AUTHOR: Mamaladze, Yu. G.

TITLE: On similarity criteria for critical phenomena in Helium-II.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut fiziki. Trudy, v. 7, 1960,
            67-69 (in Russian).

TEXT: R. P. Feynman's explanation of the physical essence of the critical speed
V_c (In Progr. in Low-Temp. Phys., v. I, Amsterdam, 1955, 17) evokes the need for a
review of the problem of the Reynolds number corresponding thereto (Hollis-
Hallett, A. C., et al, Roy. Soc., Proc., v. A210, 1952, 404; Canad. J. of Phys., v. 34,
1956, 668; Ann. of Phys., v. 3, 1958, 320). Using Feynman's concept that the regime
of a flow in the superfluid component is determined by the velocity V, the density ρ_s,
the vortex energy per unit length ε, its circulation Γ, and its characteristic dimen-
sion ℓ, the vortex Reynolds number assumes the expression

$$R_{vortex} = \frac{\rho_s V^2 \ell}{\rho_s v_{vortex} V}$$

where $\rho_s v_{vortex}$ is the work of vortex formation per unit area at unit velocity.
Thus the Reynolds number is twice the ratio of the kinetic energy of a volume with

Card 1/2

On the measurement of the logarithmic ...   S/ ...

$$\log \sin (\pi \tau_0 / T) = \log \sin (\pi \tau_1 / T) + \delta n / 2.$$

If the left-hand term is plotted against n, the logarithmic damping decrement is simply twice the slope of that line. The photomultipliers used in the experiment are of the ФЭУ-25(FEU-25) type, the counting device is of the ПС-10000 (PS-10000) type, and a quartz-stabilized sonic generator is employed. The entry of the amplifier, the chronometer-counter, and the sonic generator are shown. The first pulse produced by the reason of the light pencil through the photomultipliers opens an access to standard-frequency signals into the device. The next transit past the other photomultiplier provides a cutoff. The known generator frequency and the measured number of transit signals help to determine the time interval between two signals. The scatter of the time interval actually encountered does not exceed ± 0.001 sec. No systematic drift was noted. Calibration measurements of the viscosity of water and of the normal component of liquid He^3 were fully consistent with data cited in the literature. There are, however, 1 Soviet reference (Andronikashvili, E. L., ZhETF, v. 18, 1948, 429) and a Russian translation of Elmore, W., and Sands, M., Electronics in nuclear physics).

ASSOCIATION: None given.

Card 2/2

S 4

AUTHORS: Andronikashvili, E. L., Mamaladze, Yu.G., Tsakadze, D.S.

TITLE: On the measurement of the logarithmic damping decrement.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut fiziki, Trudy, v.
59-66. (In Georgian, with 2-1/2 page Russian résumé.)

TEXT: A difficult problem has arisen in connection with the hydrodynamics
superfluid media, namely, the determination of the damping of torsional oscilla
of a disk superimposed on its uniform rotation about its own axis. A method
posed to tie the oscillatory amplitude to the time elapsed between the transit
pencil of light through two fixed points; the method is equally applicable to a
urement of the damping decrement in oscillations of any other type. A
system is attached to the usual rotary suspension system of the experiment
the reflected pencils of light are picked up by two photomultipliers located
rically with respect to the equilibrium position. The transit time elapsed be
the two photomultipliers is measured electronically; the time increases as
tion is damped, and the logarithmic damping decrement is found from the
ship between the transit times, (τ), the number of half periods, (n),
latory period f which, in simplified form (for a symmetrical arrangement
photomultipliers and weak damping) reads:

Card 1/2

MAMALADZE, Yu. G., MATINYAN, S. G., MESOYED, K. B., and TSAKADZE, D. S. (Tbilisi)

"On the Dynamics of an Oscillatory Motion in Perfect Rotating Fluids - Theory and Experiment."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

SOV/53-67-4-1/?

24(0)
AUTHOR: Chentsov, R.

TITLE: The Fifth All-Union Conference on the Physics of Low
             Temperatures (5-ye Vsesoyuznoye soveshchaniye po fizike nizkikh
             temperatur)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 745-750
             (USSR)

ABSTRACT: This Conference took place from October 27 to November 1 at
             Tbilisi; it was organized by the Otdeleniye fiziko-matemati-
             cheskikh nauk Akademii nauk SSSR (Department of Physico-
             mathematical Sciences of the Academy of Sciences, USSR),
             the Akademiya nauk Gruzinskoy SSR (academy of Sciences,
             Gruzinskaya SSR), and the Tbilisskiy gosudarstvennyy uni-
             versitet im. Stalina (Tbilisi State University imeni Stalin).
             The Conference was attended by about 300 specialists from
             Tbilisi, Moscow, Khar'kov, Kiyev, Leningrad, Sverdlovsk and
             other cities as well as by a number of young Chinese scientists
             at present working in the USSR. About 50 lectures were deliver-
             ed which were divided according to research fields. - I. Liquid
             Helium. Reports were delivered by the researchers of the Tem-
             Laboratoriya nizkikh temperatur TGU (Laboratory for Low Tem-
             peratures of Tbilisi State University) under the supervision
             of E. L. Androinkashvili; D. S. Tsakadze, Yu. G. Mamaladze
             and S. G. Matinyan spoke about the investigation of the damp-
             ing of rotational oscillation of a single disk in He II in
             dependence on the rotation rate. - A. Gantserlidze spoke
             about the influence exercised by the state of the disk sur-
             face on critical rate and on the damping of its oscillations
             in the transcritical range. V. P. Peshkov (IFP AN SSSR -
             Institute for Physical Problems AS USSR) spoke about further
             superfluid helium (discovered by himself) in a heat flow.
             This boundary characterizes the density- and temperature jump.
             Kuang, Wei-yen, V. N. Zinov'yeva and T. P. Peshkov spoke about
             investigations at expressly low temperatures (down to 0.5 K)
             which were attained by the method of the evacuation of

────── Card 1/11

             He³-vapors. Kuang, Wei-yen investigated in the interval
             0.57 - 2.07° a tꞁe phenomenon of the temperature jump (dis-
             covered by P. L. Kapitsa in 1941) on the boundary of a solid
             (in this case Cu) by means of He II; for the thermal resistance
             not the Tᵒ-law but a Tᵒ-law holds were r=2.5±0.1. Zinov'yeva and
             Peshkov investigated, among other things, also the phase

             diagram of He³ dissolved in He³ (20 - 69%). V. L. Ginzburg
             (FIAN) gave a report on the phenomenological theory of He II
             in the region of the λ-point in consideration of quantum
             effects (the theory was developed by himself and by L. P.
             Pitayevskiy). I. M. Lerlikman (IAE AN SSSR - Institute for
             Atomic Energy, AS USSR) delivered a short report on the
             theory of phase transition in liquid He³. I. M. Lifshits
             and D. C. Sanikidze (KhFTI AN USSR - Khar'kov Physico-techni-
             cal Institute AS UkrSSR) investigated the melting of solid

             He³ on the basis of Landau's theory of the Fermi-fluid and
             found that melting pressure as a function of temperature has
             a minimum at 0.55°K (Pomeranchuk effect). See comprehensive
             discussion was held under the supervision of P. L. Kapitsa. -

────── Card 2/11

On the Nature of the Field Function.

56-5-38/55

ther this special position of the electromagnetic field is recog-
nized or the following concession is made:The present theory has
not yet been able to find an adequate apparatus for expressing the
particularities of the really existing wave fields by imposing ad-
ditional conditions upon the field quantities of the fields stan-
ding in interaction The first conclusion can not be accepted,becau-
se it does not provide for any way out of the dead end of the pre-
sent mesonic theory.The second conclusion could serve as basis for
an attempted generalization of the concept of the wave function.
In other words,such conditions must be obtained which must be im-
posed on the relevant field functions in order to realize the one
or the other interaction.Thus it would be possible to make the hy-
pothetic presupposition that the field function of the wave field
must be a hypercomplex number,in particular a quaternion.The paper
under review outlines these lines of thought in somewhat greater
detail.
(No reproductions).

ASSOCIATION Institute for Physics,Academy of Sciences of the Georgian SSR.
PRESENTED BY
SUBMITTED   5.11.1956
AVAILABLE   Library of Congress.
Card 2/2

MAMALADZE, Yu. G.

