L 19300-63   EWT(1)/BDS   AFFTC/ESD-3   TF

ACCESSION NR: AR3006561   S/0169/63/000/008/D023/D023

SOURCE: RZh. Geofizika, Abs. D146

AUTHOR: Pyatnitskiy, V. K.

TITLE: On the problem of determining the basic parameters of a magnetized body

CITED SOURCE: Tr. Sibirsk. n.-i. in-ta geol., geofiz. i mineral'n. sy*r'ya, vy*p. 27, 1962, 153-164

TOPIC TAGS: magnetized stratum, tangential method, magnetized body

TRANSLATION: An approximate method is described for determining the main parameters of magnetized sheetlike bodies (depth of bedding of horizontal and vertical extent, and also magnetization). The method is based on the tangential method in which a refinement has been introduced. The refinement consists in determining the corrections depending on the horizontal and vertical dimensions of the sheet. The introduction of the corrections is facilitated by the construction of graphics of the relationships, of certain values figuring in the tangential method, to the vertical dimensions of the sheet for strata of

Card 1/2

L 19300-63
ACCESSION NR: AR3006561   0

various horizontal extent. Several examples are presented.   M. Lapina.

DATE ACQ: 06Sep63   SUB CODE: PH   ENCL: 00

Card 2/2

PYATNITSKIY, V.K.

Accuracy in the determination of the depth of occurrence of
magnetized bodies by the method of tangency. Trudy SNIIGGIMS
no.7:86-93 '61.   (MIRA 16:7)

(Magnetic prospecting)

PYATNITSKIY, V.K.

Using the higher derivatives of the magnetic potential to deter-
mine the depth of bedding of magnetized bodies. Trudy SNIIGGIMS
no.1:130-142 '59.   (MIRA 15:4)
                    (Magnetic prospecting)

LI, P.F.; RAVDONIKAS, O.V.; PYATNITSKIY, V.K.; RUSAKOVA, L. Ya., literaturnyy
    red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Geology, and oil and gas potentials of the Berezovo gas-bearing
region in the West Siberian Plain; based on petroleum prospecting,
key well drilling, hydrogeological, and geophysical data] Geolo-
gicheskoe stroenie i perspektivy neftegazonosnosti Berezovskogo
gazonosnogo raiona Zapadno-Sibirskoi nizmennosti; po materialam
nefterazvedochnogo i opornogo bureniia, gidrogeologicheskikh i
geofizicheskikh rabot. Leningrad, 1960. 174 p. (Leningrad. Vsesoiuznyi
Geologicheskii institut. Trudy, vol. 36)   (MIRA 14:3)
    (West Siberian Plain--Petroleum geology)
    (West Siberian Plain--Gas, Natural--Geology)

PYATNITSKIY, V.K.

Determination of the cover thickness based on the characteristic
points of the Za or   T curve. Trudy Inst.geol.i geofiz. Sib.otd.
AN SSSR no.1:25-29 '60.   (MIRA 15:2)
                    (Magnetic prospecting)

PYATNITSKIY, V.K.; YAROSLAVTSEVA, L.M.

Calculation of the depth of occurrence and the magnetisation of disturbing bodies based on T curves. Trudy SNIIGGIMS no.26:160-166 '62.

(MIRA 16:3)

(Magnetic prospecting)   (Curves)

PYATNITSKIY, V.N.; GRIGOR'YEV, A.T.; SOKOLOVSKAYA, Ye.M.

Transformations in the solid state in silver - zinc alloys in the zone of an a-solid solution. Nauch.dokl.vys.shkoly; khim. i khim.tekh. no.2:280-283 '59.   (MIRA 12:8)

1. Predstavlena kafedroy obshchey khimii Moskovskogo gosudar-stvennogo universiteta imeni M.V.Lomonosova.
          (Silver-zinc alloys)   (Solutions, Solid)

L 3578-66   EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EWP(v)/EWP(j)/EPA(w)-2/T/EWP(t)/
ACCESSION NR: AP5024811   EWP(k)/EWP(b)/EWA(c)/ETC(m)UR/0032/65/031/010/1197/1199
IJP(c)   JG/RM/WH/HW/JD/WW   536.2.08

AUTHOR: Pyatnitskiy, V. N.; Kazurov, B. K.

TITLE: Using thermographic analysis to study the metallization of ceramics in industrial furnaces

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1197-1199

TOPIC TAGS: thermogram, thermal analysis, metal cladding, ceramic material, ceramic to metal seal

ABSTRACT: Differential thermal analysis is used for studying the various physical and chemical transformations and processes, which accompany molybdenum-manganese metallization of alumina-rich ceramics in a TsEP-241 furnace using two tungsten-molybdenum thermocouples. A diagram of the thermographic unit is shown in fig. 1 of the Enclosure. The specimen to be examined 2 and the reference sample 3 were placed on the thermocouple junctions 1. Ceramic block 4 with nickel coating 5 maintains uniform heat transfer in the cavity of the thermographic unit. A galvanometric pyrometer records the thermal processes in time-temperature and time-temperature-difference coordinates. The specimens were made in the form of small crucibles

Card 1/4

L 3578-66

ACCESSION NR: AP5024811

with an outside diameter of 8 mm, an inside diameter of 2 mm, and a bottom 200-
-300 μ in thickness. The thermocouple junctions were fitted rather tightly into
the samples and made uniform contact with the bottoms of the reference and test
samples. Thermograms are given for reference specimens and the metallization pro-
cess in fig. 2 of the Enclosure. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 02   SUB CODE: MT, MM

NO REF SOV: 002   OTHER: 000

Card 2/4

L 3578-66
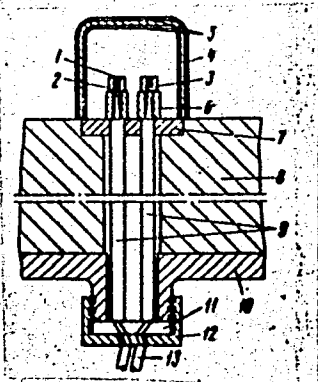ACCESSION NR: AP5024811

ENCLOSURE: 01

Fig. 1. Diagram of the thermographic unit: 1--thermocouple junction; 2--test specimen; 3--reference specimen; 4--ceramic cover; 5--nickel coating; 6--ceramic insulation support; 7--ceramic disc; 8--ceramic support for the furnace; 9--ceramic tubes for the thermocouples; 10--furnace bottom; 11--rubber gasket; 12--adjustment nut; 13--insulation tubes for the thermocouples.

Card 3/4

L 3578-66

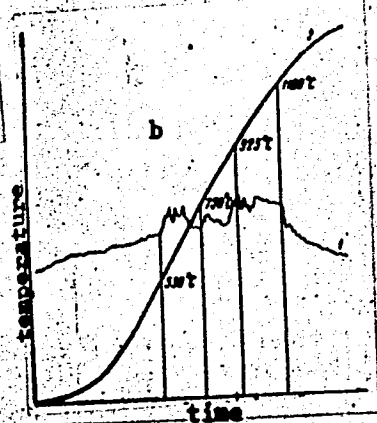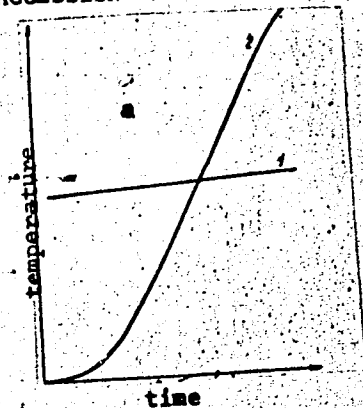ACCESSION NR: AP5024811

ENCLOSURE: 02

Fig. 2. a--Control thermogram for two reference specimens: 1--temperature difference; 2--temperature; b--thermogram of the metallization process: 1--temperature difference; 2--temperature.

Card 4/4

PYATNITSKIY, V. N.

USSR/Solid State Physics -- Phase Transformation in Solid Bodies   E-5

Abs Jour   : Ref Zhur - Fizika, No 1, 1958, 989

Author   : Grigor'ev, A.T., Sokolovskaya, Ye.M., Pyatnitskiy, V.N.

Inst   : Moscow State University .

