

BOZOVITSKIY, V.I.; SREMYAKIN, V.N.

Practice in using carbonate surveying in prospecting for lead-
ore deposits in Aldan District. Sov.geol. 8 no.10:145-146 Q '65.
(MR: 18.12)

BOROVITSKIY, Ya.

Wages based on the finished product. Sots.trud 7 no.4:123-127
Ap '62. (MIRA 16:1)

1. Nachal'nik otдела truda i zarabotnoy platy Krasnodarskogo
savoda elektroizmeritel'nykh priborov.
(Krasnodar—Wages—Instrument industry)

BOROVITSKIY, Ye.V., inzhener.

The Technology House is the center of technical propaganda in industry.
Metallurg no.7:37-38 J1 '56. (MLRA 9:9)

1.Otvetsstvennyy upolnomochenny po tekhnicheskoy propagande Stalinskiy
metallurgicheskiy zavod.

(Technology)

SHURAK, L.M.; RYBALKO, I.A.; BOROVITSKIY, Ye.V.

Production of cementless slag concrete blocks. Stroi. mat. 9
no.6:20-21 Je '63. (MIRA 17:8)

1. Glavnyy inzh. Donetskogo zavoda stroitel'nykh materialov
(for Shurak). 2. Nachal'nik laboratorii i otdela tekhnicheskogo
kontrolya Donetskogo zavoda stroitel'nykh materialov (for Rybalko).
3. Glavnyy mekhanik Donetskogo zavoda stroitel'nykh materialov
(for Borovitskiy).

LIBOR, Oszkar; BOROVITZ, Peter

Rain resistance testing of clay minerals and clay mineral products applicable in spraying. Agrochem talajtan 12 no.4: 613-620 D '63.

1. Department of Chemical Technology, Lorand Eotvos University, Budapest.

BOROŦKA, S.

"Experiences of Our Stakhanovite School." p. 141 (Hutnik, Vol. 3, no. 6, June 1953, Praha)

SO: Monthly List of East European Accessions, Vol. 3, no. 2, Library of Congress, Feb 1954, Uncl.

BOROVKINA, Ye.

Produce defectless goods. Kozh.-obuv.prom. 7 no.3:36 Mr '65.
(MIRA 18:10)

5/11
B. A. Donykin, 1951

The effectiveness of ground phosphorite in fertilizer for sugar beets in relation to soil properties. B. A. Donykin, *Soviet Agron.*, 9, No. 3, 43-9 (1951). Soils with a degree of hydrolytic acidity per 100 g. of soil respond to ground rock phosphate giving higher yields than superphosphate. As the acidity decreases the effectiveness of rock phosphate decreases. When chernozem has a degree of base satn. below 92% rock phosphate is effective. For sugar beets rock phosphate can be used on soils of the deep chernozem type, degraded chernozem, and podsolized soils. I. S. Ioffe

BOROVKO, N.G.

Halloysite from Tertiary sediments in Bashkiria. Zap. Vses. min. ob-va
89 no.3:361-364 '60. (MIRA 13:8)
(Bashkiria—Halloysite)

BOROVKO, N.G.

Origin of Polyud rocks in the Northern Ural Mountains. Trudy
VSEGEI 86:103-110 '62. (MIRA 17:11)

BOROVKO, N.N.

Relationships between the niobium, uranium, and thorium contents
in rare metal carbonatites. Zap.Vses.min.ob-va 90 no.6:637-642
'61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut
(VSEGEI), Leningrad.
(Metals, Rare and minor) (Rocks, Carbonate)

BOROVKO, N.N.

Possibility of determining the dip direction of rocks by electric
prospecting. Inform.sbor.VSEGEI no.45:51-55 '61. (MIRA 14:12)
(Electric prospecting)

BOROVKO, N.N.

Selection of the scale line in geophysical prospecting. Inform.
sbor.VSEGEI no.45:131-136 '61. (MIRA 14:12)
(Prospecting--Geophysical methods)

BOROVKO, N.N.

Use of geophysical methods in the prospecting for rare metal
carbonatites. Inform.sbor.VSEGEI no.45:3-13 '61. (MIRA 14:12)
(Prospecting--Geophysical methods)
(Carbonatites)

BOROVKO, V. A.

Soedinenie i sovmeshchenie putei. [Connecting and combining of tracks]. Moskva, Transzheldorizday, 1942. 301 p. diagrs. (1fold)
"Perechen literaturny": p. [302].

PLC: TF266.B6

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

BOROVKOV, A., komandir korablya.

Calculation on meeting the sunrise and sunset while in flight.

Grazhd.ev. 12 no.9:18 S '55.

(MLRA 10:7)

(Aeronautical instruments)

~~BOROVKOV, A.A.~~

Remodeling workers' facilities at hydrolysis plants. Gidroliz. 1
lesokhim. prom. 11 no.326-28 '58. (MIRA 11:5)

1. Gosudarstvennyy institut po proyektirovaniyu gidroliznykh zavodov.
(Hydrolysis) (Employees' buildings)

BOROVKOV, A.A. (Novosibirsk)

Remarks on Wiener's and Blackwell's theorems. Teor. veroiat. i ee prim. 9 no.2:331-343 *64 (MIRA 17:7)

1. Institut matematiki Sibirskogo otdeleniya AN SSSR.

AUTHOR: Borovkov, A.A.

SOV/20-121-1-2/

TITLE: Some Problems on Large Deviations of the Maximum of the Sums
From Independent Uniformly Distributed Random Variables
(Nekotoryye zadachi bol'shikh ukloneniy maksimuma summ
nezavisimyykh odinakovo raspredelennykh sluchaynykh velichin)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 1, pp 13-15 (USSR)

ABSTRACT: Let ξ_1, ξ_2, \dots be a sequence of independent uniformly distributed random variables; $s_n = \sum_{k=1}^n \xi_k$; $\bar{s}_n = \max_{0 \leq v \leq n} s_v$. The author asks for the asymptotic behavior of the probability $P(\bar{s}_n < x)$ for $n \rightarrow \infty$. The solution of the problem in the special case where ξ_k may be ± 1 only (with probabilities p and $1-p$) gave Feller [Ref 1]. The author considers the more general case in which the ξ_k are bounded and have a lattice distribution. In a long theorem the sought asymptotic expansions are given without proof for the following cases: a) x does not depend on n , b) $x = x(n) = O(\sqrt{n})$ and c) $x = x(n) = O(n)$. There are 8 references, 3 of which are Soviet, 2 American, 2 German, and 1 French.

Card 1/2

Some Problems on Large Deviations of the Maximum of the Sums SOV/20-121-1-2/55
From Independent Uniformly Distributed Random Variables

PRESENTED: February 28, 1958, by A.N.Kolmogorov, Academician

SUBMITTED: February 24, 1958

1. Random distribution
2. Mathematics

Card 2/2

BOROVKOV, A.A. (Moscow)

Limit theorems on the distribution of the maximum of sums of bounded
lattice random variables. Part 1. Teor. veroiat. i ee prim. 5
no.2:137-171 '60. (MIRA 13:9)
(Distribution (Probability theory))

BOROVKOV, A.A.