AUTHOR   MARIANASHVILI, M.M.,CHAVCHANIDZE, V.V.,MAMALADZE, Yu.G.,   56-5-38/55

TITLE   On the Nature of the Field Function.
(O prirode polevoy funktsii -Russian)

ABSTRACT   The neutrality or the state of being charged of a given wave field,
i.e. the neutrality or the state of being charged of the particles
corresponding to it,are closely connected with the character of the
field functions (be they real or complex).At the present stage of
investigations it is not possible to determine from the form of the
field functions, i.e. from their algebraic structure,whether a given
wave function enters into interaction with any nonelectromagnetic
field.Thus,at the present stage of theory,the fact of the existence
of a nonelectromagnetic interaction between the given alternating
fields does not impose any conditions on the character of the rele-
vant field quantities.But in the interaction with the electromag-
netic field there exists such a condition (i.e. the field function
is then complex).The authors of the paper under review use as an
example a spinor field that can be characterized by a four-compo-
nent spinor.The interaction with a mesonic field is introduced (con-
trary to the interaction with the electromagnetic field) in such a
way that no conditions are imposed on the field function of the spi-
nor field (or of any other field).This,however, means that in pre-
sent theory of the wave fields the electromagnetic field occupies
a special position.From this fact two conclusions can be drawn:Ei-

Card 1/2

ANDRONIKASHVILI, Elevter Luarsabovich; GAMTSEMLIDZE, Georgiy
Aristoyevich; KANCHELI, Otar Arkhipovich; MAMALADZE, Yuriy
Georgiyevich; KUZNETSOVA, Ye.B., red.; KRYUCHKOVA, V.N.,
tekhn. red.

[Laboratory works on physics; mechanics, molecular physics,
electricity, and magnetism] Laboratornye raboty po fizike;
mekhanika, molekuliarnaia fizika, elektrichestvo i magne-
tizm. Pod red. E.L.Andronikashvili. Moskva, Gos. izd-vo
fiziko-matem. lit-ry, 1961. 182 p.   (MIRA 15:3)
                (Physics—Laboratory manuals)

MAMALADZE, S.I.; ALAVIDZE, B.Z.; KUZNETSOV, A.N.

Loading and unloading bricks in circular kilns with the aid of
lightweight conveyers. Rats. i izobr. predl. v stroi. no.5:50-55
'58.   (MIRA 11:6)

1.Saburtalinskiy kirpichnyy zavod polusukhogo pressovaniya,
GruzSSR, selo Saburtalo Tbilisskogo rayona.
    (Brickmaking) (Loading and unloading) (Conveying machinery)

KHIZANISHVILI, I.G., kand. tekhn. nauk; MAMALADZE, R.A., inzh.

Glaze for sanitary engineering semiporcelain products of low-
temperature firing. Stek. i ker. 22 no.4:33-34 Ap '65. (MIRA 18:5)

1. Tbilisskiy nauchno-issledovatel'skiy institut stroymaterialov.

RUSIASHVILI, I.L. (Telavi); GOGUADZE, M.N. (Telavi); MAMALADZE, L.T.
        (Telavi); DERYABIN, V.I., nauchnyy sotrudnik; BALAYAN, L.N.,
    •nauchnyy sotrudnik

Testing preparations against the spider mite. Zashch.rast.ot
vred.i bol. 7 no.5:36 My '62.   (MIRA 15:11)

1. Samarkandskaya sel'skokhozyaystvennaya opytnaya stantsiya (for
Deryabin, Balayan).
                    (Red spider--Extermination)

MAMALADZE, G.T.

Functional state of the thyroid gland in gutter forms.
Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:147-153 '62.
(MIRA 17:2)

1. Institut kardiologii AN GruzSSR, Tbilisi.

MAMAKOWA, Kazimiera

Vegetation of the Sandomierz Basin in the Late Glacial and
Holocene. Acta palaeobot. 3 no.2 **** *62.

1. Polska Akademia Nauk, Instytut Botaniki, Krakow.

LIPIS, B.V., kand.tekhn.nauk; MAMAKOVA, Z.A.; SOKOLOVA, A.F.

Application of gas-liquid chromatography for the identification
of higher alcohols and other volatile components of wine and
brandy products. Trudy MNIIPP 4:98-108 '64.

(MIRA 18:1)

MAMAKOVA, Z.A.

Method for determining the admixture of red hybrids of direct
progenitors in the products of the processing of European grape
varieties. Trudy MNIIP 4:93-97 '64.

(MIRA 18:1)

LIPIS, B.V.; MAMAKOVA, Z.A.

Photocolorimetric determining of higher alcohols in cognac distillates.
Trudy MNIIPS 2:31-36 '62.   (MIRA 16:4)

(Colorimetry)   (Alcohols)

L 05183-67

ACC NR: AP7000741

Orig. art. has: 1 table. [JPRS: 37,023]

TOPIC TAGS: organic arsenic compound, organic sulfur compound, ester, organic synthetic process

SUB CODE: 07 / SUBM DATE: 30Apr65 / ORIG REF: 004 / OTH REF: 002

Card 2/2   vmb

L U5183-67   EWT(m)/EWP(j)   RM

CHADAYEVA, N. A., KAMAY, G. Kh., MAMAKOV, K. A., Chemical Institute imeni A. Ye. Arbuzov, Academy of Sciences USSR, Kazan' (Khimicheskiy institut AN SSSR)

25

B

"Sulfur-Containing Organic Arsenic Compounds. III. Synthesis and Properties of Certain Thioesters of 5,10-Dihydrophenarsazinous Acid"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 5, 1966, pp 916-920

Abstract: New thioesters of 5,10-dihydrophenarsazinous acid were snythesized: 10-ethyl-, -n-propyl-, -isopropyl-, -n-butyl-, -tert-amyl-, -phenyl-, -benzyl-, -o-aminophenyl-, -hydrochloride-o-aminophenyl-, -beta-diethylaminoethyl-, -hydrochloride-beta-diethylaminoethyl sulfides of 5,10-dihydrophenarsazine; some of their properties were studied. 10-Chloro-5,10-dihydrophenarsazine was converted to 10-methoxy-5,10-dihydrophenarsazine with sodium methylate in anhydrous methanol, then the corresponding mercaptan was added to the reaction mixture, the aminothiols being isolated in the form of the hydrochlorides. 10-n-Propylsulfide-5,10-dihydrophenarsazine was synthesized by the action of 10-chloro-5,10-dihydrophenarsazine on the sodium mercaptide. The compounds are crystalline (with the exception of the oil 10-beta-diethylaminoethylsulfide-5,10-dihydrophenarsazine), readily soluble in organic solvents, hydrolyzed when heated with water, oxidized by hydrogen peroxide, and react vigorously with chlorides of carboxylic acids, breaking the arsenic-sulfur bond.

Card 1/2   UDC: 546.19: 547.279.1

L 18599-65
ACCESSION NR: AP5003116

slowly upon prolonged exposure, to atmospheric oxygen, especially at tem-
peratures above 40-50°, yielding the corresponding arsenic oxide and
di-(β-diethylaminoethyl)-disulfide. Orig. art. has 3 tables.

ASSOCIATION: Khimicheskiy institut im. A. E. Arbuzova Akademii nauk SSSR,Kazan'
(Chemical Institute, Academy of Sciences, SSSR)

SUBMITTED: 09Mar64   ENCL: 00   SUB CODE: OC, GC

NR REF SOV: 002   OTHER: 002   JPRS

Card 2/2

AUTHOR: Chernokalskiy, N. A.; Mamakov, K. A.; Kamay, G.

TITLE: Sulfur-containing organic compounds of arsenic. Preparation of Beta-diethylaminoethyl S-esters of certain thioacids of trivalent arsenic

SOURCE: AN SSSR. Doklady, v. 157, no. 2, 1964, 371-374

TOPIC TAGS: organic sulfur compound, ester, arsenic

Abstract: Thioesters are thick oily fluids, with a faint but specific odor and light yellow in color. They dissolve readily in acetone, benzene and alcohols. They are insoluble and stable in water. Upon prolonged exposure to air they are slowly oxidized by atmospheric oxygen, yielding the corresponding disulfides and oxides of arsenic. The complete β-diethylamin-oethyl S-ester of arsenous acid is thermally unstable and decomposes in vacuum distillation. The N-chlorohydrates of β-diethylaminoethyl S-esters of thioarsenous, ethylthioarsenous, phenylthioarsenous, para-nitrophenylthio-arsenous and diphenylthioarsenous acids are white crystal compounds. They are very readily soluble in water, methanol, ethanol, and insoluble in ethyl ether, benzene, and toluene. They are resistant to water, and decompose

Card 1/2

MAMAKOV, A.A.; YEROFEYEV, A.A.

Deaerators for fruit and berry juices. Izv. vys. ucheb. zav.;
pishch. tekh. no.2:113-118 '63.   (MIRA 16:5)

1. Kishinevskiy gosudarstvennyy universitet i Moldavskiy
nauchno-issledovatel'skiy institut pishchevoy promyshlennosti.
                    (Fruit juices)

MAMAKOV, A.A.; YEROFEYEV, A.A.; TUPALOV, N.I.