Title   : Transformations in the Solid State in Alloys of the Copper-
               Zinc System in the Region of the ∝ -Solid Solution.

Orig Pub   : Zh. neorganich. khimii, 1957, 2, No 7, 1547-1551

Abstract   : An investigation was made of the system Cu-Zn in the re-
               gion of the ∝-solid solution using the methods of dif-
               ferential thermal analysis, electric resistivity at high
               temperature, hardness, heat capacity, X-ray analysis, elec-
               tric resistivity, and its temperature coefficient. Two
               kinds of transformations have been established in alloys,
               and these are explained by the authors by the formation of
               two modifications of the chemical compound Cu_3Zn, namely

Card 1/2

PYATNITSKIY, V.N.; KAZUROV, B.K.

Use of thermography in studying processes of metallization
of ceramics in industrial furnaces. Zav.lab. 31 no.10:1197-
1198 '65.   (MIRA 19:1)

PYATNITSKIY, V. N., Cand of Chem Sci -- (diss) "Investigation of the

Conversion to xxx Solid States of Copper to Zinc, Silver to Zinc

and Silver to Cadmium Within the Sphere of Alpha -- Solid Solutions,"

Moscow, 1959,11 pp (Moscow State Univ im Lomonosov) (KL, 1-60, 120)

5.(2),18(7)
AUTHORS:

Pyatnitskiy, V. N., Grigor'yev, A. T., Sokolovskaya, Ye. M., Lysova, Ye. V.

TITLE: On Transformations in Solid State in the Alloys of the System Silver - Cadmium in the Range of the Solid α-Solution

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2039-2042 (USSR)

ABSTRACT: The above system was chosen in expectance of an analogy to the solid solutions Cu-Zn, Au-Zn, and Au-Cd, which exhibit transformations in the solid state. Thermal analysis was applied together with the determination of the hardness of annealed alloys hardened by quenching. Alloys containing 2 - 40 atom% Cd were investigated. Thermal analysis was carried out by means of a PK-52 pyrometer. Thermal effects indicating transformations in the solid α-solution occurred as shown in figure 1. Results are given in table 1, the phase diagram in figure 2. Compounds formed were Ag_3Cd at $370°$, Ag_2Cd at $450°$, and another below $700°$ containing 4 - 8 atom% Cd, the composition of which is being investigated. The hardness of the annealed alloys is given in table 2 and figure 3. One wide minimum in the region

Card 1/2

On Transformations in Solid State in the Alloys of   SOV/78-4-9-18/44
the System Silver - Cadmium in the Range of the Solid α-Solution

25 - 33 atom % Cd replaces the two minima expected for Ag_3Cd

and Ag_2Cd, thus indicating formation of a eutectic. The hardness
of the alloys heated to 300 and 550° and quenched with solid
carbon dioxide (Table 3, Fig 4) reveals that at 300° the minima
in the regions 25 - 33 atom % and 4 - 8 atom % Cd are maintained
whereas at 550° only the latter is preserved and still found at
650°. The heat capacity and electric resistance of these alloys
at high temperatures are being investigated at present. There are
4 figures, 3 tables, and 7 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
             Kafedra obshchey khimii (Moscow State University imeni M. V.
             Lomonosov, Chair of General Chemistry)

SUBMITTED: October 9, 1958

Card 2/2

Pyatnitsciy, V. N.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,
        Physical-Chemical Analysis, Phase Transitions.   B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3791.

Author : A.T. Grigor'yev, Yu. M. Sokolovskaya, V.N. Pyatnitskiy.
Inst   :
Title : On Transitions in Solid State in Copper - Zinc System in Range
         of α -Solid Solution.

Orig Pub: Zh. neorgan. khimii, 1957, 2, No 7, 1547-1551.

Abstract: The alloys of the Cu-Zn system were studied in the range of
          the α-solid solution (differential thermal analysis, electric
          resistivity, and its temperature factor, hardness, specific
          heat and x-ray analysis). The study revealed phase transitions
          accompanied by the formation of the chemical compound Cu Zn,
          which has a low temperature modification α_1 (transition at
          $233°$) and a high temperature modification α_2 (transition at
          $452°$). A graph of the system state in the range of 0 to 40 at.
          % of Zn is given.

Card   : 1/1   -31-

5(3), 18(6)   SOV/156-59-2-15/48

AUTHORS: Pyatnitskiy, V. N., Grigor'yev, A. T., Sokolovskaya, Ye. M.

TITLE: On Transformations in Solid Phase in Alloys of the System
              Silver - Zinc in the Range of the Solid α-Solution (O pre-
              vrashcheniyakh v tverdom sostoyanii v splavakh sistemy serebro -
              tsink v oblasti α-tverdogo rastvora)

ABSTRACT: Investigations by other authors (Refs 1-10) pointed out
              anomalies in the system silver - zinc which are more close-
              ly investigated by the present paper. The method of differen-
              tial thermal analysis, the measurement of the electric resis-
              tance at high temperature and its temperature coefficient,
              as well as hardness are applied. The differential curves of
              thermal analysis show each of them two heat effects at low and at
              high temperature (Fig 1) pointing out endothermal transforma-
              tions in the α-range and which are caused by stable phase
              transitions. Figure 2 gives the phase diagram and table 1
              the temperatures at which the effects set in. The phase diagram
              shows that at long annealing Ag_3Zn forms which has two modi-
              fications: α_1 at low and α_2 at high temperature. The curves

Card 1/2

SOV/156-59-2-15/48

On Transformations in Solid Phase in Alloys of the System Silver - Zinc
in the Range of the Solid α-Solution

electric resistance - temperature (Fig 3) of the alloys with
17.6 - 36.0% by atom Zn confirm the formation of Ag_3Zn and

facilitate a more accurate determination of the transformation
temperature (Table 2). The differences between the values of
the thermal analysis and the measurement of resistance are
explained by the different rates of heating. The hardness of
annealed alloys (Table 3, Fig 4) shows in the range of 25%
by atom Zn a broad, flat minimum which is also indicative
of Ag_3Zn. The minimum at 31% by atom Zn might indicate the
limit of the solubility of zinc in silver at low temperature.
The temperature coefficient of the electric resistance shows
a maximum at 25% by atom zinc which is also explained by the
formation of Ag_3Zn. There are 4 figures, 4 tables, and 12
references, 2 of which are Soviet, and 1 Polish.

PRESENTED BY: Kafedra obshchey khimii Moskovskogo gosudarstvennogo universi-
teta im. M. V. Lomonosova (Chair of General Chemistry, Moscow
State University imeni M. V. Lomonosov)

SUBMITTED: November 28, 1958
Card 2/2

PYATNITSKIY, Ye.S. (Moskva)

Structural independence of single-stage control systems. Avtom.
i telem. 24 no.9:1213-1216 S '63.   (MIRA 16:9)
                                (Automatic control)

L 16457-66   EWT(d)/T   IJP(c)
ACC NR: AP6004553   SOURCE CODE: UR/0103/66/000/001/0095/0112

AUTHOR: Braverman, E. M. (Moscow); Pyatnitskiy, Ye. S. (Moscow)

ORG: none

TITLE: Estimates of the rate of convergence of algorithms derived on the basis of the method of potential functions

SOURCE: Avtomatika i telemekhanika, no. 1, 1966, 95-112

TOPIC TAGS: cybernetics, pattern recognition, potential function method

ABSTRACT: It is indicated that the conditions under which the convergence of algorithms for restoring the characteristics of a functional generator or for establishing the "function of the degree of certainty" (the probability that input situations belong to class A or B) from randomly observed points presented in articles [Ayzerman, M. A., E. M. Braverman, and L. I. Rozonoer. Avtomatika i telemekhanika, v. 25, no. 12, 1964, 1705—1714 and v. 25, no. 9, 1964, 1307—1323] are proved to be not sufficient for quantitative estimates of their rate of conver- gence. Additional assumptions are formulated (which in the authors' opinion, only unessentially narrow this class of problems) under which quantitative estimates of

Card   1/2   UDC: 62-507

L 16457-66
ACC NR: AP6004553

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the rate of convergence of the four algorithms presented in the above-mentioned
articles are derived. It is shown that algorithms which are convergent in proba-
bility ensure "almost certain" convergence (convergence with the probability equal
to unity) and estimates of the rate of such convergence are presented. Orig. art.
has: 88 formulas.   [LK]

SUB CODE: *09* SUBM DATE: 26Apr65/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS:

4205

Card 2/2 *mc*

PYATNITSKIY, Ye.S. (Moskva)

Structural stability of single-stage normal-type control
systems. Avtom. i telem. 24 no.5:640-648 My '63.