Limit theorems on the distribution of the maximum of sums of
bounded latticed random variables. Part 2. Teor. veroiat. i
ee prim. 5 no. 4:377-392 '60. (MIRA 13:12)
(Distribution (Probability theory))

BOROVKOV, A.A.

Local theorems and moments for maxima of sums of latticed bounded components. Teor. veroiat. i ee prim. 6 no.1:108-110 '61.

(Distribution (Probability theory)

(MIRA 14:6)

Borovkov, A.A.

PHASE I BOOK EXPLOITATION

SOV/6371

Vsesoyuznoye soveshchaniye po teorii veroyatnostey i matematicheskoy statistike. 6th, Vilnius, 1960.

Trudy VI Vsesoyuznogo soveshchaniya po teorii veroyatnostey i matematicheskoy statistike i kollokviuma po raspredeleniyam v beskonechnomernykh prostranstvakh (Transactions of the Sixth Conference on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vilnius 5-10 September 1960) Vilnius, Gospolitizdat LitSSR, 1962. 493 p. 2500 copies printed.

Sponsoring Agency: Akademiya nauk Litovskoy SSR. Vil'nyusskiy gosudarstvennyy universitet imeni V. Kapsukasa. Matematicheskiy institut imeni V. A. Steklova, Akademiya nauk SSSR.

Editorial Board: N. N. Vorob'yev, B. V. Gnedenko, R. L. Dobrushin, Ye. B. Dynkin, A. N. Kolmogorov, I. P. Kubilyus, Yu. V. Linnik, Yu. V. Prokhorov, N. V. Smirnov, V. A. Statulyavichyus, and A. M. Yaglom. Ed.: D. Melipene; Tech. Ed.: O. Parkerite.

Card 1/173

Transactions of the Sixth Conference (Cont.)

SOV/6371

PURPOSE: Dissemination of scientific information.

COVERAGE: Because of various editorial difficulties, not all papers presented at the Conference could be included. The 86 papers presented here are divided by subject matter into 6 sections (see Table of Contents). The editors thank the members of the Mathematical Section of the Institute of Physics and Mathematics of the Lithuanian Academy of Sciences and the Department of Probability Theory and Number Theory at Vil'nyus University, particularly A. K. Aleshkyavichene, A. A. Mitalauskas, E. A. Ryauba, and R. V. Uzhdavinis. References, cited in the text at the end of the individual reports, comprise 489 entries: 316 Soviet (a number of which are translations), 2 Hungarian, 1 Polish, 139 English, 20 French, 10 German, and 1 Italian.

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SOV/6371

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1. Bobrov, A. A., and D. Z. Arov. On Extreme Terms of a Variational Series and Their Role in the Sum of Independent Values 3
2. ~~Borovkov, A. A.~~ Asymptotic Expansions and Large Deviations in the Problem of Two Samples 5
3. Borovkov, A. A. On the Distribution of the First Jump Value 7
4. Vilkauskas, L. I. Zones of Normal Convergence in the Multidimensional Case 23
5. Volkov, I. S. Limit Theorems for Large Deviations in the Case of a Finite Markov Chain 25
6. Yemel'yanov, G. V. On Local Limit Theorems for Densities 35

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BOROVKOV, A.A.

PHASE I BOOK EXPLOITATION

SOV/6371

Vsesoyuznoye soveshchaniye po teorii veroyatnostey i matematicheskoy statistike. 6th, Vilnius, 1960.

Trudy VI Vsesoyuznogo soveshchaniya po teorii veroyatnostey i matematicheskoy statistike i kollokviuma po raspredeleniyam v beskonechnomernykh prostranstvakh (Transactions of the Sixth Conference on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vilnius 5-10 September 1960). Vilnius, Gospolitizdat LitSSR, 1962. 493 p. 2500 copies printed.

Sponsoring Agency: Akademiya nauk Litovskoy SSR. Vil'nyusskiy gosudarstvennyy universitet imeni V. Kapsukasa. Matematicheskiy institut imeni V. A. Steklova, Akademiya nauk SSSR.

Editorial Board: N. N. Vorob'yev, B. V. Gnedenko, R. L. Dobrushin, Ye. B. Dynkin, A. N. Kolmogorov, I. P. Kubilyus, Yu. V. Linnik, Yu. V. Prokhorov, N. V. Smirnov, V. A. Statulyavichyus, and A. M. Yaglom. Ed.: D. Melinene; Tech. Ed.: O. Pakerite.

Card 1/3

Transactions of the Sixth Conference (Cont.)

SOV/6371

PURPOSE: Dissemination of scientific information.

COVERAGE: Because of various editorial difficulties, not all papers presented at the Conference could be included. The 86 papers presented here are divided by subject matter into 6 sections (see Table of Contents). The editors thank the members of the Mathematical Section of the Institute of Physics and Mathematics of the Lithuanian Academy of Sciences and the Department of Probability Theory and Number Theory at Vil'nyus University, particularly A. K. Aleshkyavichene, A. A. Mitalauskas, B. A. Ryauba, and R. V. Uzhdavinis. References, cited in the text at the end of the individual reports, comprise 489 entries: 316 Soviet (a number of which are translations), 2 Hungarian, 1 Polish, 139 English, 20 French, 10 German, and 1 Italian.

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Transactions of the Sixth Conference (Cont.)

SOV/6371

LIMIT THEOREMS

1. Bobrov, A. A., and D. Z. Arov. On Extreme Terms of a Variational Series and Their Role in the Sum of Independent Values 3
2. Borovkov, A. A. Asymptotic Expansions and Large Deviations in the Problem of Two Samples 5
3. Borovkov, A. A. On the Distribution of the First Jump Value 7
4. Vilkauskas, L. L. Zones of Normal Convergence in the Multidimensional Case 23
5. Volkov, I. S. Limit Theorems for Large Deviations in the Case of a Finite Markov Chain 25
6. Yemel'yanov, G. V. On Local Limit Theorems for Densities 35

Card 3/27

16.009

S/199/62/003/005/001/004
B112/B186AUTHOR: Borovkov, A. A.

TITLE: New limit theorems in boundary problems for sums of independent addends

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 3, no. 5, 1962, 645-694

TEXT: The object of consideration is a sequence ξ_1, ξ_2, \dots of independent random quantities with a distribution function $F(t)$ and the dispersion 1. The main results of the paper refer to the distribution of the sums

/B

$$s_n = \sum_{k=0}^n \xi_k \text{ and } \bar{s}_n = \max_{0 \leq k \leq n} s_k.$$

The method applied is based on the idea of factorization of functions which are associated to a ring \mathbb{H} of Fourier-Stieltjes transformations (V-factorization). The concept of V-factorization enables the author to find asymptotic representations of generating functions by means of lemmas of the Tauberian type. The meaning of the coefficients of the asymptotic expansions is completely clarified and an algorithm of their computation is derived. Local and integral theorems

Card 1/2

New limit theorems in boundary...

