KORZHETSKIY, A.P., inzh.; VERIGIN, N.N., doktor tekhn.nauk, prof.; BINDEMAN,
        N.N., kand.geol-mineral.nauk; BOCHEVER, F.M., kand.tekhn.nauk;
        GRIGOR'YEV, V.M., kand.tekhn.nauk; NEDRIGA, V.P., kand.tekhn.nauk;
        SHESTAKOV, V.M., kand.tekhn.nauk.

Opinions of the book "Determining water inflow to foundation pits and
designing drainage installations" by V.V. Kurilenko. Reviewed by
A.P. Korzhetskii and others. Gidr. stroi. 27 no.4:61-64 Ap '58.
                                            (MIRA 11:9)

        (Soil percolation) (Drainage) (Kurilenko, V.V.).

SHESTOPAL, Aleksandr Osipovich, inzh.; FUKSON, M.M., kand.tekhn.nauk,
    retsenzent; SHESTAKOV, V.M., kand.tekhn.nauk, retsenzent;
    ENGEL', F.F., inzh., retsenzent; PETROV, G.D., inzh., nauchnyy
    red.; ORLOV, A.G., inzh., nauchnyy red.; MAR'YANSKIY, L.M.,
    inzh., red.; AKULOV, D.A., tekhn.red.

[Using hydraulic methods in submerging pipes, piles, and pile
planks] Gidravlicheskoe pogruzhenie trub, svai i shpunta.
Moskva, Gidroproekt, 1959. 67 p.   (MIRA 13:6)
        (Pipelines)   (Piling (Civil engineering))

SEMENOV, M.P., prof., red.; GRIGOR'YEV, V.M., starshiy nauchnyy
sotrudnik, red.; SHESTAKOV, V.M., starshiy nauchnyy sotrudnik,
red.; SMIRNOVA, A.P., red.izd-va; EL'KINA, E.M., tekhn.red.

[Transactions of the Conference on Problems of Water Table
Lowering in Hydraulic Engineering] Trudy Soveshchaniia po
voprosam vodoponizheniia v gidrotekhnicheskom stroitel'stve.
Moskva, Gos.izd-vo lit-ry po stroit.arkhit. i stroit.materia-
lam, 1959. 190 p. (MIRA 12:9)

1. Soveshchaniye po voprosam vodoponizheniya v gidrotekhni-
cheskom stroitel'stve. Moskva, 1957. 2. Vsesoyuznyy nauchno-
issledovatel'skiy institut vodosnabzheniya, kanalizatsii,
gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii
(Vodgeo) (for Semenov, Shestakov).
        (Drainage)   (Hydraulic engineering)

SOV/24-59-1-16/35

AUTHOR: Shestakov, V.M., (Moscow)

TITLE: Determination of the Leakage Zone of the Percolation Flow Near the Walls of Wells (Opredeleniye uchastka vysachivaniya fil'tratsionnogo potoka u stenki skvazhiny)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Energetika i Avtomatika, 1959, Nr 1, pp 110-111 (USSR)

ABSTRACT: The following relationship, based on an equation due to Charnyy (Ref 3) is proposed:

$$\eta = \frac{h_k^2 - h_c^2}{Q^o} = 0.73 \lg \frac{\sqrt{Q^o}}{r_c} - 0.51 \qquad (7)$$

where $h_k = h_c + h_o$; h_c = level in well, h_o = height of leakage zone; Q_o = discharge from well and r = radius of well. This relationship is plotted in the figure (p 111) and compared with measurements of Soviet and other workers. The agreement is sufficiently close to justify the use of the relationship for practical

Card 1/2

SOV/24-59-1-16/35

Determination of the Leakage Zone of the Percolation Flow Near the
Walls of Wells
            calculations. There is 1 figure, 1 table and
            6 references of which 2 are English, 1 French and
            3 Soviet.
SUBMITTED: 29th May 1958

Card 2/2

SHESTAKOV, V.M.

Determining outflow gradients for percolating flow near the slop. Vop.fil'tr.rasch.gidr.soor. no.3:185-216 '59.
(MIRA 13:5)

(Soil percolation) (Drainage)

SOV/98-59-10-11/20

30(1)
AUTHOR: Shestakov, V.M., Candidate of Technical Sciences

TITLE: The Filtration Resistance of Sand Slopes

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 10, pp 41-44 (USSR)

ABSTRACT: The article deals with 2 kinds of filtration resistance in the
             sand slopes of the foundations of hydroelectric constructions or
             earth dams, one where the slope is not protected and is subject
             to the depositing of alluvium by the filtration stream, and the
             other where the slope is protected by a filter from being thus
             affected. Mention is made of certain leading names in research in
             this field: N.N. Verigin, V.V. Aristovskiy, J. Ohde, W. Bernatzik,
             I.F. Volod'ko, and B.I. Pokrovskiy. The author goes on to describe
             tests carried out at the VODGEO (All-Union Scientific Research
             Institute of Water Supply, Pipelines, Hydraulic Construction and
             Engineering Hydrogeology) and also on-the-spot research conducted
             on the Kuybyshev and Stalingrad GES (Ref.5). The amounts of allu-
             viation is fixed as being the length of the alluviation tongue l

Card 1/5   (see fig.1),

The Filtration Resistance of Sand Slopes

$$i = \frac{h_B}{J_c} , \qquad (1)$$

where h_B is the height of the leak and J_c is the average angle of
slope of the alluviation: $J_c = \chi J_0$, $\qquad (2)$

where J_0 is the angle of inclination of the undeformed slope, and
χ is the coefficient dependent on the streamflow over the slope q_0
and the diameter of the pebbles d. The 2 graphs for the determin-
ation of χ , depending on the size of the streamflow, are given in
fig.2, while d is determined by the formula

$$(d_{50} + .017) \sqrt[3]{\frac{d_{90}}{d_{50}}} - .017 \ (cm) , \qquad (4)$$

where d_{90} is the size of the particles of which the earth contains
less than 90% (in weight). The height of the leak h_B for slopes on
an impervious foundation is fixed according to G.K. Mikhaylov's

Card 2/5

The Filtration Resistance of Sand Slopes

formula

$$h_B = (m + .5)\frac{q_o}{k} ,\qquad (5)$$

where k is the coefficient of filtration of the earth, and m is the estimated amount of deposit on the slope. Hence the length of the tongue of alluviation 1 may be calculated according to formula (1). In the case of slopes with pervious foundations of power T, the value q_o may be related to the height of the leak h_B thus:

$$\frac{q_o}{k} = \frac{h_B + .75T}{T + (m + .5)\ h_B}\ h_B .\qquad (7)$$

On the other hand, the relation has previously been established between h_B and the complete discharge of the filtration stream q, so that

$$h_B = \sqrt{.25\left(T - \frac{mq}{k}\right)^2 + .45\frac{q}{k}T} - .5\left(T - \frac{mq}{k}\right),\qquad (8)$$

where

$$\frac{q}{k} = \frac{H(H + 2T)}{2L} .\qquad (8a)$$

Card 3/5   With the aid of equations 7 and 8, a graph can be drawn to illu-

The Filtration Resistance of Sand Slopes

strate the relation between $\frac{q_o}{q}$ and $\overline{mq} = \frac{mq}{kT}$ (Fig.3). It can also happen that alluviation of the filtering part of the slope tends to deform the slope as a whole, and the amount of this deformation is determined by the formula

$$\Delta 1 = \frac{h_B^2}{2H_o} \left(\frac{1}{J_c} - \frac{1}{tg\,\varphi} \right) . \tag{9}$$