(MIRA 16:6)

(Automatic control)

L 11596-63   EWT(d)/BDS   AFFTC/APGC/ASD   Pg-4/Pk-4/Pl-4/Po-4/
                 ·Pq-4   IJP(C)/BC
ACCESSION NR: AP3000467   S/0103/63/024/005/0640/0648

AUTHOR: Pyatnitskiy, Ye. S. (Moscow)

TITLE: On the structural stability of single-loop control systems of the
normal type

SOURCE: Avtomatika i telemekhanika, v. 24, no. 5, 1963, 640-648

TOPIC TAGS: single-loop control system, structural stability criteria

ABSTRACT: The structural stability of a single-loop control system described by
the system of equations

$$d_\gamma(p)x_\gamma = k_\gamma(p)x_{\gamma-1} \qquad (v = 1,2,\ldots, m, \; p = \frac{d}{dt}), \qquad (1)$$

where $d_\gamma(p)$ and $k_\gamma(p)$ are operators of the form $ap^2 + bp + C$, is studied for
the case when the system is of a normal type, that is, when the coefficients
a and c of operator $d_\gamma(p)$ do not simultaneously satisfy $b < 0$ and $c < 0$ and
coefficients a and b of operator $k_\gamma(p)$ do not simultaneously satisfy $a < 0$ and
$b < 0$. Normal single-loop control systems are called singular if the charac-
teristic equation of system (1) can be reduced to a form containing Hurwitz-type

Card 1/2

L 11596-63
ACCESSION NR: AP3000467

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polynomials and other types of polynomials which have no zeros in the left half-plane. All singular systems are shown to be structurally unstable. It is proved that for the normal single-loop control system to be structurally stable it is necessary and sufficient that this system be singular and that four other conditions expressed as inequalities in terms of the parameters establishing the form of operators $d_v(p)$ and $k_v(p)$ be satisfied simultaneously. The Nyquist stability criterion is used to derive the necessary and sufficient conditions of structural stability. Orig. art. has: 6 figures, 20 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 04Dec62   DATE ACQ: 12Jun63   ENCL: 00

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

ch/ek
Card 2/2

S/103/63/024/004/004/014
D201/D308

AUTHOR: Pyatnitskiy, Ye.S. (Moscow)

TITLE: The upper limit of the degree of stability in systems
             with delay

PERIODICAL: Avtomatika i telemekhanika, v. 24, no. 4, 1963,
             465-471

TEXT: Starting with the conditions of structural stability,
as applied to the delay systems, the author applies Tsypkin's method
(Avtomatika i telemekhanika, v. 13, no. 4, 1952) for determining the
upper limit of the degree of stability in automatic control systems.
The conditions of structural stability are determined using 4 theor-
ems which relate the degree of the characteristics system polynomial
to its different parameters; the upper limit of the degree of stab-
ility is determined from the analysis of conditions for which the
transformed characteristic polynomial of the delay system has a zero
root or a pair of pure imaginary roots. It is also shown that Tsyp-
kin's method fails in certain delay systems. There are 3 figures.

SUBMITTED: October 6, 1962   Card 1/1

PYATNITSKIY, Ye.S. (Moskva)

Structural stability of single-loop control systems with time delay. Avtom. i telem. 23 no.7:852-862 Jl '62. (MIRA 15:9)
(Automatic control)

PYATNITSKIY, Yu.I.; STUKANOVSKAYA, N.A.; ROYTER, V.A.

Kinetics of ammonia decomposition on an iron catalyst
under conditions of chemical equilibrium. Ukr. khim.
zhur. 31 no.3:247-252 '65.   (MIRA 18:4)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN
UkrSSR.

KORNEYCHUK, G.P.; PYATNITSKIY, Yu.I.; Prinimal uchastiye: SEMENYUK, Yu.V.

Flow reactors for measuring catalytic activity. Kin.i kat. 3
no.1:157-161 '62.   (MIRA 15:3)

1. Institut fizicheskoy khimii imeni L.V.Pisarzhevskogo AN USSR.
                        (Catalysis)

BOGDANOV, V.M.,doktor tekhn.nauk; PYATNITSYNA, I.N.,mladshiy nauchnyy
        sotrudnik

    Isolation of pure cultures for the production of kefir. Trudy
    VNIMI [Mol.] no.20:40-51 '59.   (MIRA 13:10)
      (Kefir) (Bacteriology--Cultures and culture media)

BANNIKOVA, L.A.,kand.sel'skokhoz.nauk; PYATNITSYNA, I.N.,mladshiy
nauchnyy sotrudnik.

Selection of microörganisms for medicinal sour milk. Trudy
VNIMI [Mol.] no.20:84-95 '59.   (MIRA 13:10)
(Milk, Fermented) (Bacteriology--Cultures and culture media)

PYATNOV, V. I., GRIGOR'YEVA, V. A.

Forms of sand formations of the Byelossary spit of the Sea of Azov.
Trudy Inst. geog. 80:87-92 '60.   (MIRA 13:8)
(Azov, Sea of—Sand)

18(5)   SOV/132-59-4-1/17

AUTHORS: Veselevich, L.V., Lisitsyn, A.I., Luchin, N.S.
               and Pyatnov, V.I.

TITLE: The Ancient Zircon-Ilmenite Placer in the Meso-
               Cenozoic Deposits of West Siberia.

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 4, pp 1-4
               (USSR)

ABSTRACT: The Tuganskoye zircon-ilmenite placer was dis-
               covered in 1956-1957. It is located on the water
               divide of the rivers Tom' and Yaya in the region
               of northern spurs of the Kuznetskiy Alatau moun-
               tain range. The Paleozoic foundation of metamor-
               phic rocks of the region is covered by an erosion
               crust, 15 to 70 m thick, formed under continental
               conditions during a period from the Middle-Carboni-
               ferous up to Upper-Cretaceous and even Paleogene
               times. This crust covers both slopes of the water
Card 1/3   divide of the rivers Tom' and Yaya. Zircon and

The Ancient Zircon-Ilmenite Placer in the Meso-Cenozoic Deposits
of West Siberia.

ilmenite were found in this stratum formed by the
metamorphic rocks and the erosion crust. In Pale-
ogene time, this weathered crust was again eroded
by the transgressing sea, the clay fraction was
washed away in the sea and the coarse-grained frac-
tion was deposited in the coastal area. These de-
posits at present are divided into three suites, by
their granulometric composition, the Simenovskaya,
the Mariinskaya and Tuganskaya suites. The rare
elements are found mainly in the Tuganskaya suite
composed of variously grained sands. Conditional
selective concentrates can be obtained from these
sands. The Tuganskoye deposit can be exploited by
opencast mining.

Card 2/3

SOV/132-59-4-1/17

The Ancient Zircon-Ilmenite Placer in the Meso-Cenozoic De-
posits of West Siberia.

ASSOCIATION: Ministerstvo geologii i okhrany nedr SSSR. (The
Ministry of Geology and Conservation of Mineral
Resources of the USSR. (Yeselevich, Lisitsyn,
2) Giredmet (Pyatnov)

Card 3/3

PYATNOV, V.I.; BIBIKOVA, V.I.; DARVOYD, T.I.; IVANOVA, R.V.; KASATKINA,
N.A.; GINZBURG, A.I., nauchnyy red.; NEMANOVA, G.F., red. izd-va;
BYKOVA, V.V., tekhn. red.

[Industry's requirements as to quality of mineral raw materials]
Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravoch-
nik dlia geologov. Izd.2., perer. Moskva, Gos. nauchno-tekhn. izd-vo
lit-ry po geol. i okhrane nedr. No.53. [Thallium, indium, gallium]
Tallii, indii, gallii. By V.I.Piatnov i dr. Nauchn. red. A.I.Ginzburg.
1961. 53 p.   (MIRA 14:11)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'-
nogo syr'ya.
        (Thallium)   (Indium)   (Gallium)

PYATNOV, V.I.