Deaeration of fruit and berry juices under a vacuum. Izv.vys.ucheb.-
zav.; pishch.tekh. no.1:77-81 '63.   (MIRA 16:3)

1. Kishinevskiy gosudarstvennyy universitet i Moldavskiy nauchno-
issledovatel'skiy institut pishchevoy promyshlennosti.
                (Fruit juices) (Vacuum apparatus)

MAMAKOV, A.A.; YEPIFANOV, P.V.; YEROFEYEV, A.A.

Testing vacuum deaerators with a jet spraying system. Trudy MNIIPP
2:87-95 '62.   (MIRA 16:4)

(Vacuum apparatus—Testing)

LIPIS, B.V.; MAMAKOV, A.A.; YEPIFANOV, P.V.; Prinimali uchastiye: SPEKTOR, L.A.;
LYALIKOVA, R.Yu.

Deaeration of grape juice. Trudy MNIIPP 2:81-86 '62. (MIRA 16:4)
(Grape juice)

Determination of the true velocity...   S/081/62/000/017/050/102
                                                      B158/B186

can be used for calculating the flow of structuralized plastic dispersion
systems.   18 references.   [Abstracter's note: Complete translation.]

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S/081/62/000/017/050/102
B158/B186

AUTHOR: Mamakov, A. A.

TITLE: Determination of the true velocity gradient for flow of
               structuralized plastic systems in a narrow annular space

PERIODICAL: Referativnyy zhurnal., Khimiya, no. 17, 1962, 306, abstract
               17I15 (Tr. Kazansk. khim.-tekhnol. in-ta, no. 27, 1961, 25-38)

TEXT: Certain regularities in the flow of liquids, particularly those not
conforming to Newton's law, are examined. An equation is derived expressing
the dependence of the true velocity gradient at a given shearing stress on
the average velocity gradient for the flow of structuralized plastic
dispersion systems in a narrow annular channel, when the width of the
channel is small in comparison with the radius of the annulus. The movement
of grease in a narrow annular channel, in an axial direction (under the
effect of pressure) and in a circumferential direction (under the effect
of torsional moment) were examined experimentally. Applicability of the
abovementioned equation to the flow of cup greases in a narrow annular
channel is confirmed experimentally. It is indicated that this equation

Card 1/2

LIPIS, B.Z.; MAMAKOV, A.A.; YEPIFANOV, P.V.

Deaeration of grape juice. Kons. i ov. prom. 16 no.10:20-23
O '61.   (MIRA 14:11)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.
                        (Grape juice)

Homogenization and Rheological Properties
of Plastic (Consistent) Lubricants

S/152/60/000/003/003/003
B023/B060

SUBMITTED: July 28, 1959

Card 4/4

Homogenization and Rheological Properties
of Plastic (Consistent) Lubricants

S/152/60/000/003/003/003
B023/B060

one may observe, besides irreversible changes, also such of lubricant
properties with time. In addition, also phenomena of hysteresis appear here
after an intense mechanical action. The principal characteristic is,
however, that these lubricants, when intensively homogenized, may be
regarded as Newton's liquids. The viscosity of these lubricants does not
depend upon the length of the "resting" period. Table 1 shows the change of
the limit values of durability for both types with time. The differences
between the lubricants of the first and the second type are interrelated
with the differences in the structure of the disperse phase. The decisive
factor, however, is the coarse-grained structure of the 201 lubricant.
This structure accounts for the irreversibility of the changes of
rheological properties. The inability of grease US_s-2 to restore its
rheological properties after "resting" is to be explained by the fact that
particles of the disperse phase of a colloidal dimension are present in
grease. There are 3 figures, 2 tables, and 9 Soviet references.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut im. S. M. Kirova
(Kazan' Institute of Chemical Technology imeni S. M. Kirov)

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S/152/60/000/003/003/003
B023/B060

Homogenization and Rheological Properties
of Plastic (Consistent) Lubricants

thoroughly described along with the working principle. Homogenation was performed with an axial feed of lubricant of $2.5 \cdot 10^{-3}$ cm³/sec and a deformation rate of $5.25 \cdot 10^5$ (lubricant 201) and $5.27 \cdot 10^5$ (synthetic grease). Phenomena of hysteresis are observed to be common to all fresh (non-homogenized) lubricants in the study of viscosity, the deformation rate varying considerably. Successive increase and decrease of the deformation rate leads in graphical representation to noncoinciding flow curves. The study of homogenized lubricants revealed two types. To the first belongs lubricant 201. Lubricants of this type are intensively destroyed under the action of high deformation rates. Their rheological properties are changed irreversibly. The results obtained from the study of the viscosity of lubricant 201 are in agreement with the determination of the limit values of durability (Table 1), which do not change after the lubricant has been allowed to "rest", either. Lubricants of the 201 type distinguish themselves especially by their microcrainiess. When subjected to an intense homogenation they excel by stable rheological properties which do not change with time and are not affected by mechanical actions, provided the intensity of such actions is lower than that of homogenation. The synthetic grease US₃-2 belongs to the second type. Here

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S/152/60/000/003/003/003
B023/B060

AUTHORS: Vinogradov, G. V., Mamakov, A. A., Pavlov, V. P.

TITLE: Homogenization and Rheological Properties of Plastic (Consistent) Lubricants

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1960, No. 3, pp. 81-88

TEXT: The first author has pointed out in a previous paper that the majority of industrial lubricants are micrograined systems (Ref. 1). In the study under consideration, the authors set themselves the following tasks: 1) to work out a colloid mill, where lubricants can be subjected to an intense homogenation under rigorously defined conditions; 2) to study the rheological properties of typical industrial lubricants. The test objects were lubricant 201 (ГОСТ 6267-52)(GOST 6267-52) and grease УСс-2 (USs-2) ГОСТ 4366-50 (GOST 4366-50). The rheological properties of fresh and homogenized lubricants were intercompared. The determination was carried out by a plastoviscosimeter (Ref. 8). The temperature was 20 ± 1° Fig. 1 shows the scheme and the construction of the homogenizer which is

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S/179/60/000/02/009/032
E081/E241

Flow of Anomalously Viscous Bodies Under Complex Stress Conditions

deformation velocity, but also of the dimensionless
quantity characterising the trajectories of the
particles. Thanks are expressed to V. P. Pavlov for
participating in the discussion of results, and for
valuable advice. There are 4 figures and 10 references,
8 of which are Soviet, 1 English and 1 German.

SUBMITTED: June 4, 1959

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S/179/60/000/02/009/032
E081/E241

Flow of Anomalously Viscous Bodies Under Complex Stress Conditions

axis, and, for a given temperature, the points corres-
ponding to different conditions all lie on the same
line. Thus the effective viscosity of the residual
extract is constant, and the superposition principle
applies. Fig 3 shows that the effective viscosity of
the lubricant grease falls with increasing deformation
velocity. At 20° and 50° the effective viscosity for
axial shear is rather greater than for circumferential
shear. The differences may be interpreted as a breaking
down of the structure of the grease and the orientation
of the soap micro-filaments. The motion of the particles
in spiral flow is determined by the equations at the
foot of p 68 and the top of p 69, and Fig 4 shows the
dimensionless viscosity η_i/η_2 plotted against the
dimensionless length of the trajectory. [Fig 4
Dependence of the dimensionless viscosity η_i/η_2 on
S/L for grease at 20° and 50°] Within the limits
of experimental accuracy (5 to 10%) the points lie on
the same line for both temperatures, and the effective
viscosity is a function not only of the intensity of

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S/179/60/000/02/009/032
E081/E241

Flow of Anomalously Viscous Bodies Under Complex Stress Conditions

H and L are the width and length of the space, M is the twisting moment, R_1 and R_2 are respectively the external and internal radii of the cylinders $(H = R_1 - R_2)$. The mean deformation velocities in axial shear D_{10} and circumferential shear D_2 are found from the second equation, p 67, and the axial deformation velocity at the wall from the third equation, where Q is the outflow per second, ω the angular velocity of the rotor. Figs 2 and 3 show log η_1 log η_2 and log η_i plotted against log D_1, log D_2 and log D_i for the extract. [Fig 2. Dependence of effective viscosity (axial, circumferential and spiral flow) on velocity gradient and intensity of deformation velocity for the extract] and for the grease [Fig 3. Dependence of effective viscosity (axial, circumferential and spiral flow) on velocity gradient and intensity of deformation velocity for lubricant grease]. The key to the figures on the diagrams is at the foot of p 67. In Fig 3 $\eta_1(D_1)$ is represented by the dashed-dotted line, $\eta_2(D_2)$ by the continuous line and $\eta_i(D_i)$ by the dotted line. The lines in Fig 2 are all parallel to the log D