The best solution is to install a filter layer at the leak point, but the author criticizes the methods advocated by V.S. Istomina (Ref.8) and B.I. Pokrovskiy. The lay-out used in tests to determine the importance of the size of the particles and the stream-flow in the filter is given in fig.4; the material used for the slope remained constant (d_{10} = .12 mm, d_{50} =.18 mm), while the composition of the filtration layer changed; the results are given in the table on page 43. On the basis of these tests the author recommends the formula $\frac{D_{10}}{d_{50}} < 15\text{-}20$ (10)

Card 4/5

SOV/98-59-10-11/20

The Filtration Resistance of Sand Slopes

for the protection of slopes, and proposes that V.S. Istomina's graphs be used. The safe thickness of the filter layer is calculated as

$$\alpha_o = \alpha + \frac{k}{k_{pr}} h_B \quad,$$

(11)

where k_{pr} is the coefficient of filtration of the filtration layer (Fig.5). There are 3 graphs, 2 diagrams, 1 table, and 8 references, 6 of which are Soviet, and 2 German.

Card 5/5

SHESTAKOV, V. M.

PHASE I BOOK EXPLOITATION   SOV/4912

Vorobkov, Lev Nikolayevich, Vladimir Matveyevich Gavrilko, Petr
    Vladimirovich Lobachev, and Vsevolod Mikaylovich Shestakov

Vodoponizheniye v gidrotekhnicheskom stroitel'stve (Lowering the
    Water Table in Hydrotechnical Construction) Moscow,
    Gosstroyizdat, 1960. 243 p. Errata slip inserted. 4,000 copies
    printed.

Scientific Ed.: Yu. G. Trofimenkov, Candidate of Technical
    Sciences; Ed. of Publishing House: P. V. Safonov; Tech. Ed.:
    Ye. L. Temkina.

PURPOSE: This book is intended for engineering and technical per-
    sonnel in hydrotechnical construction who are occupied with
    problems of lowering water tables. The book may also be of
    interest to mining personnel.

COVERAGE: The authors discuss the designing and calculation of
    systems for lowering water tables. They deal chiefly with

Card 1/7

large systems used in excavations for water works. Problems
in installing the lowering apparatus are discussed. Special
attention is given to the method using deep wells. Consider-
able space is given to the question of designing drainage
systems for open-cut mine workings. L. N. Vorobkov wrote
Sec. 1 of Ch. I, Sec. 1 of Ch. II, Sec. 1 of Ch. IV, and
Secs. 1 and 2 of Ch. VII. V. M. Gavrilko wrote Ch. V and
Secs. 1, 2, 3, 5, and 6 of Ch. VI. P. V. Lobachev wrote
Secs. 3 and 4 of Ch. II; Secs. 2 and 3 of Ch. IV, and Sec.
4 of Ch. VII. Secs. 2 and 3 of Ch. I, Ch. III, and Sec. 4
of Ch. VI were written by V. M. Shestakov. Sec. 3 of
Ch. VII was based on materials supplied by Engineer
A. O. Shestopal. The authors thank Candidates of Technical
Sciences V. M. Grigor'yev and Yu. G. Trofimenkov for their
assistance. There are 100 references: 87 Soviet, 5 German,
6 English, and 2 French.

TABLE OF CONTENTS:

Card 2/7

VERIGIN, N.N.; ORADOVSKAYA, A.Ye.; SHESTAKOV, V.M., kand.tekhn.nauk, red.

[Methodological instructions for the calculation of solution processes in saline soils in the bodies and foundations of hydraulic structures] Metodicheskie ukazaniia po otsenke rastovoreniia zasolennykh gruntov v tele i osnovanii gidrotekhnicheskikh sooruzhenii. Moskva. Akad.stroit.i arkhit. 1960. 37 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut vodosnabzheniia, kanalizatsii, gidrotekhnicheskikh sooruzhenii i inzhenernoi gidrogeologii. Laboratoriia inzhenernoi gidrogeologii. Laboratoriia inzhenernoi gidrogeologii. Informatsionnye materialy, no.15).   (MIRA 14:11)

(Hydraulic structures)   (Saline and Alkali soils)

MILIKHIKER, Sh.G., inzh.; SHESTAKOV, V.M., kand.tekhn.nauk

New methods for calculating a system of water-level lowering wells
in artesian b⌐   ⌐s. Trudy Gidroproekta 3:251-268 '60.
(MIRA 13:7)

1. Otdel j⌐⌐ ⌐nernoy geologii Vsesoyuznogo proyektno-izyskatel'skogo
i nauchno-issledovatel'skogo instituta "Gidroproyekt" imeni S.Ya.
Zhuka (for Milikhiker). 2. Vsesoyuznyy nauchno-issledovatel'skiy
institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh
sooruzheniy i inzhenernoy gidrogeologii (for Shestakov).
(Stalingrad Hydroelectric Power Station region--Water, Underground)
(Hydraulic engineering)

SHESTAKOV, V.M., kand.tekhn.nauk

Filtration studies of the tailing storage pond at the
Kadzharan Copper-Molybdenum Combine. TSvet.met. 33
no.5:10-14 My '60.   (MIRA 13:7)
   (Khadzharan--Nonferrous metals--Metallurgy)
       (Tailings (Metallurgy))

SHESTAKOV, V.M.

New types of protective housings for piezometers.
Razved. i okh. nedr 26 no.7:51-54 Jl '60.   (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya,
kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy
gidrogeologii.
                        (Piezometer)

SHESTAKOV, V. M. (URSS)

"The problems of filtrations computations of perfect and imperfect wells."
Presented at the Symposium on Methods of Evaluating Resources
of Underground Water with Emphasis on Arid Zone Problems, Athens
11-20 Oct 1961

SHESTAKOV, V.M.

Mixing of waste waters in rivers. Vod. i san. tekh. no.7:15-18
Jl '61.   (MIRA14:7)
                    (Sewage disposal)

SHESTAKOV, V.M. (Moscow)

Theory of sorption dynamics in filtration through granular mater-
ials. Zhur.fiz.khim. 35 no.10:2358-2362 O '61.   (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Granular materials) (Sorption) (Filters and filtration)

SHESTAKOV, V.M., kand.tekhn.nauk

Use of a combined drainage system in draining foundation trenches
in sandy soil. Gidr.stroi. 32 no.4:28-30 Ap '62.   (MIRA 15:4)
            (Drainage)   (Dams—Foundations)

SHESTAKOV, V.M. (Moskva)

Percolation at pressure levels during the digging of trenches or pits. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.2:133-135 Mr-Ap '62.
(MIRA 15:5)
(Water, Underground)

SHESTAKOV, V.M.

Use of G.N.Kamenskii's method of finite differences for calculating
the seepage factor of water-lowering and water-intake installations.
Trudy Lab.gidrogeol.probl. 40:103-113 '62.   (MIRA 15:11)
                          (Water, Underground)

SHESTAKOV, V.M.

Using data from test samples taken under conditions of unsteady
flow to determine the hydrogeological parameters of a layer.
Razved. i okh. nedr 28 no.12:35-42 D '62.   (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet.
(Water, Underground)

SHESTAKOV, V.M.