Baddeleyite from the Sarmatian sands of the Samotkan' deposit.
Geol.rud.mestorozh. 7 no.4:88-90 Jl-Ag '65.

(MIRA 18:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
redkometallicheskoy promyshlennosti, Moskva.

PYATNOV, Ye.G.; GLAZKOV, A.A.; LOMNEV, S.P.

Dynamics of the longitudinal motion of particles in a wave guide
buncher of a linear electron accelerator. Nek.vop.inzh.fiz. no.2:
65-84 '57.   (MIRA 12:7)
          (Particle accelerators)   (Wave guides)

GLAZKOV, A.A.; PYATNOV, Ye.G.

Higher harmonics of the field in septate wave guides. Nek.
vop.inzh.fiz. no.3:96-107 '58.   (MIRA 12:5)
                        (Wave guides)

P$_{2l(9)}$ A T N v v, Y ε. G.   PHASE I BOOK EXPLOITATION   SOV/2003

Moscow. Inzhenerno-fizicheskiy institut

Lineynyye uskoriteli; sbornik statey (Linear Accelerators; Collection of Articles)
    Moscow, 1959. 94 p. 1,000 copies printed.

Ed.: G. A. Tyagunov, Doctor of Technical Sciences, Professor; Tech. Ed.:
    R. A. Negrimovskaya.

PURPOSE: This collection of articles may be useful to engineers engaged in
    the development, production and application of linear accelerators.

COVERAGE: The authors discuss the theory and operation of linear accelerators
    developed by MIFI. They describe methods of measuring variable phase velocity
    in a waveguide of a linear electron accelerator and discuss ways of determining
    the diameter of a waveguide. A method of improving the energy spectrum at
    the output of an accelerator is also discussed. No personalities are mentioned.
    References appear at the end of each article.

Card 1/6

Linear Accelerators; (Cont.)   SOV/2003

The author presents a brief review of problems in the development of linear electron accelerators. He discusses the operation of three different models of accelerators developed by MIFI and presents their characteristics. There are 11 references: 9 Soviet and 2 English.

The authors discuss general methods of designing a linear electron accelerator. They discuss principles of obtaining the phase velocity and magnitude of the field of the accelerating wave, which are necessary for achieving under given power supply conditions the desired characteristics of the accelerator output beam. Examples showing the variation of the phase velocity and the magnitude of the accelerating wave are also presented. The authors also describe methods and procedure in designing waveguides for obtaining the necessary variation of the phase velocity and the magnitude of the accelerating wave.

Card 2/6

Linear Accelerators; (Cont.)   SOV/2003

There are 6 references: 3 Soviet and 3 English.

Glazkov, A. A. The Amplitude of the Fundamental Wave (TM) in a Diaphragm-
type Waveguide   32

   The author generalizes the procedure for calculating the amplitude of
the accelerating wave in a linear electron accelerator, depending on
geometrical parameters and operating conditions of a waveguide. It is
shown that the value of the fundamental wave decreases when higher-order
modes are taken into account in calculations. The author also derives
an expression for partial power of the accelerating harmonic. It is
shown that partial power depends on the distribution of amplitudes of
harmonics at the axis of the waveguide. The author also discusses methods
of obtaining the function of amplitude distribution. He presents numerical
results of the calculation of partial power, which may be used in practi-
cal application. He also describes possible methods of experimental study
of higher harmonics in a waveguide. There are 15 references: 6 Soviet
and 9 English.

Card 3/6

Linear Accelerators; (Cont.)   SOV/2003

Sobenin, N. P. Measurement of Variable Phase Velocity in a Waveguide of
a Linear Accelerator by the Reflecting Plunger Method   49

   The author describes the reflecting plunger method of measuring
variable phase velocity in a diaphragm-type waveguide. He discusses
possible error sources and evaluates the accuracy of determining phase
velocity. He also presents results of experimental studies of reflecting
plungers and suggests optimum sizes of plungers. There are 4 references,
all English.

Sobenin, N. P. Determination of the Waveguide Diameter of a Linear
Accelerator   54

   The author presents experimental and theoretical data for calculating
the diameter of a diaphragm-type waveguide with variable phase velocity.
He also presents parametric curves for determining the diameter of a wave-
guide in a wide range of variation of the phase velocity, operating wave-
length, and size of the diaphragm aperture. The curves are valid for
diaphragm-type waveguides excited by $\pi/2$-type waves and having a diaphragm
thickness of 4 mm.   .   There are 9 references: 1 Soviet and 8 English.

Card 4/6

Linear Accelerators; (Cont.)   SOV/2003

Shal'nov, A. V., and S. P. Lomnev. Preliminary Bunching of Electrons in a
Linear Accelerator by Means of a Klystron Resonator   64

   The authors study the axial motion of particles in a waveguide resonator
of a linear electron accelerator with a klystron preresonator. Methods of
analyzing electron bunching are also presented. The authors suggest
plotting the output characteristics of a waveguide resonator as a function
of output parameters (terminal energy and phase) and the phase of the high-
frequency field of a particle entering the klystron resonator. They also
present two numerical examples.illustrating the advantageous effect of
preliminary bunching by means of a klystron. The authors also discuss the
injection characteristics of two types of resonators and present the
phase-energy characteristics of a klystron resonator. There are 8 references:
5 Soviet, 2 English, and 1 French.

Glazkov, A. A., and Ye. G. Pyatnov. Problems of Improving the Energy Spectrum
   of Electrons at the Output of a Linear Accelerator by Shifting the Phase
   180°.   79

   The authors present a theoretical study of a method of shifting the
phase 180° as a means of reducing energy scattering at the output of a

Card 5/6

Linear Accelerators; (Cont.)   SOV/2003

linear electron accelerator. The method was suggested by O. A. Val'dner.
It is shown that the use of this method for accelerators of over 3-5 Mev may
by three times the nonuniformity of energy of the output beam. The authors
discuss ways of applying this method practically and show that by using this
method the longitudinal stability of particles is not disturbed. There are
6 references: 3 Soviet and 3 English.

Tragov, A. G. Phase Shifter With Two Dielectric Plates   91

   The author discusses a phase shifter in which phase shifting is accomp-
lished by moving two dielectric plates in the cross-section of a rectangu-
lar waveguide. It is shown that the use of two plates instead of one
makes it possible to increase the phase shift and decrease the size of the
phase shifter by one and a half times. Results of theoretical and ex-
perimental calculations are presented. There are 2 references, both Soviet.

AVAILABLE: Library of Congress

Card 6/6   JP/lsb
                                                                8-31-59

Py A T N O V, Ye. G.

21 (0), 24 (0)

SOV/89-7-2-18/24

AUTHOR: Pyatnov, G. A.

TITLE: Scientific Conference of the MIFI (Nauchnaya konferentsiya MIFI)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 176-177 (USSR)

ABSTRACT: The yearly scientific meeting was held from 17 April to 15 May 1959 in the Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physical Engineering Institute). More than 600 participants from 100 different institutes attended the 2 plenary and 16 sectional conferences. A total of 148 lectures were held. The following lectures are specially mentioned: M. K. Romanovskiy on thermo-nuclear examinations, V. D. Markov on the physical foundations of molecular generators and amplifiers, I. I. Lepunskiy on the theory of the peripheral collision of mesons and nucleons, A. B. Migdal on superfluidity and momentum of inertia of the nuclei, A. I. Kompaneets on the electron-positron gravity wave, V. I. Gol'danskiy on levels which are excited within the nucleus shell and methods of comprehending them, I. I. Rosental and L. A. Prokhorova on the analysis of the possible experiments for the determination of the measurements of the mesons, L. I. Piano-Nikolor on the spectrum of liquid and crystalline hydrogen under pressure (8000-70000 atm), and an instrument for measuring the absorption curves.

