Begin

Reel #448
ProKhorov, Ye.F.

L 15340-66
ACC NR: AP6000973   EWT(m)/EWP(j)/T/ETC(m)-6   WW/JWD/RM
(N)

AUTHORS: Yalgin, V. D.; Prokhorov, Ye. F.; Vasil'yeva, E. A.; Sergoyeva, V. A.; Demin, G. G; Kozlova, R. I.; Kuchina, F. G.

SOURCE CODE: UR/0286/65/000/022/0057/0057

ORG: none

TITLE: A method for obtaining foam plastic. Class 39, No. 176391 (announced by Vladimir Scientific Research Institute for Synthetic Resins (Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol))

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 57

TOPIC TAGS: plastic, foam plastic, polymer, resin, epoxy, catalyst

ABSTRACT: This Author Certificate presents a method for obtaining a foam plastic on the basis of epoxide resins and aromatic polyamides in the presence of an emulsifier with the aid of a gas generator. The reagents are thoroughly mixed, foamed, and hardened by heating. To lower the foaming and hardening temperature, organic and inorganic acid catalysts are added to the reaction mixture. The organic catalysts are formic and acetic acid and the inorganic catalysts are phosphoric acid and perchloric acid. The catalysts are used in proportion of 0.2 to 3 wt parts per 100 wt part of resin. Freons are used as foaming agents.

SUB CODE: 11/   SUBM DATE: 31Oct63

VINOGRADOV, A.P., akademik, red.; KONSTANTINOV, M.M., kand. geol.-mineralog. nauk, red.; PROKHOROV, Ye.I., red.; MAZEL', Ye.I., tekhn. red.

[Transactions. Selected reports by foreign scientists] Trudy. [Izbran-nye doklady inostrannykh uchenykh] Moskva, Izd-vo Glav. uprav. po ispol'-zovaniiu atomnoi energ. pri Sovete Ministrov SSSR. Vol. 8. [Geology of atomic raw products]Geologiia atomnogo syr'ia. Pod obshchei red. A.P. Vinogradova. 1959. 520 p.

(MIRA 14:7)

1. Vtoraya mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Zheneva, 1958.

(Uranium ores)   (Thorium ores)

Prokhorov, Ye. I.

AUTHOR: None Given.   50-12-44/45

TITLE: Defense of Dissertations (Zashchita Dissertatsiy)
              (January - July 1957) (Yanvar' - iyul' 1957)
              Section   for Literature and Languages (Otdeleniye literatury
              i yazyka).

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 12, pp. 128-129 (USSR)

ABSTRACT: At the Institute for World Literature imeni A. M. Gor'kiy
              (Institut mirovoy literatury imeni A. M. Gor'kogo).
              Applications for the degree of Candidate of Philology:
              M. Borbugulov -Kirgiz Soviet Dramaturgy (Kirgizskaya sovetskaya
              dramaturgiya). Ye. I. Prokhorov - The Problem of the
              determination of the canonical version of Gogol's Artistic Prose
              (Problema ustanovleniya kanonicheskogo teksta khudozhestvennoy
              prozy Gogolya).
              At the Institute for Linguistics (Institut yazykoznaniya).
              Applications for the degree of Doctor of Philology:
              M. N. Kolyadenkov - The Structure of the simple phrases in the
              Mordvinian Languages (The Sentence and its main Parts)
              (Struktura prostogo predlozheniya v mordovskikh yazykakh)
              (predlozheniye i yego glavnyye chleny). R. G. Piotrovskiy
Card 1/3   Formation   of the definite article in the Romance languages

Defense of Dissertations.
(January - July 1957)   30-12-44/45
Section   for Literature and Language

(O formirovanii opredelennogo artiklya v romanskikh
yazykakh). F. V. Sovortyan, Affix verbs Formation in
Azerbayanhan literary language   (Affiksal'noye glagolo-
obrazo'aniye v azerbaydzhanskom literaturnom yazyke).
Applications for the degree of Candidate of Philology:
Z. G. Abdullayev - The Cases and their functions in the
Dargan literary language (padezhi i ikh funktsii v
darginskom literaturnom yazyke). O. M. Asoyev - Composite nouns,
adjectives and Equivalent Combinations of Words in the Modern
French Language (Slozhnyye imena prilagatel'nyye i
ekvivalentnyye im slovosochetaniya v sovremennom frantsuzskom
yazyke). N. V. Podol'skaya - Toponomy of the country of
Novgorod according to Novgorod manuscripts and writings of the
11-15 centuries (Toponimika novgorodskoy zemli po dannym
novgorodskikh pis'mennykh pamyatnikov 11,-15. vekov).
N. V. Churmayeva - The History of the disappearance of the
difference in gender in the Plural in the case of Words that
Change according to Gender in the Russian Language
(Istoriya utraty rodovykh razlichiy vo mnozhestvennom chisle

Card 2/3

Defense of Dissertations.   30-12-44/45
(January - July 1957)
Section   for Literature and Language

          u slov, izmenyayushchikhsya po rodam, v russkom yazyke).

AVAILABLE: Library of Congress

          1. Literature--USSR   2. Languages

Card 3/3

PROKHOROV, Ye.I. (Moscow); TUMANOVSKIY, R.F. (Moscow).

      Standardization of printing and publishing terminology. Poligr.proizv. no.7:
10-13 Jl-Ag '53.   (MLRA 6:9)
     (Printing industry--Terminology) (Publishers and publishing--Terminology)

POPOV, Yu.A.; PROKHOROV, Ye.N.

Deformation of metal components in pulsed magnetic fields.
Trudy MEI no.64:43-49 '65.   (MIRA 19:1)

LEVITIN, F.I.; GOL'DSHTEYN, V.D.; KUDISH, E.A.; PROKHOROV, Ye.P.; FRADKIN, V.A.;
CHAUSOVSKAYA, M.M.

Technic and evaluation of the results of tuberculin tests. Probl.
tub. no.7:9-16 '63.   (MIRA 18:1)

1. Iz kafedry tuberkuleza (zav. - zasluzhennyy deyatel' nauki prof.
A.Ye. Rabukhin) TSentral'nogo instituta usovershenstvovaniya vrachey.

LEVITIN, F.I.; GOL'DSHTEYN, V.D.; PROKHOROV, Ye.P.; FRADKIN, V.A.

Tuberculin reactions in elderly persons with pulmonary
tuberculosis. Trudy TSIU 63:56-63 '63.   (MIRA 17:9)

1. Kafedra tuberkuleza TSentral'nogo instituta usovershenst-
vovaniya vrachey i Klinicheskaya bol'nitsa "Zakhar'ino", Moskva.

OLENEVA, T.N.; PROKHOROV, Ye.P.

Therapy with antibacterial preparations and corticosteroid
hormones for patients with tuberculous pleurisy, pneumopleurisy,
and polyserositis. Probl.tub. 38 no.7:24-29 '60.

(MIRA 14:1)

1. Iz kafedry tuberkuleza (zav. - prof. A.Ye. Rabukhin) TSentral'-
nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina)
i iz tuberkuleznogo otdeleniya bol'nitsy Ministerstva putey soob-
shcheniya imeni Semashko (glavnyy vrach A.A.Potsubeyenko)
       (ACTH)   (ADRENOCORTICAL HORMONES) (LUNGS—DISEASES)
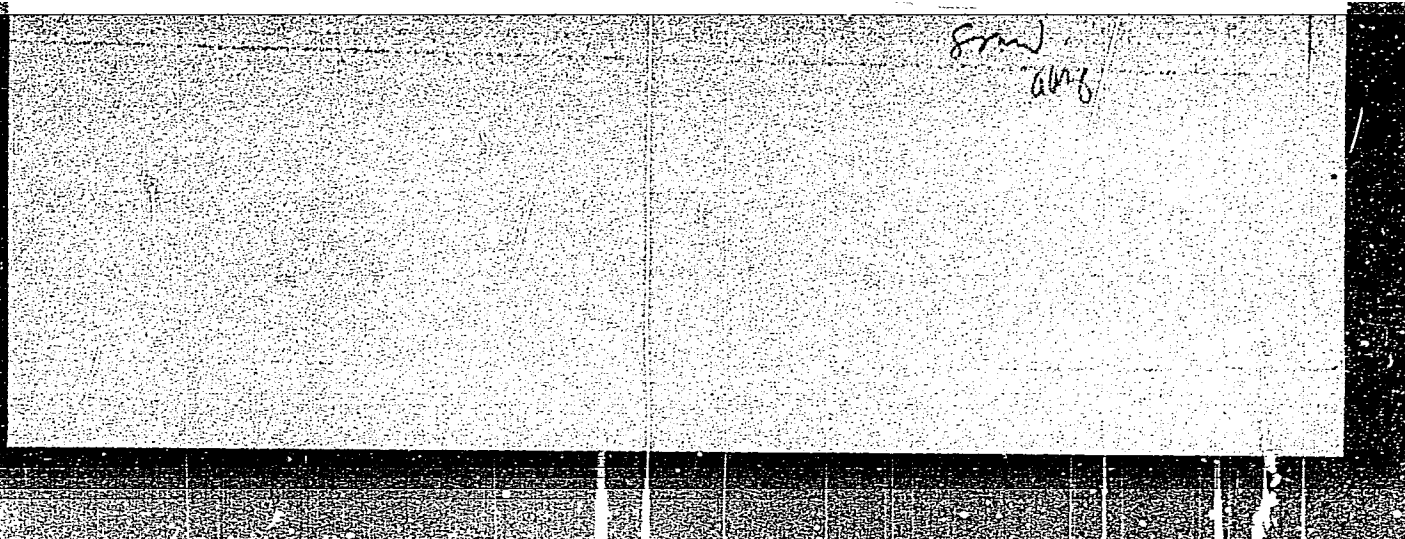
L   KWT(1)/EPA(s)-2/EWT(m)/EWP(i)/IMA(d)/T/EWP(t)/DEC(b)-2/EWP(s)/EWP(b)
           IJP(c)   JD/GG
ACCESSION NR: AP5011447   UR/0048/65/029/004/0634/0638