Effect of the elastic drive of seepage in separate layers on the
interaction of aquifers. Izv.vys.ucheb.zav.; geol. i razv. 6 no.10:
92-98 O '63.   (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

SHESTAKOV, V.M.

Estimating the resistance of the bed of bodies of water in hydrogeological calculations. Razved. i okh. nedr. 30 no.5:34-38 My '64.
(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet.

SHELTA ?, Leonid Mikhaylovich, doktor tekhn. nauk; VANTORILA,
A.F., red.

[Theoretical principles for the evaluation of the rise and
lowering of water and drainage] Teoreticheskie osnovy otsen-
ki podpora, vodoponizheniia i drenazha. Moskva, Izd-vo
Mosk. univ., 1965. 232 p.
(MIRA 18:10)

S/081/62/000/017/096/102
B177/B186

AUTHORS: Belyy, V. A., Shestakov, V. M.

TITLE: On the use of certain polymers for sliding bearings

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 546, abstract
             17P95 (Sb. tr. In-t. mashinoved. i avtomatiz. AN BSSR no. 2,
             1961, 93 - 115)

TEXT: The basic requirements for bearing materials are stated. The
properties of fluoroplast-4 and caprone and their use as bearing materials
are described and also the design and manufacture of caprone sliding
bearings. [Abstracter's note: Complete translation.]

Card 1/1

MASLOV, V.Ye., kand.tekhn.nauk; SAL'KOV, P.G., kand.tekhn.nauk; PROTSAYLO, M.Ya., inzh.; SMORGUNOV, M.P., inzh.; KROTOV, V.I., inzh.; OSTROMOV, A.M., inzh.; SHESTAKOV, V.M., inzh.

Experience in burning brown coals in wet-bottom furnaces with shaft-type impact mills. Teploenergetika 10 no.2:15-19 F '63.   (MIRA 16:2)

1. Vostochnyy filial Vsesoyuznogo teplotekhnicheskogo instituta, Chelyabinsk, Krasnoyarskenergo i Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskiy institut.
    (Boilers)   (Furnaces)   (Lignite)

SHESTAKOV, V.M. [Shastakou, V.M.]

Calculating the necessary rotation number of die-casting molds
in manufacturing large polyamide sliding bearings with heat
conducting metal fillers. Vestsi AN BSSR. Ser. fiz.-tekh. nav.
no.4:96-99 '64.   (MIRA 18:3)

L 52320-65   EEC(b)-2/EWA(h)/EWT(1)   Pg-4/Pl-4/Pm-4/Po-4/Pq-4/Peb

ACCESSION NR: AP5009107   S/0250/65/009/002/0115/0117

AUTHOR: Treyyer, V. N.; Skorynin, Yu. V.; Shestakov, V. M.

TITLE: Predicting the reliability of elements in machines and instruments according to the variation of their reliability indices under different operating conditions

SOURCE: AN BSSR. Doklady, v. 9, no. 2, 1965, 115-117

TOPIC TAGS: reliability prediction, test facility, instrumentation

ABSTRACT: The authors present a general method for predicting the reliability of any of a lot of identical elements for different periods under different load factors. The life expectancy of any element under different loads can also be predicted. The method is based on the use of a series of equations by which reliability expectations derived from measurements can be extrapolated for different periods of operation and load factors. The basic relationship underlying the method is $\Delta K_i = b_{0i} l^{k_{0i}}$ where ΔK_{11} is the mathematical expectation of deviation of the reliability of all elements of the lot being tested at time t_1 from the initial mathematical expectation of reliability, and b and k are parameters. The method is particularly applicable to investigation of a number of wearing elements of machines

Card 1/2

L 52320-65

ACCESSION NR: AP5009107

and instruments. Orig. art. has: 7 formulae, 1 figure.

ASSOCIATION: Institut mashinovedeniya i avtomatizatsii Goskomiteta po mashino-stroyeniyu pri Gosplane SSSR (Institute of the Science of Machines and Automation, State Committee on Machine Building, Gosplan SSSR)

SUBMITTED: 17Oct64   ENCL: 00   SUB CODE: DP

NO REF SOV: 002   OTHER: 000

Card 2/2

SHCHELKOV, V.I.; FADEYEV, V.A.; SERIKOV, V.B.

Attachment to a loop oscillograph for measuring small shifts.
Zav. lab. 31 no.8:1021-1022 '65.   (MIRA 18:9)

1. Institut mashinovedeniya i avtomatizatsii.

SHES⋯   , ⋯.⋯, ⋯.⋯. tekhn. nauk

Calculating the number of revolutions of die-casting molds
needed for making large polyamide sliding bearings. Vest.
mashinostr. 45 no.6:37-39 Je '65.   (MIRA 18:6)

SHESTAKOV, V. N.

USSR/Mathematics

Card 1/1 **:** Pub. 22 - 8/49

Authors **:** Shestakov, V. N.

Title **:** On the transformation of a monocyclic sequence into a recursive one

Periodical **:** Dok. AN SSSR 98/4, 541-544, Oct. 1, 1954

Abstract **:** A method for the transformation of monocyclic sequences into recursive ones is described. Definitions of monocyclic, fundamental and recursive sequences are given. Two references (1949 and 1954).

Institution : ...

Presented by : Academician S. L. Sobolev, August 19, 1954

SHESTAKOV, V. N.

SHESTAKOV, V. N. -- "The Effect of Coupling of Bogies on the Horizontal
     Dynamics of an Electric Locomotive." Min Railways USSR. All-Union
     Sci Res Inst of Railroad Transport. Moscow, 1955. (Dissertation
     for the Degree of Candidate in Technical Sciences).

So.: Knizhnaya L topis', No. 2, 1956.

SHESTAKOV, V.N., kandidat tekhnicheskikh nauk.

Significance of coupling cars during movement of an
electric locomotive on a curve. Vest. TSNII MPS 15 no.4:
16-21 D '56.   (MLRA 10:2)

(Railroads--Curves and turnouts)

SHESTAKOV, V.N.

ANDRIYEVSKIY, S.M., kandidat tekhnicheskikh nauk; SHESTAKOV, V. N., kandidat
tekhnicheskikh nauk.

Lateral wear of rails on curves. Vest.TSNII MPS no.1:22-29 F '57.
(MLRA 10:3)

(Railroads--Rails)

SHESTAKOV, V.N., kand.tekhn.nauk

Determining lateral pressures on curved track sections of electric and diesel locomotives with back stroke equipment. Vest. TSNII MPS 18 no.4:38-43 Je '59.   (MIRA 12:10)
        (Locomotives--Dynamics) (Railroads--Curves and turnouts)

ZOL'NIKOV, S.S., kand.tekhn.nauk; POPOV, A.V., kand.tekhn.nauk; SHESTAKOV,
    V.N., kand.tekhn.nauk

Dynamic testing of series F and ChS2 electric locomotives.
Vest.TSNII MPS 19 no.6:21-26 '60.   (MIRA 13:9)
            (Electric locomotives--Testing)

SHESTAKOV, V.N., kand.tekhn.nauk; KUSHNARENKO, Ye.M., kand.tekhn.nauk

Performance of axle box drivers with rubber-metal hinges. Vest.
TSNII MPS 20 no.3:42-46 '61.   (MIRA 14:5)
                         (Damping (Mechanics))

DOMETTI, A.A.; ZIMINA, A.M.; KALININ, F.P.; LAKTIONOVA, P.I.; MOROSHKINA, O.I.;
MYASISHCHEVA, Ye.I.; NECHAYEVA, Yu.A.; PREOBRAZHENSKIY, A.I.; RUSH,
V.A.; RYNDIN, A.A.; SAUCHKIN, Yu.G.; STROYEV, K.F.; TEREKHOV, P.G.
[deceased]; FREYKIN, Z.G.; SHESTAKOV, V.N.