Card 1/3

Lyapidevskiy and O. V. Olenin on a new application possibilities of the diffusion chamber, A. V. Shal'nikov on calculation methods for linear electron accelerators with aberatory waves, P. A. Rastin, A. M. Minkrin and A. I. Zabyev on new theories of the electron capture under betatron conditions of the acceleration, Ya. G. Panov on optimum wave length for a generator, S. P. Kapitsa and G. I. Zykunov on magnetic focusing in a linear electron accelerator, O. A. Val'dner, P. V. Mitrukiy, D. V. Zorin, Yu. I. Krivin on the 3 new linear accelerators of the MIFI, and V. V. Kunatskiy, O. A. Val'dner, P. V. Kalay and K. Chomansky on examination of the electron movement in the system of the electron with consideration of the scattering fields, O. A. Kryev on impulse method for measuring the heat conduction capacity of liquids and the theory of this method, Ya. G. Pankhipehko, Yu. I. Tillin and D. A. Chirzy on heat transmission to the eutectic Na-K which flows in a circular space, V. I. Petrovichev on heat transmission to circulating mercury, A. I. Royik on special conditions when working with a flat triode in

Card 2/3

the impulse technique, D. S. Podurayev on calculation methods and construction of an impulse transformer for instruments with semi-conductor elements, Yu. A. Bakimzer on a possibility to judge the characteristics of automatic recording of impulses, I. I. Kal'min on the element system for a universal digital computer, V. S. Malov on multiple control of the quality of technologic processes, P. I. Popov on analysis of several systems with which the reactivity changes stepwise or started. Yu. I. Pankhuzev on a method to examine the quality of a reactor control when the physical energy apparatus can be automatically linearly, G. A. Leontyev and A. I. Terstakh in on examination of the metal obtained, P. L. Gruzin and G. G. Ryabova on radiography, G. P. Fedorov on determination of niobium and characteristics of the iodine method of refining niobium and examination of the micro-distribution of carbon, tungsten, iron and other elements in zirconium and its alloys by use of auto-radiography, G. A. Leontyev and A. I. Terskikh by using radioactive indicators and G. B. Fedorov and A. S. Panchilin, on determination of the heat of zirconium and nickel, on determination of the sublimation diffusion coefficient of chromium, nickel, iron and chromium nickel steels. The literature for all these lectures will be published by the MIFI in a symposium.

Card 3/3

S/058/62/000/011/043/061
A160/A101

AUTHORS: Val'dner, O. A., Pyatnov, Ye. G.

TITLE: A comparison of the experimental and theoretical characteristics
             of a waveguide bunching for 3 Mev

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1962, 39, abstract 11-3-77t
             (In collection: "Uskoriteli", no. 3, Moscow, Gosatomizdat, 1961,
             121 - 135)

TEXT: A description is given of an installation which was designed for
studying the experimental characteristics of a waveguide buncher. The instal-
lation is a linear electron accelerator for 3 Mev with some constructional pe-
culiarities which are being explained. The main experimental results obtained
with the installation are described. The experimental and theoretical data are
compared. There are 7 references.

                                              V. L.

[Abstracter's note: Complete translation]

Card 1/1

S/759/62/000/003/008/021

AUTHORS: Gavrilov, N. M., Lomnev, S. P., Milovanov, O. S., Pyatnov, Ye. G.,
Tyagunov, G. A., Shal'nov, A. V.

TITLE: Output parameters and operating characteristics of linear electron
accelerators

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3. 1962. 78-82

TEXT   Tentative figures and plots of the output parameters and operating
characteristics are presented for several linear accelerators developed at the
Moscow Engineering-Physics Institute. The computations were made with the BESM
electronic computers. The output parameters evaluated were the energy of the
accelerated electrons, the width of the energy spectrum, and the phase width of
the electron clusters. The input parameters were the injection energy, the in-
jection current, and the power and frequency of the high-frequency supply. The
energy was expressed in terms of its effective action (or thermal action if calo-
rimetry is employed). The operating characteristics were determined in terms
of dependence on the injection, the current, the power, and the frequency. Each
dependence could in turn pertain to the energy, phase, and spectrum. Data are

Card 1/2

Output parameters and operating characteristics... S/759/62/000/003/008/021

presented for the 2, 3, 5.5, and 26 MeV accelerators, and it is pointed out that changes in the waveguide structure will modify all the figures presented. There are 10 figures.

Card 2/2

S/759/62/000/003/011/021

AUTHOR: Pyatnov, Ye. G.

TITLE: Concerning the similarity of linear accelerator-bunchers

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3. 1962. 115-120

TEXT: It is shown that the results of the design of a buncher to operate at
some specified wavelength can be employed to design other bunchers having app-
roximately the same accelerator-beam output parameters, but intended for oper-
ation at a different wavelength (within the 9 — 11 cm range). This probelm
is connected with the question of similarity of waveguide bunchers fed from
high-frequency generators having approximately the same nominal powers. Wave-
guide bunchers are defined as being similar if their dimensions, expressed in
units of the nominal wavelength, are the same. The dynamic similarity conditions
are derived by writing the equations for the energy and phase of the electrons
in dimensionless form. Trial calculations show that the energy and phase spect-
ra obtained by calculation for two bunchers with wavelengths 9 and 11 cm have
energies and final phases at the maxima of the spectra within 2% and identical
forms of the energy and phase spectra. The authors is? grateful to A. V.

Card 1/2

Concerning the similarity...   S/759/62/000/003/011/021

Shal'nov and O. A. Val'dner who suggested the problem and made many valuable remarks. There are 2 formulas and 4 figures. Reference is made to an article by M. Chodorow, E. Ginzton, and W. Hansen (Rev. Scient. Instrum. v. 26, 184, 1955).

Card 2/2

S/759/62/000/003/012/021

AUTHORS: Val'dner, O. A., Pyatnov, Ye. G.

TITLE: Comparison of experimental and theoretical characteristics of
waveguide buncher for 3 MeV

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3. 1962. 121-135

TEXT: A special test setup, U-1-M, constructed for a study of the experim-
ental characteristics of bunchers and to ascertain the agreement between the
theoretical and experimental data, is described and the main experimental res-
ults obtained are presented. The setup comprises a 3 MeV linear accelerator
with housing of adjustable length to accommodate bunchers of different sizes,
and with exciting coils so arranged as to produce a magnetic field of variable
length. The relative phase velocity and field intensity were such as to pro-
duce a narrow phase bunch (6° at half-height of the phase spectrum and 25° at
the base) containing 905 of the electrons, at a load current of 100 mA. The
waveguide was of the loaded type assembled of individual rings and diaphragms
on stainless steel dowels. The theoretical and experimental distributions of
the phase velocity along the buncher were in good agreement, but there was a

Card 1/2

Comparison of experimental...   S/759/62/000/003/012/021

disparity between the theoretical and experimental attenuations along the
buncher. The behavior of the frequency, power, and current characteristics
is analyzed and explained from the point of view of the phase stability prin-
ciple. The experimental characteristics were found to agree within 3-4% with
the results of the theory developed at the Moscow Engineering-Physics Insti-
tute at low values of power. A similar agreement is found with respect to
the width and form of the energy spectrum, indicating that the numerical
integration of the equations of motion of a single electron (the "single-
electron theory, with no account taken of the space charge of the acceler-
ated bunch, lateral motion of the electrons, etc.) is applicable at least
for pulsed currents up to 300 mA. It is pointed out that in the design of
special accelerators with narrow phase or energy spectra it is necessary to
analyze thoroughly beforehand the data governing the choice of the operating
region of input parameters (frequency and high-frequency power of the gene-
rator) such as to attain the required stability of the accelerated beam.
There are 8 formulas and 11 figures.

Card 2/2

PYATNOV, YE. G.

95

s/089/62/013/006/019/027
B102/B106

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inshenerno-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 those 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

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; G. 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. Koroza, 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: AT4019725   S/2759/63/000/005/0096/0107

AUTHOR: Val'dner, O. A.; Glazkov, A. A.; Pyatnov, Ye. G.; Seleznev, V. D.

