30419

On analytical expression of time dependence ...

S/058/61/000/009/041/050
A001/A101

materials. They survey briefly and analyze critically the time dependence of viscous magnetization proposed earlier by other authors.

T. Nikitina

[Abstracter's note: Complete translation]

Card 2/2

SAMSONOVA, V.G., prof.; NOVITSKIY, R.I., dotsent; ADISMAN, M.A.' inzh.;
     BIRYUKOV, K.A., person.pensioner soyuznogo znacheniya; LAVRENT'YEV,
     S.S., kand.fiziko-matematicheskikh nauk; TOLOKONSKIY, N.I., dotsent

     Immortalize the memory of S.O.Maizel. Svetotekhnika 7 no.6:28-29
     Je '61.   (MIRA 14:6)
                    (Maizel', Sergei Osipovich)

LAVRENT'YEV, S.S. (Moskva)

Soviet physicists-teachers: Aleksei IAkovlevich Modestov.
Fiz. v shkole 21 no.1:26-27 Ja-F '61.   (MIRA 14:9)
     (Modestov, Aleksei Iakovlevich, 1873-1942)

· 24.2200,

S/058/62/000/008/093/134
A062/A101

AUTHORS: Remizov, A. N., Lavrent'yev, S. S.

TITLE: Dependence of the magnetic viscosity of ferromagnetic materials on the dimensions of the samples

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 60, abstract 8E433 ("Uch. zap. Mosk. gor. ped. in-ta im. V. P. Potemkina", 1960, 86, 43 - 75)

TEXT: The dependence of the prolonged (Ewing type) magnetic viscosity on the dimensions of the samples was measured by means of an astatic magnetometer in Armco-iron annealed at $800^{\circ}C$ and slowly cooled. It was found that the magnetic viscosity increases with the relative length of the samples: the ratio of the viscous portion of magnetization to total magnetization increases, and the process of time variation of magnetization is slowed down. Thus it is necessary to distinguish the magnetic viscosity of the substance and the magnetic viscosity of the sample.

[Abstracter's note: Complete translation)

Card 1/1

LAVRENTYEV, S. Ye.

Automobile Industry and Trade

Innovations in founding at the Gor'kly Automobile Plant. Avt. trakt prom. No. 1, 1952.

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

LAVRENTYEV S, Ye.

Modification of ionol S. E. Lavrent'ev and S. I. Ryabuk.

LAVRENT'YEV, S. E.

Iron for centrifugal casting. S. E. Lavrent'ev and L. B. Khazan. U.S.S.R. 105,085 May 25, 1957. For centrifugal casting of risers and discharge pipes in unlined chill molds, a cast iron containing C 3.4, Si 1.3-2, Mn 1.1-1.2, Ti 0.15-0.3, Cu not over 0.05, Cr 0.06, P 0.02%, rest Fe is used.

M. Hoseh

IAVRENT'YEV, S.Ye.

Automatic machines should be used in founding shops.
Izobr.i rats. no.7:10-13 Jl '60.   (MIRA 13:8)

1. Glavnyy spetsialist Gosudarstvennogo komiteta po
avtomatizatsii i mashinostroyeniyu pri Sovete Ministrov
SSSR.
        (Foundries--Equipment and supplies)
            (Machinery, Automatic)

ALEKSANDROV, N.N.; KLOCHNEV, N.I.; LAVRENT'YEV, S.Ye., inzh.,
    retsenzent

[Technology of preparing and the properties of heat-resistant
cast iron] Tekhnologiia polucheniia i svoistva zharostoikikh
chugunov. Moskva, Izd-vo "Mashinostroenie," 1964. 169 p.
                                        (MIRA 17:5)

LAVRENT'YEV, V.

Give agriculture more high-quality machinery. Trakt. i sel'khozmash.
31 no.7:18-19 Jl '61.   (MIRA 14:6)

1. Zamestitel' predsedatelya Rostovskogo Soveta narodnogo
khozyaystva.
                    (Agricultural machinery)

KOROLEV, S., inzh.; LAVRENT'YEV, V., inzh.; ANAGORSKIY, L., red.;
     ROMANNIKOV, F., red.izd-va; KARZHAVINA, Ye., tekhn.red.

     [Build-up welding of standard parts] Naplavka tipovykh de-
     talei. Lipets, Lipetskoe knizhnoe izd-vo, 1962. 65 p.
                             (MIRA 17:3)
     1. Svarochnoye byuro Lipetskogo traktornogo zavoda (for
     Korolev, Lavrent'yev).

LAVRENT'YEV, V., inzh.- podpolkovnik

Use of electronic devices. Av. i Kosm. 47 no.12:71-75   1 '64
(MIRA 18:1)

G/004/63/010/002/002/005
A051/A126

LAVRENT'YEV, V.

AUTHOR: ~~Lawrentjew, W.~~, Doctor (Moscow)

TITLE: The external friction of rigid polymers

PERIODICAL: Plaste und Kautschuk, no. 2, 1963, 72 - 75

TEXT: A study is made of the friction properties of rigid polymers
and of the general regularity of the outer friction. The friction law
is investigated, followed by the relation between friction forces and
gliding speed and temperature. Plastic polymers are studied only for
their plastic properties and rubber polymers for their elastic proper-
ties. General experiments showed that: 1) the relation of the friction
force of the plastic polymer to the normal load can be expressed by the
linear law within a wide range, from 1 to 750 kp/cm². 2) The relation
of the friction force to the gliding velocity for plastic and high-elas-
tic polymers has two maxima. 3) As a rule, the friction force is elevated
in plastics with an increase in temperature and drops for rubber and
ebonite. 4) In gliding velocities of 10^{-5} to 100 mm/s, the nature of the

Card 1/3

The external friction of .....

G/004/63/010/002/002/005
A051/A126

friction of the polymers in a high-elastic state is determined by mole-
cular-kinetic processes, primarily by very strong plastic deformations of
the contact surface, and by the nature of the friction of polymers in a
plastic state. 5) The molecular-kinetic nature of the outer friction of
the polymers is clearly seen at a gliding velocity of the polymers, com-
parable to the average relaxation velocity. There are 8 figures.
The author expresses his thanks to Professor Doctor W. Holzmüller, Leipzig,
and Professor Doctor G. Bartenew, Moscow, for their assistance.

ASSOCIATION: Staatliches Pädagogisches Institut,"W. J. Lenin," Lehrstuhl
              für Festkörperphysik, Moscow (State Institute for Teachers,
              W. J. Lenin, Department of Solid State Physics, Moscow)

SUBMITTED: January 19, 1962

Card 2/3

The external friction of .....
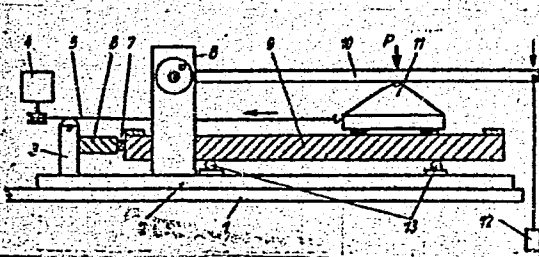
C/004/63/010/002/002/005
A051/A126

Figure 1: Diagram of the RTL tribometer. 1 - table; 2 - base surface; 3 - stand; 4 - motor with gear; 5 - threads; 6 - tensometric steel ring with resistance indicator; 7 - insulation; 8 - base surface of the lever; 9 - friction surface; 10 - lever; 11 - carriage with sample; 12 - load; 13 - rollers.