Nikolai Nikolaevich Baranskii's 80th birthday. Geog. v shkole 24
no.4:7-8   Jl-Ag '61.   (MIRA 14:8)
                (Baranskii, Nikolai Nikolaevich, 1881)

SHESTAKOV, V.N., inzh.

Chain conveyor for sorting textile fabrics. Mekh. i avtom.
proizv. 17 no.8:42-43 Ag '63.   (MIRA 16:10)

L 22731-66   EWT(d)/EWP(h)/EWP(1)

ACC NR: AP6002902   (A)   SOURCE CODE: UR/0286/65/000/024/0066/0066

AUTHORS: Pangayev, V. A.; Stepanov, V. A.; Shestakov, V. S.

ORG: none

TITLE: Self-powered boom crane with pile-driver attachment. Class 35, No. 177057 /announced by Novosibirsk Branch of the All-Union Scientific Research Institute for Transportation Construction (Novosibirskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta po transportnomu stroitel'stvu)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 66

TOPIC TAGS: crane, loading equipment, pile driver, transporting equipment

ABSTRACT: This Author Certificate presents a self-powered boom crane with pile-driver attachment, including a pile-driver boom with guideways hinged to the crane boom and a brace. The ends of the brace are attached to both booms. To decrease the time required to convert the crane to operating or transporting positions and to permit its use without dismounting the pile-driver boom, the latter is assembled from hinged parts operated by a drive mounted on the crane boom (see Fig. 1). The drive cable is attached to the lower part of the pile-driver boom and passes over

Card 1/2   UDC: 621.873.3:629.11:624.155.15
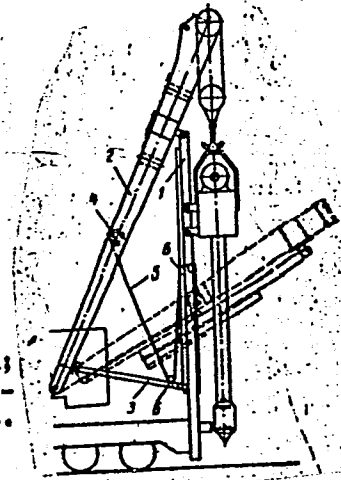
L 22731-66

ACC NR: AP6002902

Fig. 1. 1 - pile-driver boom;
2 - crane boom; 3 - brace; 4 -
drive; 5 - cable; 6 - pulleys.

pulleys located at its top and on the cross-brace. The latter can rotate around its
pivot connection with the crane boom. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 25Nov64

Card 2/2 UCR

ACC NR, AR6025368   SOURCE CODE: UR/0285/66/000/004/0013/0013

AUTHOR: Shestakov, V. T.

ORG: none

TITLE: Experimental equipment and methodology for studying micronozzles)³

SOURCE: Ref. zh. Turbostroyeniye, Abs. 4.49.92

REF SOURCE: Tr. Kuybyshevsk. aviats. in-t, vyp. 22, 1965, 63-70

TOPIC TAGS: micronozzle, nozzle

ABSTRACT: An experimental method has been presented for studying micronozzles
by determining their basic characteristics and by changes in the characteristics
caused by alterations in the nozzle design or in operating conditions. Diagrams and
descriptions of experimental equipment and measuring instruments are given in the
original article. [Translation]   [FM]

SUB CODE: 13/

Card 1/1

SHESTAKOV, V.V., podpolkovnik meditsinskoy sluzhby.

Treating chronic purulent otitis media. Voen.-med. zhur. no.9:
49-50 S '55.   (MIRA 9:9)
        (EAR--DISEASES)

SHESTAKOV, V.V., podpolkovnik meditsinskoy sluzhby; GREKOV, P.M., mayor
meditsinskoy sluzhby; DAVYDOVICH, S.Ya., kandidat meditsinskoy sluzhby;
TISHCHENKO, A.I., starshiy leytenant meditsinskoy sluzhby

Prevention and treatment of acute catarrh of the upper respiratory
tract. Voen.-med.zhur. no.8:79-81 Ag '57.   (MIRA 10:12)
        (RESPIRATORY ORGANS--DISEASES)

L 4472-66 EWT(1)/EWT(m)/FCC/T/EWA(h)   IJP(c)   GW

ACC NR: AP5024652   SOURCE CODE: UR/0048/65/029/009/1751/1753

AUTHOR: Rozental', I.L.; Shestakov, V.V.

ORG: none

TITLE: Some remarks on cosmic ray energy spectra /Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1751-1753

TOPIC TAGS: cosmic ray particle, spectral energy distribution, error, mathematic method

ABSTRACT: This paper is concerned with the errors in the experimentally determined power law spectra of cosmic ray particles due to statistical errors in the measurement of the energies of individual particles. The experimental energy spectrum $F'(E')$ is given in terms of the true spectrum $F(E)$ by $F'(E') = \int F(E) \, dE \, P(E,E')$, where $P(E, E')$, is the probability of finding the value E' for the energy of a particle whose true energy is E. The experimental spectrum $F'(E')$ corresponding to a true spectrum of the form $F(E) \quad AE^{-(Y+1)}$ is calculated with several different assumptions concerning the functions P, and in some cases formulas are derived for calculating the true spectrum from the experimental spectrum. The cases discussed include that in which P is constant when $(E - E')^2 < a^2$ and vanishes otherwise, and those in which $E - E'$ is Gaus-

Card 1/2

L 4472-66

ACC NR: AP5024652

sianly distributed with a dispersion that depends in certain different ways on E. According to Landau's hydrodynamic theory of multiple production, the function P for the usual method of determining the energies of nuclear-active particles represents a Gaussian distribution of $\log E - \log E'$ with a dispersion that depends on the multiplicity. It is shown that in this case an experimental value of the spectrum index γ as large as 3.5 may be found if the true value is 1.8. The proper choice of the energy intervals over which to average the data is discussed briefly. When determining the spectral index γ one should employ the method of maximum likelihood and not that of least squares. Orig. art. has: 19 formulas.

SUB CODE: NP/ SUBM DATE: 00/·   ORIG REF: 005/ OTH REF: 002

Card 2/2

L 2769-66   EWT(m)   IJP(c)

ACCESSION NR: AP5021331

UR/0120/65/000/004/0059/0062
539.1.074.2

AUTHOR: Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Shestakov, V. V.

TITLE: The study of certain characteristics of the IK-6 ionization chamber

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 59-62

TOPIC TAGS: ionization chamber, ion distribution, alpha particle

ABSTRACT: This paper presents the results of investigations of the IK-6 110x54 mm^2, 3 meter ionization chamber. The investigations cover the potential distribution across the cross section of the chamber, the calculated coefficients of electron collection at various parts of the chamber, and the calculated electron collection times. Using α particles from Pu^{239} samples, the authors verified experimentally (at 0.5 atm of pure and commerical argon) the effectiveness of corner operation and the electron collection time (as a function of applied voltages). Pulse oscillograms are shown in Fig. 1 of the Enclosure. "The authors thank V. V. Borog, I. A. Danil'chenko, and V. G. Sinitsyna for the help during individual measurements and N. L. Grigorov for valuable remarks."
Orig. art. has: 4 formulas, 5 figures, and 2 tables.