TITLE: Experimental study of the Y-10 linear accelerator. 1. Preparation for operation and measurement techniques

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli (Accelerators), no. 5, 1963, 96-107

TOPIC TAGS: accelerator, linear accelerator, beam stability, reliability

ABSTRACT: The aim of the paper is to make a detailed test of the type Y-10 linear accelerator in the following respects: 1) correspondence between the obtained beam parameters and the calculated data, and the verification of the assumptions made in the design; 2) determination of operational characteristics of the accelerator which are important in estimating the stability of its operation and which describe the beam reaction to variations in the feed conditions; 3) verification of the operational reliability of the accelerator for a long duty-cycle. Orig. art. has: 7 figures and 10 equations.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering-Physics Institute)

Card 1/2

L 43680-66   EWT(m)   IJP(c)

ACC NR: AT6017509   *(N)*   SOURCE CODE: UR/2759/65/000/007/0066/0076

AUTHOR: Groyunov, A. A.; Pyatnov, Ye. G.; Finogenov, A. I.

ORG: none

TITLE: Experimental characteristics of a linear electron accelerator with continuously adjustable energy from 1.4 to 2 Mev

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 7, 1965, 66-76

TOPIC TAGS: linear accelerator, waveguide, radiation chemistry, magnetron / U 16 linear accelerator

ABSTRACT: Measurements of the energy dependence on frequency, power and load current were made. All measurements were made on the U-16 linear electron accelerator operating in the traveling waveguide mode. The U-16 accelerator is used primarily as a source of radiation for research in nuclear radiation chemistry. It was necessary therefore, to achieve an operation mode with continuously adjustable energy from 1.4- -2 Mev. The U-16 accelerator operates with an average current of 200 uA. It is driven with a high frequency pulsed magnetron with variable frequency. The tests showed that a simple and effective way to achieve a wide range of energy regulation consists in varying the frequency of the pulsed magnetron. In this manner, the energy and current in the accelerator can be varied independently. In order to obtain a stable ope-

Card 1/2

L 43680-66

ACC NR: AT6017509

ration of the magnetron in the frequency range of 6 to 10 Mc, it was necessary to as-
certain the properties of the entire high frequency portion of the accelerator. The
band properties of the high frequency part of the accelerator are shown in a graph.
Additional graphs show (1) the energy variation and the energy band as a function of
frequency for different input power at 200 μA; (2) the relation of output energy of
the electron to input power; (3) electron energy at the output as a function of the
load current of the accelerator (beam current). Orig. art. has: 10 figures.

SUB CODE: 20,07/   SUBM DATE: none/   ORIG REF: 003

Card 2/2 mjs

ACCESSION NR: AT4019726   S/2759/63/000/005/0108/0124

AUTHOR: Val'dner, O. A.; Glazkov, A. A.; Pyatnov, Ye. G.; Seleznev, V. D.

TITLE: Experimental study of the Y-10 linear accelerator

SOURCE: Moscow. Inzhenerno-fizicheskiy Institut. Uskoriteli (Accelerators), no. 5, 1963, 108-124

TOPIC TAGS: accelerator, linear accelerator, particle accelerator, electron accelerator, linear electron accelerator

ABSTRACT: The first part of this paper appears as the preceding paper in the same issue. This second part describes the energy spectra of the particles, the fre- quency characteristics, the power and current characteristics, and the beam-power and high-frequency efficiency. Orig. art. has: 12 figures and 5 formulas.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering-Physics Institute)

SUBMITTED: 00   DATE ACQ: 19Mar64   ENCL: 00

SUB CODE: NP   NO REF SOV: 003   OTHER: 001

Card 1/1

BORISOV, Ye.; PYATNOVA, I.

        Hunting for nines. Znan.sila 33 no.7:5-8 Jy '58. (MIRA 11:11)
           (Germanium)   (Silicon)

PYATNOVA, I.

BORISOV, Ye.; PYATNOVA, I.

Bread and automatic machinery. Znan. sila 32 no.7:38-40 Jl '57.
(Bakers and bakeries--Equipment and supplies)   (MLRA 10:8)
(Automation)

BORISOV, Ye.; PYATNOVA, I.

Bread on a conveyer system. Znan.sila no.12:3-5 D '54.(MLRA 8:1)
(Bread)

BORISOV, Yevgeniy Borisovich; PYATNOVA, Irina Ivanovna; FEDCHENKO, V.,
red.; BUGROVA, A., tekhn. red.

[A key to the sun; stories about the young science and new
technological field making possible space radio and television,
electric power plants without machinery and much else, in a
word-stories about semionductors] Kliuch k solntsu; rasskazy o
molodoi nauke i novoi oblasti tekhniki, sdelavshei vozmozhnym
kosmicheskoe radio i televidenie, elektrostantsii bez mashin i
mnogoe drugoe, - slovom, rasskazy o poluprovodnikakh. 2., dop.
izd. Moskva, "Molodaia gvardiia," 1964. 303 p. (MIRA 17:4)

BORISOV, Yevgeniy Borisovich; PYATNOVA, Irina Ivanovna; FEDCHENKO, V.,
     red.; KUVYRKOVA, L., tekhn.red.

     [Key to the sun; the story of semiconductors] Kliuch k solntsu;
     rasskazy o poluprovodnikakh. Moskva, Izd-vo TsK VLKSM "Molodaia
     gvardiia," 1960. 255 p.   (MIRA 13:5)
                         (Semiconductors)

MYAGKOVA, G.I.; KRAYEVSKIY, A.A.; PYATNOVA, Yu.B.; SARYCHEVA, I.K.;
PREOBRAZHENSKIY, N.A.

Higher fatty acids. Part 16: Synthesis of cis-, cis-, cis-, cis-,
9,12,15,18- tetracosatetraenoic acid. Zhur. org. khim. 1 no.6:981-
983 Je '65.   (MIRA 18:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
Lomonosova.

KRAYEVSKIY, A.A.; PYATNOVA, Yu.B.; MYAGKOVA, G.I.; SARYCHEVA, I.K.;
PREOBRAZHENSKIY, N.A.

Total synthesis of linoleic, linolenic, arachidonic, and
docosatetraen-7,10,13,16-ic acids. Dokl. AN SSSR 146 no.6:1349-
1351 O '62.   (MIRA 15:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im.
M.V. Lomonosova. Predstavleno akademikom M.I. Kabachnikom.
              (Acids, Fatty)

PYATOGORSKIY, I.V.

Effect of the erythema dose ultraviolet irradiation on acid base
equilibrium in infants. Pediatriia, Moskva No.1:51 Jan-Feb 51.

(CLML 20:6)

1. Of the Department of Children's Physiotherapy of Khar'kov Scien-
tific-Research Institute for the Care of Mothers and Children.

PYATNOV, V.I.

Conditions of the formation of marine beach placers (such as
deposits in foreign countries). Razved.i okhr.nedr 22 no.5:
6-16 My '56.   (MLRA 9:9)

1. Girednet.
                        (Seashore)

PYATNOV, V.I.

Titanium mineralization and the replacement of rutile by
sphene in eclogite bodies of the Southern Urals. Geol. rud.
mestorozh. 5 no.2:121-125 Mr-Ap '63.   (MIRA 16:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy proyektnyy institut
redkometallicheskoy promyshlennosti, Moskva.
                    (Ural Mountains—Eclogite)
                    (Ural Mountains—Titanium)

PYATNOVA, I.

"History of a hypothesis." Ekaterina Stregeva. Reviewed by I.
Piatnova. Znan.sila 30 no.12:28 D '55.   (MIRA 9:4)
    (Milky Way) (Stregeva, Ekaterina)

BORISOV, Ye.; PYATNOVA, I.

Extraordinary transformations. Znan. sila 32 no.12:36-40 D '57.
(Thermocouples)   (MIRA 11:2)

Pyatnova, I

AUTHORS: Borisov, Ye. and Pyatnova, I.   4-12-13/24

TITLE: Extraordinary Transformations (Neobychaynyye prevrashcheniya)

PERIODICAL: Znaniye - Sila, 1957, # 12, pp 36 - 40 (USSR)

ABSTRACT: The authors give as an introduction a description of future
              solar and atomic thermal stations, which though not in existence
              at the present time are not an illusion, due to the existence
              of semi-conductors. In this article the authors deal with one
              of their varieties - the thermo-elements. However, these ele-
              ments are not yet applicable in power plants.

AVAILABLE: Library of Congress

Card 1/1

PYATNOVA, Irina Ivanovna; LEVENSHTEYN, G.V., red.; NAZAROVA, A.S.,
       tekhn. rea.