Card 3/3

ANTSYSHKIN, S.P.; BOBYLEV, G.V. ; GORYACHEV, I.V.; ISACHENKO, Kh.M.; KOVALIN,
D.T.; LAVRENT'YEV, V.A.; LITVINOV, I.V.; MUKIN, A.F.; PEREPECHIN, B.M.;
PIS'MENNYY, N.R.; REBROVA, G.I.; SERGEYEV, P.A.; SOBINOV, A.M.; FEDO-
ROV, P.F.; FILINOV, N.P.; KHRAMTSOV, N.N.; KAZAKOVA, Ye.D., red.;
BALLOD, A.I., tekhn. red.

[Reference book for foresters] Spravochnik lesnichego. Moskva, Gos.
izd-vo sel'khoz. lit-ry, 1961.   894 p.   (MIRA 14:7)
           (Forests and forestry)

GOLOVANOV, G.A., gornyy inzh.; BERDICHEVSKIY, R.I., gornyy inzh.;
        PTITSYN, Yu.V., gornyy inzh.; LAVRENT'YEV, V.A., gornyy tekhnik

    Redesigning the Olenogorsk Ore Dressing Plant. Gor.zhur.
    no.8:55-57 Ag '62.   (MIRA 15:8)

    1. Olenegorskiy gorno-obogatitel'nyy kombinat.
            (Olenogorsk region—Ore dressing)

AUTHOR: Lavrent'yev, V.B.   SOV/113-58-12-4/17

TITLE: A Method for Increasing the Roadability of Wheel Automobiles
               (Sposob povysheniya prokhodimosti kolesnykh avtomobiley)

ABSTRACT: The roadability of wheel automobiles is increased by using
               thin-walled tires of large profile with central regulation of
               the air pressure. The roadability of the automobiles
               ZIL-151, ZIL-157 and ZIL-121B is here compared. If the
               pressure in the tires 12,00 - 18 is reduced from 3.5 to
               0.3 kg/cm^2, the supporting surface of the wheels increases
               sharply (Figure 1). The reduction of the specific pressure
               decreases the immersion of the wheels in the ground. At a
               pressure of 1 atm, the immersion in sand is only 50 mm
               (Figure 2). The resistance to the movement of the auto-
               mobile on sand is lowest at a pressure of 0.75 atm. On snow,
               the minimum is at 1.5 atm (Figure 4). A reduction of the
               tire pressure from 3.5 to 0.75 atm lowers the resistance of
               the ground 9 times in the case of sand, and 3 times in swamps
               (Figure 5). The traction power of the automobile ZIL-151 at
               reduced tire pressure is 3,200 kg on meadows, 2,800 kg on
Card 1/2   sand, and 1,400 kg on snow. Further improvements may be

SOV/113-58-12-4/17

A Method for Increasing the Roadability of Wheel Automobiles

        reached by a further increase of the tire profile, by the use
        of differential gear blocking, etc (see Table).
        There are 3 photos, 4 graphs, and 1 table.

ASSOCIATION: Moskovskiy avtozavod imeni Likhacheva (Moscow Automobile
           Plant imeni Likhachev)

Card 2/2

LAVRENT'YEV, V.D.

Unutilized ways of economizing metal. Sel'khozmashina no.2:29-30
F '57.   (MLRA 10:4)
                        (Metal industries)

LAVRENT'YEV, V.D., inzhener.

Raise the level of production organization at machinery plants.
Sel'khozmashina no.10:27-29 0 '57.   (MIRA 10:9)
                        (Machine industry)

LAVRENT'YEV, V.D., inzh.; FEL'DMAN, B.Z.

Technical innovations in agricultural machinery plants of the
Rostov economic and administrative region. Trakt. i
sel'khozmash no. 6:39-42 Je '58.   (MIRA 11:7)

1. Rostovskiy na-Donu sovnarkhoz.
        (Rostov Province--Agricultural machinery industry)

LAVRENTYEV V.D.

AUTHOR: Kapitskiy, R.A., Engineer   SOV-117-58-8-26/28

TITLE: All-Union Conference on Problems of Designing and Producing
               Agricultural Machines (Vsesoyuznaya konferentsiya po voprosam
               konstruirovaniya i proizvodstva sel'skokhozyaystvennykh mashin)

ABSTRACT: The All-Union Scientific Technical Conference on problems of
               of designing and producing agricultural machines was convened
               in Rostov-on-Don in January 1958. The plenary session heard
               the report of Candidate of Technical Sciences A.Z. Zhuravlev,
               on the results of the execution of the resolutions made by the
               conference in 1953. Candidate of Technical Sciences Ya.M.
               Zhuk, VIM, read a paper on "The Results of the Study of the
               Two-Phase Method of Combine Harvesting in the USSR and of the
               Requirements of the System of Machines Needed for this Method".
               Candidate of Technical Sciences I.I. Trepenenkov, NATI, read
               on "The Methods for the Development of the Designing of Agri-
               cultural Tractors"; Doctor of Technical Sciences M.A. Pustygin,
               VISKhOM, on "The Principal Problems of the Development of
               Cereal Harvesting Combines"; Engineer V.D. Lavrent'yev on
               "Specialization and Cooperation in the Production of Agri-
Card 1/3   cultural Machines"; Engineer O.M. Kotovich, VISKhOM, on

SOV-117-58-8-26/28

All-Union Conference on Problems of Designing and Producing Agricultural Machines

"Rational Profiles and Reduction of Assortment of Rolled Metal in Agricultural Machinebuilding"; Engineer G.M. Fedorishchenko on "Results of the Work of VNIIMESKh in the Field of the Electric Drive of Mobile Agricultural Machines"; Engineer P.V. Savich from the Institute of Machine Science of the UkrSSR Academy of Sciences on "The Determination of the Density of Soils by Means of Radioactive Isotopes"; Candidate of Technical Sciences S.A. Alferov, VISKhOM, on "The Design of Foreign Cereal Harvesting Combines"; Engineer A.I. Malitskiy on "New Designs of Corn-Harvesting Combines"; Candidate of Technical Sciences Ye.S. Bosoy on "Field Tests of Cutting Apparatus for an Ensilage Harvesting Combine"; the professor of the Khar'kov Polytechnical Institute A.I. Petrusov on "Methods for the Further Investigation of the Square-Pit Sowing Machine"; the lecturer of the Rostov Institute of Railroad Transport Engineers A.I. Zelenov on "A New Method for Cold Electric Welding for the Restitution of Rejected Details of Agricultural Machines"; the lecturer of the Novocherkassk Polytechnical

Card 2/3   Institute Ye.L. Lokshin on "Processing of Metals by Hydraulic

SOV-117-58-8-26/28

All-Union Conference on Problems of Designing and Producing Agricultural
Machines

Blows of Ultrasound Frequency"; and the engineer of the Rostov
Scientific Research Technological Institute D.M. Nabrodov on
"New Methods of Casting in Agricultural Machine-Building".
The conference recommended close cooperation between the de-
signing bureaus, the scientific research organizations and
the chairs of the various institutes for the development
of new agricultural machines taking into consideration zonal
differences. Special attention should be paid to the auto-
mation of the control of the various mechanisms.

1. Agricultural machines - Design   2. Agricultural machines -
   Production   3. Conferences - Agricultural machines - Rostov-on-Don

Card 3/3

LAVRENT' YEV, V.

LAVRENT'EV, V.

Aviatsionnia kinos" emka. Moskva, Goskinoizdat, 1946. 153 p., illus.
Title tr.: Aerial filming.

TR810.L3

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

LAVRENT'YEV, Vladimir Ivanovich; KIRILLOV, N.I., doktor tekhnicheskikh nauk, professor, retsenzent; KRAVCHENKO, B.I., redaktor; TUBYANSKAYA, F.G., izdatel'skiy redaktor; ROZHIN, V.P., tekhnicheskiy redaktor.

[Processing of light-sensitive materials] Tekhnika obrabotki rulonnykh svetochuvstvitel'nykh materialov. Moskva, Gos.izd-vo obor. promyshl., 1957. 249 p.   (MIRA 10:11)
                    (Photography--Developers and developing)

LAVRENT'YEV, V.

