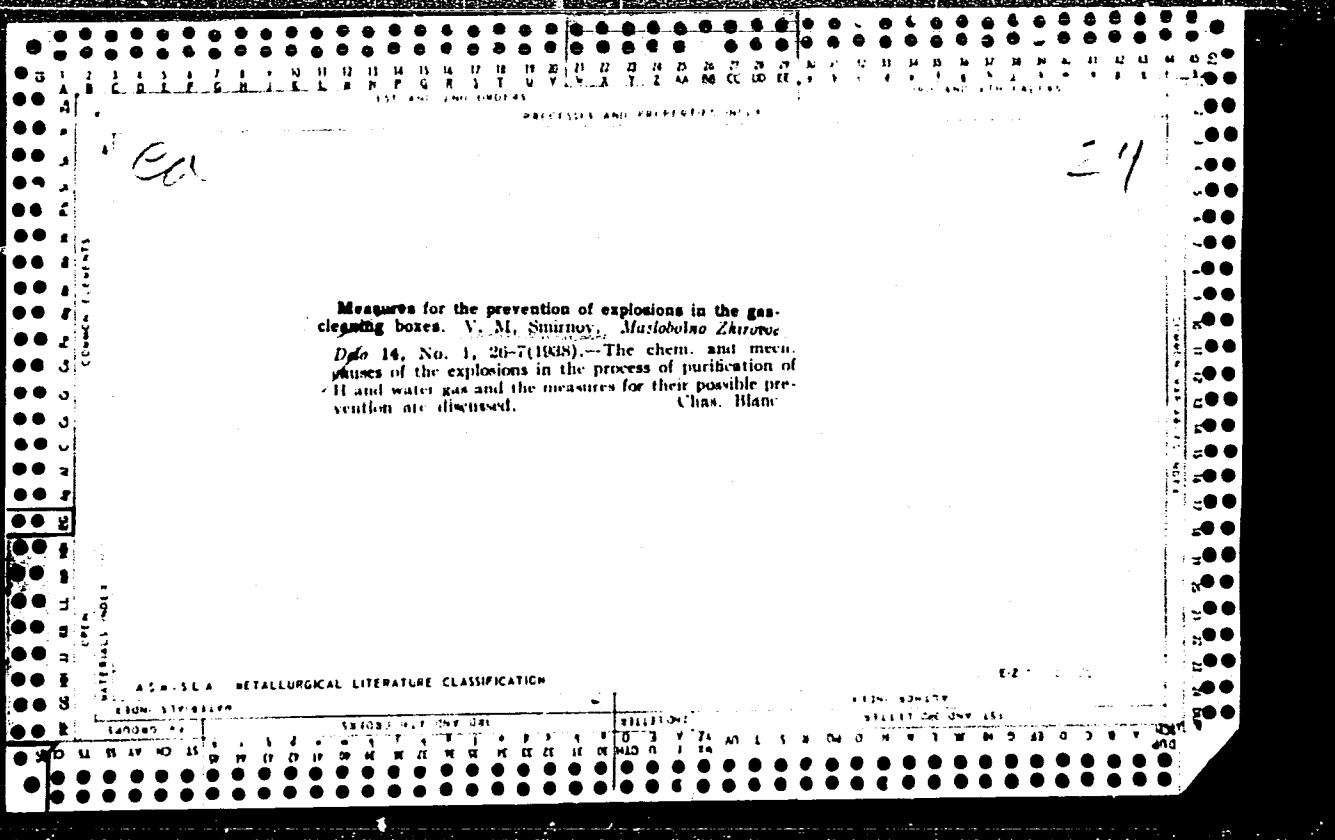
PERIODICAL: Zhurnal prikladnoy khimii, v. 36,
                 no. 1, 1963, 215 - 218
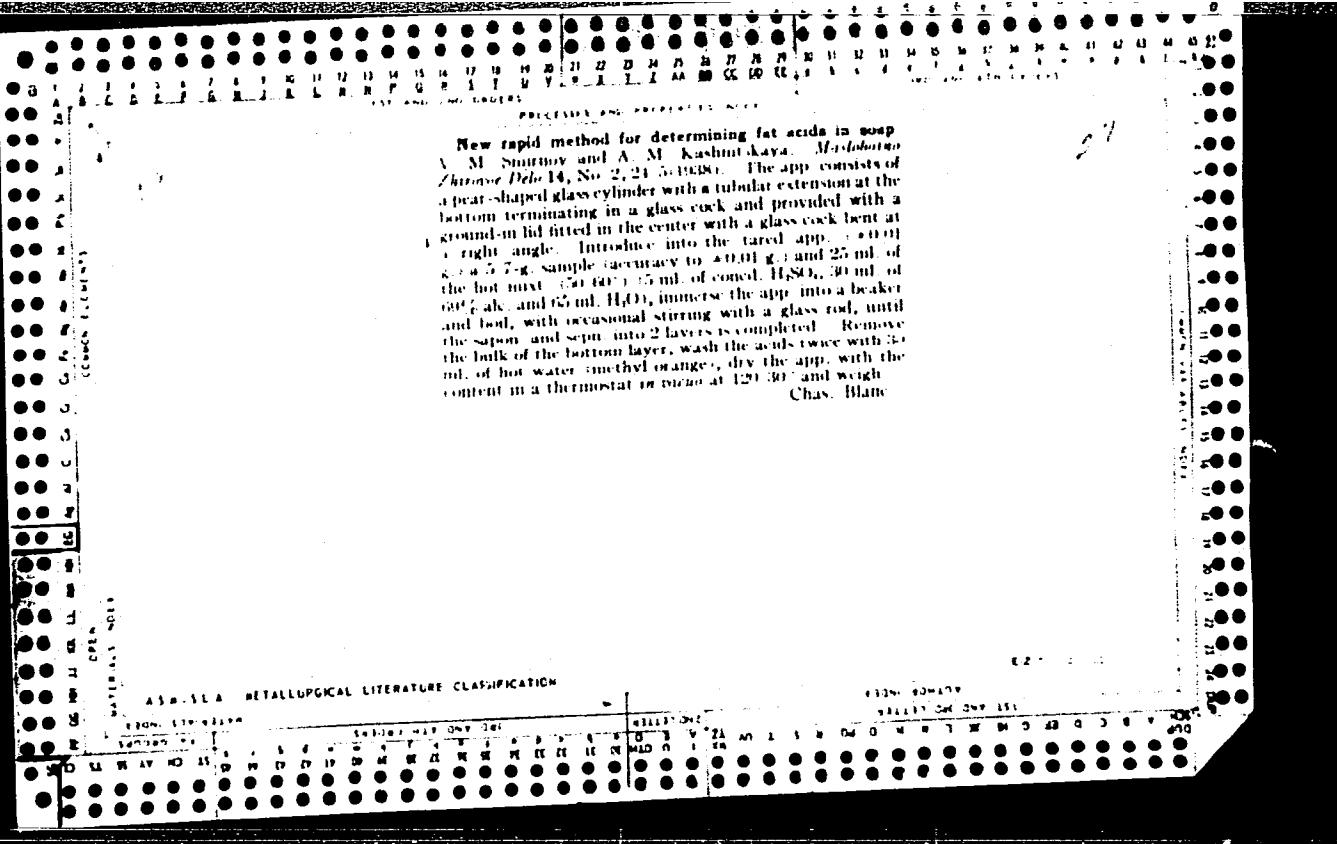
TEXT: The effects of NO_2 and HNO_3 on the initial
stage in the dissociation of NH_4NO_3 at $\sim$ 170°C were studied to
determine the exact mechanism of this reaction. Specimens labelled
with N^{15} were used, and the decomposition products and isotopic
distribution were analyzed mass-spectrometrically. 100 mg samples
of NH_4NO_3 were weighed into Mo glass ampoules, which were then
evacuated to 10-5 - 10-7 mm Hg. $N^{15}O_2$ were added in amounts of
$\sim$ 10 % (by weight) of the ammonium nitrate. The ampoules were
then held at 173 $\pm$ 2°C for 20 min and the products were analyzed.