S/199/62/003/005/001/004
B112/B186

for the time of first passage, the limiting conditional distribution of
the value of the first jump, the limiting distribution of $x - s_n$ for
 $\bar{s}_n < x$, theorems concerning the distribution of \bar{s}_n , and others are obtained. *v/B*

SUBMITTED: December 18, 1961

Card 2/2

BOROVKOV, A.A. (Novosibirsk)

Some theorems on nonlatticed wandering. Teor. veroiat. i ee prim.
7 no.2:170-184 '62. (MIRA 15:5)

(Probabilities)

40042

S/038/62/026/004/002/002
B112/B104

16.6200

AUTHOR: Borovkov, A. A.

TITLE: A problem concerning two samples

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya matematicheskaya,
v. 26, no. 4, 1962, 605 - 624

TEXT: N. V. Smirnov's statistics $F_{n_1, n_2} = \sqrt{n_1 n_2 / n} \sup_t [F_{n_2}(t) - F_{n_1}(t)]$,
 $n = n_1 + n_2$, are applied to the two empirical distribution functions
 $F_{n_1}(t)$ and $F_{n_2}(t)$ and the following theorem is derived: If $q = n_1/n \leq 1/2$
and if n_0 representing the greatest common divisor of n_1 and n_2 tends to
infinity, then for $z \leq C\sqrt{n_0}$, $C < \sqrt{\pi}/2$ it is valid to estimate that:

$$P(F_{n_1, n_2} < z) = 1 - e^{-z^2} \left\{ \sum_{j,k=0}^{s-1} B_{jk} (z/\sqrt{n_1})^{j-k} + P_{s,1} \right\}, \text{ where}$$

Card 1/2

A problem concerning two samples

S/038/62/026/004/002/002
B112/B104

$P_{s,1} = O((z/\sqrt{n_1})^{s+1}) + O(n_1^{-1-1}) + O((zn_1 + \sqrt{n})h^{z\sqrt{n_0}/n_0^{3/2}}) (h < 1)$. The coefficients B_{jk} are determined explicitly. This estimate is an essential improvement of N. V. Smirnov's formula

$$\lim_{n_1 \rightarrow \infty, n_2 \rightarrow \infty} P(F_{n_1, n_2} < z) = 1 - e^{-2z^2}$$

SUBMITTED: February 11, 1961

S/020/62/143/003/002/029
B112/B102

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11

80

AUTHOR:

Borovkov, A. A.

TITLE:

Asymptotic representations of generating functions and limiting theorems in boundary value problems

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 143, no. 3, 1962, 510 - 513

TEXT: The author considers a sequence of independent random quantities $\{1, \{2, \dots$ with $\lambda_+ - \lambda_- > 0$, where $\lambda_- = \inf\{\lambda : \varphi(\lambda) < \infty\}$;

$\lambda_+ = \sup\{\lambda : \varphi(\lambda) < \infty\}$, $\varphi(\lambda) = \sum_{k=1}^{\infty} p_k e^{-\lambda k}$. There are two real roots $\lambda_{\pm}(z)$ of the equation $1 - z\varphi(\lambda) = 0$. The function $W_z(\lambda) = (1 - z\varphi(\lambda)) / ((\lambda - \lambda_-(z))(\lambda - \lambda_+(z)))$

can be represented in the form $W_z(\lambda) = W_{z_+}(\lambda) \cdot W_{z_-}(\lambda)$, where $W_{z_{\pm}}(\lambda)$

$= \int_0^{\infty} e^{-\lambda t} w_{z_{\pm}}(t) dt$. For the functions

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Asymptotic representations of ...

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$$\begin{aligned}
P_x^n &= P(\bar{s}_n \geq x), & {}_1P_{x,y}^n &= P(\bar{s}_n \geq x, s_n < x - y), & {}_2P_{x,y}^n &= P(s_n \geq x - y), \\
{}_3P_{x,y}^n &= P(s_n < x - y), & {}_4P_{x,y}^n &= P(\bar{s}_n < x, s_n \geq x - y), \\
{}_5P_{x,y}^n &= P(\bar{s}_{n-1} < x, x \leq s_n < x + y)
\end{aligned}$$

($\xi_0 = 0, s_n = \sum_{k=0}^n \xi_k, \bar{s}_n = \max_{0 \leq k \leq n} s_k$), the following asymptotic formulas are derived:

$$\begin{aligned}
P_x(z) &= T(\lambda_-(z), 0) + (1-z)^{-1} O(e^{z(\lambda_-(z)-\gamma)}) \\
{}_1P_{x,y}(z) &= T(\lambda_-(z), \lambda_+(z)) + \lambda_+^{-1}(z) \left\{ \begin{aligned} &O(e^{z\lambda_-(z)-y(\lambda_+(z)+\gamma)}) \\ &O(e^{z(\lambda_-(z)-\gamma)-y\lambda_+(z)}) \end{aligned} \right. \\
{}_2P_{x,y}(z) &= T(\lambda_-(z), \lambda_-(z)) + O(e^{(x-y)(\lambda_-(z)-\gamma)}) \\
{}_3P_{x,y}(s) &= T(\lambda_+(s), \lambda_+(s)) + O(e^{(x-y)(\lambda_+(s)+\gamma)})
\end{aligned}$$

The function $T(\lambda, \mu) = \exp(\lambda x - \mu y) / (\lambda^2 - \lambda_+(z)\lambda_-(z)) W_{z_+}(\lambda) W_{z_-}(\lambda)$ is said

Asymptotic representations of ...

S/020/62/143/003/002/029
B112/B102

to be the generating function of $P_x(z)$, ${}_j P_{x,y}(z)$. There are 3 Soviet references.

ASSOCIATION: Institut matematiki Sibirskogo otdeleniya Akademii nauk SSSR
(Mathematical Institute of the Siberian Branch of the Academy
of Sciences USSR)

PRESENTED: December 8, 1961, by A. N. Kolmogorov, Academician

SUBMITTED: December 12, 1961

Card 3/3

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BOROVKOV, A.A.