Apparatus for processing narrow-width moving-picture film. Sov.
foto 17 no.12:55-59 D '57.   (MIRA 11:1)
        (Cinematography--Developing and developers)

23(SOV/77-4-3-10/16

AUTHORS: Lavrent'yev, V.I. and Podval'nyy, S.P.

TITLE: The High-Speed Macro-Cinephotographing of Remote Ob-
                jects

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinemato-
                grafii, 1959, Vol 4, Nr 3, pp 222-225 (USSR)

ABSTRACT: The authors developed the scheme and designed and
                tested the model of an optical installation intended
                for the high-speed macro-cinephotography of remote
                objects (applicable to the cameras SKS-1 and FP-22).
                In addition the authors show the possibility to pro-
                duce, with the aid of FP-22 cameras, macrophotos of
                a non-luminous object in reflected light with a fre-
                quency of 100,000 frames per second, on a scale up
                to 3:1. As to the latter, the authors' report is
                based on investigations carried out by Candidate of
                Technical Sciences, K.F.Romanov, of the Nauchno-iss-
Card 1/4   ledovatel'skiy institut tekhnologii i organizatsii

The High-Speed Macro-Cinephotographing of Remote Objects

proizvodstva (Scientific Research Institute of the
Technology and Organization of Production). The
authors used the scheme illustrated in diagram 1.
The given scheme can be divided into two sections,
the left for projection and the right for photographing,
the back principal plane of lens 3 being at the inter-
face between them. In the left section, objective 2
forms an inverted image of object 1 in the back prin-
cipal plane 4 of lens 3, which in this way appears as
a kind of transparent screen concentrating the rays
on the camera objective. Lens 3 is characterized by
the fact, that under given conditions it does not
appear as an inverting system. The image formed by
the camera objective, therefore, is erect. In this
way a system with a very great equivalent focal
distance has been obtained. Such a system is neces-
sary for macrophotographs of comparatively remote ob-

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SOV/77-4-3-10/16

The High-Speed Macro-Cinephotographing of Remote Objects

jects. Figure 2 (photograph) shows a model instal-
lation with camera SKS-1. Although the installation
was not assembled from specially prepared parts, the
sharpness of the obtained pictures was satisfactory.
Figure 3 (on insert) shows a set of frames illustra-
ting the burning out process of an electric bulb fi-
lament. The photographic frequency was 2,000 frames
per second. It proved necessary to charge the system
intended for industrial photographing in some cases
(forming of shavings during the metal cutting process
on a turning lathe), and the type of camera used
(FP-22). Figure 4 (photograph) shows that this in-
stallation differs from the basic system by the use
of a plane mirror which, at an angle of $90°$, stands
in the projectional section of the system. The ca-
mera is installed near the lathe at an angle of $90°$.
The minor projectional objective and the object are
Card 3/4   rigidly fixed on a common base, which can move along

The High-Speed Macro-Cinephotographing of Remote Objects

an axis, that passes through the centres of camera objective, lens and mirror. Figure 5 (on insert) shows a set of frames taken at a frequency of 100,000 pictures per second. Figure 6 (photograph) shows the illuminator, which consists of a lamp, a telescopic tube and a condensing lens. There are 5 sets of photographs and 1 diagram .

SUBMITTED: April 20, 1958

Card 4/4

LAVRENT'YEV, V.

In the world of high speeds. Sov. foto 19 no.5:46-51 My '59.
(MIRA 12:9)
(Photography, High-speed)

LAVRENT'YEV, V. I.

Isn't photography also a science and creative art? Sov.foto 19
no.7:33-34 Jl '59.   (MIRA 12:11)
            (Photography—Study and teaching)

LAVRENT'YEV, V.I.; PODVAL'NYY, S.

Determining the optimum frequency of image motion in high-speed motion-picture photography. Zhur.nauch.i prikl.fot. i kin. 6 no.5:349-352 S-O '61.

(MIRA 14:9)

(Motion-picture photography, High speed)

GERASIMOV, Yakov Ivanovich; KRESTOVNIKOV, Aleksandr Nikolayevich;
SHAKHOV, Aleksey Sergeyevich; Prinimali uchastiye: LOMOV,
A.L., assistent; LAVRENT'YEV, V.I., aspirant; KAMAYEVA, O.M.,
red. izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Chemical thermodynamics in nonferrous metallurgy]Khimicheskaia
termodinamika v tsvetnoi metallurgii; spravochnoe rukovodstvo.
Moskva, Metallurgizdat. Vol.3.[Thermodynamics of tungsten,
molybdenum, titanium zirconium, niobium, tantalum and their most
important compounds]Termodinamika vol'frama, molibdena, titana,
tsirkoniia, niobiia, tantala i ikh vazhneishikh soedinenii. 1963.
283 p.
                                                        (MIRA 16:2)
        (Nonferrous metals—Thermodynamic properties)

LAVRENT'YEV,V.I.; PELL', V.G.; FOMIN, A.A., red.; PANKRATOVA, M.A.,
        tekhn. red.

    [High-speed motion-picture photography with the SKS-1 camera]
    Skorostnaia kinos"emka kameroi SKS-1. Moskva, Izd-vo
    "Iskusstvo," 1963. 221 p.   (MIRA 16:10)
        (Motion-picture photography, High-speed)
          (Motion-picture cameras)

BUTOMO, D.G.; LAVRENT'YEV, V.I.

Laboratory of the "Krasnyi vyberzhets" Plant. Zav.lab.21 no.12:
1403-1409 '55.   (MLRA 9:4)
(Alloys) (Metallurgical laboratories)

LAVRENTIYEV, V.I.

4479.   DETERMINATION OF NET CALORIFIC VALUE OF FUELS FROM THEIR PHYSICO-CHEMICAL PROPERTIES.   Lavrentiev, V.I.   (Nov. Neft. Tekh., Noftepererab.   (News Petrol. Tech., Treatment, Moscow), 1956, (4), 16-21; abstr. in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1957, (7), 24295).   Net calorific value was calculated for four fuels and 20 samples of individual hydrocarbons and mixtures of them.   Formulae by Kragoe, Rotberg, and two by the author were used.   None of them is always applicable, but they can be used for particular types of petroleum products or petroleum fuels produced by similar processes from similar crudes.   The best formula for fuels containing 30% or

particular types of petroleum products or petroleum fuels produced by similar processes from similar crudes. The best formula for fuels containing 30% or more aromatics is the author's formula which makes net calorific value equal to $7.5 T_A - 2865. n^{20}D + 11,080$, where T_A is the aniline point.

3412. SIMPLIFIED METHOD FOR DETERMINING NET CALORIFIC VALUE OF LIGHT PETROLEUM PRODUCTS. Lavrent'ev, V. (Nov. Neft. Tekh. (News Petrol. Tech., Moscow), 1954, (5), 6-10; abstr. in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1954, (5), 13854). The following formula is proposed on the assumption that ... ntains only carbon and hydrogen and that the calorific v... ... ... Net C.V. = 0.782 gross C.V. + 2073 cal/g. C... ... ... with the standard method on several fuels gav divr... ... ... except in the case of some individual cyclic hydroc...

LFH

LAVRENT'YEV, V. I.

СИНТЕЗ И СВОЙСТВА НАФТЕНОВЫХ УГЛЕВОДОРОДОВ
С ДЛИННОЙ БОКОВОЙ ЦЕПЬЮ

А. С. Дорогочанский, В. И. Лаврентьев, А. В. Линтер,
М. П. Мельникова, В. А. Кубринов

86146

S/152/60/000/003/002/003
B023/B060

5.3610   2209, 1375, 1153

AUTHORS: Dorogochinskiy, A. Z., Nakhapetyan, L. A., Lavrent'yev, V. I.,
Boykova, Ye. P., Kost, A. N., Yershov, V. V.