Card 1/2

27

The causes of the fires and explosions during the discharge of hydrogenated fat mixtures into the settling tank. V. M. Smirnov. *Maslobolno Zhirovoe Delo* 13, No. 6, 15 16(1937). It is considered that the frequent fires and explosions of the fat mixts. at the discharge temp. of 250 70° could not be caused by the spontaneous ignition of the H and air mixt. present in the settling tank, because this reaction takes place at considerably higher temps. (250 600°). The spontaneous ignition (flash fire) of the fat mixt. at this low temp. and the catalytic action of fine Fe and Ni excluded in the oil are considered as improbable. It is postulated that the fires and explosions are caused by the spontaneous ignition of the highly inflammable volatile decompn. products of the hydrogenation on contact with the circulation H and air in the tank. Moreover, the at. H, formed by a partial dehydrogenation of the oil, combines with the decompn. products of the N and P compds. to form highly inflammable gaseous compds., such as PH₃, which are spontaneously ignited, setting fire to the mixt. of air and H in the tank and causing the explosion of the fat mixt. This explains the more frequent fires and explosions of the hardened oils obtained from the batches or kinds of oil (rapeseed and linseed oils) very rich in the contents of phosphatides. The proposed measures for the prevention of fires are: the exclusion of air from the settling tanks, the reduction of the P contents in oils by refining and the use of low temps. in the hydrogenation and the discharge of the fat mixts.