Probability theory applied to two economic problems. Dokl. AN SSSR
146 no.5:983-986 0 '62. (MIRA 15:10)

1. Institut matematiki Sibirskogo otdleniya AN SSSR. Predstavleno
akademikom S.L.Sobolevym.
(Limit theorems (Probability theory))

L 17237-63

BDS/EWT(d)/FCC(w)--AFFTC/ASD/ESD-3/IJP(C)/APGC

ACCESSION NR: AP3005658

S/0052/63/008/003/0251/0263

AUTHOR: Borovkov, A. A. (Novosibirsk)

TITLE: Discrete queuing systems 16

SOURCE: Teoriya veroyatnostey i yeye primeneniya, v. 8, no. 3, 1963, 251-263

TOPIC TAGS: stationary distribution, ergodicity, queuing, discrete

ABSTRACT: Queuing systems are considered in which calls come by groups of size ξ and are served by groups of size η ; the period of time between two successive arrivals of groups of calls is equal to τ ; the time of a service is equal to σ . The quantities ξ, η, τ and σ are discrete random variables. The author considers systems of two forms. 1. $[\xi, \tau; \eta, \sigma; I]$: if the service system is free, then it begins to operate immediately upon arrival of even one call. If the system is occupied then the calls line up. The calls are serviced in the order of their arrival with accuracy up to order within the arrived groups. 2. $[\xi, \tau; \eta, \sigma; II]$: service can be initiated only at times $0, \sigma_1, \sigma_1 + \sigma_2, \sigma_1 + \sigma_2 + \sigma_3, \dots$, where σ_k are independent and identically distributed from σ . If the system is occupied then the calls are treated as in the first system. Without loss of generality it can

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ACCESSION NR: AP3005658

be assumed that the greatest common divisor of the possible values of the random variables ξ , η and τ , σ equal 1, $\tau > 0$, $\sigma > 0$. The author gives very natural sufficient conditions for systems of form I, II to be ergodic and finds explicit solutions for important particular cases of such systems. Some general statements on the existence of stationary distributions are proved, and a method for finding the stationary distribution with the help of the stationary distribution for the imbedded Markov chain is described. The stationary distributions are found each time not only for so-called imbedded Markov chains but also for the systems themselves. Discreteness of τ and σ is not essential if at least one of these variables is exponentially distributed. Finally, the author considers an example of a system of mixed type. Orig. art. has: 25 formulas.

ASSOCIATION: Institut matematiki Sibirskogo otdeleniya AN SSSR (Institute of Mathematics, Siberian Division, Academy of Sciences, SSSR)

SUBMITTED: 30Mar62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: MM

NO REF SOV: 007

OTHER: 008

Card 2/2

L 13711-63

BDS/EWT(1)/FCC(w) AFFTC/ASD IJP(C)

ACCESSION NR: AP3003500

s/0020/63/151/001/0011/0014

AUTHORS: Borovkov, A. A.; Rogozin, B. A.

55

TITLE: Asymptotic presentations in some problems for two-dimensional random walks

SOURCE: AN SSSR. Doklady*, v. 151, no. 1, 1963, 11-14

TOPIC TAGS: random walk, Kolmogorov-Smirnov statistics

ABSTRACT: Some results of previous works by the first-named author are generalized to the equation contained in the enclosure, where F and G are distribution functions. The results are applicable to instances of large deflections for Kolmogorov-Smirnov statistics over all possible ranges of deflection. The paper was presented by Academician A. N. Kolmogorov on 29 January 1963. Orig. art. has: 6 formulas.

ASSOCIATION: Institut matematiki s vy*chislitel'ny*m tsentrom Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Mathematics with Computer Center, Siberian Division, Academy of Sciences SSSR); Novosibirskiy gosudarstvennyy universitet (Novosibirsk State University)

SUBMITTED: 23Jan63

DATE ACQ: 30Jul63

ENCL: 01

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

Card 1/2/

A. N. Kolmogorov on 29 January 1963

E 13825-63

SWT(d)/FCC(w)/BDS AFFTC IJP(C)

ACCESSION NR: AP3003544

S/0020/63/151/002/0247/0250

52

AUTHOR: Borovkov, A. A.

TITLE: Several results on the analysis of large deflections in boundary-value problems

SOURCE: AN SSSR. Doklady*, v. 151, no. 2, 1963, 247-250

TOPIC TAGS: boundary-value problem, asymptotic formula

ABSTRACT: Asymptotic formulas are given for the probabilities which are shown in the equation contained in the enclosure. The paper was presented by Academician A. N. Kolmogorov on 29 January 1963. Orig. art. has: 6 formulas.

ASSOCIATION: Institut matematiki s vy*chislitel'ny*m tsentrom Sibirakogo otdeleniya Akademii nauk SSSR (Institute of Mathematics with Computer Center, Siberian Department, Academy of Sciences SSSR)

SUBMITTED: 21Jan63

DATE ACQ: 30Jul63

ENCL: 01

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card 1/2 /

ACCESSION NR: AP4029377

S/0199/64/005/002/0253/0289

AUTHOR: Borovkov, A. A.

TITLE: Analysis of large deviations in boundary problems with arbitrary boundaries (1)

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 5, no. 2, 1964, 253-289

TOPIC TAGS: boundary problem, probability theory, probability, statistics, transition probability, random event, random variable

ABSTRACT: In the present article the probability of large deviations in boundary problems, of the type studied by A. N. Kolmogorov are analyzed. Let $S_0 = 0$, $S_k = \xi_1 + \dots + \xi_k$, $S_2 = \xi_1 + \xi_2, \dots$ where the sum is a sum of arbitrary random variables ξ_1, ξ_2, \dots which satisfy the following two conditions: (1) The distribution function $F(t) = P(\xi_k < t)$ has an absolutely continuous component distinct from zero. (2) $F(t)$ for $t \rightarrow -\infty$ and $1 - F(t)$ for $t \rightarrow \infty$ decrease exponentially. The random variables will also satisfy $M\xi_k = 0$, $D\xi_k = 1$. Let $g_1(t) > 0$ and $g_2(t) < 0$ be two functions defined on $[0, 1]$, and let $G(g_1, g_2)$ be the strip contained between g_1 and g_2 , and let $x = x(n)$ be a function growing more quickly than \sqrt{n} and less quickly than n . In mathematical statistics and probability theory, it is often important to know facts concerning the existence of points with coordinates $(k/n, s_k/n)$, $k = 0, \dots, n$, and which fall outside the limits of $G(g_1, g_2)$. The present

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ACCESSION NR: AP4029377

paper deals with such facts. Specifically, asymptotic formulas are developed for the probabilities of various events involving the time of first transit across the boundary and the rate of points moving across the boundary. Orig. art. has: 72 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 07Feb63

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: MA

NO REF SOV: 010

OTHER: 002

Card 2/2

BOKOVNOV, A.A.

Analysis of large deviations in boundary value problems with
arbitrary boundaries. *Sib. mat. zhur.* 5 no. 4: 750-767 J1-A4'64
(MIRA 17:8)

L 25632-65 EWT(a)/T IJP(o)
ACCESSION NR: AP4048125

S/0198/64/005/005/0996/1006

15
6
B

AUTHOR: Borovkov, A. A.