TITLE: Antioxidizing Properties of Some Pyrazoline Derivatives

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1960,
No. 3, pp. 69-7;

TEXT: In the authors' opinion, the stability of motor fuels to oxidation
is a most important problem. They therefore studied the antioxidizing
properties of some pyrazoline derivatives in their capacity as inhibitors.
The authors first obtained numerous pyrazolines having no substituents in
position 1, and then such having different substituents in this position.
The following compounds were synthesized as possible inhibitors:
1-carbamido-3-phenyl pyrazoline, 1-phenyl carbamido-3-phenyl-4-ethyl-
pyrazoline, 1-thiocarbamido-3,5,5-trimethyl pyrazoline, 1-phenyl thio-
carbamido-3,5,5-trimethyl pyrazoline, 1-phenyl thiocarbamido-3-methyl-
5,5-pentamethylene pyrazoline, 1-phenyl thiocarbamido-3,5-diphenyl
pyrazoline, 1,3,5-triphenyl pyrazoline, 3-amino-1-phenyl pyrazoline.

Card 1/3

Antioxidizing Properties of Some
Pyrazoline Derivatives

S/152/60/000/003/002/003
B023/B060

Derivatives of phenyl thiocarbamides of various pyrazolines were obtained
by the action of phenyl isothiocyanate upon these pyrazolines (Ref. 5).
In a similar manner, the following compounds were obtained from the cor-
responding pyrazolines: 1-carbamido-3-phenyl pyrazoline and 1-phenyl
carbamido-3-phenyl-4-ethyl pyrazoline (Ref. 2). 3-amino-1-phenyl
pyrazoline was synthesized from acrylonitrile and phenyl hydrazine (Ref.6).
1,3,5-triphenyl pyrazoline was obtained by interaction of benzal aceto-
phenone and phenyl hydrazine (Ref. 7). The efficiency of the preparations
examined was estimated by comparing their inhibiting effect with the
effect of para-oxy diphenyl amine, which was taken as a standard, as well
as with the effect of 2,6-ditertiary butyl-4-methyl phenol. Two samples
of motor fuels A and B were taken, the properties of which are given in
Table 1. Sample A was prepared by intermixing equal amounts of fresh
distillate of thermocracking and of the benzene-ligroin fraction.
Sample B was prepared by intermixing the same amounts in a ratio of
30 : 70. Both samples were inhibited by various additions on the day of
their preparation. The additions were allowed to dissolve in the motor
fuels by being added as benzene solutions. Benzene was taken in an amount
of ∼ 0.1% of the fuel volume. The effect of stability of samples A and B

Card 2/3

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Antioxidizing Properties of Some
Pyrazoline Derivatives

S/152/60/000/003/002/003
B023/B060

was examined first. For this purpose the authors studied the inhibited
motor fuel for its stability to oxidation by determining the induction
period on the basis of ГОСТ 4039-48 (GOST 4039-48) within 6 h. The content
of potential resins in the motor fuel was determined next. Results show
that some pyrazoline derivative samples have a considerable inhibiting
effect. The best results were yielded by the use of 1-phenyl thio-
carbamido-3,5,5-trimethyl pyrazoline. In the sample inhibited with this
substance, the resin formation appeared only after two months, while
resins in a noninhibited sample increased with uninterrupted intensity
throughout the whole storage time. There are 3 tables and 7 references:
5 Soviet, 1 US, and 1 German.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
               (Moscow State University imeni M. V. Lomonosov) GrozNII
               (Groznyy Petroleum Institute)

SUBMITTED: September 3, 1959

Card 3/3

//. /2/0

26196
S/081/61/000/012/023/028
B103/B202

AUTHORS: Lavrent'yev, V. I., Bayburskiy, L. A., Dronin, A. P.,
              Denezhkina, Ye. A.

TITLE: Production of fuels for gas and turbine engines from
              products obtained in Groznyy

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1961, 525, abstract
              12M172. (Tr. Groznensk. neft. n.-i. in-t, 1960, vyp. 7,
              73-85)

TEXT: The authors studied the following distillation and residual
products of direct distillation and of secondary origin in order to ob-
tain gas-turbine fuels: kerosene gas oil fractions of the Achalukskiy,
Ozek-Suatskiy and Turkmenskiy petroleum, mazout of the Anastasiyevskiy
petroleum, kerosene of thermal cracking, cracking residue, contact-coking
distillate of pitch of petroleums containing sulfur. It was found
possible to obtain gas-turbine fuels with satisfactory values of
viscosity, solidification point, and vanadium content from the products
of Groznyy. The following products were recommended for examination on

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26196
Production of fuels for gas and turbine ... S/081/61/000/012/023/028
B103/B202

field plants (naturnyye ustanovki): mazout of the Anastasiyevskiy
petroleum and its mixtures with the kerosene gas oil fractions of
Achalukskiy (80 : 20), Ozek-Suyatskiy (85-15), and Turkmenskiy (80 : 20)
petroleum, mixture of the Groznyy cracking residue with sulfur-containing
cracking kerosene (75 : 25) and the distillate of contact coking of
asphalt from which gasoline had been removed and to which 1.5% of
Groznyy cracking residue had been added in order to lower the solidifica-
tion point. [Abstracter's note: Complete translation.]

Card 2/2

Synthesis and Properties of Naphthenic Hydrocarbons   S/020/60/131/02/045/071
With a Long Side Chain   B011/B011

68998

were transformed to 70%. A concentrate boiling between 120 and
185° was obtained from the polymerizate (yield 85-90%). Table 1
shows the resulting (mostly ramified) structures of isodecenes.
Table 2 shows their physico-chemical properties (the raw material
was fraction 6 of the thermal cracking and benzene). Isomeriza-
tion and hydro-dehydro polymerization of the olefins were ascer-
tained as side reactions. 2nd stage: alkylation. Aromatic hydro-
carbons (benzene, toluene) were alkylated by means of the iso-
decenes produced (Refs 3-5). The best conditions were: 97%
H_2SO_4, reaction time 2 hours, ratio benzene:isodecene = 5:1. Tem-
perature 10-20°. The alkylate amounted to 140% by weight of ole-
fins or 90% of the theoretical yield. A fraction boiling between
180° and 350° was obtained from the alkylate as a concentrate of
isodecyl benzenes (85% of the alkylate). It chiefly consisted of
mono-substituted derivatives of benzene (Table 2). On using alu-
minum chloride as catalyst the yield was higher and attained
97-98%. Disproportionation occurred as side reaction. 3rd stage:
hydrogenation. The alkylate concentrate was hydrogenated on 2
catalysts: a) nickel catalyst. The optimum conditions were: pres-
sure 7 atm, molar ratio hydrogen:alkylate = 2.8:1; 150-200°.

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Synthesis and Properties of Naphthenic Hydrocarbons   68999
With a Long Side Chain   S/020/60/131/02/045/071
                                                             B011/B011

ASSOCIATION: Groznenskiy neftyanoy nauchno-issledovatel'skiy institut
                (Groznyy Scientific Research Institute of Petroleum)   И

PRESENTED: November 28, 1959, by B. A. Kazanskiy, Academician

SUBMITTED: November 25, 1959

Card 4/4

LAVRENT'YEV, V.I.; GERASIMOV, Ya.I.; REZUKHINA, T.N.