Chas. Blanc

METALLURGICAL LITERATURE CLASSIFICATION

Measures for the prevention of explosions in the gas-cleaning boxes. V. M. Smirnov, Maslobolno Zhirovoe Delo 14, No. 1, 26-7(1938).—The chem. and mech. causes of the explosions in the process of purification of H and water gas and the measures for their possible prevention are discussed. Chas. Blanc

New rapid method for determining fat acids in soap. V. M. Smirnov and A. M. Kashnikaya. Maslobuino Zhirovoe Delo 14, No. 2, 24-5 (1938). The app. consists of a pear-shaped glass cylinder with a tubular extension at the bottom terminating in a glass cock and provided with a ground-in lid fitted in the center with a glass cock bent at a right angle. Introduce into the tared app. 4-5 g. sample (accuracy to ±0.01 g.) and 25 ml. of the hot mixt. (at 60°) 15 ml. of concd. H₂SO₄, 30 ml. of 60% alc. and 65 ml. H₂O), immerse the app. into a beaker and boil, with occasional stirring with a glass rod, until the sapon. and sepn. into 2 layers is completed. Remove the bulk of the bottom layer, wash the acids twice with 30 ml. of hot water (methyl orange), dry the app. with the content in a thermostat in vacuo at 120-130° and weigh.

Chas. Blanc

SMIRNOV, V.M. DEMIDOV, P.G., redaktor; KONYASHINA, A., tekhnicheskiy
redaktor.

[Fire prevention in the storage of gases] Pozharnia profilaktika
pri khranenii gazov. Moskva, Izd-vo Ministerstva kommunal'nogo
khoziaistva RSFSR, 1955. 58 p.   (MLRA 8:8)
    (Gas manufacture and works--Fires and fire prevention)

SMIRNOV, V.M.; ALEKSEYEV, M.V.; DEMIDOV, P.G.; PCHELINTSEV, V.A., red.;
    VINOKUROVA, Ye.B., red.izd-va; KONYASHINA, A.D., tekhn.red.

[Fire prevention in the production and processing fuel gas and
solid fuels] Pozharnaia profilaktika pri poluchenii i pererabotke
goriuchikh gazov i tverdykh veshchestv. Moskva, Izd-vo M-va
kommun. khoz.RSFSR, 1955. 251 p.   (MIRA 11:5)
        (Fire prevention)

ALEKSEYEV, M.V.; SMIRNOV, V.M.; DEMIDOV, P.G., redaktor; IOFFE, M.L.,
        redaktor; PETROVSKAYA, Ye., tekhnicheskiy redaktor.

[Fire prevention in technological processes in connection with the
handling of liquid fuels and inflammables] Pozharnaia profilaktika
v tekhnologicheskikh protsessakh, sviazannykh s obrashcheniem goriu-
chikh i legkovosplameniaiushchikhsia zhidkostei. Moskva, Izd-vo Mi-
nisterstva kommunal'nogo khoziaistva RSFSR, 1955. 290 p. [Microfilm]
        (Fire prevention) (Liquid fuels)   (MIRA 8:5)

SAVUSHKINA, Antonina Nikolayevna, podpolkovnik; SMIRNOV, Vasiliy
Mikhaylovich, inzh.-podpolkovnik; KALASHNIKOV, K.A., red.;OV-
CHINNIKOVA , V.V., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Fire prevention; textbook for sergeants' schools of the
Militarized Fire Prevention Units of the Ministry of the
Interior] Pozharnaia profilaktika; uchebnoe posobie dlia
serzhantskikh shkol VPO MVD. Moskva, Izd-vo M-va kommun.khoz.
RSFSR, 1961. 390 p.   (MIRA 15:1)
              (Fire prevention—Study and teaching)

SMIRNOV, Vasiliy Mikhaylovich; MAKAROV, V.M., red.; CHEKRYZHOV, V.A.,
      red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Automation and the fire safety of technological processes]
Avtomatika i pozharnaia bezopasnost' tekhnologicheskikh protses-
sov. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1962. 199 p.
                                              (MIRA 16:2)
      (Factories—Fires and fire prevention) (Automation)