       [One hundred "jobs" of semiconductors]Sto professii poluprovod-
       nikov. Moskva, Izd-vo "Znanie," 1962. 53 p. (Narodnyi univer-
       sitet kul'tury: Tekhniko-ekonomicheskii fakul'tet, no.12)
                                                    (MIRA 16:1)
                   (Semiconductors)

PYATNOVA, Yu.B.; MYAGKOVA, G.I.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Total synthesis of ethyl ester of 5,8,11, 14-eicosatetraenoic
(arachidonic) acid. Zhur.ob.khim. 33 no.4:1120-1122 Ap '63.
(MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V.Lomonosova.
(Eicosatetraenoic acid)

S/079/62/032/001/004/016
D213/D302

AUTHORS: Pyatnova, Yu. B., Kovtun, I. A., Pleshakov, M. G., Kray-
            evskiy, A. A., Sarycheva, I. K., and Preobrazhenskiy,
            N. A.

TITLE: Studies in the synthesis of poly-yne compounds

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 1, 1962, 138-139

TEXT: Methods of preparing decadi-yne-1,4, and tetradecatriyne-2,5
8-ol-1 are described. The above compounds are intermediates in the
synthesis of arachidonic and other unsaturated acids. (1) Chlorobu-
tyne-2-ol-1: Butyne-2-diol 1,4 was treated in pyridine and benzene
((1:1) mixture) at 3-5°C with excess $SOCl_2$ (1.1 equiv.) with tempe-
rature being kept at 15-20°C. The yield was 60 %. (2) Octyne-2-ol-1:
Prepared in 59 % yield from 1 chlorobutyne-2-ol-4, with n-butyl ma-
gnesium bromide, the former being added over 90 mins. The fraction
of b.p. 98-100°C/16 mm was collected. (3) 1-Bromo-octyne-2: To oc-
tyne-2-ol-1 in dry ether kept at 0 - 2°C, PBr_3 in slight excess and
catalytic amounts of pyridine were added over 15 mins. The yield
Card 1/2

Studies in the synthesis of ...

was 80 %. (4) Decadiyne-1,4: 1 Bromooctyne-2 was reacted with Na acetylenide. The yield was 48 %. (5) Tetradecatriyne-2,5,8-ol-1: To a solution of excess ethyl magnesium bromide in dry ether with cooling to -3-5°C propargyl alcohol in benzene was added over 90 mins. There are 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: W.J. Bailey and E. Fujiwara, J. Am. Chem. Soc., 77, 165, 1955; W.J. Gensler, A.P. Mahadevan and J. Casella, J. Am. Chem. Soc., 78, 63, 1956; J.M. Osbond and J.C. Wickens, Chem. a. Ind., 1959, 1288.

ASSOCIATION: Moskovskoy Institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova(Moscow Institute of Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: January 25, 1961

Card 2/2

MITROFANOVA, T.K.; SARYCHEVA, I.K.; IVASHCHENKO, S.P.; PYATNOVA, Yu.B.;
SEREBRENNIKOVA, G.A.; PREOBRAZHENSKIY, N.A.

Lipides. Part 9: Synthesis of some triglycerides of soybean oil.
Zhur.ob.khim. 31 no.9:2984-2986 S '61.   (MIRA 14:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V.Lomonosova.
                              (Glycerides)

PYATNOVA, Yu.B.; SMIRNOV, L.D.; VASIL'YEVA, L.V.; MYAGKOVA, G.I.; GOL'TSEVA,
    Z.V.; YEVSTIGNEYEVA, R.P.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

    Production of 5,8,11,14-eicosatetraenoic (arachidonic) acid.
    Zhur. ob. khim. 32 no.1:142-144 Ja '62.   (MIRA 15:2)

    1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
    M.V.Lomonosova.
                            (Eicosatetraenoic acid)

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PHASE I BOOK EXPLOITATION   SOV/5241

Konovalov, Yevmeniy Grigor'yevich, and Yevgeniy Iosifovich Pyatosin

Obrabotka ploskikh poverkhnostey sharikovymi golovkami (Ball Burnishing of Plane
   Surfaces) Minsk, Izd-vo AN BSSR, 1960. 19 p. 3,000 copies printed.

Sponsoring Agency: Fiziko-tekhnicheskiy institut AN BSSR. Laboratoriya
   novykh metodov obrabotki materialov.

Ed.: R.L. Tofpenets, Candidate of Technical Sciences; Ed. of Publishing House:
   L. Timofeyev; Tech. Ed.: I. Volokhanovich.

PURPOSE: This booklet is intended for designers and operators of burnishing
   tools.

COVERAGE: Ball burnishers are discussed from the standpoint of their design,
   kinematics, macrogeometry, and other data relative to their construction and
   use. Cold working processes are mentioned briefly. No personalities are
   mentioned. There are nine references, all Soviet.

Card 1/2

KONOVALOV, Yevmeniy Grigor'yevich; PYATOSIN, Yevgeniy Iosifovich;
     TOPPENETS, R.L., kand.tekhn.nauk, red.; TIMOFEYEV, L., red.
     izd-va; VOLOKHANOVICH, I., tekhn.red.

[Machining flat surfaces with ball heads] Obrabotka ploskikh
poverkhnostei sharikovymi golovkami. Minsk, Izd-vo Akad.nauk
BSSR, 1960. 19 p.   (MIRA 14:1)
          (Grinding and polishing)

PYATOV, L.I., aspirant

Calculation of the temperature field of the vulcanization plate
with electric heating. Nauch. trudy MTILP no.26:197-204 '62.
(MIRA 17:5)

1. Kafedra avtomatiki Moskovskogo tekhnologicheskogo instituta
legkoy promyshlennosti.

PYATOV, L.I., aspirant

Computation of the temperature fields of various plates.
Nauch. trudy MTILP no.27:232-237 '63.

(MIRA 17:11)

1. Kafedra avtomatiki Moskovskogo tekhnologicheskogo instituta
legkoy promyshlennosti.

MANIN V. V.M., kand. tekhn. nauk, starshiy prepodavatel', PYATOV, L.L.,
kand. tekhn. nauk, assistent

Determining the constant of the duration of a simple process.
Nauch. trudy MTILP no.29:278-280 '64.   (MIRA 18:4)

1. Kafedra avtomatiki Moskovskogo tekhnologicheskogo instituta
legkoy promyshlennosti.

IONKIN, I.M., and others; ZHDAN, L.I., aspirant

A combination method for the analysis of the frequency characteristics
of heat exchangers. Hauch. trudy MIHI no.48:283-286 '63.
(MIRA 17:10)

1. Kafedra avtomatiki Moskovskogo ordena Trudovogo Krasnogo Znameni
khimiko-tekhnologicheskogo instituta imeni D.I. Mendeleyeva.

PYATOV, N.I.; SOLOV'YEV, V.G.

Two-quasi-particle levels and the probabilities of β-transitions in Sm, Gd, and Dy isotopes. Izv. AN SSSR. Ser. fiz. 28 no.1: 10-17 Ja '64.   (MIRA 17:1)

1. Ob"yedinennyy institut yadernykh issledovaniy.

PYATOV, N.I.

Splitting of levels in even-mass deformed nuclei. Izv. AN SSSR.
Ser. fiz. 27 no.11:1436-1441 N '63.   (MIRA 16:11)

1. Laboratoriya teoreticheskoy fiziki Ob"yedinennogo instituta
yadernykh issledovaniy.

GADETSKIY, O.G.; PYATOV, N.I.

Effect of pair correlations on E 1-transitions in deformed nuclei.
Izv. AN SSSR.Ser. fiz. 29 no.5:830-837 My '65.   (MIRA 18:5)

1. Laboratoriya teoreticheskoy fiziki Ob"yedinennogo instituta
yadernykh issledovaniy.

PYATOV, N.I.