Equilibrium with hydrogen and thermodynamic characteristics of $BaMoO_4$ and $BaMoO_3$. Dokl.AN SSSR   133   no.2:374-376

Jl '60.   (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Gerasimov).
                    (Barium molybdate)

LAVRENT'YEV, V. I.

report to be submitted for the IUPAC 21st Conference and 18th Intl. Congress of Pure and Applied Chemistry, Montreal, Canada, 2-12 August 1961

ALIMARIN, I. P., and ZOLOTOV, Yu. A., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Science USSR - "Extraction of metal chelate compounds as affected by the nature of the solvent" (to be presented in Russian) (Section C.2 - 11 Aug 61, morning)

BAGDASAR'YAN, Kh. S., and KRITSKAUZ, V. A., Scientific Research Physico-Chemical Institute imeni L. Ya. Karpov, Moscow - "Some aspects of energy transfer in radiation chemistry" (Section A.1, Session II - 7 Aug 61, morning)

DELIMARSKIY, Yu. K., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "The kinetics of the electrode processes in the electrolysis of melted salts" (Section 3.3 - 10 Aug 61, morning)

DELIMARSKIY, Yu. K., LUKSHA, V. I., DUKA, K. K. (Possibly YUKA, K. M.), NAGAENKO, G. D., and KAFROVA, T. M., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "Electrochemical experiment with melted borate and phosphate" (Section A.3, c, (2), Session I - 11 Aug 61, morning)

DELIMARSKIY, Yu. K., PANCHENKO, I. D., and SHILINA, G. V., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "On the convection diffusion in melted salts" (Section 3.3 - 9 Aug 61, afternoon)

GERASIMOV, Ya I., Moscow State University imeni M. V. Lomonosov, (Co-Chairman, Section A.3, c, (2), Session I(B), 11 Aug 61, afternoon)

GERASIMOV, Ya I., LAVRENT'YEV, V. I., REZUKHINA, T. A., and REZUKHINA, T. N., Moscow State University imeni M. V. Lomonosov - "The thermodynamic properties of columbium and cerium oxides" (Section A.3, c, (3), Session II(A), 11 Aug 61, morning)

GOLDANSKIY, V. I., Institute of Chemical Physics, Academy of Sciences USSR - "Two-proton radioactivity - a new kind of radioactive decay of nuclei" (Section A.4 - 7 Aug 61, morning)

GERASIMOV, Yakov Ivanovich; KRESTOVNIKOV, Aleksandr Nikolayevich; SHAKHOV, Aleksey Sergeyevich. Prinimali uchastiye: DUDAREVA, A.G., assistent; LOMOV, A.L., assistent; FEYGINA, Ye.I., assistent; VYGODSKIY, I.A., inzh.; KUZNETSOV, F.A., aspirant; LAVRENT'YEV, V.I., aspirant; CHERNOV, A.N., red.; KAMAYEVA, O.M., red. izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Chemical thermodynamics in nonferrous metallurgy] Khimicheskaia termodinamika v tsvetnoi metallurgii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Vol.2. [Thermodynamics of copper, lead, tin, silver and their most important compounds; a handbook] Termodinamika medi, svintsa, olova, serebra i ikh vazhneishikh soedinenii; spravochnoe rukovodstvo. 1961. 262 p.

(MIRA 14:11)

(Nonferrous metals—Thermal properties)
(Chemistry, Metallurgic)

LAVRENT'YEV, V. I., CAND CHEM SCI, "THERMODYNAMIC IN-

VESTIGATION OF NIOBIUM TETROXIDES." MOSCOW, 1961. (IN-

STITUTE OF GENERAL AND INORGANIC CHEM IMENI N. S. KUR-

NAKOV, ACAD SCI USSR). (KL-DV, 11-61, 211).

-41-

REZUKHINA, T.N.; LAVRENT'YEV, V.I.; LEVITSKIY, V.A.; KUZNETSOV, F.A.

Determination of the thermodynamic functions of oxygen-
containing salts by the electromotive force method. Zhur.fiz.
khim. 35 no.6:1367-1369 Je '61.   (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
            (Salts)   (Electromotive force)

20642

S/020/61/136/006/018/024
B101/B203

5-4700   1043, 1273, 1087

AUTHORS: Lavrent'yev, V. I., Gerasimov, Ya. I., Corresponding Member
             AS USSR, and Rezukhina, T. N.

TITLE: Thermodynamic characteristics of niobium oxides
             (equilibrium with hydrogen, and electrochemical measurements)

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 6, 1961, 1372-1375

TEXT: As published data concerning the reduction of niobium oxides are
insufficient, and the equilibrium of low niobium oxides with hydrogen has
not yet beeen studied at all, the authors report on the reduction of
Nb_2O_5 in equilibrium with H_2 to NbO, as well as on the measurement of emf
of a galvanic cell of NbO and metallic niobium. The equilibrium of
niobium oxides with hydrogen between 1200 and 1550°C was studied in a
circulation apparatus described in Ref. 8. The samples were placed in a
molybdenum furnace on a platinum base in such a manner that they touched
the Pt in a few places only, and were reduced in a hydrogen flow. The
total composition of the reaction products was determined from the

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increase in weight of the sample on annealing in air, the phase
composition by means of X-rays. Two stages of reduction of Nb_2O_5 were
ascertained: $2.5NbO_{2.4}+H_2 \longrightarrow 2.5NbO_2+H_2O$ (I), and $NbO_2+H_2 \longrightarrow NbO+H_2O$ (II).

Fig. 1 shows the logarithms of the equilibrium constant $K_p = P_{H_2O}/P_{H_2}$

as a function of composition. Between $NbO_{2.4}$ and $NbO_{2.5}$, K_p changes so
quickly that it could not be measured accurately. For the polytherms of
the equilibrium constant of the two stages, the authors found the
equations: $\log K_{p_I} = -15050/4.575T+1.3306$ $(1480-1673^\circ K)$;

$\log K_{p_{II}} = -29490/4.575T+1.3334$ $(1673-1823^\circ K)$, and obtained therefrom:

$\Delta G_I^0(cal) = 15050-6.087T$; $\Delta G_{II}^0(cal) = 29490-6.10T$. By combination of

reactions I and II with $H_2+(0.5)O \longrightarrow H_2O_{gas}$ (III), and with the use of

J. Chipman's data (Ref. 9) and the specific heat for NbO_2 and NbO
(Ref. 10) as well as for O_2 (Ref. 11), they found for the reaction

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$2NbO_2 + 0.50_2 \longrightarrow Nb_2O_5$ (VI): $\Delta G^o_{VI} = -65.5$ kcal; $\Delta H^o_{VI} = -70.25$ kcal; $\Delta S^o_{VI} = -15.91$ entropy units (referred to 298.2°K). It was not possible to conduct the reduction to the metal under equilibrium conditions. Therefore, the thermodynamic functions of NbO were determined by measuring the emf E of the cells Pt|Fe,Fe$_{0.95}$O|solid electrolyte|NbO,Nb|Pt   (A), and Pt|Fe$_3$O$_4$,Fe$_{0.95}$O|solid electrolyte|Fe$_{0.95}$O,Fe|Pt   (B) between 841 and 1073°C. Mixed crystals of the system $ThO_2 - La_2O_3$ were used as solid electrolyte. Values in good agreement with published data were obtained for cell B. For cell A, results are given in Fig. 3. The maximum error does not exceed 1.2%. For the reaction $Fe_{0.95}O + Nb \longrightarrow 0.95Fe + NbO$ (VII), the authors calculated: $\Delta G^o_{VII} = -34500 + 3.15T$; for the reaction $Nb + 0.50_2 \longrightarrow NbO$ (VIII): $\Delta G^o_{VIII} = -92.36$ kcal; $\Delta H^o_{VIII} = -98.39$ kcal; $\Delta S^o_{VIII} = -20.19$ entr.un. By combination of the reactions $NbO + 0.50_2 \longrightarrow NbO_2$ (V), as well as VI and VIII, they calculated for

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Thermodynamic characteristics of niobium...