GRIGORYAN, Grigoriy Makarovich, prof., doktor tekhn. nauk; YEGOROV,
    Valerian Nikolayevich, dots., kand. tekhn.nauk;
    KALASHNIKOV, Konstantin Artamonovich, inzh.-polk.;
    KOROL'KOVA, Vera Ivanovna, kand. tekhn. nauk; POLOZKOV,
    Vladimir Tikhonovich, dots., kand. tekhn. nauk;
    SARKIS'YANTS, Gayk Arkad'yevich, prof. Prinimal uchastiye:
    SMIRNOV, V.M., inzh.-podpolk.; KUSHELEV, Vladimir Pavlovich,
    red.; ROYTMAN, Miron Yakovlevich, red.; YEFREMOVA, T.D., ved.
    red.; KLEYMENOVA, K.F., ved. red.; VOROB'YEVA, L.V., tekhn.red.

[Fundamentals of safety engineering and fire prevention in the
petroleum and gas industries] Osnovy tekhniki bezopasnosti i
protivopozharnoi tekhniki v neftianoi i gazovoi promyshlen-
nosti. [By] G.M.Grigorian i dr. Moskva, Gos. nauchno-tekhn.
izd-vo neft. i gorno-toplivnoi lit-ry, 1962. 222 p.
                                        (MIRA 15:2)
            (Gas industry—Fires and fire prevention)
        (Petroleum industry—Fires and fire prevention)
                (Industrial hygiene)

L 08116-67   EWT(I)   WW

ACC NR: AP6032035   SOURCE CODE: UR/0114/66/000/007/0040/0040

AUTHOR: Maykov, S. M. (Engineer); Smirnov, V. M. (Engineer)

ORG: none

TITLE: Flexible compensators for stationary gas turbines

SOURCE: Energomashinotroyeniye, no. 7, 1966, 40

TOPIC TAGS: gas turbine, pressure compensator

ABSTRACT: The article gives constructional details of a new type flexible compensator for gas turbines (see figure). The compensator consists of steel shell 1, on which three layers of asbestos fabric (AT-6) 2 are fastened with a special mastic, gasket 3, steel grid 4, and outer layer of asbestos fabric (AT-7) 5. With a rectangular cross section, bolts are used for fastening the assembly, while with a cylindrical cross section, bands are used. One great advantage of the compensator is its low initial rigidity which, with a diameter of 1400 mm, does not exceed 250 kg. The compensating capacity of the construction is said to be unlimited and to depend, in practice, only on the width of the gasket material. Typical basic dimensions of a series of compensators of this design are listed in a table. It is said to have been tested over the course of five years on type GT-700-4 and GT-700-5 NZL gas turbines. Orig. art. has: 1 figure and 1 table.

Card 1/2   UDC: 621.643.621.438

Flexible compensator NZL

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 nat

NEFEDOV, V.D.; SINOTOVA, Ye.N.; SMIRNOV, V.M.; TOROPOVA, M.A.

Enrichment of radiophosphorus by means of triphenylphosphine
oxide. Radiokhimiia 1 no.2:236-238 '59.   (MIRA 12:8)
        (Phosphorus--Isotopes) (Phosphine oxide)

81787

S/032/60/026/07/17/055

B015/B068

5.5310

AUTHORS: Smirnov, V. M., Karpunin, V. I.

TITLE: Mass Spectrometric Determination of the Isotope Composition of Oxygen in Sulfuric Acid

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 7, p. 831

TEXT: Mass spectrometry was used to determine the isotope O^{18} in sulfuric acid. Sulfuric acid is diluted down to a concentration of 0.05%, 0.05 N $BaCl_2$ solution added, and barium sulfate reduced with spectroscopically pure carbon in a small quartz tube (Fig.) in vacuo (10^{-5} to 10^{-6} torr) at 900-950°C. In the CO_2 formed, the O^{18} content was determined with mass spectrometers of the types MC-1 (MS-1), MC-4 (MS-4), and MИ-130 (MI-130). The results show that the O^{18} content in a sulfuric acid sample varies in a range of from 1.52 to 1.62 atom%. It was studied whether the O^{18} concentration in CO_2 was reduced by diffusion of oxygen through

Card 1/2

81787

Mass Spectrometric Determination of the   S/032/60/026/07/17/055
Isotope Composition of Oxygen in Sulfuric Acid   B015/B068

the quartz, or by liberation of gases from carbon; it was found that
this does not hold true within the limits of the error in measurement.
There are 1 figure and 5 Soviet references.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii (State Institute
             of Applied Chemistry)

Card 2/2

5(3)
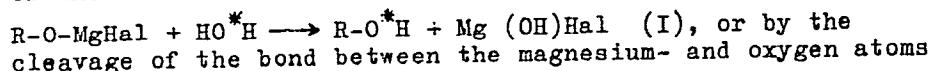
SOV/79-29-9-13/76

AUTHORS: Murashov, G. M., Nefedov, V. D., Skorobogatov, G. A., Smirnov, V. M.