TITLE: Some problems of controlled probability processes 16

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 5, no. 5, 1964, 996-1006

TOPIC TAGS: random walk, servo mechanism, random variable, Markov chain, random process, probability theory

ABSTRACT: The communication deals with problems of interest in the theory of servo-mechanisms (see Borovkov, On discrete systems of servo-mechanisms, Teor. ver. i ee primen. 3, #4 (1958), pp413-429), which belongs to the schemes of "processes of processes". In particular, the controlled random walk and processes controlled by random walk are considered. Several theorems are proven connecting the random walk with the positive regular Markov chains. The author is grateful to B. A. Rogosin who called his attention to an error in the manuscript. Orig. art. has: 20 equations

Card 1/2

L 25632-65

ACCESSION NR: AP4046125

ASSOCIATION: None

SUBMITTED: 32Mar82

ENCL: 00

SUB CODE: MA, IE

NR REF SOV: 003

OTHER: 003

Card 2/2

BOROVKOV, A.A., inzh.

Theoretical investigation of the operating procedure of an air piston engine. Izv. vys. ucheb. zav.; gor. zhur. 7 no.11:104-110 '64. (MIRA 18:3)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni gornyy institut imeni Plekhanova. Rekomendovana kafedroy gornoy mekhaniki.

NOPOVEKOV, A.A.; STOLICHN, B.A. (Krestobinsk

Boundary value problems for some two-dimensional random walks.
Teor. verolnt. i prilozh. 9 no.3:401-430 1964.

(MIRA 17.19)

BOROVKOV, A.A. (Novosibirsk)

Some limit theorems in queueing theory. Part 1. Teor. veroiat.
i ee prim. 9 no.4:608-625 '64. (MIRA 17:12)

BOROVKOV, A.A.; KOROLYUK, V.S. (Kiyev)

Results of asymptotic analysis in problems with boundaries.
Teor. vychisl. i ee prim. 10 no.2:255-266 '65.
(MIRA 18:6)

BOROVKOV, A.A.; POGOZIN, B.A. (Novosibirsk)

Central limit theorem in the multidimensional case. Teor. veroiat.
i ee prim. 10 no.1:61-69 '65. (MIRA 18:3)

1. Institut matematiki Sibirskogo otdeleniya AN SSSR i Novosibirskiy
gosudarstvennyy universitet.

BOROVKOV, A.A. (Novosibirsk)

First passage time for one class of processes with independent
increments. Teor. veroiat. i ee prim. 10 no.2:360-364 '65.
(MIRA 18:6)

BOROVKOV, A.A. (Novosibirsk)

Some limit theorems in queuing theory. Part 2. Multichannel systems. Teor. veroiat. i ee prim. 10 no.3:409-437 '65.
(MIRA 18:9)

1. Institut matematiki Sibirskogo otdeleniya AN SSSR.

BOROVKOV, A.A.; MARKOVA, N.F.; SYCHEVA, N.M.; SHPAKOVSKAYA, L.I.,
red.

[Tables for N.V.Smirnov's criteria of the uniformity of
two samples] Tablitsy dlia kriteriev N.V.Smirnova odno-
rodnosti dvukh vyborok. Novosibirsk, Redaktsionno-izd.
otdel Sibirskogo otd-nia AN SSSR, 1964. 139 p.
(MIRA 17:6)

BOROVKOV, A.M.

"On the Problem of the Toxic Action of the Two-Thirds Basic Salt of Calcium Hypochlorite," by K. A. Treskunov and A. M. Borovkov, Farmakologiya i Toksikologiya, supplement for 1956, 1957, pp 61-62

"The two-thirds basic salt of calcium hypochlorite (DTS GK) $3Ca(OCl_2) \cdot 2Ca(OH)_2$ is a white powder containing 56 percent of active chlorine; readily soluble in water. It is used in many branches of industry, and is a good "degassing" agent.

"In 1953, the authors had under their observation a case of acute intoxication by the two-thirds basic salt of calcium hypochlorite. The patient arrived in the therapeutic ward 24 hours after the poisoning occurred. While handling containers with DTS GK, he began to feel a burning sensation in the eyes and throat. Epiphora and occasional coughing spells developed. These catarrhal manifestations soon disappeared. Later, however, symptoms of parenchymatous hepatitis gradually developed: extreme general weakness, headache, nausea, urge to vomit, lack of appetite, yellow urine, yellow jaundice, bradycardia, "hypotoxia," an increase of bilirubin content in the blood to 11 percent with direct Van den Berg reaction, a positive reaction to urobilin, and bile pigments in urine. The patient recovered after the treatment usual in the therapy of parenchymatous hepatitis was applied.

Sum. 1360

BOROVKOV, A.M.

"It was thus established that as a result of intoxication by DTS GK toxic hepatitis developed. The symptoms of the disease became apparent 10 hours after the poisoning occurred. Despite the large content of active chlorine in the poisonous substance, the effect on the organs of respiration and the eyes was slight and of brief duration. The symptoms of hepatitis, however, were clearly exhibited.

"This leads to the assumption that the toxic agent is the entire molecule of DTS GK which enters the organism in the form of dust. It is the opinion of the authors that inhalation and swallowing of the two-thirds basic salt of calcium hypochlorite causes intoxication." (U)

SCV-118-58-9-12/19

AUTHORS: Borovkov, A.N. and Svetlitskiy, Ye.A., Engineers

TITLE: Mechanizing the Marking of Blooms (Mekhanizatsiya kleymeni-
niya na blyuminge)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh robot, 1958,
Nr 9, pp 35-37 (USSR)

ABSTRACT: Previously at the Zakavkazskiy metallurgicheskiy zavod (Trans-
caucasian Metallurgical Plant), the marking of blooms and
slabs was done by manual labor. The TsNIITMASH has designed
and built an automatic marking machine which is operated
by one man without bringing the roller conveyer to a stop.
The machine is automatically engaged by light impulse oper-
ation control. If the light pencil from the glowing metal
strikes the photoimpulsator, the electronic amplifier cir-
cuit is closed, activating the marking machine. The con-
tactor remains connected as long as the light pencil strikes
the photo-relay. The article presents a detailed descrip-
tion of this automatic marking machine. There are 3 sche-
matic drawings.

1. Blooming mills--Equipment 2. Steels--Processing

Card 1/1

SOV/133-58-10-19/31

AUTHORS: Borovkov, A.N. and Svetlitskiy, Ye.A.

TITLE: The Use of Fixed Mandrels in a Piercing Unit of a Tube-rolling Mill (Primeneniye nesmenyayemoy opravki na proshivnom stane truboprokatnogo agregata 400)

PERIODICAL: Stal', 1958, Nr 10, pp 926 - 927 (USSR)

ABSTRACT: The use of long-lasting mandrels with internal water cooling in the first piercing unit of the 400 mm tube-rolling mill on the above works is described. The consumption of fixed water-cooled mandrels of 225 mm in diameter amounted to 0.07 - 0.12 kg/t as against ordinary mandrels 0.7-1.3 kg/t. The application of these mandrels not only facilitated the work of the mill personnel but also makes possible automation of the mill. Arrangements are being made for the introduction of similar mandrels on the second piercing unit of the mill. There is 1 figure.