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S/179/60/000/02/009/032
E081/E241

Flow of Anomalously Viscous Bodies Under Complex Stress Conditions

and circumferential flow are superimposed and the particles of the anomalously viscous body move in screw trajectories ab (Fig 1: Scheme of screw flow of grease in a narrow annular space). The generalized equation of flow is written in the form (1) (Ref 8), and in cylindrical co-ordinates r, φ, z, the quantities P_i and $\dot{e}_i$ are written in the forms (2) and (3). (The dot over $\dot{e}_i$ denotes differentiation with respect to time). P_i is the intensity of shear stress, $\dot{e}_i$ the intensity of deformation velocity, η_i the effective viscosity coefficient, P_{rr}, $P_{\varphi\varphi}$, P_{zz} are normal stresses, $\dot{e}_{rr}$, $\dot{e}_{\varphi\varphi}$, $\dot{e}_{zz}$ are volume deformation velocities, $\dot{e}_{r\varphi}$, $\dot{e}_{\varphi z}$, $\dot{e}_{zr}$ are shear deformation velocities. For the present conditions, (2) and (3) reduce to (4) and (5) with the effective viscosity in complex shear axial shear and circumferential shear given by (6), (7) and (8), respectively. The shear stresses for pure-axial shear τ_1 and pure circumferential shear τ_2 are given by the first equations, p 67, where Δp is the difference in pressure between the ends of the annular space,

Card 2/5

MAMAKOV, A.A.

S/179/60/000/02/009/032
E081/E241

AUTHORS: Vinogradov, G. V., Mamakov, A. A., and Tyabin, N. V.
(Moscow)

TITLE: Flow of Anomalously Viscous Bodies Under Complex Stress Conditions

ABSTRACT: A continuation of previous work (Refs 5, 6, and 7). Data are given of experimental investigations into the flow of a residual extract (highly viscous Newtonian fluid) and a lubricant grease (anomalously viscous body) to verify the generalized flow law under the combined action of two simple shears. The data were obtained by simultaneous measurements with a double rotation viscometer (Ref 6) and a capillary viscometer with constant outflow (Ref 7). The methods and basic experimental results are given in Ref 5. Complex shear conditions were realised by the combined action on the body contained in the space between two cylinders, of an external pressure and a twisting moment, the latter being obtained by rotation of the outer cylinder. In this way, axial

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MAMAKOV, G.A.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics,
Moscow, 27 Jan - 3 Feb '60.

35. B.M. Bereghkov (Zhitomir): On the solution of the dynamic contact problem for a half-space under conditions of axial symmetry.

36. J. Brilla (Bratislava). Anisotropic plates with discontinuous supports.

37. B.M. Broude (Moscow): On the essential non-linearity of certain problems on column stability.

38. M.S. Burlin (Kiev), I.A. Jatsenko (Moscow): On the determination of safety factors under alternating random loads.

39. A.I. Burlakov (Kharkov): An experimental investigation of creep of working diaphragm models.

40. N.V. Barmidov (Saratov): On the stability of constructionally orthotropic circular ring plates.

41. St. Balan, L. Paina, St. Serba (Bucharest): The field of application of rheoplasticity.

42. D.B. Balcheg (Kiev): The state of stress of lamellar systems of regular configuration.

43. V.L. Balmakov (Moscow): Thixotropic properties of lubricants as well as their rheological characteristics.

44. O.M. VanCoEl, G.M. Savin (Kiev): Application of Muller functions to the investigation of shells.

45. P.M. Varvak (Kiev): Determination of stresses and deformations in middle bodies.

46. B.M. Baduaev (Gorkii): The flow of bitumen and filled bitumen in pipes.

47. I.I. Vorob'yev, N.A. Kushulov...: Application of analytic functions in the theory of elasticity.

48. I.A. Vinar (Tbilisi), L.V. Pisarenko (Yerevan): Experimental investigation of the behavior of viscoelastically compressed short columns for long loading times.

49. G.A. Vigovskiy (Moscow), A.A. Moshov (Minsk), I.P. Pavlov: ... investigation of NaCl-plastic bodies under combined states of stress.

50. V.A. Finetskiy, V.A. Palko (Moscow): Ratio peculiarities of the mechanical properties of plastic lubricants.

51. B.A. Fleckon (Leningrad): Fundamentals of the linear theory of viscoelastic impact.

52. L.A. Firozova (Kharkov): The solution of spatial contact problems for foundations using a simplified model.

53. A.A. Ilizin-(Moscow): On the equilibrium equations of thick elastic plates.

54. L.V. Nikitenskii (Irkutsk): The creep of ice and frozen soils under combined stresses.

55. M.S. Volyarovich, O.I.... Vargover, E.P. Konovratii, G.I. Buzhan (Moscow): Studies of viscoelastic properties of porous bodies (e.g. peat) by the ultrasonic pulse method.

56. M.I. Volarovich (Moscow), A.R. ... (Minsk): The plane flow of viscoplastic media between two planes forming an acute angle.

57. M.S. Volarovich, L.I. Crokin (Moscow): Kinematics and dynamics of the flow of viscoplastic dispersed media past bodies of different shapes.

58. A.R. Volkov (Moscow): On the analysis of a short closed cylindrical shell.

59. S.D. Volkov, M.A. Klinovich (Sverdlovsk): On the distribution of elastic constants in quasi-isotropic polycrystalline media.

60. I.A. Martios (Rostov-on-Don): A statistical method in the stability theory of shells.

61. I.I. Vorovich (Rostov-on-Don), A.A. Kapanadze (Saratov): A stress concentration in a plate with an infinite number of holes.

62. A.F. Nikonenkii (Leningrad): Foundation of the general engineering theory of elastic beams.

63. S.B. Vinkov (Moscow): The law of deformation of ice.

64. A.S. Vinkov (Moscow): The law of motion of ice crusts and the theory of viscoplastic flow based on research in the Arctic.

65. M.D. Galitzer (Leningrad): A method of obtaining polynomial stress and displacement functions.

66. L.I. Galiev (Kazan): A contribution to the theory of the finite deformation of thin shells.

67. M.P. Galin (Moscow): The propagation of elastic-plastic loading and shear waves in the elasto-plastic deformation of shells.

The Flow of Anomalous Viscous Systems Under the   SOV/20-127-2-35/70
Action of Two Pure Shearing Stresses th Mutually Perpendicular Directions

                 purely axial flow. The authors thank Academician V. A. Kargin
                 for advice. There are 4 figures, 1 table, and 7 references,
                 6 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR
             (Institute of Petroleum-chemical Synthesis of the Academy of
             Sciences, USSR)

PRESENTED: March 2, 1959, by V. A. Kargin, Academician

SUBMITTED: March 21, 1959 (sic)

Card 4/4

The Flow of Anomalous Viscous Systems Under the   SOV/20-127-2-35/70
Action of Two Pure Shearing Stresses in Mutually Perpendicular Directions

The higher D_{rad}, the lower becomes viscosity. Hence, at given D_{ax} with rising D_{rad} the shearing stress τ_{ax} drops, whereas at given τ_{ax} with rising D_{rad} also D_{ax} increases strongly.

In the case of a radial flow the plastic systems were found capable of flowing out axially under the action of much lower pressures, as compared to the absence of a radial flow. A remarkable fact is that in the case of low τ_{ax} there is a direct proportionality between D_{ax} and τ_{ax}. If D_{ax} is very large as compared to D_{rad}, and assuming high temperatures,

The effect of the radial flow becomes unimportant. The effect of the axial flow on the radial is shown in figure 3.
Figure 4 depicts the superposition of τ_{rad} and τ_{ax}.

In the case of a combined shear the flow curves lie in a fork which is formed by the curves of the purely radial and

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The Flow of Anomalous Viscous Systems Under the
Action of Two Pure Shearing Stresses in Mutually Perpendicular Directions

$$\tau_{ax} = \Delta p \frac{H}{2L} \quad (\Delta p = \text{pressure drop per unit of length of}$$

the cleft in axial direction, H = cleft width, L = length of
cylinder surface). For the velocity gradient it holds:

$$\overline{D}_{ax} = Q(2\pi RH^2)^{-1} \quad (Q = \text{amount of flow}, R = \text{radius of the inner}$$

cylinder). Checking revealed that the method applied yielded
well reproducible results. Experimental results with "solidol"
are shown in logarithmic coordinates in figure 1. Table 1
contains the values for $\overline{D}_{ax}$. With simultaneous axial and radial
flow, Δp and the moments of resistance are measured at
different D_{rad} (Fig 2). Curves 1 show the flow in the case of
a purely axial flow ($D_{rad} = 0$), curves 2 - 7 show the
dependence $\overline{D}_{ax}(\tau_{ax})$ for given D_{rad}. In the case of a
homogeneous shearing stress field all over the clearance, the
radial flow brings out a destruction of the structure and
transforms the plastic body into an anomalous-viscous liquid.