TITLE: Investigation of the Synthesis Mechanism of Alcohols According to Grignard by Means of Tagged O

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2864-2868 (USSR)

ABSTRACT: As proven by A. N. Nesmeyanov and V. A. Sazcnova (Ref 1), a hydrolysis of carbinolates must take place in the final stage of reaction in the synthesis of alcohols and carboxylic acids according to Grignard. Two entirely different reaction courses are possible in this connection. In the synthesis of alcohols the hydrolysis of carbinolates may occur either by the cleavage of the bond between the alkyl group and the oxygen atom:

$$R-O-MgHal + HO^*H \longrightarrow R-O^*H + Mg(OH)Hal \quad (I),$$ or by the cleavage of the bond between the magnesium- and oxygen atoms

$$R-O-MgHal + HO^*H \longrightarrow R-OH + Mg(O^*H)Hal \quad (II).$$ There are but scarce mentions in publications concerning the investigation of Grignard's reactions by the aid of isotopes (Ref 2). Some authors (Ref 3) consider a magnesium isotope exchange between the Grignard reagent and the magnesium halides to be possible;

Card 1/3

SOV/79-29-9-13/76

Investigation of the Synthesis Mechanism of Alcohols According to Grignard
by Means of Tagged O

still, the isotope exchange between CH_3MgBr and $Mg^{28}Br_2$, for
example, did not yield any positive results (Ref 4). Finally,
an investigation by means of deuterium was made of the reduc-
ing action of the Grignard reagent in the reduction of benzo-
phenone in benzohydrol under the action of isobutyl magnesium
bromide (Ref 5). Nothing has yet been published concerning
the rearrangement of oxygen in the synthesis of alcohols and
carboxylic acids. An attempt was made in the investigation
under review to explain whether reaction (I) or (II) takes
place in the hydrolysis of carbinolates. The initial step was
the synthesis of triphenyl carbinol by the reaction of benzo-
phenone with phenyl magnesium bromide (Scheme 3), and the
hydrolysis of carbinolate of magnesium was shown to take
place with the preservation of the alkyl-oxygen bond and with
the separation of the metal-oxygen bond. The reaction water
was investigated for O^{18} according to A. I. Brodskiy (Ref 7)
in the mass spectrometer of type MS-1. There are 1 table

Card 2/3   and 11 references, 5 of which are Soviet.

SOV/79-29-9-13/76

Investigation of the Synthesis Mechanism of Alcohols According to Grignard
by Means of Tagged O

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
             (Leningrad State University)

SUBMITTED: September 21, 1958

Card 3/3

41362

S/081/62/000/018/027/059
B177/B186

AUTHORS: Smirnov, V. M., Shmelev, V. A.

TITLE: Results of industrial running tests on the БP-5 (BR-5) air-
            separating plant, designed by VNIIKIMASh (prototype and pro-
            duction models)

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 339, abstract
            18K68 (Tr. Vses. n.-i. in-ta kislorodn. mashinostr., no. 4,
            1961, 101 - 115)

TEXT: Tests were performed on a prototype BR-5 plant with a rated capaci-
ty of 5000 nm³/hour of oxygen, with and without an additional high-purity
oxygen unit, and also on a production model without the additional unit.
The starting-up period of the main unit lasted about 52 - 55 hours. The
purity of the low-purity oxygen was about 96%, reaching 98.7% in the pro-
duction model. The refrigerating power of the turbo-expander equals the
calculated value when handling reprocessed air at a rate G_a = 27,000 m³/hour
On raising G_a from 18,000 to 28,000 m³/hour, the proportion of air passed

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SMIRNOV, V.M.

Nonlinear stationary fluctuations of the potential of ion-electron currents emitted by a plane. Radiotekh. i elektron. 8 no.10: 1729-1742 O '63.
(MIRA 16:10)

DOBYCHIN, S.L.; SMIRNOV, V.M.