AUTHOR: Spivak,G.V.; Sholyakin,L.B.; Nikitina,T.N.; Yurasova,V.Ye.; Filippova,T.F.;
         Prelistov,Yu.A.

TITLE: Magnetic properties of Permalloy films formed in ion bombardment /Report,
Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in
Irkutsk 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 634-638

TOPIC TAGS: ferromagnetic thin film, permalloy, magnetic property

ABSTRACT: The work was undertaken in view of the growing use of thin films in
electronics and the consequent need for new and better film preparation techniques.
Preparation of films by ion bombardment has a number of distinctive features and
advantages (G.V.Spivak, V.E.Yurasova, O.J.Roshkova, and T.N.Nikitina, Izv. AN
SSSR, Ser. fiz., 28, 1411, 1964, and other papers by the Spivak group). Primary
among these is good correspondence of the composition of the film with that of the
initial, sputtered material. One of the objections to the ion bombardment tech-
nique is that inert gas atoms, present in the discharge chamber, become imbedded in

Card 1/3

L 50293-65

ACCESSION NR: AP5011447   O

the film and impair its properties. In the present experiments a series of films
of different types of Permalloy were prepared in glow and arc discharges in an
inert gas atmosphere. The orienting field was provided by a pair of Helmholtz
coils. The substrates were glass, glass precoated with quartz, aluminum, aluminum
cleaned by ionic etching, and rock salt. The substrates were washed before any
utilization in the apparatus and then further cleansed by the discharge before
deposition of the films. The films were investigated as regards some of their
physical properties and subjected to chemical analyses for comparison with the
analytic composition of the initial sputtered materials. Microphotographs
and electron diffraction patterns (one of each in reproduced) indicate that the
Permalloy films were polycrystalline with a fine-crystal structure. The films on
uncleaned Al were of poor quality, but those on cleaned Al were similar to films
deposited on glass. Some magnetic data on the films, including curves of the
inverse switching time versus switching field, are given in tables and figures.
The results show that given proper control of the sputtering conditions and
parameters it is feasible to prepare by this method alloy films with
characteristics similar to those of films prepared by evaporation; the
attainable reproducibility is satisfactory for ___; the respective
data given in a series of films obtained in this way are appended.

Card 2/3

L 50792-65

ACCESSION NR: AP5011447   5

our gratitude to P.V.Tolenin, V.I.Kozlov, B.I.Sokolov, V.Yakovlev, and Y.Mankova for consultations and assistance in the work." Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 00   ENCL: 00   SUB CODE: EM, EC

NR REF SOV: 004   OTHER: 004

Card 2/2

SPIVAK, G.V.; SHELYAKIN, L.B.; NIKITINA, T.N.; YURASOVA, V.Ye.; FILIPPOVA,
    T.F.; PROKHOROV, Yu.A.

    Magnetic properties of Permalloy films formed by ion bombardment.
    Izv. AN SSSR. Ser.fiz. 29 no.4:634-638 Ap '65.   (MIRA 18:5)

ROSHCHIN, I.V.; NIFONTOVA, M.V.; PROKHOROV, Yu.D.; BAGNOVA,M.D.; KUBLANOVA,
      P.S.; ILYASOVA, S.V.; BULYCHEV, G.V.

Hygienic characteristics of the dust factor, and health of workers
engaged in cleaning boilers of electric stations. Uch.zap.Mosk.
nauch.-issl.inst.san.i gig. no.8:64-70'61.   (MIRA 16:7)
        (LUNGS—DUST DISEASES)   (BOILERS)

Prokherov, Yu. G.

Category   : USSR/Nuclear Physics - Nuclear Reactions   C-5

Abs Jour   : Ref Zhur - Fizika, No 3, 1957, No 6073

Author   : Artsimovich, L.A., Andrienov, A.M., Bazilevskaya, O.A.
             Prokhorov, Yu.G., Filippov, N.V.

Title   : Investigation of Pulse Discharges with High Currents

Orig Pub   : Atom. energiya, 1956, No 3, 76-80

Abstract   : A brief report on the results of an experimental investigation
             of high-power pulse discharges with high rates of current rise.
             A study was made of the pulse discharges in H_2, D_2, He, Ar, and
             Xe at initial gas pressures from 0.005 mm Hg to several milli-
             meters. The maximum current in the discharge was 10^5 to 10^6
             amp. The discharge was fed with a voltage from 20 to 50 kv
             from a capacitor bank ranging in rating from several tens to
             400 microfarad. The rate of current rise in the initial dis-
             charge phase was 3×10^2 - 1.5×10^{11} amp/sec, and the duration
             of the current rise from zero to maximum value was 8 -- 17
             microseconds. The discharge tubes used were porcelain cylinders
             60 -- 100 cm long and 20 -- 40 cm in diameter. The intensity of
             the magnetic field was measured at various points of the dis-
             charge, as was the gas pressure.

Card   : 1/3

Catogory : USSR/Nuclear Physics - Nuclear Reactions   C-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6073

   The discharge oscillograms are characterized by a sharp
discontinuity in the voltage and a break in the current, oc-
curring at a certain instant of time. A graph of the depen-
dence of the time interval τ prior to the first such singular-
ity vs. the mass of gas M in the discharge tube is given for
various gases (H_2, D_2, He, Xe) over a wide range of masses
(approximately $10^{-6} - 10^{-3}$ g/cm). The resultant points fit
quite well on the curve $\tau \sim M^{1/4}$. These data are in good
agreement with the values of τ calculated using the theory
developed by M.A. Leontovich ans S.A. Osovets (Abstract 6074).
The singularities on the oscillograms are connected with com-
pressions of the plasma column. The maximum speed of motion
of the plasma ranged from 1×10^6 (at high gas densities) to
1.2×10^7 cm/sec for discharges in H_2 and D_2, with an initial
pressure 0.01 mm Hg. At the instant of the maximum compression,
the energy of the heavy particles reaches values corresponding
to a temperature of approximately 10^6 degrees, and the pres-
sure in the central zone is on the order of 50 atmospheres.

Card   : 2/3

Category : USSR/Nuclear Physics - Nuclear Reactions   C-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6073

The corresponding electron energy is on the order of several
electron volts. Ideas are suggested concerning the processes
occurring in a high power pulse discharge.

Card   : 3/3
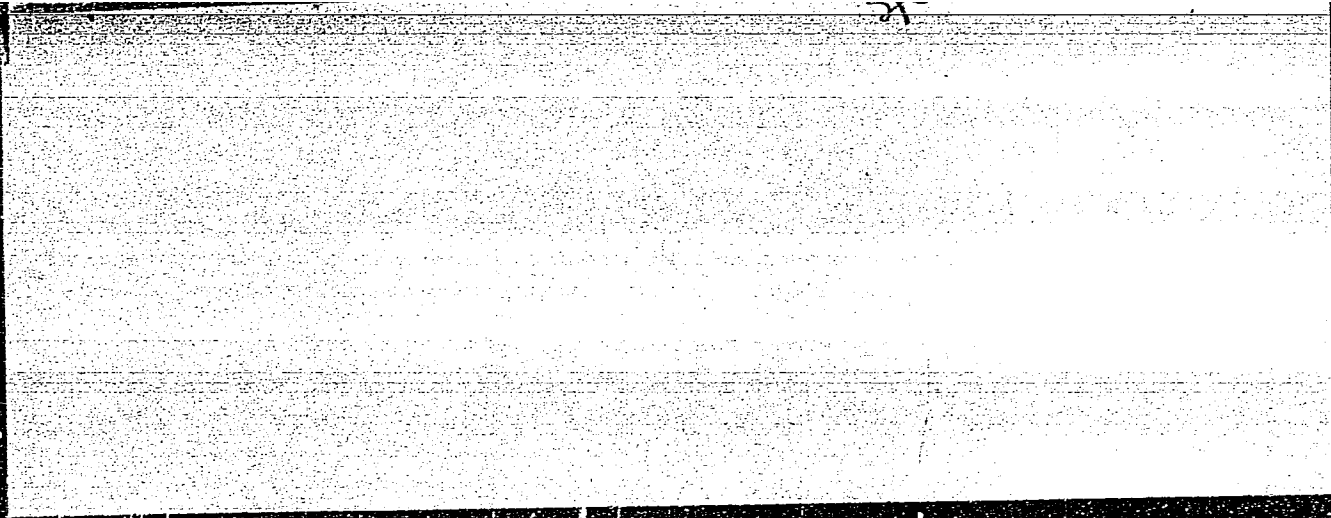
DEMICHEV, V. F. and PROKHOROV, Yu. G.