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5(4)   SOV/20-127-2-35/70
AUTHORS: Vinogradov, G. V., Mamakov, A. A., Pavlov, V. P.

TITLE: The Flow of Anomalous Viscous Systems Under the Action of Two
              Pure Shearing Stresses in Mutually Perpendicular Directions

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 362-365
              (USSR)

ABSTRACT: In the clearance between two coaxial cylinders, both an axial
              and a radial flow are possible. Thus, the possibility is given
              of comparing different forms of flow of anomalous viscous
              systems under different shearing stresses and at different
              velocity gradients in one and the same apparatus. Grease-
              "solidol" consisting of 86.2% spindle oil, 12% Ca-soaps of
              cottonseed oil, and 1.8% water, was the material used for the
              experiments. A high-viscosity Newton liquid, an extract of
              resins and polycyclic aromatic hydrocarbons from petroleum-
              distillation residues, served as control liquid. The measure-
              ment was made in a system with two rotary viscosimeters with
              coaxial cylinders, differing by the size of the cylinders'
              working surfaces. Concerning the shearing stress for axial
              flow it holds according to references 3 - 5 :

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S/179/59/000/04/014/029
E051/E144

Experimental Investigation of an Anomalously Viscous Body in a
Complex Stress Condition

grease with axial flow in the gap of the twin rotation
viscometers. The continuous lines represent the curves
$D_2(\tau)$ obtained with circumferential flow of the
extract in the twin rotation viscometers, and in the
plasto-viscometer PVR-1. The units of shear are dynes/cm²
and of deformation velocity sec⁻¹. The numbered points
on the curves are identified in the table at the top of
page 104, in which Q = axial discharge).
Fig 5 - dependence of effective axial viscosity on
circumferential deformation velocity for extract.
Fig 6 - curves of change of effective axial viscosity
with circumferential deformation velocity for fatty grease
at temperatures of 80, 65 and 20°. Fig 7 - curves of
change of effective circumferential viscosity on
circumferential deformation velocity (viscosity (sic!))
for grease.
There are 7 figures, 1 table and 6 references, of which
5 are Soviet and 1 is English.

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SUBMITTED: June 4, 1959

S/179/59/000/06/014/029
E081/E141

Experimental Investigation of an Anomalously Viscous Body in a
Complex Stress Condition

influence of circumferential on axial flow. At low
circumferential flows, there is practically no influence
on axial flow. At high circumferential velocities, the
axial flow of the anomalously viscous body becomes
Newtonian. Some increase in circumferential viscosity is
observed at high axial velocities. This effect
diminishes if the temperature is raised, and also if the
body is preconditioned by subjecting it to high
deformational velocities. Figure legends are as follows.
Fig 1 - Schematic arrangement of the apparatus for
investigating flow of an anomalously viscous body under
the action of two simple shears. Fig 2 - characteristic
(continuous) and neutralised (dotted) flow curves for
extract. Fig 3 - characteristic (continuous, dashed)
and neutralised (dotted) flow curves for fatty grease.
Fig 4 - characteristic (continuous) and neutralised (dotted)
flow curves for fatty grease, the structure of which was
broken down in a homogeniser at a deformation velocity
$D = 5.1 \times 10^4$ sec-1. (In Figs 2-4 the dotted lines
represent the curves $D_{10}(T_1)$ obtained for extract and

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Experimental Investigation of an Anomalously Viscous Body in a
Complex Stress Condition

eliminated. The twisting moment was measured as a
function of rotation velocity, and at the same time an
axial flow, varying between 1.48×10^{-3} and 1.82 cm3/sec
was maintained through the viscometer. Control
experiments on the circumferential flow were carried out
in the rotation plasto-viscometer PVR-1 (Ref 3). The
system is analysed mathematically and expressions obtained
for the mean axial deformational velocity, D_{10}, the
circumferential deformational velocity, D_2, and the
deformational velocity at the wall, D_1 (Eqs 1 and the two
preceding equations). Graphs are given of log D_{10}, log D_1
and log D_2 against log r_1 and log r_2 at temperatures of
20, 35 and 50o (Figs 2, 3, 4); r_2 and r_1 are respectively
the mean and the axial tangential stresses. Examination
of the curves for the grease for the high resin extract
and for the grease preconditioned at a deformation
velocity of 5.1×10^4 sec^{-1} in a rotary homogeniser
shows that the axial and circumferential flow have
essentially the same characteristics. If the two flows
are of the same order of magnitude, there is a strong

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Experimental Investigation of an Irreversibly Deformed Body in a Complex Stress Condition

internal and external cylinders of one of the viscometers of the double rotation apparatus d. 5. The internal cylinder of the rotation viscometer was driven by rotation of the hydraulic motor. The hydraulic drive consisted of the hydraulic motor, hydraulic pump and oil container; it allowed continuous regulation of the rotation speed from 0.5 to 1,350 r.p/min controlled by the stroboscopic disc 16. The moment of resistance was measured with the equipment 9-14, working on a compensation method. The moment created by the weight 11 was transferred by the flexible cord 12 and pulley 13 to the external cylinder, and compensated for the resistance of the test material in the space between the lateral surfaces of the cylinders. The load 11 was chosen so that the external cylinder of the rotation viscometer remained stationary as indicated by the zero pointer 14. Items 3, 6, 7, 8, were contained in a thermostat 15, regulated to ± 1°. The two coaxial viscometers were identical except for the length of the rotating cylinder, and by making measurements in both, and effects were

AUTHORS: Vinogradov, G.V., [illegible] , [illegible], V.P.
(Moscow, Kazan)

TITLE: Experimental Investigation of an Anomalously Viscous
Body in a Complex Stress Condition

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Mekhanika i mashinostroyeniye, 1959, Nr 6,
pp 100-109 (USSR)

ABSTRACT: The paper is a continuation of previous work (Refs 1,2,3).
The experiments were carried out on a lubricant grease
containing 86.2% spindle oil, 12% calcium soap of cotton
seed oil and 1.8% water. For comparison, measurements
were also carried out on a high-resin extract of the
waste from residual oil processing, which is a high
viscosity liquid with Newtonian flow characteristics.
The experiments were made in a double rotation viscometer,
(Fig 1). The hydraulic fluid supplied from an apparatus
of constant delivery passed to the tube 1 with precision
manometer 2 and to the viscometric cylinder 3 where it
exerted pressure on the piston 4. The test material 5
filled the cylinder 3 and was forced by the piston 4 into
the tube 6, the flexible hose 7 and the space between the

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MAMAKOV, A.A.; TYABIN, N.V.; VINOGRADOV, G.V.

Graphical method for determining the distribution of flow velocities of elastic petroleum products. Izv. vys. ucheb. zav.; neft' i gaz 2 no.7:81-86 '59. (MIRA 12:12)

1.Kazanskiy khimiko-tekhnologicheskiy institut im. S.M. Kirova.
(Hydraulics)

SOV/69-21-2-14/22

The Application of the Similarity Theory in Calculating the Flowing Processes of Plastic Lubricants in Tubes

flow. The application of these methods permitted a generalization of experimental data concerning the flow of plastic lubricants in tubes at a change of the speed gradient from 0.03 to 35,400 sec.$^{-1}$, the length of the tubes by 250 times and their diameters by 36 times. The authors have found an expression of the tube resistance coefficient from the generalized Reynolds formula at the flow of plastic lubricants, and have shown that for the calculation of loss of pressure, the usual hydraulic calculation methods can be used. These are based on the method of approximating curves of the flow of plastic lubricants in rotary viscosimeters. The authors mention the following Soviet scientists: G.V. Vinogradov, V.P. Pavlov, V.G. Petrovskiy, N.V. Tyabin. There are 5 graphs and 21 references, 12 of which are Soviet and 9 English.

ASSOCIATION: Khimiko-tekhnologicheskiy institut im. S.M. Kirova, Kazan' (Chemical-Technological Institute imeni S.M. Kirov, Kazan')

SUBMITTED: May 6, 1958

Card 2/2

5(

AUTHORS: Mamakov, A. A., Tyabin, N. V., Vinogradov, G. V.