Thermal decomposition of ammonium nitrate studied by the isotopic
and mass spectrometric method. Zhur.prikl.khim. 36 no.1:215-218
Ja '63.   (MIRA 16:5)
(Ammonium nitrate) (Mass spectrometry) (Radioactive tracers)

MEL'NIKOV, V.D.; SKOROBOGATOV, G.A.; SMIRNOV, V.M.; MUSAKIN, A.P.;
    VOROB'YEV, L.K.

Microsynthesis of C14 multiple-tagged benzene and isotopic effects.
Zhur. org. khim. 1 no.9:1615-1620 S '65.   (MIRA 18:12)

1. Leningradskiy gosudarstvennyy universitet. Submitted
July 11, 1964.

L 32602-66   EWT(1)   IJP(c)   AT

ACC NR: AP6014041   SOURCE CODE: UR/0056/66/050/004/1005/1012

AUTHOR: Smirnov, V. M.

ORG: Moscow Engineering-Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Instability of nonlinear stationary oscillations of the potential in electron-ion beams

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 4, 1966, 1005-1012

TOPIC TAGS: ion beam, electron beam, oscillation, nonlinear effect, distribution function, relaxation process

ABSTRACT: A simple criterion of instability of nonlinear stationary oscillations of potential in one-dimensional ion-electron beams emitted by a plane in a bounded volume with a fixed potential difference between the emitter and the collector is obtained with the aid of analysis first presented by J. R. Pierce (J. of Appl. Phys. v. 15, 721, 1944). The various possible nonlinear stationary oscillations were previously classified by the author elsewhere (Radiotekhnika i elektronika v. 8, 1729, 1963). The analysis begins with consideration of stability of the nonlinear modes formed by monoenergetic electrons in vacuum and against a homogeneous ion background. The instability of various modes with arbitrary initial ion and electron velocity-distribution functions is then discussed. It is concluded that instability in a planar electron-ion beam with fixed potential difference between the emitter and a

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L 32602-66

ACC NR: AP6014041

certain point of the beam (collector or grid) is a result of feedback through the voltage source which maintains constant the potential difference. A relation is established between the relaxation time in the source circuit and the instability. The stable modes are those with monotonic potential between the emitter and the collector. Modes with one extremum of potential can be either stable or unstable. The presence of slow particles generally improves the stability. Modes with two or more potential extrema are as a rule unstable. To obtain stable beams it is necessary either to choose the parameters of the apparatus such as to make the distance between neighboring elements not larger than the Debye radius or weaken the feedback by increasing the relaxation time; another way is to use non-planar geometry. The author thanks A. I. Morozov for suggesting the topic and M. V. Nezlin for a fruitful discussion. Orig. art. has: 7 figures and 19 formulas.

SUB CODE: 20/   SUBM DATE: 23Oct65/   ORIG REF: 001/   OTH REF: 001

Card 2/2

L 34100-66   EWT(1)   IJP(c)   AT

ACC NR: AP6009045   SOURCE CODE: UR/0207/66/000/001/0008/0014

AUTHOR: Smirnov, V. M. (Moscow)

ORG: None

TITLE: Slow oscillations of the potential in electron-ion flows close to an emitter

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1, 1966, 8-14

TOPIC TAGS: plasma oscillation, electron flow, ion emission, electron emission

ABSTRACT: The author investigates quasistationary distributions of the potential in unidimensional ion-electron flows close to an emitting plane. The role of close collisions is disregarded. Three modes are found; they are unstable with regard to slow variations and boundary conditions. Instability appears as a result of counterflow of slow particles reflected to the emitter by potential barriers in the Debye layer close to the emitter. Instabilities of the first and second type due to the absence of steady-state modes in conditions close to the emitter develop during a time interval of the order of $1/\omega_0$ (ω_0 is the plasma frequency) so that the number of reflected particles involved in counterflow is comparable to the total number of particles. An instability of the third type appears in the distributions of the potential when the slow particles emerging from the emitter are first accelerated and only then are attenuated and are reflected to the emitter. A form of an approximate system of equations is established for the case of slow oscillations of time-variable boundary conditions, and solutions of this system are studied.

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SOURCE CODE: UR/0057/67/037/001/0102/0109

ACC NR: AP7007544

AUTHOR: Smirnov, V. M.