"Investigation of the Neutron Emission Arising in a Gaseous Discharge with a Current of 160 KA." (Work carried out in 1957);   pp. 81-86.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions."   VOl. IV.
   1958, published by INst. Atomic Energy, Acad. Sci. USSR.
resp. ed.   M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

PROKHOROV, Y. G.

ANDRIANOV, A. M., BAZILEVSKAYA, O. A., BRAGINSKIY, S. I., BREZHNEV, B. G., PODGORNY,
I. M., PROKHOROV, Y. G., FILIPPOV, N. V., FILIPPOVA, T. I.# and KHRABROV, V. A.

"Experimental Investigation of High Current Pulse Discharges."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sept 58.

PROKHOROV, Yu.D.

Experimental data on the combined effect of CO and SO_2 on
the body. Uch. zap. Mosk. nauch.-issl. inst. san. i gig.
no.9:77-81 '61   (MIRA 16.11)

*

PROKHOROV, Yu.G.

       Contribution to the problem of registering plasma energy losses.
       Dokl. AN SSSR 134 no.5:1058-1060 O '60.   (MIRA 13:10)

      1. Predstavleno akademikom L.A.Artsimovichem.
             (Plasma (Ionized gases))

ACCESSION NR: AT4025319   S/0000/63/000/000/0274/0282

AUTHORS: Prokhorov, Yu. G.; Demichev, V. F.; Matyukhin, V. D.

TITLE: Measurement of time variation of plasma energy

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey.
Moscow, Gosatomizdat, 1963, 274-282

TOPIC TAGS: plasma research, plasmoid, plasma source, plasma tem-
perature, discharge plasma, plasma heating

ABSTRACT: A system, called "thermal probe," has been developed to
measure the time variation of plasma energy. It consists of a plati-
num foil 6 microns thick, heated electrically to 1,000--1500°, the
incandescence of which is registered by a photomultiplier with maxi-
mum sensitivity in the red part of the spectrum (near 7,000 Å). The
spectral sensitivity of the foil-plus-photomultiplier system, with
the foil electrically heated, is sufficient for the registration of

Card 1/3

ACCESSION NR: AT4025319

a slight change in the foil temperature such as is produced by the
heating of the plasma. The instrument is calibrated by discharging
a capacitor through the foil. The thermal probe was used to measure
the plasma energy in slow (millisecond) and fast (microsecond) pro-
cesses, as well as to estimate the efficiency of thermal insulation
of the plasma column in a toroidal system with longitudinal magnetic
field ("Tokamak"). It was also used to measure the energy of fast
plasmoids obtained with the aid of a coaxial plasma gun. In the
latter case such a measurement is preferable because the usual
calorimetric method determines only the integral energy of the
plasmoids occurring in one discharge, without giving the energy in
individual plasmoids. The use of the thermal probe in conjunction
with other methods (electric probe, millimeter waves transmitted
through the plasma, etc.) makes it possible to determine a large
number of parameters of plasmoids produced in a single discharge.
Another feature of the apparatus is that there is no direct electric
connection between the plasma and the recording apparatus, which can

Card   2/3

ACCESSION NR: AT4025319

be located away from the plasma. The thermal probe can also be
used in chambers with high initial vacuum. Orig. art. has: 6
figures, 3 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 19Oct63   DATE ACQ: 16Apr64   ENCL: 03

SUB CODE: ME   NR REF SOV: 000   OTHER: 000

Card   3/3

84827

10.8000   2507 only
26.2321
24.2120

S/020/60/134/005/010/023
B019/B060

AUTHOR: Prokhorov, Yu. G.

TITLE: The Problem of Recording Plasma Energy Losses

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 5,
               pp. 1058 - 1060

TEXT: The radiation pickup used in the work under consideration for
estimating the heat insulation of a plasma in a toroidal chamber with a
strong magnetic field measures the amount of energy on the chamber wall.
The pickup consists of a d.c.-heated platinum foil (1500°K, 6μ), its
radiation being studied by a photomultiplier and an oscilloscope. Fig. 1
is a set of diagrams depicting the current I_g in the gas, the voltage of
a circulation U_{circ}, the derivative with time $\dot{I}_g$, and the pulses sent out
by the radiation pickup. As may be seen from the diagrams, energy is
liberated both with weak and strong magnetic fields. With reduced H_o, how-
ever, the energy liberated on the wall increases. The energy curve has a

Card 1/2

84827

The Problem of Recording Plasma Energy   S/020/60/134/005/010/023
Losses   B019/B060

smooth character. Fig. 2 is a set of diagrams depicting the energy W_o, contained in the gas per cm^2 of wall surface, and the energy W_1, which is adsorbed per cm^2 of wall surface. In the instant, when the current in the gas is almost vanishing, W_o and W_1 do no more coincide. This divergence may be either explained by a calibration error, or by the fact that various amounts of energy are absorbed in various parts of the system (particularly in the diaphragm). Energy is found to be set free on the chamber wall at large H_o values, when the plasma temperature attains some tens of thousands of electron volts. This energy is liberated by electromagnetic waves. The author thanks L. A. Artsimovich, M. A. Leontovich, and A. M. Andrianov for their continuous interest, and V. S. Mukhovatov for assistance given in the experiments. There are 2 figures and 2 Soviet references.

PRESENTED: May 10, 1960, by L. A. Artsimovich, Academician

SUBMITTED: May 10, 1960

Card 2/2

PROKHOROV, YU. G.

ANDRIANOV, A. N., BAZILEVSKAYA, O. A. and PROKHROV, Yu. G.

"Investigations of a Pulse Discharge in Gases for Current Strength of 500 KA"
(Work - 1954,1956); pp. 185-211.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. II.
1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

PROKHOROV, Yu.S., gornyy inzhener; KOSTYUK, G.I., gornyy inzhener.

Reinforced concrete scraper platforms. Gor. zhur. no.8:75-76
Ag '57.   (MIRA 10:9)

1. Lebyazhinskoye rudoupravleniye.
        (Mine haulage--Equipment and supplies)

PROKHOROV, Yu. V.

PROCESSES AND PROPERTIES INDEX

Investigation of flaws in steel rods, 42 mm. thick, prepared at the Dzerjhinskii plant. Yu. Prokhorov and A. Bramuta. Domez 1931, No. 9, 1-33.--Large quantities of rods, 20-30%, made at this plant have lately been rejected as unsuitable for the purpose for which they were intended. The steel was prepd. in a 50-ton basic open-hearth furnace from molten pig 65-85%, and scrap 15-35%, with the addn. of Fe ore 3-10% of the wt. of metal, Mn ore 3.5-5.0% and raw limestone 8.5-12%. Most of the rods failed because of flaws and blowholes. A list of instructions is given aiming to eliminate blowholes, surface oxidation and other defects caused in the casting and rolling. These instructions, when followed closely, gave pos. results and led to considerable improvements in the quality of the product. Numerous tables, graphs, diagrams and micrographs are given.   S. L. Madorsky

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROKHOROJ, Yu.V.