ASSOCIATION: (Zakavkazskiy Metallurgical Works)
Zakavkazskiy metallurgicheskiy zavod

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S/133/60/000/011/013/023
A054/A029

AUTHORS: Borovkov, A.N., Tsereteli, P.A., Svetlitskiy, Ye.A.,
Ubiriya, A.Ye., Kovbasa, I.I.

TITLE: The Use of Non-Detachable Mandrels for the Secondary Piercing
of Tube Billets

PERIODICAL: Stal', 1960, No. 11, pp. 1022-1023

TEXT: The application of a non-detachable mandrel in the first piercing mill viz, in the 4003M3 (ZMZ) type unit since 1959 has made it possible to automate the piercing process in the first mill, to prolong the useful life of the mandrel and to simplify the servicing of the machine. As the detachable mandrel of the second piercing mill was maintained, this part of the operation could not be automated, however. In order to eliminate this drawback of the process, several suggestions have been made to reconstruct the mandrel of the second piercing mill, first by the UkrNITI, later on by a team of the ZMZ (including the author of the article). The essential feature of the latter design was a thick-walled, non-detachable mandrel with thread for attaching it to the end piece of the roller and with openings in its surface for the out-flowing cooling water. However, on account of the rigid attachment of the

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V

S/133/60/000/011/013/023
A054/A029

The Use of Non-Detachable Mandrels for the Secondary Piercing of Tube Billets

mandrel, the frictional forces in the first moment of the bite were not sufficient to make the mandrel revolve with the roller. In order to eliminate this drawback, the team of the ZMZ replaced this mandrel by a revolving type which consisted of a thick-walled mandrel fixed on a special end piece and a thick walled sleeve, continuously cooled from the inside with water under high pressure. During standstills when the mandrel is in its extreme rear position, it is cooled by a special spray. This non-fixed attachment of the mandrel, made possible by a specially shaped end piece, allows the mandrel to revolve freely as necessary in the first moment of the grip and insures uninterrupted internal cooling of the mandrel. During standstills when the mandrel is in its extreme-rear position, it is in this arrangement also cooled by a spray with water under high pressure. In an improved model of this construction (Author's Certificate No. 130473) the mandrel is fixed on an unsplit end piece and there are openings for the outflowing water on the working surface of the mandrel. The useful life of the new type non-detachable mandrels is 4-5 times longer than that of the conventional types, the machine is easier to service, its output is higher and the operation of the second piercing mill could be

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S/133/60/000/011/013/023
A054/A029

The Use of Non-Detachable Mandrels for the Secondary Piercing of Tube Billets
automated. There are 4 figures.

ASSOCIATION: Zakavkazskiy metallurgicheskiy zavod
(Transcaucasus Metallurgical Plant)



Card 3/3

SHARADZENIDZE, S.A., inzh.; BOROVKOV, A.N., inzh.; SVETLITSKIY, Ye.A.,
inzh.; TSERETELI, P.A., inzh.; MINDLIN, B.I.

Use of fired mandrels on pipe piercing mills. Biul. TSIICHM
no.2:28-31 '61. (MIRA 14:9)

(Pipe mills)

BOROV~~OV~~, A.N.; KOBIASHVILI, R.I.; MAYSURADZE, T.G.

Automatic hard facing of steel rolls under a layer of ceramic
flux. Biul. TSIICM no.1:40-41 '61. (MIRA 14:9)

1. Zakavkazskiy metallurgicheskiy zavod.
(Hard facing) (Flux (Metallurgy))

SHARADZENIDZE, S.A.; BOROVKOV, A.N.; SVETLITSKIY, Ye.A.

Practice of flame scarfing of pipe blanks. Stal' 23 no.9:824=826
S '63. (MIRA 16:10)

1. Rustavskiy metallurgicheskiy zavod.

BOROVKOV, A.S.

Practice of using four-roller bits to drill conglomerates. Razved.
i okh. nedr 28 no.2:49-51 F '62. (MIRA 15:3)

1. Uzbekskiy gidrogeologicheskiy trest.
(Boring machinery) (Conglomerate)

FIGULEVSKIY, G.V.; BOROVKOV, A.V.

Isolation of d- β -elemene and l- β -selinene from the essential
oil of *Libanotis traucaucasica* schischk fruits. Zhur.ob.khim.
32 no.9:3106 S '82. (MIRA 15:9)

1. Botanicheskiy institut AN SSSR.
(Elemene) (Selinene)

BOROVKOV, A.V.; BELOVA, N.V.

Ursolic and oleanoic acids from Myrica gale L.
Zhur.ob.khim. 32 no.10:3457 0 '62. (MIRA 15:11)

1. Botanicheskiy institut AN SSSR.
(Ursenoic acid) (Oleanenoic acid)

BOROVKOV, A.V.

Fluoroscope for the visual control of chromatographic separation.
Zav.lab. 29 no.8:1012 63. (MIRA 16:9)

1. Botanicheskiy institut AN SSSR imeni V.L.Komarova.
(Chromatographic analysis)

FIGULEVSKIY, G.V.; ~~GOROVKOV~~, A.V.;

Sesquiterpenes of the essential oil of the fruits of *Libanotis*
transcaucasica schischk growing in various regions of the U.S.S.R.
Zhur. prikl. khim. 36 no.4:831-836 Ap '63. (MIRA 16:7)

(Sesquiterpenes)

(Essences and essential oils)

PIGULEVSKIY, G.V.; BOROVKOV, A.V.

Sesquiterpenes of the essential oil of the fruits of *Libanotis*
transcaucasica Schischk growing in the Stavropol Territory.
Zhur. prikl. khim. 36 no.4:926-928 Ap '63. (MIRA 16:7)

(Stavropol Territory--Essences and essential oils)
(Sesquiterpenes)

FIGULEVSKIY, G.V.; BOROVKOV, A.V.

Sesquiterpenes of the essential oil of the fruits of *Libanotis*
transcaucasica Schischk (Golubozersk form, introduced). Zhur,
prikl. khim. 36 no.4:929-930 Ap '63. (MIRA 16:7)

(Essences and essential oils)
(Sesquiterpenes)

BOROVKOV, G. S.

New Device for Determination of Rotating--Body Speeds --- Moscow, Vechernyaya
Moskva, 13 May 54

The Central Scientific Research Institute of the Silk Industry has developed a new device (stroboscope) for determining the speed of revolving spindles in spinning frames. The device can also be used to determine the speed of a shaft in other machines ranging from 1,500 to 30,000 revolutions per minute. The device was developed by G. S. BOROVKOV, chief engineer of the production laboratory; B. V. Kholkhlov, head of the automatic's laboratory; and B. M. Krymov, technician.

The first models of the new device have been turned over to silk industry enterprises for experimental use.