ORG: Moscow Engineering—Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: The divergence of an electron-ion bunch

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 37, no. 1, 1967, 102-109

TOPIC TAGS: electron bunch, electron beam, divergence, ELECTRON DISTRIBUTION, electron ion bunch, ELECTRON CHARGE, ION TEMPERATURE

ABSTRACT: A theoretical investigation was made of the divergence of an electron-ion bunch in vacuum. Three special cases of divergence were analyzed under the assumption of a constancy of the crossover density of the non-compensated charge at any given instant. The ions were assumed to be "cold." First, a strict kinetic solution was obtained, on the basis of a selected electron distribution function. A hydrodynamic description of the electron behavior was then given along lines obtained earlier by L. I. Sedov (AN SSSR, Doklady, v. 90, no. 5, 1953, 735). Both solutions indicate that electrons, losing energy, pinch toward the center of the bunch, and the density of the non-compensated

UDC: none

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ACC NR: AP7007544

, charge with a crossover constant in time decreases (in time) faster
than the particle density. Further, an "isothermic" solution is dis-
cussed for purposes of comparison under the assumption that no energy is
lost by the electrons in the process of divergence of the bunch. The
solution shows that the density of the non-compensated charge in this
case decreases in time at the same rate as the particle density. The
space charge remains evenly distributed over the bunch cross section.
Ion velocity increases indefinitely as the result of the energy being
conveyed to the electrons from the heating. The behavior of the ion
shell of the bunch is described as diverging as the result of the trans-
sition of the ions from the compensated part into the shell. The author
thanks A. I. Morozov for fruitful discussions. Orig. art. has: 2
figures and 29 formulas.

[WA-71]
[FP]

SUB CODE: 20/ SUBM DATE: 27Nov65/ ORIG REF: 009/ OTH REF: 001

Card 2/2

SMIRNOV, V.M., inzh.

Lavelling work is the basis for improving the quality of surface methods of watering. Gidr. i mel. 14 no.8:21-24 Ag '62.

(MIRA 15:9)

1. Volgogradskiy filial Yuzhnogo gosudarstvennogo instituta po proyektirovaniyu vodnogo khozyaystva.

(Irrigation)

SMIRNOV, V.M., arkhitektor; YEL'KINA, V.I., inzh.-arkhitektor

Characteristics of the determination of the planned population for
the cities of the Kuznetsk Basin. Trudy Zap.-Sib. fil. ASIA no.7:
7-15 '62.   (MIRA 18:2)

SMIRNOV, V.M., inzh. (Volgograd)

Conservation of soil fertility in the leveling of land. Gidr.
i mel. 17 no.11:17-20 N '65.   (MIRA 18:11)

... smaller than the mean relative velocity of the collisions of the ions with the
molecules. This permits to determine the ion drift velocity without solving the kine-

UDC: 539 186 2

ACC NR: AP6019403   SOURCE CODE: UR/0293/66/004/005/0786/0788

AUTHOR: Smirnov, V. M.

ORG: none

TITLE: Distribution of charges in a system consisting of a beam and an emitting body in high vacuum

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 5, 1966, 786-888

TOPIC TAGS: spacecraft, ionized plasma, ion beam, ion jet, spacecraft propulsion

ABSTRACT: The author discusses a stationary distribution of charges on the surface of a space ship and in the plasma jet emitted by an ionic engine at small deviations from a compensational operation, for the limiting case when the density of the cosmic plasma is negligibly small. The ship is assumed to be a conducting sphere, the emitter - a small disc-like surface of the ship. The latter emits fast ions normally to its surface, and also slow electrons. If there is a lack of compensating electrons in the emitted beam, the ship will be charged negatively, the plasma positively. The potential at the surface of the beam is assumed to be zero. A relationship is derived between the charge density as a function of the distance from the beam axis, and the potential as a function of this distance and the distance from the ship. The charge of the beam is assumed to be small, so that the broadening of the beam is due to the

UDC: 621.455:5339

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ACC NR: AP6033703

thermal motion of the electrons, with the velocity of the order $\sqrt{m/M}v_o$, where v_o is the beam velocity, and m and M are the masses of electrons and ions, respectively. Orig. art. has: 2 figures and 8 equations.

SUB CODE:20,22/ SUBM DATE: 27Nov65/ ORIG REF: 002/ OTH REF: 001

Card 2/2

ACC NR: AP6033424   SOURCE CODE: UR/0057/66/036/010/1872/1874

AUTHOR: Smirnov,V.M.