CA

9

The effect of the temperature and the rate of pouring on the quality of medium-carbon steels. Yu. V. Prok- horov. *Stal* 4, No. 4, 38-50(1934).—A higher pouring temp. increases the mech. properties, decreases the size and no. of slag inclusions, and causes a coarser macro- structure. The best pouring temp. is 1420-61°. The rate of pouring has no effect.   H. W. Rathmann
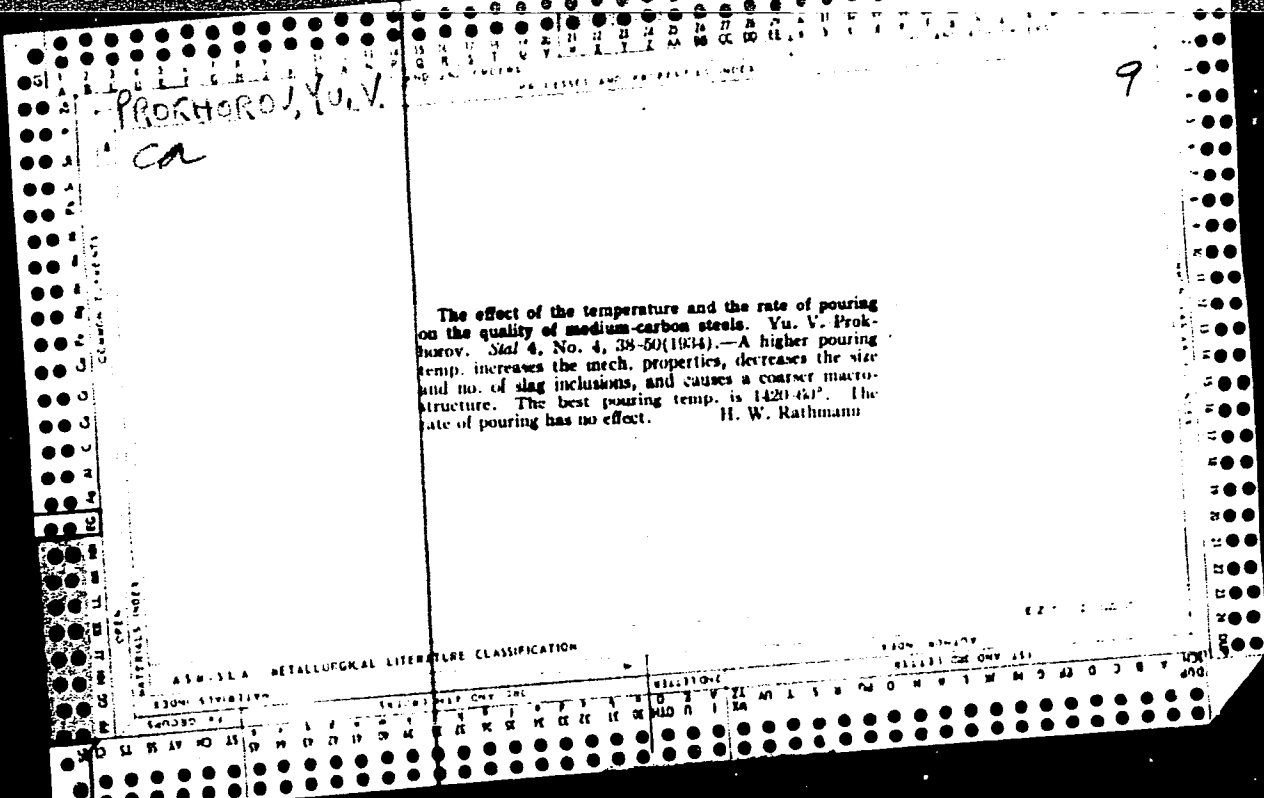
PROKHOROV, Yu.M.

Fixator for surgical therapy of trochanteric hip fractures.
Ort. travm. i protez. 23 no.10:61-63 O '62.

(MIRA 17:10)

1. Iz kafedry fakul'tetskoy khirurgii Novosibirskogo meditsinskogo
instituta (rektor- zasluzhennyy deyatel' nauki prof. G.D. Zalesskiy)
i otdeleniya travmatologii i ortopedii Novosibirskogo instituta
travmatologii i ortopedii (dir.- dotsent D.P. Metelkin). Adres
avtora: Novosibirsk, ul. Frunze, dom 33, Institut travmatologii
i ortopedii.

PROKHOROV, Yu.M. (Novosibirsk 99, ul. Lenina d. 17, kv.10); KOKORIN, V.M.;
        MUNITS, I.Ya.

Treatment of fractures of the femoral neck. Ortop., travm. i
protez. 26 no.11:39-42 N '65.   (MIRA 18:12)

1. Iz kafedry fakul'tetskoy khirurgii (zav.- dotsent M.D. Ponomarev)
Novosibirskogo meditsinskogo instituta i travmatologicheskogo
otdeleniya (zav.- I.Ya. Munits) 1-y klinicheskoy bol'nitsy
Novosibirska.

PROKHOROV, Yu.M. (Novosibirsk 99, ul. Lenina, d.17, kv.10)

Surgical treatment of trochanteric fractures of the femur.
Ortop., travm. i protez. 25 no.6:57-58 Je '64.

(MIRA 18:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - dotsent M.D.
Ponomarev) Novosibirskogo meditsinskogo instituta i otdeleniya
ortopedii i travmatologii (rukovoditel' - prof. Ya.L. TSiv'yan)
Novosibirskogo instituta travmatologii i ortopedii.

PROKHOROV, Yu.M. (Novosibirsk 99, ul. Lenina, d. 17, kv. 10);
STRUSEVICH, A.V.; SHABANOV, A.M.

Morphological examination of a medial fracture of the femoral
neck after internal fixation with a metallic pin. Ortop.,
travm. i protez. 24 no.3:23-27 Mr '63.   (MIRA 17:2)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - dotsent M.D.
Ponomarev) i kafedry patologicheskoy anatomii (zav. - prof.
V.M. Konstantinov) Novosibirskogo meditsinskogo instituta
(rektor - zasluzhennyy deyatel' nauki prof. G.D. Zalesskiy).

PROKHOROV, Yu.M.

Late results of plastic surgery of a scalping wound of the penis
and scrotum. Urologiia no.5:63-64 '62.   (MIRA 15:12)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - dotsent M.D.
Ponomarev) Novosibirskogo meditsinskogo instituta i Dovolenskoy
rayonnoy bol'nitsy Novosibirskoy oblasti.
        (PENIS--SURGERY) (SCROTUM--SURGERY) (SKIN GRAFTING)

PROKHOROV, Yu.M. (Novosibirsk 99, ul. Lenina, d.17, kv.10)

Determination of the length of the nail in treating fractures of the neck of the femur. Ortop.,travm.i protez. 23 no.5:71-73 My '62.
(MIRA 15:11)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - dotsent M.D. Ponomarev) Novosibirskogo meditsinskogo instituta (rektor - zasluzh. deyat. nauki prof. G.D. Zalesskiy) i Novosibirskogo instituta travmatologii i ortopedii (dir. - dotsent D.P. Metelkin).
(FEMUR--FRACTURE) (INTERNAL FIXATION IN FRACTURES)

PROKHOROV, Yu.S.; MALAKHOV, Ya.A.

Pneumatic pusher for charging deep holes in underground mines.
Gor.zhur. no.2:69 F '63.   (MIRA 16:2)

1. Vysokogorskoye rudoupravleniye, g. Nizhniy Tagil.
              (Blasting—Equipment and supplies)

L 30065-65   EWT(d)/EPF(n)-2/EWP(1)   Po-4/Pq-4/Pg-4/Pu-4/Pk-4/Pl-4   IJP(c) WW/BC
ACCESSION NR: AT5004334   S/2517/64/071/000/0082/0087

AUTHOR: Prokhorov, Yu. V.

TITLE: Control of a Wiener process with a bounded number of switchings   B+1

SOURCE: AN SSSR. Matematicheskiy institut. Trudy, v. 71, 1964. Sbornik rabot po
teorii veroyatnostey (Collection of papers on the theory of probability), 82-87

TOPIC TAGS: Markov process, optimal control q

ABSTRACT: The author treats two problems of control of Brownian motion by control-
ling the rate of drift under an "inertia" assumption. Given H > 0, he is to choose
x ∈ (0,H) and a > 0 so as to keep the process ξ(t) + a(t) within [-H,H], where ξ

L 30065-65
ACCESSION NR: AT5004334

their discussions of the problems treated here." Orig. art. has: 10 formulas.

ASSOCIATION: Matematicheskiy institut, AN SSSR (Mathematical Institute, AN SSSR)

SUBMITTED: 00   ENCL: 00   SUB CODE: MA

NO REF SOV: 000   OTHER: 002

PROKHOROV, YU. V.

37155. Ob usilennom zakone bol'shikh Chisel. Doklady akad. Nauk SSSR, Novaya Seriya, t. LXIX, No. 5, 1949, s. 607-10

SO: Letopis' Zhurnal'nykh Statey, Vol 7, 1949

PROKHOROV, Yu V.