TITLE: The Application of the Similarity Theory in Calculating the
            Flowing Processes of Plastic Lubricants in Tubes (Primenen-
            iye teorii podobiya k raschetu protsessov techeniya plast-
            ichnykh smazok v trubakh)

PERIODICAL: Kolloidnyy zhurnal, 1959, Nr 2, pp 208-215 (USSR)

ABSTRACT: The authors propose two methods of generalizing experiment-
            al data, and the calculation of the flow of plastic lubri-
            cants in tubes in the form of a dependency of the tube re-
            sistance coefficient on the generalized Reynolds criterium.
            The variable effective viscosity method consists in the de-
            termination of the generalized Reynolds criterium according
            to the value of the local effective viscosity for the layer
            contiguous to the tube wall. The constant parameter method
            consists in the approximation of the flow curve in the form
            of straight lines corresponding to the equations Shvedov-
            Bingham and in the determination of the generalized Reynolds
Card 1/2   criterium according to the parameters of the viscous-plastic

MAMAKOV, A. A., CAND TECH SCI, ~~INVESTIGATION~~ *Study* OF THE FLOW PROCESSES OF PLASTIC LUBRICANTS IN TUBES AND NARROW RADIAL CLEARANCES. KAZAN', 1959. (MIN OF HIGHER AND SEC SPEC ED RSFSR. KAZAN' CHEM ~~AND~~ TECHNOL INST IM S. M. KIROV). (KL, 2-61, 210).

-155-

On the Dependence of Richardson's Number on the Height   SOV/50-59-7-5/20

height of 4 km, the influence of the thermal factor decreases
with the height. The contribution of the wind displacements by
the height does not compensate this reduction, and the numeric
Ri-value rises. Above a height of 4 km, the numeric Ri-value
becomes smaller due to the increase in wind displacements, and
attains its minimum below the tropopause, in the 9-10 km layer.
Jet streams are usually observed in this layer. In the lower
stratosphere, the vertical gradients of the temperature are
small. The wind becomes weaker with the height, and Ri rises in
the lower stratosphere up to a height of 20 km where it attains
its maximum. At greater heights, the Ri-values apparently
decrease due to a certain increase in the vertical gradients
of the wind. There are 1 figure and 4 Soviet references.

Card 2/2

3(7)

AUTHOR: Mamakin, V. N.

SOV/50-59-7-5/20

TITLE: On the Dependence of Richardson's Number on the Height
(O zavisimosti chisla Richardsona ot vysoty)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 7, pp 29-30 (USSR)

ABSTRACT: Richardson's number Ri is a convenient characteristic for
judging the evolution of turbulence in the atmosphere. 120
radiosonde ascents were analyzed from June 1957 to May 1958.
On the basis of the latter, the characteristics of turbulence
were investigated. The Ri-numbers were computed by the method
put forward in the paper (Ref 3), and the mean turbulence
characteristics were obtained for the kilometer layers up to
a height of 24 km. Besides, the mean wind velocities and the
mean tropopause height were computed. The maximum in the
velocity distribution ($H = 10$ km) is in good agreement with
the mean tropopause height ($H_m = 11.3$ km). As figure 1 shows,
the mean distribution of the Ri-number according to the height
reflects the distribution of the mean wind velocity. The
Ri-distribution obtained by the height shows a maximum in the
3-4 km layer, and a minimum in the 9-10 km layer. Up to a

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MAMAKIN, A.D.

Improving the economic accountability of railroad districts.
Zhel.dor.transp. 42 no.7:66-67 Jl '60. (MIRA 13:7)

1. Nachal'nik Osnovyanskogo otdeleniya Yuzhnoy dorogi,
Khar'kov.
(Railroads--Management)

MAMAKIN, A.D.

Electric locomotives cover from 950 to 1,035 kilometers during a
24 hour period. Elek.i tepl.tiaga 3 no.6:1-4 Je '59.
(MIRA 12:9)

1. Nachal'nik Osnovyanskogo otdeleniya Yuzhnoy dorogi.
(Electric locomotives)

MAMAKIN, Anatoliy Dmitriyevich; OLESHKO, Grigoriy Ivanovich; TUCHKEVICH,
Tat'yana Maksimovna; PESKOVA, L.N., red.; KHITROV, P.A.,
tekhn.red.

[Lowering costs in transportation; practices of the Osnova Division]
Za snizhenie sebestoimosti perevozok; opyt kollektiva Osnovianskogo
otdeleniia. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 57 p.
(MIRA 12:12)

(Ukraine--Railroads--Cost of operation)

MAMAKIN, A.D.

Experience of the Osnova section in lowering transportation
costs. Zhel.dor.transp. 40 no.11:67-70 N '58. (MIRA 11:12)

1. Nachal'nik Osnovyanskogo otdeleniya Yuzhnoy dorogi, st.
Osnova.
(Osnova--Railroads--Cost of operation)

MAMAKIN, A.D. (st. Osnova); SYTSKO, P.A., inzhener (St. Orsha)

Handling the growing volume of freight with fewer locomotives. Zhel.
dor. transp. 39 no.3:69-77 Mr '57.   (MLRA 10:4)

1. Nachal'nik Osnovyanskogo otdeleniya Yuzhnoy derogi (for Mamakin).
2. Nachal'nik Orshanskogo otdeleniya Kalininskoy derogi (for Sytsko).
                              (Railroads--Freight)

MAMAKEYEV, M.M.

Case of a knife wound of the left ventricle of the heart. Sov.
zdrav.Kir. no.4:59-60 Jl-Ag '62.   (MIRA 15:8)
                        (HEART--WOUNDS AND INJURIES)

LAPAPSKIV, `.., S md d Sci — (diss) "Topographical anatomical substantiation of kidney transplantation upon the umbelical vessels," Prunze, 1959. T pp (Kirgiz St t Med Inst). 310 copies

(KL, 38-59, 120)

MAMAK, Wiktor

DECEASED

1964

28 April 63

Hydraulic Engineer

MAMAIASHVILI, I.S.

Historico-geographical review and the population of Lagodekhi
District. Trudy Geog. ob-va Gruz. SSR 5:267-279 '59. (MIRA 13:11)
(Lagodekhi District--Population)

MAMAIASHVILI, I.S.

Features of the economic geography of agriculture in Lagodekhi
District. Trudy Geog.ob-va Gruz.SSR 4:205-222 '59.

(MIRA 13:1)

(Lagodekhi District—Agriculture)

MAMAGEYSHVILI, A.A., inzh.

Certain critical values of a d.c. motor with parallel excitation.
Vest. elektroprom. 31 no.10:67-68 O '60. (MIRA 13:1)
(Electric motors--Direct current)

L 19646-63
ACCESSION NR: AP3007056

ticles depends greatly on the size of the detecting array. The burst spectrum in the range from 1000 to 10,000 particles in showers with a total of 10^5 to 10^8 particles is characterized by a spectrum exponent 1.8--1.9 when measured with an array area of about one meter, but only approximately 1.0 in the case of an array of 10 m^2, whereas the spectrum exponent of bursts produced by individual particles in the same showers is 1.6 ± 0.1. Orig. art. has 5 figures.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Phys. Inst. Moscow State Univ.); Fizicheskiy institut Akademii nauk Armyanskoy SSR (Physics Inst., Academy of Sciences Armenian SSR)

SUBMITTED: 15Feb63   DATE ACQ: 08Oct63   ENCL: 00

SUB CODE: PH   NO REF SOV: 008   OTHER: 002

Card 2/2

L 19646-63   EWT(m)/BDS   AFFTC/ASD
ACCESSION NR: AP3007056   S/0056/63/045/003/0418/0427

AUTHORS: Babayan, Kh. P.; Boyadzhyan, N. G.; Grigorov, N. L.;
Mamadzhanyan, E. A.; Tret'yakova, Ch. A.; Shetoperov, V. Ya.

TITLE: Energy spectrum of nuclear active particles in extensive
air showers

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 418-427

TOPIC TAGS: extensive air shower , nuclear active particle , energy
spectrum, ionization burst

ABSTRACT: Ionization bursts produced by nuclear active particles in
extensive air showers were studied with an array of 192 ionization
chambers with area (10 m^2) small enough to make the burst spectrum
coincide with the nuclear-active particle spectrum and large enough
to achieve good statistical accuracy. The data obtained indicate
that the spectrum of bursts with more than 1000 nuclear-active par-

Card   1/2

MAMADZHANOVA, M.Yu.

Sericulture in Tajikistan; economic and geographical study. Sbor.
trud. Tadzh. fil. Geog. ob-va SSSR no.2:125-136 '61. (MIRA 1-11)
                (Tajikistan--Sericulture)

MAMADZHANOVA, M. Yu.

Brief study of the economic geography of the Karategin. Uch. zap.
Stal. gos. ped. inst. 21:71-80 '59.   (MIRA 14:5)
            (Surkhob Valley--Economic geography)

MAMADZHANOVA, M. YU.:

MAMADZHANOVA, M. YU.: "Garm Oblast" (Economic-georgaphic characteristics). Moscow, 1955. Moscow State Pedagogical Inst imeni V. I. Lenin (Dissertations for the degree of Canlidate of Geographical Sciences)

SO: Knizhnaya letopis' No. 44, 29 October 1955. Moscow.