Card   1/3

L 2769-66

ACCESSION NR: AP5021331

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

SUBMITTED: 30Nov64   ENCL: 01   SUB CODE: NP

NO REF SOV: 005   OTHER: 004
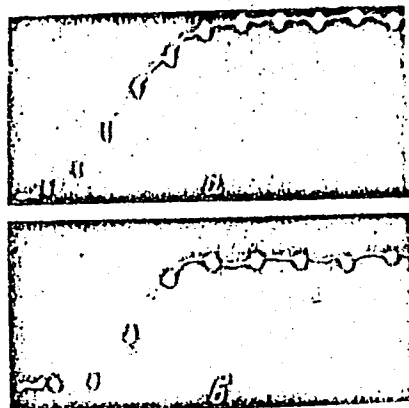
Card   2/3

L 2769-66
ACCESSION NR: AP5021331   ENCLOSURE: 01

Figure 1. Pulse oscillograms

a - pure argon; 6 - commerical argon. Marks every 5 μsec.

Card   3/3

L 06347-67   EWT(m)   GD

ACC NR: AT6032306   SOURCE CODE: UR/0000/66/000/000/0059/0068

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Rozental', I. L.;
Shestakov, V. V.

ORG: none

TITLE: Ionization calorimeter for the investigation of high energy cosmic muons at
large zenith angles

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Fizika elementarnykh chastits (Phy-
sics of elementary particles). Moscow, Atomizdat, 1966, 59-68

TOPIC TAGS: muon, calorimeter, bremsstrahlung, cosmic ray measurement, angular dis-
tribution, ionization chamber, waveguide

ABSTRACT: A study of high energy muons, using the horizontal flux zenith angles $\geq 60°$
of cosmic rays at sea level was made and an ionization calorimeter developed for this
purpose is described. Such a study is feasible because the horizontal flux at large
zenith angles θ consist almost exclusively of muons and the intensity of muons for
energies $>10^{11}$ ev increases with θ. The apparatus uses muon flux to study high ener-
gy muon interactions with matter and measures the characteristics of the horizontal
muon flux to determine the angular and energy distributions. The ionization calori-
meter enables one to study both of these areas by observing the showers produced by
the muons due primarily to bremsstrahlung and nuclear interactions. It detects muons

Card 1/2

L 06347-67

ACC NR: AT6032306

in the energy interval $2 \cdot 10^{11}$-$5 \cdot 10^{12}$ ev for $60° \leq \theta \leq 90°$. The instrument consists of 150 ionization chambers arranged in six rows, forming a coordinate set for determining the angle made of a shower. A layer of iron 9 cm thick is placed between each row with a total weight >40 tons. Each chamber is made from a section of waveguide 110 × 54 mm and 3 m long with an electrode 3 mm in diameter at +1200 volts, filled with argon at a pressure of 5 atm. A block diagram of the major component is shown. The pulse from each chamber is amplified and then stored on capacitors in the memory section which is successively probed by a mechanical commutator. The commutator signal is photographed using an H-700 loop oscilloscope. The event selection and switching of the detector take place in the control block. The registration block records the data and a timing relay fixes the detection time of a given event. Orig. art. has: 2 formulas, 7 figures.

SUB CODE: 20/   SUBM DATE: 25Feb66/   ORIG REF: 003/   OTH REF: 008

Card 2/2 mℓc

ACC NR: AP7007079   SOURCE CODE: UR/0048/66/030/010/1666/1668

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Shestakov, V. V.

ORG: none

TITLE: Non-electromagnetic interactions of superhigh-energy muons [Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 15-20 Nov 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966, 1666-1668

TOPIC TAGS: muon, cosmic radiation

SUB CODE: 20

ABSTRACT: The non-electromagnetic interactions of superhigh-energy muons $(E \geq 10^{11}$ ev) were recorded at an installation for the study of cascade showers produced by cosmic radiation muons impinging at large zenith angles (cf. Borog et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 30, 10, 1669, 1966). The only known process which could give rise to the non-electromagnetic cascade showers recorded was that of nuclear interaction of muons. A comparison of the spectra of nuclear and electromagnetic showers made it possible to evaluate the cross-section σ_{γ_N} of the photonuclear process at $E \geq 10$ ev. By using the relation derived by P. & D. Kessler (Compt. Rend. 244, 1896, 1957), which applies to any transmitted energies, it was established that

$$\sigma_{\gamma_N} = 0.15 \, {}^{+0.20}_{-0.10} \cdot 10^{-28} \, cm^2 \text{ per nucleon.}$$

Card 1/1 Orig. art. has: 3 figures and 2 formulas. [JPRS: 39, 658]

ACC NR: AP7007080   SOURCE CODE: UR/0048/66/030/010/1669/1673

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.;
Rozental', I. L.; Shestakov, V. V.
ORG: none
TITLE: Study of the energy spectrum of cosmic-ray muons on the basis of
electron-photon showers /Paper presented at the All-Union Conference on Cosmic
Radiation Physics, Moscow, 15-20 Nov 1965/
SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966,
1669-1673
TOPIC TAGS: calorimeter, cosmic ray, muon
SUB CODE: 20

ABSTRACT: At present, outer space is the only accelerator of particles with
superhigh energies. The energy spectrum of electromagnetic cascades produced by
superhigh-energy muons ($E_\mu \gg 10^{11}$ ev) impinging at angles $\geq 55°$ was studied
at sea level on an ionization calorimeter consisting of six rows of Ar-filled
ionization chambers, 25 in each row, with an iron interlayer between the cham-
bers acting as an absorber. The majority of the cascades recorded were due to
the interaction of muons with the absorber. A small number of showers ($< 1\%$)
was produced by nucleus-reactive particles. The energy spectrum of the muons
was determined on the basis of the recorded showers due to high-energy photons
and electrons formed by interaction of the muons with atoms of the absorber.
Mathematical equations expressing the experimentally determined energy spectrum