20642

S/020/61/136/006/018/024
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$2Nb + (5/2)O_2 \rightarrow Nb_2O_5$ (IX): (at 298.2°K) $\Delta H^o_{IX} = -456.9$ kcal;

$\Delta G^o_{IX} = -424.9$ kcal; $\Delta S^o_{IX} = -107.43$ e.u., and for the reaction

$Nb + O_2 \rightarrow NbO_2$ (X): $\Delta H^o_X = -193.3$ kcal; $\Delta G^o_X = -179.7$ kcal;

$\Delta S^o_X = -45.76$ entr.units. There are 3 figures, 2 tables, and 23

references: 8 Soviet-bloc and 10 non-Soviet-bloc.

SUBMITTED: November 30, 1960

Fig. 1
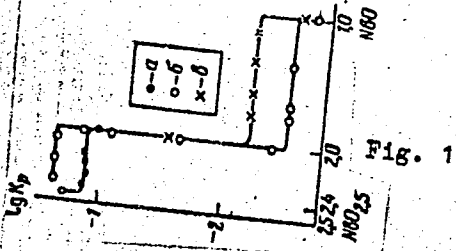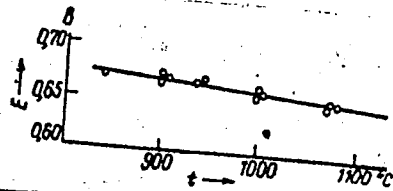
Fig. 3

Fig. 3

Card 4/4

LAVRENT'YEV, V.I.   Prinimali uchastiye: POL'SHINSKIY, V.V., starshiy
     nauchnyy sotrudnik; AKOPOVA, A.A., starshiy nauchnyy sotrudnik;
SHAYKHUTDINOVA, L.K.; inzh.; SHAGEYEVA, L.A.; inzh.; TUMANOVA,
A.M., preparator; STAROSTIN, P.A., inzh.; BALAKHONOV, A.P.,
motorist; ARTEM'YEV, V.G., motorist.

Using the heavy residual fractions of Tatar sour crude as a
fuel for gas turbines. Nefreper. i neftekhim. no.4:27-34 '63
                                          (MIRA 17:7)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.

21 Oct 51

USSR/Aeronautics - Wave Resistance
(Ships)

"Influence of the Boundary Layer on the Wave
Resistance of a Ship," V. M. Lavrent'yev, Cen Sci
Res Inst of Mar Fleet, Min of Mar Fleet

"Dok Ak Nauk SSSR" Vol LXXX, No 6, pp 857-860

Exptl tests of the linear theory of wave resistance
of ships in a heavy ideal liquid show that this
theory generally is satisfactory for sufficiently
sharp forms of the outlines after exclusion of the

region of gravitation numbers (Froude's numbers)
corresponding to interference prominences and de-
pressions on the resistance curves. Math study of
influence of ship shape and boundary layer's shape
on resistance. Submitted 20 Jul 51 by Acad A. I.
Nekrasov.

217T47

LAVRENT'YEV, V. M.

LAVRENT'YEV, V. M.

"On the Work of the Ideal Supercavitating Screw Propeller," L. A. Epshteyn (Moscow)

Inzhen Sbor, Vol 9, pp 19-26

Gives critical review of following: "On the Theory of the Ideal Cavitating Propeller," A. M. Basin, DAN SSSR, 1945, Vol 49, p 570, and "Theory of the Ideal Cavitating Propeller," V. M. Lavrent'yev, DAN SSSR, 1945, Vol 50, p 89. Discusses certain questions on theory of ideal supercavitating screw propeller. Submitted 17 Jun 50.

257T51

LAVRENT|EV, V. M.

Sudovye dvizhiteli. Dop. v kachestve uchebn. posobiia dlia sudomekhanicheskikh i sudostroit. fakul't. vyssh. uchebn. zavedenii morskogo flota. Leningrad, Morskoi transport, 1949. 275 p. diagrs.

Ship propellers.

DLC. VM751,L39

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BIAGOVESHCHENSKIY, S.N.; LAVRENT'YEV, V.M., red.; FLAUM, M.Ya., tekhn. red.

[Standardizing the stability of seagoing vessels] O normirovanii ustoichivosti morskikh sudov. Moskva, Izd-vo "Morskoi transport," 1951. 155 p. (Leningrad. TSentral'nyi nauchno-issledovatel'skii institut morskogo flota. Trudy, no.8).   (MIRA 11:5)
                              (Stability of ships)

KOPEYETSKIY, Valentin Vasil'yevich; LAVRENT'YEV, V.M., otvetstvennyy
redaktor; ALEKSEYEVA, M.N., redaktor; KOROLOVA, V.M., tekhnicheskiy
redaktor

[Hydrodynamics of a screw propeller in a tube of circular cross
section] Gidrodinamika vinta v trube krugovogo sochenila. Leningrad,
Gos. soiuznoe izd-vo sudostroit. promyshl., 1956. 139 p. (MLRA 10:1)
    (Propellers)

LAVRENT'YEV, V.M., kand.tekhn.nauk

Standardizing tugboat stability on jerking of the towing cable. (MIRA 11:8)
Trudy TSNIIMF no.15:3-21 '58.
(Stability of ships) (Tugboats)

IGNAT'YEV, Mikhail Aleksandrovich; LAVRENT'YEV, V.M., otv.red.;
DROZHZHINA, L.P., tekhn.red.

[Diagrams for propeller design for ice-breaking vessels]
Diagrammy dlia rascheta grebnykh vintov ledokolov i ledo-
kol'nykh sudov. Leningrad, Izd-vo "Morskoi transport," 1959.
23 p.   (MIRA 13:9)

                        (Propellers)

LAVRENT'YEV, V.M., kand.tekhn.nauk

General theory of a marine hydraulic propeller. Trudy
TSNIIMF 7 no.35:3-39 '61.   (MIRA 14:12)
                    (Propellers)

LAVRENT'YEV, V.M., doktor tekhn. nauk

Strength requirements of the propellers of seagoing vessels.
Trudy TSNIIMF no.66:98-106 '65.   (MIRA 18:12)

L 23944-66   EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(1)   IJP(c)   JD/HW

ACC NR: AP6009821   SOURCE CODE: UR/0413/66/000/004/0011/0011

AUTHOR: Sukhorukov, N. A.; Lavrent'yev, V. M.; Khvostik, V. P.

ORG: none

TITLE: A tool for stamping pipes. Class 7, No. 178779

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 11

TOPIC TAGS: die, metal stamping, pipe, metal pressing

ABSTRACT: This Author's Certificate introduces a tool for stamping pipes. The unit contains a die with a punch in the center. A stamping cycle is completed on one double stroke of the press. There is a hollow section in the leading end of the die which accommodates a catch on the punch. This catch is used for moving the punch and for cutting off the stamping waste. A section of this catch is turned down on a lathe for picking up the stamping waste on the punch to extract it from the container. The punch can be moved in the die so that there is a gap between the lower end of the tail section of the punch and the end of the hollow in the die where the punch is located. This makes it possible to shift the punch in the axial direction with respect to the die on the reverse stroke of the press so that a device for removing the stamping waste may enter the press between the catch on the punch and the die.

SUB CODE: 13/   SUBM DATE: 05Nov62/   ORIG REF: 000/   OTH REF: 000

UDC: 621.774.381.7 :
      621.774.38.073

Card 1/1

L 23951-66   EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(1)   IJP(c)   JD/HW

ACC NR: AP6009820   SOURCE CODE: UR/0413/66/000/004/0011/0011

AUTHOR: Sukhorukov, N. A.; Lavrent'yev, V. M.; Khvostik, V. P.

ORG: none

TITLE: A method for stamping pipes. Class 7, No. 178778

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 11

TOPIC TAGS: pipe, metal stamping, metal pressing

ABSTRACT: This Author's Certificate introduces a method for stamping pipes on presses with a single container. The length of the stamping cycle is reduced by using a punch to remove the waste from the pipe at the end of the working stroke of the press. The waste is extracted from the container and cleaned from the punch on the reverse stroke.