SO: SUM 262, 4 Nov 1954

BOROVKOV, G.S.; GANKIN, I.V.

Mechanized production line for the finishing of raw cloth at
silk factories. Biul.tekh.-ekon.inform. no.10:54-55 ' 58.
(MIRA 11:12)

(Silk manufacture)

GOLOSHCHAPOV, N.N. (g.Yelets); KATON'KO, Ye.S.; BOROVKOV, I.I.; SEREGIN,
D.V.

Useful suggestions. *Fiz. v shkole* 20 no.5:87 S-0 '60.
(MIRA 13:11)

1. 1-y srednyaya shkola, Kamenets-Podol'sk (for Katon'ko); 2. 25-ya
srednyaya shkola, g. Vorkuta (for Borovkov). 3. Breytovskaya sredn-
yaya shkola Yaroslavskoy oblasti (for Seregin).
(Physics—Study and teaching)

BOROVKOV, I.I.

Results of using porecelain cups for burning and roasting of
specimens. Lab. delo no. 12:746-747 '64. (MIRA 18:1)

1. Lipetskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya.

ZIYADULLAYEV, S. K.; BOROVKOV, I. I.

Paths of the development of construction and the building materials industry of Uzbekistan in the first years of Soviet government (1917-1928). Sbor. nauch. trud. NII po stroi. ASIA no.2:24-35 '61. (MIRA 16:1)

(Uzbekistan—Construction industry)

(Uzbekistan—Building materials industry)

BOROVKOV, I.I.

Transformation of the construction industry of Uzbekistan into an independent industrial branch in the years 1933-1940. Sbor.nauch. trud.NII po stroi. ASIA no.3:123-130 '62. (MIRA 17:2)

BOROVKOV, I.I.; KAN'SHINA, A.S.

Calculation of the capacity and location of the production base for residential construction and civil engineering on lands being reclaimed. Sbor.nauch.trud.TashNIIIS no.5360-63 '63.

(MIRA 1821)

BOROVKOV, I.I.

Construction work and building materials industry of the Uzbek
S.S.R. in the first five-year plan (1928-1932). Sbor. nauch.
trud. NII po stroi. ASiA no.4:119-122 '63. (MIRA 17:8)

BOROVKOV, I.I.; TER-OSIPYANTS, R.G.

Ways of industrializing construction on the new lands. Sbor.nauch.trud.
TashNIIS no.5:18-25 '63. (MLRA 18:1)

BOROVKOV I.V.

PHASE I BOOK EXPLOITATION SOV/2216

5(4)

Soveshchaniye po elektrokhemii. 4th, Moscow, 1956.

Trudy...; (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 P. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR, Otdeleniye khimicheskikh nauk.

Editorial Board: A.M. Frumkin (Resp. Ed.) Academician, O.A. Yesin, Professor, S.I. Zhdanov (Resp. Secretary), M.M. Kabanov, Professor, S.I. Zhdanov (Resp. Secretary), A.N. Kabanov, Professor, Ya. M. Kolyrkin, Doctor of Chemical Sciences, T.V. Laccov, P.D. Lukovtsev, Professor, Z.A. Solov'eva, V.V. Steiner, Professor, and O.M. Florianovich, Ed. of Publishing House M.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in the phenomena of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included herein have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

BOROVKOV, I. V. Anodic Passivation of Copper and Some of its

Card 24/ 34

Alloys in Phosphates

628

L'vov, A.L., and A.V. Fortunkin (Saratovskiy Gosudarstvennyy Universitet imeni N.G. Chernyshevskogo; Nauchno-issledovatel'skiy institut khimii Saratovskogo Gosudarstvennogo Universiteta-Saratov State University imeni N.G. Chernyshevskiy Scientific Research Institute of Chemistry, Saratov State University); Anodic Oxidation of Copper in Hot Concentrated Alkaline Solutions 632

Zemshov, M.D., and Yu. M. Mikhalovskiy (Institute of Physical Chemistry, Academy of Sciences, USSR), Electrochemical Kinetics of Corrosion Processes Under Adsorbed Films of Moisture 638

643

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Discussion [A. V. Pinkel'shteyn] PART VII. DIFFUSION KINETICS

Card 25/ 34

5.4600 (1043 1087)

S/076/60/034/012/004/027
B020/B067

AUTHOR: Borovkov, I. V., Leningrad

TITLE: Electrochemical Behavior of Germanium

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12,
pp. 2682-2686

TEXT: The authors systematically studied the electrochemical behavior of germanium without external polarization in the case of cathodic and anodic polarization in neutral and alkaline solution (HCl, KCl, KOH) at a concentration of 1 N. Polarization was measured by a glass device which is described in Ref. 12. The device was connected to an electric circuit with an external resistance of $2.2 \cdot 10^7 \Omega$. Thus the amperage of the polarizing current remained stable because the internal resistance of the cell was only low compared to the external one. The author studied n-type germanium with a resistivity of $43 \Omega/\text{cm}$. The steady potentials and the potentials of the polarized electrodes were measured according to the compensation method by means of a saturated calomel auxiliary electrode. The steady potential and the cathodic polarization were studied in a

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Electrochemical Behavior of Germanium

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hydrogen atmosphere which was obtained by electrolysis and purified on palladized asbestos. The anodic polarization was made in an atmosphere of chemically obtained nitrogen which was purified from oxygen by an alkaline pyrogallol solution. To study the cathodic and anodic polarization, the author used the method of polarization curves. Since the reproducibility of the results of cathodic polarization was insufficient, the number of experiments had to be increased. The curves of cathodic polarization were taken at current densities of $0.5 \cdot 10^{-6}$ to $0.4 \cdot 10^{-3}$ a/cm², whereas, the curves of the anodic polarization were taken at current densities of $0.5 \cdot 10^{-6}$ a/cm² to the critical values for each solution at which the electrode becomes passive. The author found that the steady potentials of germanium change linearly with the concentration of the hydrogen ions according to equation

$$\varphi_{st} = a + b \log [H^+] = a - b \text{ pH} \quad (1)$$

which had been derived by Ya. M. Kolotyркиn (Ref. 13). In this case $a = -0.042$. Sufficient agreement was found between the experimental data and those obtained from equation (1) (Table 1). When reducing the pH to

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Electrochemical Behavior of Germanium

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one, the steady potentials of germanium are linearly shifted by a value of 0.042 mV toward the positive. The steady potentials of germanium as depending on the pH (Fig. 2) and the cathodic polarization of germanium in HCl, KCl, and KOH (Fig. 3) are graphically represented. The over-voltages at comparable current densities ($1 \cdot 10^{-4}$ a/cm²) in HCl, KCl and KOH solutions are 0.56, 0.73 and 0.54v (Fig. 4). Fig. 5 shows the anodic polarization of germanium in HCl, KCl and KOH as a function of current density. The kinetics of the evolution of hydrogen on germanium exactly agrees with the slow-discharge theory. During anodic polarization germanium tends to passivation which cannot be eliminated by intensive and long-lasting cathodic polarization. The residual passivation of germanium strongly reduces the critical anodic current densities in the following experimental series. The author mentions N. Z. Andreyev, T. P. Vasilevskaya, Ye. G. Kuz'mina who assisted in the studies, as well as papers by B. N. Kabanov and S. A. Rozentsveyg. There are 5 figures, 1 table, and 14 references: 5 Soviet, 2 US, 3 German, and 4 British.