The authors think G. G. Bunatyan for help in carrying out the numerical compu-
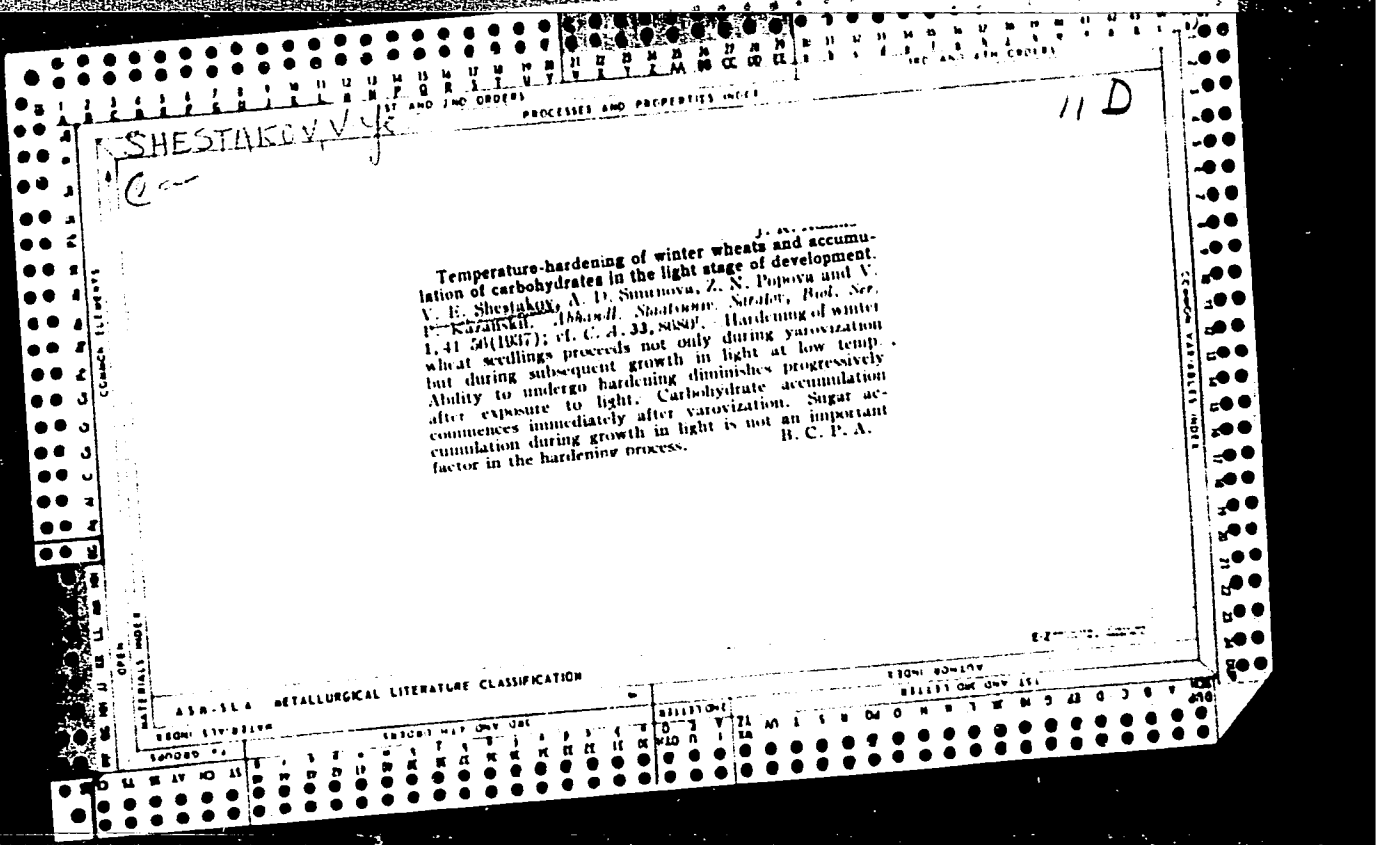tations on the ETsVM. Orig. art. has: 4 figures and 6 formulas. /JPRS: 39,658/

Card 1/1

Shestakov, V. Ya

4069.   METHOD OF COMPUTING MATERIAL COMPOSITION OF COALS UNDER A
MICROSCOPE WITHOUT CALCULATING APPARATUS.   Shestakov, V. Ya.   (Dokl. Akad.
Nauk Tadzh. SSR (Rep. Acad. Sci. Tadzh. S.S.R.), 1955, (8), 5-11; abstr.
in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1954, (1), 309).   Computation
of the components in a section without a push-button integrator ordinarily
takes half a day.   The new method employs transparent sections of fine coal
not less than 1.5 cm in diameter.   An eyepiece-micrometer is used for
computation.   The section is fixed in the guides of the microscope and is
divided into four by three parallel horizontal measuring lines.   Before
beginning the computation it is necessary to ensure that the measuring line
selected in the section is exactly parallel to the horizontal line of the
gridded micrometer.   500 to 700 points are counted on the three measuring
lines, the number of points depending on the area of the section and the
density of the grains of coal in it.   The method gives eight determinations
a day with an accuracy of 1%.

SHESTAKOV, V.Ya., inzh. (Voronezh)

Movement of two elastically connected solid bodies supported by
an elastic cone. Issl. po teor. sooruzh. no.13:121-126 '64.
(MIRA 18:2)

SHESTAKOV V.

Temperature-hardening of winter wheats and accumulation of carbohydrates in the light stage of development. V. E. Shestakov, A. D. Smirnova, Z. N. Popova and V. P. Karzinkii. *Biokhim. Shatoknn. Nitolor, Biol. Ser,* 1, 41 50(1957); cf. C. A. 33, 5080f. Hardening of winter wheat seedlings proceeds not only during yarovization but during subsequent growth in light at low temp. Ability to undergo hardening diminishes progressively after exposure to light. Carbohydrate accumulation commences immediately after yarovization. Sugar accumulation during growth in light is not an important factor in the hardening process. B. C. P. A.

MALTSEV, V. IE.; STEPAN, S. V.

Wheat

Late fall sowing of spring wheat. Sel. i sem. 19 No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

1. SHESTAKOV, V. YE.

2. USSR (600)

4. Wheat

7. Intervarietal hybrids of winter wheat from crossbreeding under free pollination. Sel i sem. 19 no. 12, 1952

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

SHESTAKOV, V.Ye., kandidat tekhnicheskikh nauk; ORLOV, V.A.

Methods for obtaining hybrid rye seeds and a study of their productivity. Agrobiologiia no.2:40-43 Mr-Ap '57.   (MLRA 10:5)

1.Petrovskaya gosudarstvennaya selektsionnaya stantsiya, p/o Danilovka, Penzenskoy oblasti.
                (Penza Province—Rye breeding)

I. ShesTakov, Yu.

PURPOSE: This collection of articles is intended for physicists, sanitation and public health doctors, chemists and other specialists working in radioactive dosimetry.

COVERAGE: This work discusses the following subjects: (1) principles of organizing sanitation and dosimetric control in institutions where work is carried on with radioactive substances; (2)radio-chemical and chemical methods for determining certain radioactive substances in samples of air, water, soil and foodstuffs; (3) physical methods of measuring contamination of the air by radioactive gases and aerosols, and methods for determining the level of contamination of working surfaces, clothes and leather coverings; (4) methods of measuring external streams of X- and gamma-radiation, and methods of individual dosimetric monitoring; (5) absolute and relative methods of measuring the activity of solid and liquid radioactive sources. There are four appendixes dealing with methods of calculating the total dosage from sources of ionizing radiation, units of activity, and doses from natural (background) radioactivity, the calculus of foodstuffs. Sanitary regulations observed during transportation, storage and handling of radioactive substances are discussed, as well as the permissible level of ionizing radiation. The editors thank Yu.V. Sivintsev and others. References appear at the end of each chapter.

SHESTAKOV, Yu.G.

    Geochemical indicator of the zones of magnetite mineralization.
    Sov. geol. 8 no.3:132-134 '65.   (MIRA 18:5)

    1. Kamskiy filial Vsesoyuznogo nauchno-issledovatel'skogo geolo-
    gorazvedochnogo neftyanogo instituta.

BOGATSKIY, V.V., otv. red.; GOR'KIY, Yu.I., red.; DOBROVOL'SKIY,
     M.N., red.; KOROPETS, I.P., red.; KURTSERAYTE, Sh.D., red.;
     PEL'TEK, Ye.I., red.; FAYNBERG, F.S., red.; KHAZAGAROV,
     A.M., red.; SHESTAKOV, Yu.G., red.; LIFSHITS, L., red.