SUB CODE: 13/   SUBM DATE: 05Nov62/   ORIG REF: 000/   OTH REF: 000

UDC: 621.774.381.7 : 621.774.38.073

r___ 1/1

L 45606-66   EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k)   IJP(c)   EM

ACC NR: AT6014312   (N)   SOURCE CODE: UR/2752/63/000/049/0003/0035

AUTHOR: Lavrent'yev, V. M. (Candidate of technical sciences)   60

                                                                                B+/

ORG: None

TITLE: Theory of a propeller with a large number of blades (plane problem)

                                                                2f

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota.
Trudy, no. 49, 1963. Gidromekhanika sudna (Hydromechanics of ships), 3-35

TOPIC TAGS: propeller blade, fluid mechanics, vortex flow, ship , PLANE FLOW

ABSTRACT: The author reviews the literature on vertical-axis (cycloidal) propellers
and considers the plane problem of a propeller with an infinitely large number of
blades under light loading. Under these conditions, the velocity field generated by
the operation of the propeller outside its slipstream is equivalent to the field of
vortex-sink combinations distributed around the circumference of the wheel. The velo-
city field inside the stream is derived from the first field by addition of a certain
plane-parallel flow. Both the law for the distribution of vortex-sink combinations
and the given plane-parallel flow are simply connected with the distribution of cir-
culation around the perimeter of the wheel. Formulas are given for calculating the
inductive velocity and inductive bevel of the flow at the blades and also for the
forces which arise at the blades assuming a given distribution of circulation around

Card 1/2

L 45606-66

ACC NR: AT6014312 $\bigcirc$

the perimeter. The variational problem of optimum distribution of circulation is con-
sidered where inductive losses are reduced to a minimum. It was found that optimum
distribution of circulation takes place when the circulation densities $\chi(0)$ at sym-
metric points of the leading and trailing semicircles differ from one another by a
constant value which is equivalent to uniform distribution of the induced velocity at
infinity across the slip stream. A comparison of the optimum distribution with the
simplest type of sinusoidal distribution (induced velocity at infinity distributed
across the slipstream in an ellipse) shows that the inductive efficiencies at small
loads differ only slightly. It is found that the torque of the propeller is com-
pletely determined in the general case by the coefficient of the first term in the
expansion of $\chi(\theta)$ in a Fourier series, while the efficiency is determined only by the
asymmetric part of the function $\chi(\theta)$. The symmetric part of this function affects
only the transverse force (drift force). Formulas are derived for forces and moments
and also for the necessary angles of attack for the blades assuming a given distribu-
tion of circulation. It is assumed in the calculations that the length of the cord of
the blade is small in comparison with the shortest radius of curvature for its cy-
cloidal trajectory. Orig. art. has: 6 figures, 145 formulas.

SUB CODE: 20/ SUBM DATE: None/ ORIG REF: 009/ OTH REF: 007

Card 2/2

SOURCE CODE: UR/2752/66/000/072/0003/0031

ACC NR: AT6025570 (N)

AUTHOR: Lavrent'yev, V. M. (Doctor of technical sciences)

ORG: None

TITLE: Jerking sway of a ship under cable towing

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Trudy, no. 72, 1966. Gidromekhanika sudna (Hydromechanics of ships), 3-31

TOPIC TAGS: Shipbuilding engineering, motion equation, connecting cable, ship

ABSTRACT: The author studies the problem of determining the heeling of a towed ship under instantaneous tension of the tow cable at an arbitrary angle to the diametric plane. It is assumed that the boat travels under its own power up to the jerk with respect to a weakened cable whose weight and elasticity are not considered. Jerking is assumed to consist of two stages: inelastic impact and post-slamming motion during which time the ship undergoes maximum heeling. A system of differential motion equations is derived for the post-slamming period and solved by numerical methods. It is assumed that if post-slam heeling rates are known, then rough estimates can be made as to maximum heeling of the ship. The linearization results of the system of equations for post-slamming motion at any jerking angle which is not very small can be

UDC: 629.12:532

Card 1/2

L 05658-67

ACC NR: AT6025570

estimated only after model testing. Model testing is being conducted at the present time to determine values for position force factors and resistance moments. The determination of these factors along with jerking sway data could be used for numerical integration of the derived equations. Orig. art. has: 2 figures, 136 formulas.

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 009/ OTH REF: 001

LAVRENT'YEV, V.N.

Automatic line for finishing panels. Der.prom. 5 no.11:20-21
N '56.   (MIRA 10:1)

1. Leningradskaya mebel'naya fabrika no.3.
            (Woodworking machinery) (Automatic control)

LAVRENT'EV, V. N.

24274   LAVRENT'EV. V. N.   Anatomiya arteriy diafragmal'nogo nerva cheloveka.   Trudy
          Leningr. San.-gigien. Med. IN-TA, T. III, 1949, S. 98-112.- Bibliogr:
          17 Nazv.

          SO: Letopis, No. 32, 1949.

LAVRENT'YEV, V.N

LAVRENT'YEV, V.N., assistant

Original capillary lymph networks and lymph vessels of the scalp.
Trudy LSGMI 9:15-34 '51.   (MIRA 11:1)

1. Kafedra normal'noy anatomii Leningradskogo sanitarno-gigiyeni-
cheskogo meditsinskogo instituta (zav. kafedroy - chlen-korrespon-
dent AMN SSSR prof. Zhdanov D.A.)
        (SCALP)   (LYMPHATICS)

LAVRENT'YEV, Vladimir Nikolayevich; LAZAREVICH, L., red.;DANILINA, A., tekhn.red.

[Building state farms during the first years of the Soviet regime; 1917-1920] Stroitel'stvo sovkhozov v pervye gody Sovetskoi vlasti; 1917-1920, Moskva, Gos. izd-vo polit.lit-ry, 1957. 119 p.
        (State farms)   (MIRA 11:4)

BADIR'YAN, G.G., prof.; VASIL'YEV, N.V., prof.; KOTOV, G.G., prof.;
    RUDAKOVA, Ye.A., prof.; BRAGINSKIY, B.I., doktor ekon.nauk;
    GUMEROV, M.N., dots.; ROMANCHENKO, A.V., doktor ekon. nauk;
    ABRAMOV, V.A., dots.; ALTAYSKIY, I.P., kand. ekon. nauk;
    GAVRILOV, V.I., dots.; RAFIKOV, M.M., kand.ekon. nauk;
    VINOKUR, R.D., dots.; RUSAKOV, G.K., dots.; LAVRENT'YEV,
    V.N., dots.; GORELIK, L.Ya., red.; PONOMAREVA, A.A., tekhn.
    red.

    [Economics, organization and planning of agricultural produc-
    tion] Ekonomika, organizatsiia i planirovanie sel'skokho-
    ziaistvennogo proizvodstva. Moskva, Ekonomizdat, 1963. 607 p.
                                                (MIRA 16:11)
        (Agriculture--Economic aspects)

LAVRENT'YEV, V. N.