MAMALADZE, Yu.G. (Tbilisi)

Deep-penetrating transverse waves in a rotating viscous fluid.
Prikl. mat. i mekh. 28 no.5:952-955 S-O '64.

(MIRA 17:11)

MAMADZHANOV, U.D.; TURAPOV, M.K.

Industrial utilization of reagents on a base of acrylate.
Burenie no.9:29-31 '64.

(MIRA 18:5)

1. Institut geologii i razrabotki neftyanykh i gazovykh
mestorozhdeniy AN UzSSR.

MAMADZHANOV, U.D.; PULATOV, Z.; RAKHIMOV, A.K.

Using light-weight cement grouting and methods for reducing the permeability of the stone fro. this grouting. Burenie no.2:9-11 '64.
(MIRA 18:5)

1. Institut geologii i razrabotki neftyanykh i gazovykh mestorozhdeniy AN UzSSR i trest "Karshineftegazrazvedka".

MAMADZHANOV, U.D.

Device for investigating the motion of drilling mud in the
well bore. Neft. khoz. 42 no.7:61-64 Jl '64.   (MIRA 17:8)

AVRAMENKO, V.L.; FRAULOV, A.A.

Return of pins assembly, [illegible]
86-73 '64.

1. Institut geologii [illegible] [illegible]
romlanly [illegible].

MAMADZHANOV, U.D.; TURAPOV, M.K., kand. khim. nauk, otv. red.;
ASTAKHOV, A., red.

[Flow of drilling fluids and cement slurry] Fil'tratsiia
promyvochnykh i tsementnykh rastvorov. Tashkent, Nauka,
1964. 101 p. (MIRA 17:11)

MAMADZHANOV, U.D.

Effect of various factors on the flow of drilling fluids.
Izv.AN Uz.SSR. Ser.tekh.nauk no.4:70-76 '62. (MIRA 15:7)

1. Institut geologii i razrabotki neftyanykh i gazovykh
mestorozhdeniy AN UzSSR.
(Oil well drilling fluids--Testing)

MAMADZHANOV, U. D., Cand. Tech. Sci. (diss) "Investigation of

Caking [gliniziruyushchikh?] Properties of Flushing Solutions

under Hydrodynamic Conditions," Baku, 1961, 16 pages (Combined

Council Azerbaydzh. Inst. Petroleum and Chem, Acad. of Sci.,

Azerbayd. SSR) 250 copies (KL Supp 12-61, 270).

MAMADZHANOV, U.D.

Dynamic filtration in the circulation of drilling fluids.
Neft. khoz. 38 no.6:45-49 Je '60.   (MIRA 13:7)
            (Oil well drilling fluids)

MAMADALIYEV, N.

"Thin bodies in a two-component supersonic flow."

report submitted for 2nd All-Union Conf on Heat & Transfer, Minsk, 4-12 May 1964.

Mechanics Inst, AS USSR.

MAMADZHANOV, K.M., ordinator

Pelvic fractures and their treatment. Nauch. trudy SamMI
22:58-60 '63.   (MIRA 17:9)

1. Iz kliniki fakul'tetskoy khirurgii Samarkandskogo
meditsinskogo instituta.

MAMADZHANOV, I.M., aspirant.

Local disinfection agents. Veterinariia 35 no.4:73-77 Ap '58.

(MIRA 11:3)

1. Uzbekskiy sel'skokhozyaystvennyy institut.

(Disinfection and disinfectants)

22929

Stand for the testing of bolted joints

S/123/61/000/007/022/026
A004/A104

and nut, alternating load cycle frequencies, technology of producing threads etc., on the degree of self-unscrewing. Moreover, endurance tests can be carried out during symmetric and asymmetric load variation cycles. During the investigation process the tightening stress can be measured by any of the following methods: 1) measuring the elongation of the shaft of the bolt being tested either directly or by the electric strain-measuring method with the aid of wire-type resistance pickups glued to the bolt shaft; 2) measuring the nut angle of rotation; 3) measuring the torque applied to the nut with the aid of a calibrated wrench.

G. Flidlider

[Abstracter's note: Complete translation]

Card 2/2

1.9600

AUTHOR: Mamadzhanov, I.G.

TITLE: Stand for the testing of bolted joints

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 7, 1961, 28, abstract
             7E248 ("Tr. Novocherk. politekhn. in-ta", 1960, v. 107, 55 - 57)

TEXT: The author describes an installation, fabricated at the Novocherkass-
kiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute), intended for
the experimental investigation of the tightening stability of bolted joints during
alternating loads produced by the inertial forces of unbalanced masses. The axial
tightening stress produced in the bolt shaft up to the operation of the installa-
tion preserves its static load. When the installation is put in operation, a dy-
namic load is produced at the constant magnitude of which it is possible, varying
the tightening magnitude, to produce alternating loads with different cycle charac-
teristics and thus investigate the effects of these loads on the degree of self-
unscrewing of bolts during alternating loads with different coefficients of asym-
metry. It is also possible to investigate on the stand the effect of the magnitude
of the initial tightening stress, microgeometry of the threaded surface of bolt

Card 1/2

MAMADZHANOV, I.G.

Optical measurement of the angle of a nut turn during self-unscrewing.
Trudy NPI 107:53-54 '60.   (MIRA 14:3)
                              (Optical measurements)

Mamadzhanov A.G.

PHASE I BOOK EXPLOITATION   SOV/4221

Novocherkassk. Politekhnicheskiy institut

Raboty mekhanicheskogo fakul'teta (Works of the Division of Mechanics) [Novocherkassk] 1958. 201 p. (Series: Its: Trudy, tom 90) Errata slip inserted. 2,000 copies printed.

Editorial Board: V.P. Mikhaylov (Resp. Ed.), Candidate of Technical Sciences, Docent; A.A. Fydnitskiy, Professor; P.M. Vlasov, Candidate of Technical Sciences, Docent; I.F. Goncharov, Candidate of Technical Sciences, Docent; P.P. Klochko, Candidate of Technical Sciences, Docent; N.M. Savin, Candidate of Technical Sciences, Docent; and A.A. Kutukov (Resp. Secretary), Candidate of Technical Sciences, Docent; Tech. Ed.: P.S. Baynatov.

PURPOSE: This book is intended for technical personnel in mechanical engineering.

COVERAGE: This collection of works deals with investigation of internal combustion engines, metal cutting, gears, resistance-type strain gages, and wear of machine parts. No personalities are mentioned. References accompany several of the articles.

Kolev, I.S. Friction in the Metal-Cutting Process   107

The author briefly reviews some of the data available on this subject and presents the results of an investigation of the effect of cutting depth and speed, feeds, and tool angles on the cutting process. He concludes that in metal cutting the molecular interaction between cutting-tool and work surfaces has a great effect on the consumption of energy and tool wear.

Derin, I.P. [Docent, Department of the Theory of Mechanisms and Machine Parts]. Load-Carrying Capacity of Toothed Gears Made of DSP-G "Drevplastik" [Masonite-Type Material] and Working in Pairs With Steel Gears   117

The author presents a summary of results of a set of experimental investigations conducted on a specially built test installation in order to determine the effect of number of teeth, velocity ratio, and circumference, and the other of DSP-G "Drevplastik." The maximum circumferential unit pressure (K = of the tooth width) under which no appreciable wear or failure occurred was used as a criterion in determining gear load-carrying capacity.

Chuduttov, V.A. [Assistant Professor, Department of the Theory of Mechanisms and Machine Parts]. Performance of the Wire Grid of a Resistance-Type Strain Gage in a Zone of High Temperatures   131

Effect of temperature on the resistance of a strain-gage wire is investigated. Results show that the rate of change in the resistance is a function of time and testing temperature. It decreases with time and becomes stable when held for 8 hours at 150°C.

Chuduttov, V.A. Effect of the Shape of the Wire Grid of a Resistance-Type Strain Gage on the Gage Factor   139

Effects of gage base, nonparallelism of grid wires, deformation of wires and part being tested, and the number of grid loops on the gage factor are investigated. Results show that for the gage bases from 2 to 5 cm long the change in the number of loops between the limits of 6 and 18 has very little effect on the gage factor.

Savin, N.M. [Senior Instructor, Department of the Theory of Mechanisms and Machine Parts]. Ways of Improving Wear Resistance of Screw Mechanisms   159

The wear of screw mechanism made of bronze, cast iron, and textolite with square and trapezoidal screw threads is investigated. Results show that the use of a modified cast iron bearing in place of bronze and the replacement of square threads by trapezoidal will increase the wear resistance.

Burak, A.I. [Assistant Professor, Department of Metal Technology and the Science of Metals]. A Method of Designing hypoid Gears with Circular Tooth Form   171

The method presented makes design calculations and may be used in the design of hypoid gears with a spiral angle equal to zero.