[Geology and geochemistry of the mineral resources of
Krasnoyarsk Territory] Geologiia i geokhimiia poleznykh
iskopaemykh Krasnoiarskogo kraia; sbornik statei. Krasno-
iarsk, Krasnoiarskoe knizhnoe izd-vo, 1964. 197 p.
                                        (MIRA 18:9)

1. Krasnoyarskaya kompleksnaya ekspeditsiya.

IL'IN, K.P., kand.tekhn.nauk; PLADIS, F.A., inzh.; ROSTOVSKAYA, Ye.P., inzh.;
VOVCHENKO, P.I., inzh.; Prinimali uchastiye: GORBENKO, L.G., inzh.;
SHESTAKOV, Yu.K., inzh.; LABADIN, S.I., inzh., retsenzent;
MALAKHOV, K.N., inzh., retsenzent; PETROVA, V.L., inzh., red.;
BOBROVA, Ye.N., tekhn.red

[Methods of determining freight weight] Sposoby opredeleniia
vesa gruzov. Moskva, Vses.izdatel'skopoligr.ob"edinenie M-va
putei soob., 1961. 117 p. (Moscow. Vsesoiuznyi nauchno-
issledovatel'skii institut zheleznodorozhnogo transporta.
Trudy, no.215)   (MIRA 15:1)
                    (Railroads—Freight)
                    (Weighing machines)

IL'IN, K.P., kand. tekhn. nauk; KHAPILOV, Yu.A., kand. tekhn. nauk;
SHESTAKOV, Yu.K., inzh.

Specialization of gondola cars is an efficient measure.
Zhel. dor. transp. 47 no. 11:22-26 N '65   (MIRA 19:1)

ACC NR: AR7002213 *(AN)*   SOURCE CODE: UR/0271/66/000/010/A029/A029

AUTHOR: Bortsov, Yu. A.; Shestakov, Yu. S.; Suvorov, G. V.

TITLE: Experimental determination of the parameters of nonlinear systems in electric drives

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychistel'naya tekhnika, Abs. 10A215

REF SOURCE: Sb. Avtomatizir. elektroprivod proizv. mekhanizmov. T. I. M.-L., 1965, 206-208

TOPIC TAGS: nonlinear system, electric drive,

ABSTRACT: A method of determining the parameters of elements in electrical drive systems is discussed. A description is given of a device which was developed on the basis of this method and which permits sufficiently rapid determinations of the parameters necessary for modeling nonlinear systems in electrical drives. The dynamics of nonlinear electromagnetic elements (excitation circuits of electric machines, EMU, MU, amplidynes, magnetic amplifiers, etc.) which are the basic

Card 1/2   .   UDC: 62-83

MILLER, G.Ya.; VLADYKIN, M.I.; SHESTAKOV, Yu.S.

Replacing running tests of high-capacity trailers by stand tests.
Avt.prom. 28 no.2:48   F '62.   (MIRA 15:2)

1. Chelyabinskiy mashinostroitel'nyy zavod avtopritsepov i
Chelyabinskiy politekhnicheskiy institut.
                (Truck trailers--Testing)

SHESTAKOVA, A., mladshiy nauchnyy sotrudnik

Mechanical control measures against the larvae of
Laspeyresiinae. Zashch. rast. ot. vred. i bol. 10
no.8:41 '65.   (MIRA 18:11)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.

SHESTAKOVA, A., starshiy nauchnyy sotrudnik

Weather and loose smut of wheat. Zashch. rast. ot vred. i bol.
10 no.3:41 '65.   (MIRA 19:1)

1. Bezenchukskaya opytnaya stantsiya, Kuybyshevskaya oblast'.

SHESTAKOVA, A.

NATAL'INA, O. B., PAN'KOVA, O., and SHESTAKOVA, A. "On Apple Rosette (Possibly
Virus Disease)," Sad i Ogorod, no. 8, 1951, pp. 36-38.   80 Sal3

So: Sira - Si-90-53, 15 Dec. 1953

ARISTOV, Ye.M.; Prinimali uchastiye: SHESTAKOVA, A.A.; KIRILLOVA, G.N.;
KADYROVA, Ya.M.

Automatic device for opening press molds after the vulcanization
of tire casings. Kauch.i rez. 20 no.7:50-51 Jl '61.
(MIRA 14:6)

1. Voronezhskiy shinnyy zavod.
(Tires, Rubber)

Suf s inde erty, 11-1

69. Direct Oxidation of Methane To Methanol

"Oxidation of Methane Under Pressure," by M. S. Furman and A. D. Shestakova, Khimicheskaya Pererabotka Neftyanykh Uglevodorodov (Chemical Conversion of Petroleum Hydrocarbons), Academy of Sciences USSR, Moscow, 1956, pp 344-351

Oxidation of methane at pressures of 50-500 atmospheres and at the temperature of 375° was studied. Comparison of the oxidation of methane at high pressures with oxidation at atmospheric pressure showed that methanol is the predominant product at high pressures while formaldehyde predominates at low pressures. It was established that increasing the pressure beyond 250 atmospheres does not result in any further increases in the yield of methanol. The effects of the temperature, the time during which the mixture of CH_4 and oxygen cr air remains in the reaction zone, and the concentration of oxygen on the process of the oxidation of methane were investigated. Assumptions are made in regard to the nature of the effect which pressure exerts on the process of oxidation. (U)

Sum iv 1951

FURMAN, M.S., doktor khim. nauk; SHESTAKOVA, A.D.

Investigating the mechanism of the oxidation of lower saturated
hydrocarbons under pressure with the use of the carbon isotope of
mass 14. Trudy GIAP no.8:63-68 '57.   (MIRA 12:9)
          (Hydrocarbons) (Oxidation) (Carbon--Isotopes)

FURMAN, M.S.; SHESTAKOVA, A.D.

Combined oxidation of hydrocarbons under pressure. Gaz. prom.
no.3:40-45 Mr '58.   (MIRA 11:3)
        (Hydrocarbons) (Oxidation)

5(3)

AUTHORS: Furman, M. S., Shestakova, A. D.,   SOV/20-124-5-34/62
                Arest-Yakubovich, I. L., Lyubitsyna, N. A.