Prohorov, Yu. V. On the strong law of large numbers.
Izvestiya Akad. Nauk SSSR. Ser. Mat. 14, 523-536
(1950). (Russian)
Very detailed proofs of previously announced theorems
[Doklady Akad. Nauk SSSR (N.S.) 69, 607-610 (1949);
these Rev. 11, 375]. Kolmogorov's necessary and sufficient
conditions for the weak law of large numbers are used at an
intermediate stage. In (6.4) read $\sum_{i=1}^{n}$ for $\sum_{i=1}^{n}$. The
reviewer wishes to correct an inaccuracy in his review
cited above: Kawata's condition (b) is not necessary but
the modified (b') is.   K. L. Chung (New York, N. Y.).

Source: Mathematical Reviews,   Vol   No.
                                        12   6

PROKHOROV, Yu. V.

PROKHOROV, Yu. V. -- "Limit Theorems for the Sum of Independent
Random Quantities." Sub 26 Jun 52, Mathematics Inst imeni V. A. Steklev,
Acad Sci USSR. (Dissertation for the Degree of Candidate in Physico-
mathematical Sciences).

SO: Vechernaya Moskva January-December 1952

PROKHOROV, YU. V.

USSR/Mathematics - Asymptotic Expansion May/Jun 52

"Some Refinements of Liapounoff's Theorem," Yu. V. Prokhorov

"Iz Ak Nauk, Ser Matemat" Vol XVI, No 3, pp 281-292

Shows that the familiar asymptotic expansion holds for a wide class of discrete distributions $F_\zeta(x)$. They form in a certain sense a "general case" among discrete distributions. It is shown in an example in case of some particular discrete non-lattice distributions the function $F_n(x)$ cannot be accurately approximated with accuracy over $O(\frac{1}{\sqrt{n}})$ in functions $G_n(x)$ with limited derivs. Received 18 Dec 51. Submitted by Acad A. N. Kolmogorov.

217T69

217T69

USSR/Mathematics - Statistics, Distribution   21 Apr 52

"Local Theorem for Densities," Yu. V. Prokhorov

"Dok Ak Nauk SSSR" Vol LXXXIII, No 6, pp 797-800

Considers a sequence of chance (stochastic) quanti-
ties x_i, which are independent and identically dis-
tributed; also the convergence of distributions
functions. Studies the problem concerning the con-
ditions for which the probability densities $p_n(x)$ of
the so-called normed sums converge to the density of
the ordinary normal law (Gauss'). Gives the necessary
and sufficient conditions for subject convergence. Ac-
knowledges indebtedness to Acad A. N. Kolmogorov, who
proposed this problem and who submitted the paper
29 Jan 52.

223T66

----MONOV, Yu. V.

Asymptotic behavior of binomial distribution. Usp.mat.nauk 8 no.3:135-142 My-Je '53.

(MLRA 6:7)
(Probabilities)

PROKHOROV, Yu. V.

Prohorov, Yu. V. **Probability distributions in functional spaces.** Uspehi Matem. Nauk (N.S.) 8, no. 3(55), 165–167 (1953). (Russian)

The author considers sequences of probability measures on the Banach space B of continuous functions on a compact interval. A convergent sequence is one which converges to a measure P on every set whose boundary has P measure 0. A set of measures is compact if and only if to every $\epsilon > 0$ corresponds a compact B set on which all the given measures have values $\geq 1 - \epsilon$. Using this fact, the author remarks that one can obtain simple proofs of the convergence of distributions involved in a sequence of stochastic processes to the corresponding distribution of the limit process, if the finite-dimensional distributions converge. As an example he remarks that a theorem of Donsker [Mem. Amer. Math. Soc. no. 6 (1951); these Rev. 12, 723] can be obtained in this way.   *J. L. Doob* (Urbana, Ill.).

PROKHOROV, Yu. V.

USSR/Mathematics - Theory of probability

Card 1/1 : Pub. 22 - 6/49

Authors : Prokhorov, Yu. V.

Title : About a local boundary theorem on lattice distributions

Periodical : Dok. AN SSSR 98/4, 535-538, Oct. 1, 1954

Abstract : A necessary and sufficient condition for a successive application of the so-called local boundary theorem to the problem of distribution of a sequence of incidental quantities ξ_n is derived; (the $\xi_n \leqslant K$, where K is a constant). Five references (1931-1949).

Institution : Mathematical Institute im. V. A. Steklov of the Acad. of Scs of the USSR

Presented by : Academician A. N. Kolmogorov, June 26, 1954

PROKHOROV, Yu.V.

Functional analysis methods in limit theorems of the theory of
probability. Vest.Len.un. 10 no.11: 46 N '55.   (MLRA 9:3)
            (Probabilities)

PROCHOROV, YU. V.

SUBJECT   USSR/MATHEMATICS/Theory of probability   CARD 1/1   PG – 146
AUTHOR   PROCHOROV Ju. V.
TITLE   On the sums of random variables with the same distribution.
PERIODICAL   Doklady Akad. Nauk 105, 645-647 (1955)
                 reviewed 7/1956

Let $\xi_1, \xi_2, \ldots, \xi_n, \ldots$ be a sequence of independent random variables with the same distribution function $F(x)$. Let further be $s_n = \xi_1 + \xi_2 + \ldots + \xi_n$, $F^n(x) = \Pr\{s_n < x\}$. The author proves the theorem: For arbitrary $F(x)$ there always exists a sequence $\{G_n(x)\}$ of unlimitedly divisible distribution functions for which for $n \to \infty$

$$\sup_{-\infty < x < +\infty} |F^n(x) - G_n(x)| \longrightarrow 0.$$

The proof bases on considerations of W.Doeblin (Bull.Sci.Math. 63, 23-32, 35-64 (1939)) and an earlier result of the author (Uspechi Mat.Nauk 8, (1953) No.3):
Let be $0 \leq p \leq 1$, $q = 1 - p$, then

$$\sum_{m=0}^{n} \left| C_n^m \, p^m \, q^{n-m} - \frac{(np)^m}{m!} e^{-np} \right| < k_p,$$

where k is an absolute constant.

INSTITUTION: Math. Inst. of the Academy of Sciences of the USSR.

PROKHOROV, Yu. V.

PROKHOROV, Yu. V. "Functional Methods in the Limiting Theorems of the Theory of Probability." Acad Sci USSR. Mathematics Inst imeni V. A. Steklov. Moscow, 1956. (Dissertation for the Degree of Doctor in Physicomathematical Science)

So: Knizhnaya Letopis', No.19, 1956, Moscow

ABRAMOV, A.A., redaktor; BOLTYANSKIY, V.G., redaktor; VASIL'YEV, A.M.,
redaktor; MEDVEDEV, B.V., redaktor; MYSHKIS, A.D., redaktor;
NIKOL'SKIY, S.M., otvetstvennyy redaktor; POSTNIKOV, A.G., redaktor;
PROKHOROV, Yu.V., redaktor; RYBNIKOV, K.A., redaktor; UL'YANOV, P.L.,
redaktor; USPENSKIY, V.A., redaktor; CHETAYEV, N.G., redaktor;
SHILOV, G.Ye., redaktor; SHIRSHOV, A.I., redaktor; SIMKINA, Ye.N.,
tekhnicheskiy redaktor

[Proceedings of the all-Union Mathematical Congress] Trudy tret'ego
vsesoiuznogo Matematicheskogo s"ezda; Moskva iiun'-iiul' 1956.
Moskva, Izd-vo Akademii nauk SSSR. Vol.2. [Brief summaries of
reports] Kratkoe soderzhanie obzornykh i sektsionnykh dokladov.
1956. 166 p.

(MLRA 9:9)

1. Vsesoyuznyy matematicheskiy s"yezd. 3, Moscow, 1956.
    (Mathematics)

ABRAMOV, A.A., redaktor; BOLTYANSKIY, V.G., redaktor; VASIL'YEV, A.M.,
    redaktor; MEDVEDEV, B.V., redaktor; MYSHKIS, A.D., redaktor;
    NIKOL'SKIY, S.M., otvetstvennyy redaktor; POSTNIKOV, A.G., redaktor;
    PROKHOROV, Yu.V., redaktor; RYBNIKOV, K.A., redaktor; UL'YANOV, P.L.,
    redaktor; USPENSKIY, V.A., redaktor; CHETAYEV, N.G., redaktor;
    SHILOV, G.Ye., redaktor; SHIRSHOV, A.I., redaktor; SIMKINA, Ye.N.,
    tekhnicheskikh redaktor

[Proceedings of the third All-Union mathematical congress] Trudy
tret'ego vsesoiuznogo matematicheskogo s"ezda. Moskva, Izd-vo
Akademii nauk SSSR. Vol.1. [Reports of the sections] Sektsionnye
doklady. 1956. 236 p.
                                                    (MLRA 9:7)

1. Vsesoyuznyy matematicheskiy s"yezd.3rd Moscow, 1956.
    (Mathematics)

Prohorov, Yo. V.