SUBMITTED: March 2, 1959

Card 3/3

AUTHORS: Borovkov, K. A., Globa, G. F. Orekhov, P. D. 131-23-5-4/16

TITLE: The Work of the Fire-Clay Burning Plant of the Suvorovskoye Ore-Mine Management (Rabota shamotoobzhigatel'noy ustanovki Suvorovskogo rudoupravleniya)

PERIODICAL: Ogneupory, 1958, Vol. 23, Nr 5, pp. 204-210 (USSR)

ABSTRACT: In order to supply the works for refractory products situated in the vicinity of Moscow with high-grade fire-clay, in the Suvorovskoye ore-mine management a fire-clay burning plant (Shou) was constructed. Its first part, consisting of a rotary kiln, was started at the end of 1956. The kinds of clay from the deposit Suvorovskoye, divided into groups, and kinds according to TUO 17-50 are named in the table. The projected capacity of the first part of the plant is 100000 t of fire-clay per year. The production process can be seen in figure 1 and is then described in detail. It is entirely mechanized. In figure 2 automatic scales are shown. The rotary burning kiln of 60 m length and 3 m diameter has an hourly output of 12.5 t of fire-clay (figure 3). From the burning kiln the fire-clay comes into a drum radiator of 25 m length and 2.5 m diameter, where it is cooled down to 60-80°C. At the end of the drum radiator there

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The Work of the Fire-Clay Burning Plant of the Suvorovskoye 131-23-5-4/16
Ore-Mine Management

is a grid which sorts out the large pieces of fire-clay, which are carried to the crusher (figure 4). The crushed fire-clay is brought to the magnet separators of the AM-410 type by means of bucket elevators of the TsB-350 type, in which magnet separators metal inclusions coming in by accident are separated. The burning kiln is heated by powdered coal. By means of a feeder of the L-4 type the coal is brought to the crusher of the DVD-2 type. The coal from the Moscow coal-basin is dried, for which process the waste gases from the coal firings are used. At the outlet of the coal rotary drier there is an exhaustor of the D-4 type which sucks the flue gases through 2 cyclons and an electrical precipitator of the UVP-9.9 type for the purpose of eliminating the coal dust. In figures 5 and 6 an aeropulverizer for coal is shown. Furthermore difficulties in the furnace lining are described. The plant is also equipped with a measuring control apparatus, which permits to control continuously the temperatures and atmospheric pressure. Also an automatic regulation of the production processes is introduced. In 1957 in this plant 83.5 thousand tons of fire-clay were produced, the output in three months rising from 18,8 to 22,8 thousand tons. The quality of the fire-clay according to

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The Work of the Fire-Clay Burning Plant of the Suvorovskoye 131-23-5-4/16
Ore-Mine Management

TUC 45-57 is quoted in the table. The cost-price of 1 ton of fire-clay was reduced by 17.3% in the first year. Further reductions are expected. By this plant the works for refractory production in Moscow's neighbourhood have obtained a safe fundament for fire-clay supply and at prices which are lower than the cost-price of fire-clay which formerly was burned in annular kilns by the works themselves. At the expense of the capacity of the annular kilns having become free the output of refractory products can be increased. Railway transport has been released by the transport of the quantity of water which is in the clay. There are 6 figures, 3 tables.

ASSOCIATION: Suvorovskoye rubeupravleniye(Suvorovskoye Ore-Mine Management)

AVAILABLE: Library of Congress

1. Refractory materials - Processes
2. Industrial plants - Work functions

Card 3/3

BOROVKOV, L.; PLOTNIKOV, B.

Use keyless couplings for the propeller shafts of rivercraft.
Rech. transp. 24 no. 10:36-37 '65. (MIRA 18:12)

1. Glavnyy konstruktor Gor'kovskogo tsentral'nogo konstruktorskogo byuro Ministerstva rechnogo flota SSSR (for Borovkov).
2. Starshiy inzhener Gor'kovskogo tsentral'nogo konstruktorskogo byuro Ministerstva rechnogo flota SSSR (for Plotnikov).

1. M. M. BOROVKOV.
2. USSR (600)
4. Bearings (Machinery)
7. Copper-plating sliding bearings; from the work experience of the Kuybyshev ship yard.
Rech. transp. 12 no. 5. 1952.

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

BOBROV KOV, M.M., inzhener

~~www.wildfire.com~~

Metallic packing of rod gaskets. Rech. transp. 14 no.6:

28-29 Je '55. (MLRA 8:9)

(Ships--Maintenance and repair)

BOBROVKOV, M. M., inzh.

Operation of combined steam boilers. Rech.transp. 18 no.7:48-49
Jl '59. (MIRA 12:11)

1. Kuybyshevskiy sudoremonnyy zavod.
(Boilers, Marine)

BOROVKOV, M., ENG.

Multiple-Shift Operation

Three eight-hour shifts daily for two-face drifting operations. Mast. ugl. 2, No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

BOROVKOV, M., inzhener.

Great success of reinforced concrete workers. Mast. ugl. 2 no. 4:21-22 Ap
'53. (MLBA 6:5)

(Shaft sinking)

BOBOVKOV, M., inzhener.

Miner-innovator Roman Pavliuk. Mast.ugi 3 no.11:16 N'54.
(Pavliuk, Roman Savel'evich) (MLRA 8:3)

BOROVKOV, M., inzhener

Shaft timbering with reinforced concrete tubing. Mast. ugl.
Je '55. (MLRA 8:8)

(Mine timbering)

BOROVKOV, M., inzhener.

Rapid vertical shaft sinking practices. *Mast. ugl. 4 no.11:18-19*
N '55. (Donets Basin--Shaft sinking) (MIRA 9:2)

BOGROVKOV, M., iuzhener.

One hundred and forty meters of vertical shaft sinking per month.
Mast. ugl. 5 no.6:11-13 Je '56. (MLRA 9;8)
(Shaft sinking)

~~BOROVKOY, M.~~ inzhener.

Rapid mining of loader rooms. Mast. ugl. 5 no. 10:10-11 0 '56.
(Coal mines and mining) (MLRA 9:12)

BOROVKOV, M.F., inzhener.

Efficiency of sinking vertical mine shafts on a cyclical schedule.
Mekh.trud.rab 10 no.7:29-31 J1 '56. (MLRA 9:9)
(Shaft sinking)