TITLE: Oxidation of n-Butane Solved in Acetic Acid by Air Under Pres-
                .sure (Okisleniye n-butana v rastvore uksusnoy kisloty vozdukhom
                pod davleniyem)

ABSTRACT: Under relatively high temperatures (350-400°) the oxidation
                of butane in the gaseous phase results in an entire scale of
                oxygen-containing products (Refs 1-3). It has recently been
                pointed out (Refs 4-8) that the oxidation of n-butane under
                pressure in the liquid phase is much more selective and leads
                under milder conditions to valuable organic products: acetic
                acid, ethyl acetate, and methyl-ethyl ketone. This oxidation
                can be effected either below the critical temperature of butane
                (T_c = 152°, Refs 4,5) or above the same, with the aid of sol-
                vents (Refs 6-8). The latter method seems to be more promising.
                The authors have chosen acetic acid as a solvent in which
                butane is soluble and which under the existing conditions is
Card 1/2   indifferent to oxidation and forms itself an oxidation product

Oxidation of n-Butane Solved in Acetic Acid by Air   SOV/20-124-5-34/62
Under Pressure

of butane. Cobalt stearate was used as a catalyst. The experi-
ment was carried out through six hours at various velocities
of the air stream which served for oxidation. Figure 1 shows
the results. They make the advantages of the oxidation above
T_c apparent. Figure 2 contains statements on the influence of
the catalyst on the process carried out at 60 atmospheric ex-
cess pressure and 165°. The catalyst increases the yield of
useful products and directs the process toward a predominant
formation of acetic acid. There are 2 figures and 8 references,
3 of which are Soviet.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy insti-
                  tut azotnoy promyshlennosti (State Scientific Research and
                  Design Institute for Nitrogen Industry)

PRESENTED: October 8, 1958, by S. I. Vol'fkovich, Academician

SUBMITTED: September 19, 1958

Card 2/2

S/064/61/000/001/001/011
B110/B215

AUTHORS: Furman, M. S., Shestakova, A. D., Arest-Yakubovich, I. L.

TITLE: Oxidation of n-butane in liquid phase under pressure

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1961, 6-11

TEXT: Oxidation of hydrocarbon in liquid phase takes place at lower tempera-
tures (100-200°C) than in gaseous phase (350-400°C). The destruction of impor-
tant oxidation products is thus excluded and the reaction is more selective.
The main products of oxidation of n-butane in liquid phase are CH_3COOH,

$CH_3COC_2H_5$ and $CH_3COOC_2H_5$, whereas HCHO, CH_3CHO, CH_3OH, C_2H_5OH, CH_3COCH_3,

HCOOH, and CH_3COOH are formed in the gaseous phase. To accelerate the

reaction, n-butane is dissolved in acetic acid (main reaction product).
Oxidation takes place above the critical temperature of $n-C_4H_{10}$ (152°C).

Pressure pipe (4) serves for conducting the oxidizing air into the acetic
solution of n-butane contained in the reaction vessel (2) made of glass or

Card 1/5

Oxidation of n-butane in liquid...
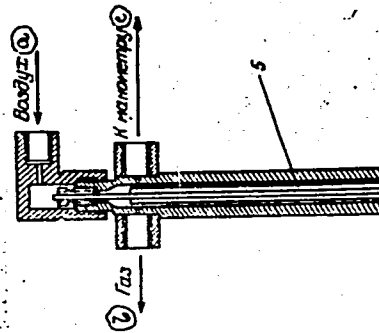
5/06 / 31/ 0.0/001/001/011
B110/B215

titanium, which had been put into the steel autoclave (1) (Fig. 2). After passing the reflux condenser, the reaction gases still contain 8 - 10,5 of butane. CO_2, O_2, CO, C_4H_{10}, and N_2 were determined in the gaseous reaction products, while CH_3COOH, $CH_3COOC_2H_5$, and H_2O were established in the liquid products. For maximum butane transformation in optimum yields of acetic acid, the following data were obtained by constant addition of 540 g of butane dissolved in acetic acid: ratio butane / acetic acid = 0.5 / 1 (Fig. 3); duration of experiment: 3 hr , reaction temperature 165°C, air supply 110 - 120 Ml/hr, amount of catalyst: 0.05 g of a solution of 0.018,5 of cobalt stearate in aqueous acetic acid. Pressure increase from 50 to 80 atm did not affect the composition of the reaction products but accelerated the reaction due to an increase in the O_2 concentration in the reaction zone. Optimum pressure was 60 atm. It was also found that intermediates of the oxidation such as $CH_3COC_2H_5$ and $CH_3COOC_2H_5$ do not inhibit the course of the reaction or reduce the yield of acetic acid. All the other solvents, except acetic acid, reduced the total exchange of butane. Two phases were

Card 2/5

Oxidation of n-butane in liquid...

S/064/61/000/001/001/011
B110/B215

obtained in the experiments by G. D. Yefremova and R. M. Koroleva conducted
in the GIAP (State Institute of the Nitrogen Industry) on the state of the
system butane - acetic acid - water, in which concentrations of acetic acid
lower than 90% were used. The ratios butane/acetic acid of these two phases
differed. An optimum ratio of 0.5 to 1 can only be guaranteed by concentra-
tions of acetic acid exceeding 90% of the reaction liquid. Therefrom it
follows that a 100% acetic acid is best suited as solvent. There are 5
figures, 5 tables, and 18 references: 9 Soviet-bloc and 9 non-Soviet-bloc.
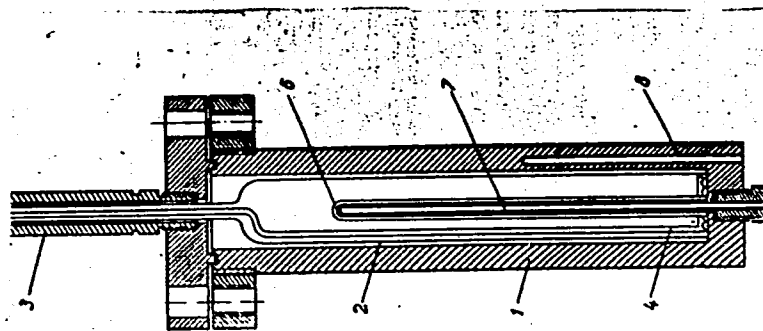

Card 3/5

Oxidation of n-butane in liquid...

S/064/61/000/001/001/011
B110/B215

Legend to Fig. 2:   1) autoclave,
2) reaction vessel, 3) attachment to
the autoclave, 4) pressure pipe,
5) reflux condenser, 6) container for
thermocouple of the reaction vessel,
7) autoclave housing for thermocouple,
8) housing of thermocouple, a) air,
b) gas, c) to monometer.

Рис. 2. Реактор.

Card 4/5

Oxidation of n-butane in liquid...

Legend to Fig. 3: dependence
of the oxidation process on
n-butane, weight ratio butane:acetic
acid; P = 60 atm, t = 165°C, w
(velocity of air supply) = 120 Nl/hr,
τ (time of reaction)= 3 hr, q (amount
of catalyst) = 0.03 g, 1) acetic acid,
2) ethyl acetate, 3) methyl ethyl
ketone, 4) totality of useful products,
5) butane exchange, a) yield of
products in g per 100 g of butane,
b) butane exchange in per cents

Fig.3 C_4H_{10}/CH_3COOH

Card 5/5

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RYBALKO, V.A.; inzh.

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Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 137 (USSR)

AUTHOR: Shestakova, A. V.

TITLE: The Influence of the Shape of the Axis of a Fixed Bridge Arch on the Forces Arising From a Live Load (Vliyaniye ochertaniya osi bessharnirnogo mostovogo svoda na usiliya ot vremennoy nagruzki)

PERIODICAL: Tr. Khabarov. in-ta inzh. zh.-d. transp., 1956, Nr 9, pp 112-166

ABSTRACT: The author provides calculations of fixed arches having various shapes with reference to the effect exerted by a live load and presents a comparison of the results obtained.

I. K. Snitko

Card 1/1

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(MLRA 6:10)

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        (EAST KAZAKHSTAN PROVINCE—SOILS—COBALT CONTENT)

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    SHIDROVSKAYA,O.G.; AUZAN,N.P., tekhnicheskiy redaktor

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