Hamadzhanov, A.G. [Assistant Professor, Department of the Theory of Mechanisms and Machine Parts]. On the Problem of Stability in the Tightening of Bolted Joints Under Variable-Load Conditions   191

The author presents the results of a theoretical investigation of the process of loosening of bolted joints subjected to vibratory loads.

VASIL'KOV, G., kand.veterinarnykh nauk; POLYKOVSKIY, M.D.; KUDRYAVTSEV,A.A.;
MAMADZHANOV, I.; MOLDABAYEV, Zh.; LAVRENT'YEV, M.; KHERUVIMOV,V.P.;
KURANOV, Yu.

Throughout the Soviet Union. Veterinariia 37 no.4:91-96 Ap'60
(MIRA 16:6)
1. Uchenyy sekretar' veterinarnoy sektsii Vsesoyuznoy akademii
sel'skokhozyaystvennykh nauk imeni Lenina (for Vasil'kov).
(VETERINARY RESEARCH) (VETERINARY MEDICINE)
(VETERINARY HYGIENE)

Khrenov

MAMADZHANOV, I.:   Master Vet Sci (diss) -- "The disinfectant properties of the

ash of local varieties of fuel in Uzbekistan".   Samarkand, 1958.   23 pp (Min

Agric USSR, Uzbek Agric Inst im V. V. Kuybyshev), 150 copies (KL, No 9, 1959, 116)

MAMADZHANOV, G.

Thirteenth anniversary of the Frunze Meat Combine. Mias.ind.SSSR 33 no.5:61-62 '62. (MIRA 15:12)

1. Frunzenskiy myasokombinat.
(Frunze Province--Meat industry)

MAMADZHANOV, A., inzh.; YANOV, V.Ya., inzh.

EVA-6/200 electric branch cutting unit. Trakt. i sel'khozmash.
no.8:39 Ag '65.   (MIRA 18:10)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut
mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

MAMADZHANOV, A.

Practical exercises in agrochemical clubs of rural schools in
Central Asian Republics. Khim. v shkole 17 no.3:69-74 My-Je '62.
(MIRA 15:6)
(Soviet Central Asia—Agricultural chemistry—Study and teaching)

MAMADZHANASHVILI, G.I.; KHAKHANASHVILI, G.K.; LOLUA, K.K., red.; BAKRADZE,
D.S., red. izd-va; DZHAPARIDZE, N.A., tekhn. red.

[Construction equipment; working principles, operation, and
maintenance] Stroitel'nye mashiny; ustroistvo, ekspluatatsiia i
tekhnicheskii ukhod. Tbilisi, Izd-vo Akad. nauk Gruzinskoi SSR,
1962. 145 p. (MIRA 15:7)
(Construction equipment)

RAKHIMOV, R.M.; MAMADZHANOV, U.D.

Simplified calculation of the profile of a slant hole. Izv. AN
Uz. SSR. Ser. tekh. nauk 9 no. 6:44-48 '65   (MIRA 19:1)

1. Institut geologii i razvedki neftyanykh i gazovykh mestorozh-
deniy Gosudarstvennogo geologicheskogo komiteta SSSR. Submitted
December 15, 1964.

MAMADZHANOV, U.D.

Method for casing recovery. Neft. khoz. 42 no.11:34-40 N '64
(MIRA 18:2)

SOMOGYI, Miklos; MAMADY, Kaba

Joint Communique of the National Federation of Workers of Guinea and
of the Central Council of Hungarian Trade Unions. Hung TU no.10:3
0 '62.

1. President, Central Council of Hungarian Trade Unions (for Somogyi).
2. President, National Federation of the Workers of Guinea (for Mamady).

ACC NR: AT7007795

the geologic structures of the region under study. This is attested to by: 1) the
absence of a correlative relationship between the number of earthquakes for two
difference tectonic structures of the region, and the total number of earthquakes;
2) the lack of a correlation between two γ coefficients; and 3) the absence of
correlation between A_{10} values for these different structures. An attempt is made
to study the change of parameters γ and R near the focus of a strong earthquake
during and after its buildup. It is shown that the angular coefficient γ decreases
before the occurrence of a strong earthquake, while the measure of scattering R
increases. Contradictory cases are apparently connected with repeated shocks.
Orig. art. has: 10 figures and 9 formulas.

[CS]

SUB CODE: 08/ SUBM DATE: none ORIG REF: 012/ OTH REF: 003

Card 2/2

ACC NR: AT7007795

AUTHOR: Mamadaliyev, Yu. A.

ORG: none

TITLE: Investigation of the changes of parameters of the seismic regime in time and in space

SOURCE: AN KirgSSR. Sovet po seysmologii. Voprosy regional'noy seysmichnosti Sredney Azii (Problems of regional seismicity of Central Asia); materialy XXII sessii Soveta po seysmologii AN SSSR i Instituta fiziki, matematiki i mekhaniki AN Kirgizskoy SSR. Frunze, Izd-vo Ilim, 1964, 93-104

TOPIC TAGS: seismic regime, earthquake, tectonics, epicenter/Tadzhik SSR

ABSTRACT: The parameters $(\alpha, \gamma, A_{10}, R)$ of the seismic regime of Tadzhik SSR were investigated. Twenty-five hundred earthquakes of the $K = \log E = 7-13$ energy classes for the period 1955—1962 in the epicentral region $(38° 10'—39° 10'$ lat N; $68° 35'—70° 15'$ long E) having a total area of 17,000 km^2 were examined. The angular coefficient γ of the earthquake recurrence graph $\log N = \alpha + \gamma \log E$ for a given region is a variable. Coefficient γ and seismic activity A_{10} (at the level of the 10th energy class) have a clear correlative relationship $(r = -0.76$ on the basis of quarterly computations and $r = -0.96$ in the case of yearly computations of γ and $A_{10})$. Relationships are obtained showing that the parameters α, γ, and R depend on

Card 1/2   UDC: none

MAMADALIYEV, Yu.A.

Variation with time of the parameters of seismic conditions.
Dokl. AN Tadzh. SSR 6 no.2:29-33 '63.   (MIRA 17:4)

1. Institut seysmostoykogo stroitel'stva i sysmologii AN
Tadzhikskoy SSR. Predstavleno akademikom AN Tadzhikskoy SSR
S.U.Umarovym.

L 21675-66

ACC NR: AP6008681

representation of the body shape were restricted to the first terms of the Bessel function. The results of computations of a two-component flow formed by gas and water vapor at an altitude of 920 m, with $\rho_\infty = 920$ mb, and at an absolute temperature $T = 265.2K$ are given in tabular form. It is shown that the absolute values of the pressure along the upper surface decrease monotonically, downstream from the edge, while they increase along the lower surface. It is also shown that a light weight component acquires higher velocity than a heavy one and that the difference in pressures on both surfaces increases monotonically with the body moving in two-component and one-component media. This difference is about 14% on the average. Orig. art. has: 1 figure, 12 formulas, and 1 table. [AB]

SUB CODE: 20/ SUBM DATE: 01Feb65/ ORIG REF: 002/ ATD PRESS: 4319

Card 2/2

L 21675-66   EWT(1)/EWP(m)/EWA(d)/EWA(1)   WW
ACC NR: AP6008681   SOURCE CODE: UR/0167/66/000/001/0022/0027

AUTHOR: Mamadaliyev, N. A.

ORG: Institute of Mechanics AN UzSSR (Institut mekhaniki); Computer Center, AN UzSSR
(Vychislitel'nyy tsentr)

TITLE: Motion of a body in a two-component medium at supersonic speed

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 1, 1966, 22-27

TOPIC TAGS: aerodynamics, supersonic flow, pressure distribution, steady flow,
flow analysis, flow structure

ABSTRACT: The two-dimensional problem of two-component supersonic flows past bodies
is considered in linear formulation, under the assumption that the flow is potential
and steady. The solution is sought by the inverse method, that is, the surface of a
thin body is determined when the lines of demarcation between different flows and the
pressure distributions along the same lines are given. The flow along both upper and
lower surfaces of a thin wing is analyzed in two zones, one located on the upper sur-
face and formed by a two-component flow and by a one-component (light weight) flow,
the other located on the lower surface and formed by a one-component (heavy)
flow and by a two-component flow. Formulas are derived for determining the pressure
distribution along the lines of demarcation. The calculations for the qualitative
and quantitative analysis of the formulas for pressure distribution and graphical

Card 1/2

L 22303-66

ACC NR: AT6006911

0

edge, the pressure drop decreases, approaching asymtotically the
pressure drop for a one component stream. Orig. art. has: 18 formulas.

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 002.

Card 3/3