Prohorov, Yu. V. Convergence of random processes and **1 -FW**
limit theorems in probability theory. Teor. Veroyat-
nost. i Primenen. 1 (1956), 177–238. (Russian. Eng-
lish summary)

The author applies a metrization of the space of com-
plete finite measures on an arbitrary complete separable
metric space $\mathfrak{R}$ to the study of stochastic process measures.
(It is supposed throughout that the closed subsets of $\mathfrak{R}$
are measurable, and that the measure of a measurable set
is the supremum of the measures of its closed subsets.)
Only a sampling of his many results and applications can
be given here. Let μ_1 be a measure on $\mathfrak{R}$, and let F^e be the
e neighborhood of F. Consider the infimum of the values of
e for which both the inequality $\mu_1(F) < \mu_2(F^e) + e$ and this
inequality with μ_1, μ_2 interchanged are valid for all closed
sets F. The author shows that this number defines a
distance between μ_1 and μ_2 under which the space of
measures becomes a complete separable metric space.
Convergence in this space is the usual weak (vague)
convergence of measures, the standard convergence of
distributions if $\mathfrak{R}$ is a Euclidean space and the measures
are probability measures. It is shown that a family of
measures is compact if and only if the measures are
uniformly bounded and are uniformly small outside a
sufficiently large compact set.

Prohorov, Yu. V.

The purpose of the paper is to apply the above results to stochastic process measures, particularly those for which the sample functions are almost all either continuous or continuous except for discontinuities of the first kind. For this purpose the space $\Re$ is usually either the space $C[0, 1]$ of continuous functions on $[0, 1]$, with the metric of uniform convergence, or the space $D[0, 1]$ of functions continuous on $[0, 1]$ except for discontinuities of the first kind, for which a suitable metric is defined. However necessary and sufficient conditions for compactness of a family of measures on a Hilbert space are also found, in terms of the characteristic functionals of the distributions.

Necessary and sufficient conditions for compactness of families of probability measures on $C[0, 1]$ and $D[0, 1]$ are found. In the case of $C[0, 1]$, these are simply that the probability of the set of elements x in $C[0, 1]$ with $|x(0)| > M$ should go to 0 uniformly with $1/M$, and that the oscillation of a function in $C[0, 1]$ in an interval of length δ converges to 0 in probability, uniformly, when $\delta \to 0$. In particular, if Kolmogorov's condition

$$M|x(t_2) - x(t_1)|^\alpha \leq K|t_2 - t_1|^\alpha$$

Prohorov, Yu. V.

(where the left side is the indicated expectation, and a, K, $\alpha - 1$ are strictly positive) is satisfied for every member of a sequence of probability measures on $C[0, 1]$, the constants being the same throughout, then convergence of the sequence of finite dimensional distributions implies that of the sequence of measures on $C[0, 1]$.

1-FW

5

For each n, let $\xi_{n,1}, \cdots, \xi_{n,k}$ be mutually independent random variables, and suppose that

$$0 = t_{n,0} < \cdots < t_{n,k_n} = 1.$$

Then the plane points $(t_{n,k}, \Sigma_{j=1}^{k} \xi_{n,j})$ determine, for each n, a function in $C[0, 1]$ by linear interpolation, a function in $D[0, 1]$ whose graph is made up of successive horizontal line segments from the given points. Thus, for each n, the random variables induce a probability measure P_n on $C[0, 1]$ and a probability measure P_n' on $D[0, 1]$. If the random variables have, for each n, mean 0 and finite variances, and if $t_{n,k}$ is the variance of $\Sigma_{j=1}^{k} \xi_{n,j}$, it is shown that the sequence of measures on $C[0, 1]$ converges to the Brownian motion (Wiener) measure on $C[0, 1]$ if the and only if Lindeberg condition is satisfied. This result generalizes one of Donsker's [Mem. Amer. Math. Soc. 6 (1951); MR 12, 723]. If the summands are individually negligible as $n \to \infty$, if P is the distribution on $D[0, 1]$ corresponding to a process with independent increments and no fixed discontinuities, then P_n' converges to P if and only if there is convergence of the finite dimensional distributions

3
4

Pnohorov, Yu. V.

and if certain other specified conditions are satisfied. If the limit process in question has stationary increments, and if $l_{n,k}=k/k_n$, these conditions reduce to those obtained by Skorohod [Dokl. Akad. Nauk SSSR (N.S.) 104 (1955), 364–367; MR 17, 1096]. Let a, b be functions on [0, 1], with $a<b$, $a(0)<0<b(0)$. Suppose that the above summands have zero means, that L_n is the sum of their third order absolute moments, and that $l_{n,k}$ is the variance of $\sum_{j=1}^{k} \xi_{n,j}$. Let H be the subset of $C[0, 1]$ with $a(t)\leq x(t)\leq b(t)$ on [0, 1]. Then it is shown that

$$|P_n(H)-W(H)|\leq e(L_n)L_n^{1/4}\log^2 L_n,$$

where the first factor on the right goes to 0 with its argument. This result generalizes and strengthens one due to Chung [Trans. Amer. Math. Soc. 64 (1948), 205–233; MR 10, 132].

Some of the results have been discussed by the author in earlier papers [Uspehi Mat. Nauk (N.S.) 8 (1953), no. 3(55), 165–167; and (with Kolmogorov), Bericht über die Tagung Wahrscheinlichkeitsrechnung Math. Statistik, Berlin, 1954, pp. 113–126; MR 15, 237]. For another approach to the same problem, involving less stress on metric spaces, see the paper reviewed above.

J. L. Doob (Geneva).

PROKHOROV, Yu.V. (Moscow)

Characteristization of a class of distributions by the distribution of certain statistics. Teor. veroiat. i ee prim. 10 no.3: 479-487 '65.   (MIRA 18:9)

1. Matematicheskiy institut imeni Steklova AN SSSR.

RODIONOV, D.A.; PROKHOROV, Yu.V.; ZOLOTAREV, V.M.

Method of averaged samples in geochemical prospecting. Geokhimiia
no.6:747-756 Je '65.   (MIRA 18:7)

1. Institute of Mineralogy, Geochemistry and Crystal Chemistry of
Rare Elements, Academy of Sciences, U.S.S.R., Moscow.

PROKHOROV, Yu.V.

    Bibliography. Teor. veroiat. i ee prim. 10 no.1:204-206 '65.
                                                    (MIRA 18:3)

Shishkin, Yu.I.

Logarithmic normal distribution in congeries.
Teor. Veroiat. i ee prim.

1. Matematicheskiy institut imeni Steklova AN SSSR,

PROKHOROV, Yu.V.

Academician Linnik's papers on the theory of probability and mathematical statistics; on his 50th birthday. Teor. veroiat. i ee prim. 10 no.1:117-129 '65.

(MIRA 18:3)

PROKHOROV, Yu.V.

Control of a Wiener process with a limited number of switchings.
Trudy Mat. Inst. 71:82-87 '64.   (MIRA 18:2)

VISKOV, O.V.; PROKHOROV, Yu.V. (Moscow)

Probability of a loss of calls in heavy traffic. Teor. veroiat.
i ee prim. 9 no.1:99-104 '64.   (MIRA 17:4)

RODIONOV, Dmitriy Alekseyevich; PROKHOROV, Yu.V., doktor fiz.-
matem. nauk, prof., otv. red.; AZIZYAN, M.I., red. izd-va;
ZUDINA, V.I., tekhn. red.

[Functions of the distribution of the element and mineral
content in igneous rocks] Funktsii raspredeleniia soder-
zhanii elementov i mineralov v izverzhennykh gornykh poro-
dakh. Moskva, Izd-vo "Nauka," 1964. 100 p.
(MIRA 17:3)

ABSTRACT: Exact solutions of many problems in massive service are often very
complex. However, by proper choice of a certain parameter, one may obtain trans-
parent asymptotic formulas under the assumption that this parameter tends to zero
(or infinity). An example of this is the behavior of a queue with large loads.
The authors give another example of this type. They show that under broad assump-
tions for heavy traffic entering a system with rejections and not very rigid
requirements on the quality of service, the probability of loss of a call can be
computed in the first approximation by Erlang's formula, i.e., as if the traffic
were Poisson. On the other hand, such computation can lead to serious errors if
the probability of loss of a call must be very small, i.e., if the quality of
Card   1/2

ACCESSION NR: AP4016035

service must be high. Orig. art. has: 35 formulas.

ASSOCIATION: none

SUBMITTED: 18Jun63   DATE ACQ: 19Mar64   ENCL: 00

SUB CODE: MM   NO REF SOV: 002   OTHER: 003

Card 2/2

PROKHOROV, Yu.V.

"The Method of Characteristic Functionals."

[Moscow State University imeni M.V.Lomonosov]

report to be presented 27 July 1960 at the 4th Symposium on Mathematics Statistics
and Probability - Berkeley, California, 20 Jun- 30 Jul 1960.