Gamma transitions in deformed nuclei with account of pairing
correlations. Acta physica Pol 25 no.1:21-25 Ja '64

1. Joint Institute for Nuclear Research, Laboratory of Tehore-
tical Physics, Dubna, U.S.S.R.

PEKAR', P.P., starshiy nauchnyy sotrudnik; SHEVCHENKO, L.A. (Bobrinets)
GUN, S.I. (Genichesk); RYBINA, N.A. (Novo-Ukrainka);
PASECHNIKOVA, I.G. (Bereznigovatoye); MATVEYEVA, Ye.M.
(ARBUZINKA); PODOL'SKIY, L.G. (Starokazatskoye); GRISHAYEVA,
A.P. (Peschanoye); PYATOVA, A.S. (Varvarovka)

Efficacy of artificial pneumothorax in pulmonary tuberculosis
patients under rural conditions. Probl. tub. no.8:71-75'62.
(MIRA 16:9)

1. Iz Odesskogo nauchno-issledovatel'skogo instituta tuberku-
leza (dir. - starshiy nauchnyy sotrudnik M.A.Yerusnikin).

ASS, Ya.K.; NEL'ZINA, O.S.; PYATOVA, V.N.

Abstracts of articles received by the editors. Ort. travm. i protez.
23 no.10:77-79 O '62.   (MIRA 17:10)

1. Iz gospital'noy khirurgicheskoy kliniki (zav.- prof. S.Yu.
Minkin) Permskogo meditsinskogo instituta (rektor - dotsent T.B.
Ivanovskaya) i Permskoy oblastnoy klinicheskoy bol'nitsy (glavnyy
vrach- V.V. Pleshkov).

PYATOV, V.S., inzh.

Efficiency of the various methods for staged reconstruction of single-track lines into double-track lines. Trudy MITT no.203: 132-145 '65.

(MIRA 18:6)

L 8854-66   EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(1)/EWA(c)   JD/HW

ACC NR: AP5026483   SOURCE CODE: UR/0286/65/000/019/0009/0009

INVENTOR: Granovskiy, S. P.; Pyatunin, A. I.; Yefanov, V. I.; Yakovlev, S. A.;
Arutyunov, I. G.; Revunov, V. A.; Zemskov, A. A.; Shofman, L. A.

ORG: none

TITLE: Production of seamless tubes. Class 7, No. 175026. [Announced by All-
Union Scientific Research and Design-Planning Institute of Metallurgical Equip-
ment (Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut
metallurgicheskogo mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 9

TOPIC TAGS: tube, seamless tube, thin wall tube, light alloy tube, metal rolling

ABSTRACT: This Author Certificate introduces a method for making seamless tubes,
e.g., light-alloy tubes from rolled, forged, or cast tube shells. To obtain thin-
wall tubes of large diameter with precise dimensions and a clean surface, the tube
shell is first hot rolled with expansion in a helical mill and then cold rolled
with elongation in a helical rolling mill.   [AZ]

SUB CODE: 13/   SUBM DATE: 12Feb64/ ATD PRESS: 4/52

BVK
Card 1/1   UDC: 621.774.3

L 01453-66   EWT(1)/FCC   GW

ACCESSION NR: AT5017065   UR/2531/65/000/168/0003/0013

AUTHOR: Pyatygina, K. V.; Blazhevich, V. G.; Fedorova, E. A.

TITLE: Results from testing of an ageostrophic model for predicting wind and tem-
perature fields for several atmospheric levels

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 168, 1965.
Chislennyy analiz i prognoz pogody (Numerical analysis and weather forecasting),
3-13

TOPIC TAGS: geostrophic wind, weather forecasting, atmospheric geopotential

ABSTRACT: The results of 27 daily forecasts of wind and temperature fields for
levels of 850, 500, 300 and 200 mb are analyzed. In contrast to earlier works, the
temperature and wind fields were predicted using a system in Lagrange variables.
The method used is briefly described. A high speed electronic computer was used for
making the claculations. The initial data consisted of 333 values of geopotential
and 263 temperature readings on each of the four levels studied. Tables are given
showing the reliability of forecasts for geostrophic wind velocity and temperature
variation. Predictions of wind velocity were much more accurate on the 850 and

Card 1/2

L 01453-66

ACCESSION NR: AT5017065   3

500 mb levels than on the 300 and 200 mb levels. The error was 5.5 m/sec for the
850 mb level, 8.0 m/sec for the 500 mb level, and about 13 m/sec for the other two
levels. The absolute error in temperature prediction for the troposphere is 2° on
the average. However, for the 200 mb level this error is considerably greater
(3.2°). The coefficient of correlation between the actual and predicted temperature
changes is highest for the 850 mb level, lowest for the 300 mb level. The data are
compared with those of other authors. Orig. art. has: 2 figures, 10 formulas, 8
tables.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical
Observatory)   44,55

SUBMITTED: 00   ENCL: 00   SUB CODE: ES, DP

NO REF SOV: 009   OTHER: 000

Card 2/2

Py A Ty G IN A, K.U.

SOV/2547

PHASE I BOOK EXPLOITATION

Leningrad. Glavnaya geofizicheskaya observatoriya

Voprosy dinamicheskoy meteorologii. (Problems in Dynamic Meteorology) Leningrad, Gidrometeoizdat, 1959. 91 p. (Series: Its Trudy, vyp. 81) Errata slip inserted. 1,200 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): M.I. Yudin, Doctor of Physical and Mathematical Sciences and M.Ye. Shvets, Doctor of Physical and Mathematical Sciences; Ed. (Inside book): L.P. Zhakonova; Tech. Ed.: O.G. Vladimirov.

PURPOSE: This issue of the Geophysical Institute's Transactions is intended for scientific workers and specialists in dynamic and synoptic meteorology.

COVERAGE: This collection of articles treats problems in dynamic meteorology. The articles, for the most part, discuss computation method of forecasting meteorologic elements. Closely related to this is a study used at determining vertical velocities according to aircraft vibration data. No personalities are mentioned. References accompany each article.

Yudin, M.I., M.I. Yakovleva, L.V. Rukhovets, L.S. Orlova, and F.A. Seliter. The Problem of Cyclone Evolution

Pyatygina, K.V., and M.A. Petrosyants. Results of Advance Computation of the Displacement of Near Surface Cyclone Centers

Belov, A.S., P.D. Sergeyev, and I.G. Makova. Comparative Analysis of Some of the Simplest Methods of Numerical Forecasting

Gandin, L.S. and T. Dolok. Methods for Integrating the Vorticity Equation Aligned on Isobaric Surface

Gandin, L.S., and F.A. Alimov. The Problem of Stabilizing the Smoothed-out Currents Used in Graphoanalytical Forecasting Methods

Pyatygina, K.V. Formulas for Advance Computation of Upper-Air Baric Field Elements

Peor, A.S. The Problem of Determining Vertical Wind Velocities from Aircraft Accelerograph Data

Savitsky, M.I. Determining the Critical Values of Richardson's Number as an Index Criterion of Increased Atmospheric Turbulence

PYATYGINA, K.V.

Computation pattern for advance calculation of wind and temperature
fields in the troposphere and lower stratosphere. Trudy GGO
no.121:80-94 '61.
(MIRA 15:5)
(Winds)   (Atmospheric temperature)

RYABOV, A.M.; PUZANOV, O.P.; KHARITONOV, A.A., inzh.; PYATYGO, A.S.

News from factories. Masl.-zhir.prom. 28 no.7:45-47
Jl '62.   (MIRA 15:11)

1. Vneshtatnyye korrespondenty zhurnala "Masloboyno-zhirovaya
promyshlennost'" (for Ryabov, Puzanov).
                        (Oil industries)

PYATYKHINA, D.P.

Isolation, purification and some physicochemical properties of the
antibiotic sekazin. Antibiotiki 10 no.6:483-488   Je '65. (MIRA 18:7)

1. Otdel infektsionnoy patologii i eksperimental'noy terapii infektsii
(zav. - chlen-korrespondent AMN SSSR prof. Kh.Kh. Planel'yes) Instituta
epidemiologii i mikrobiologii im. N.F.Gamalei AMN SSSR, Moskva.

PYATYSHKIN, N., kand.tekhn.nauk; ZHILINSKAYA, L., inzh. (Kiyev)

Burner for liquid fuels. Zhil.-kom. khoz. 10 no.5:31-32 '60.
(MIRA 13:10)

(Burners)   (Liquid fuels)