ORG: Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: On the emission from a plane of a cold compensated electron stream

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1872-1874

TOPIC TAGS: electron plasma, electron flow, plasma electron oscillation, particle acceleration

ABSTRACT: M.V.Konyukov (ZhETF, 37, 3(9), 799, 1959) has solved the problem of the one-dimensional nonsteady motion of a cold electron plasma on a uniform background of positive (ionic) space charge. The present author adduces a graphical representation which he feels will assist one to visualize the different possible solutions to that problem for the case of a stream of electrons issuing from a plane emitter. It is shown that the curve representing the electric field as a function of the electron velocity rotates counter clockwise at the Langmuir frequency while undergoing a simultaneous forward displacement. Different features of this curve are related to different characteristics of the behavior of the cold electron plasma. It is shown that by applying a rather weak alternating field of the Langmuir frequency at the

)   UDC: 537.533

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ACC NR: AP6033424

plane of the emitter one can excite long wavelength oscillations in the electron stream which give rise to high instantaneous potentials that can be employed for periodically accelerating or cutting off rather fast particles. Orig. art. has: 11 formulas and 2 figures.

SUB CODE: 20   SUBM DATE: 27Oct65   ORIG. REF: 001   OTH REF: 001

Card   2/2

KOVTUNENKO, N.P., Inzh.; GROYSER, M.V.; GRODSKIY, Ye.Ya.; SMIRNOV, V.M.;
MAKAROV, T.I.

Use of reinforced concrete structures of plant manufacture. Gidr.
i mel. 16 no.6:47-52 Je '64.   (MIRA 17:9)

1. Goszemvodkhoz RSFSR (for Kovtunenko). 2. Volgogradvodstroy
(for Groyser, Makarov). 3. Nauchnoissledovatel'skiy institut sel'-
skogo stroitel'stva (for Grodskiy). 4. Yuzhnyy gosudarstvennyy
institut po proyektirovaniyu vodokhozyaystvennogo i meliorativnogo
stroitel'stva (for Smirnov).

SMIRNOV, V.M.; SIMAKOV, K.M.; ABDEYEV, M.A.; KHAN, O.A.; LUNEV, V.Ye.

Metallurgy in the Altai during the 40 years of Soviet government.
Trudy Alt. GMNII AN Kazakh. SSR no.7:15-28 '58.

(MIRA 12:7)

(Altai Territory--Nonferrous metals--Metallurgy)

KOBEZA, I.I.; BEMBINEK, Ye.I.; SMIRNOV, V.M.

Port for the firing of open-hearth furnaces with natural gas.
Metallurg 7 no.2:22-24 F '62.   (MIRA 15:3)

1. Institut chernoy metallurgii AN USSR i zavod im. K.Libknekhta.
            (Open-hearth furnaces--Design and construction)

18.5000

735/0
SOV/133-59-10-2/20

AUTHORS: Pukhnarevich, G. P., Konada, I. I. (Candidates of Technical Sciences), Tumin, P. B., Quanly, G. P., Bembinek, Ye. I., Smirnov, V. M., Zalensky, V. D. (Engineers)

TITLE: Firing Open-Hearth Furnace With Natural Gas

PERIODICAL: Metallurg, 1959, Nr 10, pp 14-16 (USSR)

ABSTRACT: The Seven Year Plan provides for an increased production of gas. In this connection a method of firing open-hearth furnaces with cold natural self-carburating gas was developed under the supervision of Academician Dobrokhotov, N. N. Before burning during tion, gas is preheated by the heat (1) generated by gas combustion in the port, and (2) accumulated by the lining of the port. In the foundry shop of the Plant imeni Karl Liebknecht (zavod imeni K. Libknekhta) (see an open-hearth furnace was redesigned accordingly (see Fig. 2). Gas introduced through a vertical flue (1),

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low-pressure burner, yields a luminous flame which equals that produced by natural gas with 30 to 40% mazut addition. Research is being continued for natural self-simplify the design of furnace ports for natural carburating gas and eliminate water-cooled flues. There are 2 figures and 2 tables.

ASSOCIATION: Institute of Ferrous Metallurgy AS UkrSSR, Ukraine Branch of State Institute for the Design and Planning of Metallurgical Plants, Plant imeni Karl Liebknecht (Institut chernoy metallurgii AN USSR, Ukrainsoye zavod imeni K. Libknekhta)

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Fig. 2. Design of port for furnaces fired with self-carburating natural gas.

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SMIRNOV, V.M.

Installation of 35 to 220 kv. disconnecting switches. Energetik
10 no.11:22 N '62.   (MIRA 15:12)
                        (Electric switchgear)

SMIRNOV, V. M.

The 236 pneumatic molding and shaking machine. Biul.tekh.-ekon.
inform. no.10:8-9 '60.   (MIRA 13:10)
(Molding machines)