PROKHOROV, Yu.V.; FISH, M.

Characteristic property of a normal distribution in a Hilbert space.
Teor.veroiat. i ee prim. 2 no.4:475-477 '57.   (MIRA 12:3)
        (Distribution (Probability theory))

PROKHOROV, Yu.V.

"Probability theory and statistical analysis (elements)"
[in French] by R.Ballieu. Reviewed by IU.V.Prokhorov.
Teor.veroiat. i ee prim. 3 no.3:359 '58.   (MIRA 12:4)
          (Probabilities)   (Ballieu, R.)

PROKHOROV, Yu.V.

"Probability theory" [in German] by H.Richter. Reviewed by
IU.V.Prokhorov. Teor.veroiat. i ee prim. 3 no.3:359-360
'58.   (MIRA 12:4)
            (Probabilities)   (Richter, H.)

16(1),16(2)

AUTHOR: Prokhorov,Yu.V.   SOV/52-4-2-7/13

TITLE: An Extremal Problem in Probability Theory

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1959, Vol 4, Nr 2, pp 211-214 (USSR)

ABSTRACT: Let n be a natural number, c and σ^2 be positive numbers. Let $K(n,c,\sigma^2)$ denote the class of those random variables ξ which can be represented as sums $\xi = \xi_1 + \xi_2 + \ldots + \xi_n$ of independent random variables satisfying the conditions

$$M\xi_k = 0, \quad |\xi_k| \leqslant c, \quad 1 \leqslant k \leqslant n, \quad \sum_{k=1}^{n} D\xi_k = \sigma^2 .$$

Theorem 1: For every $\xi \in K(n,c,\sigma^2)$ we have

$$P\{\xi > x\} \leqslant \exp\left\{ -\frac{x}{2c} \text{ Arsh } \frac{xc}{2\sigma^2} \right\} .$$

Let the magnitudes ξ_k, $1 \leqslant k \leqslant n$ have the distributions

$$P\{\xi_k = 0\} = 1 - \frac{\sigma^2}{nc^2}, \quad P\{\xi_k = \pm c\} = \frac{\sigma^2}{2nc^2} .$$

Card 1/2

An Extremal Problem in Probability Theory   SOV/52-4-2-7/13

Their sum $\widehat{\xi}$ belongs to $K(n, c, \sigma^2)$. Then it holds

Theorem 2: For $2x \geqslant c$ or $\sigma^2 \geqslant 2c^2$ we have

$$P\left\{\widehat{\xi} \geqslant x\right\} \geqslant \frac{1}{160} \exp\left\{- 16 \frac{x}{c} \operatorname{Arsh}\left(16 \cdot \frac{xc}{\sigma^2}\right)\right\} - \frac{1}{2}e^{-n\Gamma},$$

where $\Gamma = \log 2 - \frac{1}{2}$.

The author thanks A.N.Kolmogorov for advices.
There are 3 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR
(Mathematical Institute imeni V.A.Steklov, AS USSR)

SUBMITTED: January 9, 1959

Card 2/2

16(1),16(2)

AUTHOR: Prokhorov,Yu.V.   SOV/52-4-2-8/13

TITLE: Some Remarks on the Strong Law of Large Numbers

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1959, Vol 4, Nr 2,
            pp 215-220 (USSR)

ABSTRACT: Theorem: In order that the sequence $\{\zeta_n\}$ of independent random
            variables, for which $\zeta_n = 0\left(\dfrac{n}{\ln \ln n}\right)$, satisfies the strong law
            of large numbers it is necessary and sufficient that

$$\sum_{r=1}^{\infty} \exp\left\{-\epsilon \mid D \chi_r\right\} < \infty$$

holds for every $\epsilon > 0$, where $2^r \chi_r$ denotes the sum of the ζ_n with
$2^r < n \leqslant 2^{r+1}$.

The given restriction of increase is definitive because if
$\dfrac{n}{\ln \ln n}$ is replaced by a quicker increasing function $\varphi(n)$, one
can construct two sequences both satisfying the new condition
$\zeta_n = 0(\varphi(n))$, one of which satisfies the strong law of large
number and the other does not.

Card 1/2

Some Remarks on the Strong Law of Large Numbers   SOV/52-4-2-8/13

In §2 the theorem announced in [Ref 1] is proved which treats the applicability of the strong law to sequences assuming only three values.

There are 4 references, 3 of which are Soviet, and 1 German.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR (Mathematical Institute imeni V.A.Steklov, AS USSR)

SUBMITTED: February 3, 1959

Card 2/2

ABSTRACT: (1) R. Ballieu, "Calcul des probabilities et analyse
statistique (éléments)", Louvain, Libraire Universitaire,
1957, 225 pages, 1 lithograph (French). A short description
of the book is given. The book is recommended as a good
abbreviated course designed for people studying statistics.
(2) H. Richter, "Wahrscheinlichkeitstheorie", Berlin, Springer,
1956, 435 pages (German). The book describes very thoroughly
the generally known theories of probability and its analysis.
The most interesting problems appear to be the following:
1) The process of extension of a measure m expressed in
terms of "replacement" with distance which is equal to the
symmetrical difference between the parameters A and B :

$$\rho(A, B) = m\{(A \setminus B) \cup (B \setminus A)\}.$$ (2) The proof of the Radon-
Nikodym theorem, based on the functional:

$$q(h) = \| h \|^{-1} . \int h d\mu'$$. (3) The relationship between a

Card 1/2 distribution and a characteristic function can be expressed

as:

$$\int C(x) dF_\xi (x) = \int c(t) f_\xi (t) dt \quad , \quad \text{where}$$

$C(x) = \int e^{itx} c(t) dt$ is a Fourier integral, F_ξ and f_ξ - distribution and characteristic function of random value ξ. The book is written for the advanced student or worker in the field of statistical analysis.

Card 2/2

USCOMM-DC-61128

Name: PROKHOROV, Yuriy Vasil'yevich

Dissertation: Functional Methods in the Limit Theorems of the Law of Probability

Degree: Doc Phys-Math Sci

Affiliation: /not indicated_7

Defense Date, Place: 17 May 56, Council of Math Inst imeni Steklov, Acad Sci USSR

Certification Date: 17 Nov 56

Source: BMVO 6/57

43

NIKOL'SKIY, S.M., otv.red.; ABRAMOV, A.A., red.; BOLTYANSKIY, V.G., red.;
VASIL'YEV, A.M., red.; MEDVEDEV, B.V., red.; MYSHKIS, A.D., red.;
POSTNIKOV, A.G., red.; PROKHOROV, Yu.V., red.; RYBNIKOV, K.A.,
red.; UL'YANOV, P.L., red.; USPENSKIY, V.A., red.; CHETAYEV, N.G.,
red.; SHILOV, G.Ye., red.; SHIRSHOV, A.I., red.; GUSEVA, I.N.,
tekhn.red.

[Proceedings of the Third All-Union Mathematical Congress] Trudy
tret'ego Vsesoiuznogo matematicheskogo s"ezda. Vol.3 [Synoptic
papers] Obzornye doklady. Moskva, Izd-vo Akad.nauk SSSR. 1958. 596 p.
(MIRA 12:2)

1. Vsesoyuznyy matematicheskiy s"yezd. 3d, Moscow, 1956.
(Mathematics--Congresses)

SOV/52-2-4-6/7

AUTHORS: Prokhorov, Yu.V. (Moscow), and Fish, M. (Warsaw).

TITLE: A Characterization of Normal Distributions in Hilbert Space. (Kharakteristicheskoye svoystvo normal'nogo raspredeleniya v gil'bertovom prostranstve.)

PERIODICAL: Teoriya Veroyatnostey i yeye Primeneniya, 1957, Vol.II, Nr.4, pp.475-477. (USSR)

ABSTRACT: The object of this note is to extend Polya's theorem (Ref.2) to the case of random elements in a Hilbert space. By random quantities with values from a real separable Hilbert space are understood measurable mappings of the fundamental probability field into the Hilbert space. The extension achieved is as follows: Let

$$\xi^{(1)} \sim \xi^{(2)} \sim \xi^{(3)} \qquad \text{(Eq.2)}$$

be random elements in a Hilbert space H subject to the conditions:

(α) $M\|\xi\|^2 < \infty$,
(β) $M(f, \xi)^2 > 0$ for any $f \in H$, $f \neq \theta$
(γ) $M\xi = \theta$,

Card 1/2   where θ is the null element in H,

A Characterization of Normal Distributions in Hilbert Space.

SOV/52-2-4-6/7

(δ) $\xi^{(1)}$ and $\zeta^{(2)}$ are independent

(ε) $\xi^{(1)} + \xi^{(2)} \sim A\xi^{(3)}$,

where A is a linear, bounded self-conjugate positive operator in H. Then the probability distribution for each of the random quantities $\xi^{(i)}$ is normal, and $A = \sqrt{2}\,E$, where E is the unit operator.

There are 4 references, of which 1 is Soviet, 1 German and 2 French.

SUBMITTED: March 25, 1957.

1. Mathematics   2. Random distribution   3. Operators
(Mathematics)

Card 2/2

SOV/52-3-2-3/10

AUTHOR: Prokhorov, Yu. V.

TITLE: Strong Stability of Sums and Infinitely Divisible Laws
(Usilennaya ustoychivost' summ i neogranichenno-delimyye
raspredeleniya)

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1958, Vol III,
Nr 2, pp 153-165 (USSR)

ABSTRACT: A certain new condition   (0.2) for the strong law of
large numbers (SLLN) can be applied to a sequence of indepen-
dent symmetrical random variables   ,(0.1). This condition
cannot be considered as final because it contains the probab-
ility of error. A better expression is derived and taken as
the final formula   (0.3). The question remains whether
probability of error can be found for this new condition. To
solve this, it is necessary to apply the theorem that can be
stated as follows: let   .(0.4) be a series of infinitely
small random variables and Eq.(0.5) a distribution of means
of r numbers of the sequence   .(0.1). Therefore the dis-
tribution   .(0.1) with a given P_r will satisfy SLLN   only

Card 1/3

SOV/52-3-2-3/10

Strong Stability of Sums and Infinitely Divisible Laws

on the condition   .(0.6). When the Chebyshev function is applied to   .(0.6) and consequently to   .(0.2), the expression (0.8)(0.9) is formed. However, some limitations of (0.8) are necessary in order to satisfy (0.6) or (0.2), such as (0.3).   In particular, the expression (0.10) can be considered as a typical example of the probability (P) of occurrences in a number of trials on condition that (6.1) and (6.2) are satisfied. Then the SLLN can be implied and the formula (6.3) defined. In order to reduce the general case into the case of the symmetrically distributed random variables, the condition (1.2) should be satisfied. A theorem could be formed by stating that the sequence (1.1) of the random variables could be implied to SLLN if the expression (1.3) is satisfied. That the above statement does not contradict the general case can be seen from the particular case of . .(1.4) and (1.5). In the case of infinitely divisible random variables, the SLLN can be implied if the conditions (2.1) to (2.4) are taken into account. The relationship of the moments in this case can be defined by the expression (3.1) with the conditions (3.2) and (3.3) to

Card 2/3

Strong Stability of Sums and Infinitely Divisible Laws   SOV/52-3-2-3/10

(3.5). The satisfactory conditions for SLLN can also be obtained if the sequence (0.1) is limited by (1.5). Then the expression (4.1 m) will also be sufficient for LSSN.

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova AN SSSR i Moskovskiy Gosudarstvennyy universitet (Mathematics Institute im. V. A. Steklov of the AS USSR, and Moscow State University)

SUBMITTED: February 15, 1958.

Card 3/3

PROKHOROV, Yu.V. (Moscow).

Strong stability of sums and infinitely divisible distributions
[with summary in English]. Teor. veroiat. i ee prim. 3 no.2:153-
165 '58.   (MIRA 11:6)
                          (Probabilities)

PROKHOROV, Yu. V.

"Strong Stability of Sums and Infinitely Divisible Distributions."

paper submitted at International Congress Mathematicians, Edinburgh, 14 - 21 Aug
58.

PROKHOROV Yu. V.

Transactions of the Sixth Conference (Cont.)   SOV/6371

VOROB'YEV, N.N., red.; GNEDENKO, B.V., red.; DOBRUSHIN, R.L., red.;
DYNKIN, Ye.B., red.; KOLMOGOROV, A.N., red.; KUBILYUS, I.P.
[Kubilius, I.P.], red.; LINNIK, Yu.V., red.; PROKHOROV, Yu.V.,
red.; SMIRNOV, N.V., red.; STATULYAVICHYUS, V.A.[Statuliavicius,
V.A.], red.; YAGLOM, A.M., red.; MELINENE, D., red.; PAKERITE,O.,
tekhn. red.

[Transactions of the Sixth Conference on Probability Theory and
Mathematical Statistics, and of the Colloquy on Distributions
in Infinite-Dimensional Spaces]Trudy 6 Vsesoiuznogo soveshcha-
niia po teorii veroiatnostei i matematicheskoi statistike i kol-
lokviuma po raspredeleniiam v beskonechnomernykh prostranstvakh.
Vilnius, Palanga, 1960. Vil'nius, Gos.izd-vo polit. i nauchn.
lit-ry Litovskoi SSR, 1962. 493 p.   (MIRA 15:12)

1. Vsesoyuznoye soveshchaniye po teorii veroyatnostey i matema-
ticheskoy statistike i kollokviuma po raspredeleniyam v besko-
nechnomernykh prostranstvakh. 6th, Vilnius, Palanga, 1960.
    (Probabilities—Congresses) (Mathematical statistics—Congresses)
        (Distribution (Probability theory))—Congresses)

PROKHOROV, Yu.V.

Mathematical Reviews
Vol. 15 No. 4
Feb. 1954
Analysis

Prohorov, Yu. V. Asymptotic behavior of the binomial distribution. Uspehi Mat. Nauk ... 8, no. ...(...), 135–142 (1953). (Russian)

Let

$$B(x) = \binom{n}{x} p^x \dots$$

and

$$H_1(x) = 0, \quad x \dots 0; \quad H_1 \dots$$

$$H_2(x) = (2\pi npq)^{\dots} e^{\dots};$$

$$H_3(x) = 0, \quad x < 0; \quad H_3(x) = \dots e^{\dots}, \quad x \geq 0;$$

$$\rho_k(p, n) = \sum |B(x) - H_k(x)| \quad (k = 1, 2, 3),$$

$$\lambda_1 = \frac{2}{\sqrt{(2\pi)}} e^{-1/2}, \quad \lambda_2 = \frac{1}{3\sqrt{(2\pi)}}(1 + 4e^{-3/2}),$$

$$\lambda = \lambda_1^{1/3} \lambda_2^{2/3}.$$

The author proves the following theorems.

Theorem 1: As $n \to \infty$,

$$\sup \min \rho_1(p, n) = \lambda n^{-1/4} + O(n^{\dots}$$

Theorem 2: $\rho_2(p, n) = \lambda_2 p + pO(\min(1, (np)^{-1/2})).$

Theorem 3 ...

PROKHOROV, Yuriy V.

"On limit theorems"
To be presented at the IMU International Congress of
Mathematicians 1962 - Stockholm, Sweden, 15-22 Aug 62

Mathematics Insti. imeni V. A. Steklov, Acad. of Sci. USSR (1962 position)

PROKHOROV, Yu.V.; SAZONOV, V.V. (Moscow)

Some results associa: d with Bochner's theorem. Teor. veroiat. i
ee prim. 6 no.1:87-93 '61.   (MIRA 14:6)
                        (Probabilities)

PROKHOROV, Yu.V.

Random measures on compact spaces. Dokl.AN SSSR 138 no.1: 53-55
My-Je '61.   (MIRA 14:4)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno
akademikom A.N.Kolmogorovym.

(Spaces, Generalized)   (Topology)

GNEDENKO, B.V.; KOLMOGOROV, A.N.; PROKHOROV, Yu,V.; SARMANOV, O.V.

Work of N.V. Smirnov in mathematical statistics; on his 60th
birthday. Teor. veroiat. i ee prim. 5 no. 4:436-440 '60.
(MIRA 13:12)
(Smirnov, Nikolai Vasil'evich, 1900-)

PROKHOROV, Yu.V. (Moskva)

Uniform limit theorem of A.N. Kolmogorov. Teor. verolat. i ee
prim. 5 no.1:103-113 '60.   (MIRA 13:10)
        (Limit theorems (Probability theory))

S/052/60/005/004/003/007
C 111/ C 333

AUTHORS: Gnedenko, B. V., Kolmogorov, A. N., Prokhorov, Yu. V.,
    Sarmanov, O. V.

TITLE: On the Work of N. V. Smirnov in Mathematical Statistics
    (On the Occasion of his 60-th Birthday)

TEXT: On October 17, 1960 Nikolay Vasil'yevich Smirnov, Corresponding
Member of the Academy of Sciences USSR, Professor, had his 60-th
birthday.

The first group of his papers is devoted to non-parametric problems.
He considers: the distribution of the criterion ω^2 of Mises, the
deviations from the empiric curves, "criterion of Smirnov".

The second group deals with the properties of the terms of the
variation series. For papers of this group N. V. Smirnov obtained
the Stalin prize. The third group is devoted to probability theory.

The authors call special attention to the difficulty of the considered
problems and the elegance of the solutions.
Card 1/2