The oxidation-reduction potentials of the compounds of the platinum metals. I. Oxidation-reduction potentials of the system $[Pt\ X_4]\ -+2X- \rightleftarrows [Pt\ X_6]-- 2\ e.$ A. A. Grinberg, B. V. Ptitsyn and V. N. Lavrent'ev. J. Phys. Chem. (U.S.S.R.) 10, 661-76 (1937). The oxidation-reduction potential of this system varies very strongly with the nature of the coordinating X- ion. With respect to the H_2-Pt electrode, in 0.01 N solns. of the two Pt salts and 1 N NaX, the E_0 values at 250 and the heat effects (from temp. coeff.) for various X-ions are: CI-,0.758v., and 37.2 Cal.; Br-, 0.643 v.; I-, 0.3925 v.; SCN-, 0.468 v. These different values are attributed to the different stabilities of the complex ions. $K_2\ PtBr_6$ was prepd. by the action of an excess of hot KBr soln. on K_2 -$PtCl_6$ in presence of Br_2 water, and then cooling. $K_2\ PtBr_4$ was obtained by reduction of K_2PtBr_6 with the calcd. amt. of $K_2C_2O_4$ in presence of Pt black and final recrystn. from EtOH. K_2PtI_6 was prepd. by boiling K_2PtCl_6 with excess KI. K_2PtI_4 was obtained by slightly warming K_2PtCl_4 in an excess of 1 N KI. $K_2Pt\ (SCN)_6$ and K_2Pt-$(SCN)_4$ were both prepd. by the action of warm 1 N KSCN on K_2PtCl_6 and K_2PtCl_4, resp.   F. H. Rathmann

The system $CaO-Al_2O_3.Fe_2O_3$. Bonaventura Tavasci. Ann. chim. applicata 27, 505-18 (1937).- The system $CaO-Al_2O_3-Fe_2O_3$ was studied by Hansen, Brownmiller and Bogue (C. A. 22, 1523) who limited themselves to the zone high in CaO. In extending the study T. restudied the binary systems involved (C. A. 30, 8058[b]; 31, 8147[2]). The presence of a ternary compd. $4CaO.Al_2O_3, Fe_2O_3$ was confirmed. It is completely miscible with $2CaO, Fe_2O_3$. A constituent which was thought to be $3CaO.2Fe_2O_3$ was found to be a mixt. of $2CaO, Fe_2O_3$ and CaO, Fe_2O_3 confirming Sosman and Merwin (C. A. 10,2673). A compd. $CaO, Al_2O_3, 2Fe_2O_3$ was identified, whose characteristic property is its complete miscibility with $CaO, 2Fe_2O_3$. When heated above 1400°, it decomps., ferrous compds. being among the products formed.   A. W. Contieri

LAVRENT'YEV, V.N.

CA

Oxidation-reduction potentials of platinum-ammonium complexes. A. A. Grinberg, V. N. Lavrent'ev and B. V. Ptitsyn. *Compt. rend. acad. sci. U. R. S. S. 26, 52-3* (1940) (in German).—The oxidation-reduction potentials of the following systems were detd.: $[Pt(NH_3)_4]^{++}$-$[Pt(NH_3)_4Cl_2]^{++}$ 0.600 v.; $[Pt(NH_3)_3Cl]^+$-$[Pt(NH_3)_3Cl_3]^+$ 0.642 v.; $[Pt(NH_3)_2Cl_2]$-$[Pt(NH_3)_2Cl_4]$ cis 0.656 v., trans 0.604 v.; $[PtNH_3Cl_3]^-$-$[PtNH_3Cl_5]^-$ 0.695 v.; and $[PtCl_4]^{--}$-$[PtCl_6]^{--}$ 0.734 v.

H. A. Frediani

IAVRENT'YEV, V. N.

"Redox Potentials of the Platinum Complexes Including Organic Amines and Glycocoll," Dokl. AN SSSR, 35, No.7, 1942.

Chem. Lab., Pavlov Med. Inst.; Inst. Gen. and Inorgan. Chem., AS USSR

LAVRENT'YEV, V. N.

A. A. Grinberg

manner is impossible. Such compd. probably does not exist.
drawn about the struc-

at. nos. 69–103 should occupy the same relative positions as
the lanthanides, and elements of at. nos. 104–118 should
occupy the same relative positions as elements 72–86.

G. Melnyk

S/137/62/000/003/128/191
A052/A101

AUTHOR: Lavrent'yev, V. N.

TITLE: The effect of the residual austenite on the wear resistance of steel surfaces strengthened by case hardening

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 37, abstract 31227 ("Sb. nauchn. rabot. Mosk. in-t nar. kh-va", no. 20, 1961, 106-112)

TEXT: The study of the effect of the residual austenite on the wear resistance of a case hardened layer was carried out on steels 20, 30, ХГТ (KhGT), 12Х2Н4A (12Kh2N4A) and 18ХГТ (18KhGT). Different amounts of residual austenite were received after case hardening the samples at 950°C during 5 hours 30 minutes with a subsequent hardening. The hardening at 875, 820 and 775°C was carried out with a cooling down after case hardening, at 950°C - directly from the cementation case and at 1,050°C - after heating up from the case hardening temperature. The samples hardened under these conditions were tempered at 200°C during 1.5 hours. The microstructure of the case hardened layer at hardening at 1,050°C consisted of isolated sections of coarse-grain residual austenite and large martensite needles. A decrease of the case hardening temperature to 875°C

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The effect of the residual austenite ...

reduces the amount of residual austenite. At the hardening from the cooling
down temperature of 820°C a structure consisting of a fine needle-shaped
martensite, a small amount of the residual austenite and of globular carbides
in the form of small inclusions was obtained. A considerable increase in the
amount of residual austenite obtained at hardening at high temperatures leads
to a decrease of the wear resistance of the case hardened layer. The most wear
resistant is a case hardened layer with a structure consisting of martensite,
fine-dispersed carbides and 20 - 30% of residual austenite in the form of fine
grains. An increase in the amount of residual austenite over 30% reduces the
wear resistance of the case hardened layer, and its decrease has a favorable
effect on the wear resistance.

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

LAVRENT'YEV, V. P.

LAVRENT'YEV, V. P.   "Investigation of the Wear Resistance of Steel Surfaces Strengthened by Cementation, Cyanation, and Tempering with High-Frequency Currents." Min Trade USSR. Moscow Inst of National Economy imeni G. V. Plekhanov. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Science)

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

S/123/61/000/022/001/024
A004/A101

AUTHOR: Lavrent'yev, V.P.

TITLE: Effect of carbon concentration on the resistance to wear of steel
            surfaces hardened by cementation

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 22, 1961, 13, abstract
            22A96 ("Sb. nauchn. rabot. Mosk. in-t nar. kh-va", 1961, no. 17,
            177 - 184)

TEXT: The author investigated the resistance to wear of the cemented
steel grades 18ХГТ (18KhGT), 30 ХГТ (30KhGT), 12 X 2H 4 A (12Kh2N4A) and 20
used for gears and other machine parts, depending on the carbon concentration
in the surface layer and on the alloying with carbide-forming elements. The
tests were carried out on the МИ (MI) friction machine with specimens 40 mm in
diameter and 10 mm wide, the load on the specimens being 75 kg. It was found
that the wear resistance of cemented steel rises when the C-concentration in the
surface layer is increased up to 1 - 1.2%; at C >1.2% the wear resistance in-
creases only insignificantly. The resistance to wear depends also on the degree

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Effect of carbon concentration ...

S/123/61/000/022/001/024
A004/A101

of alloying of the layer. The surface of the 12Kh2N4A grade steel possesses a higher wear resistance than that of the steel grades 18KhGT, 30KhGT and 20.

V. Kolesnik

[Abstracter's note: Complete translation]

Card 2/2

S/123/62/000/010/005/013
A004/A101

AUTHOR: Lavrent'yev, V.P.

TITLE: The effect of residual austenite on the wear resistance of steel
            surfaces hardened by cementation

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 10, 1962, 34, abstract
            10B194. ("Sb. nauchn. rabot. Mosk. in-t nar. kh-va", 1961, no. 20,
            106 - 112)

TEXT: The investigations were carried out with specimens made of the steel
grades 18 ХГТ (18KhGT), 30 ХГТ (30KhGT), 12 Х2Н4А (12Kh2N4A) and grade 20 steel.
After cementation at 950°C for 5.5 hours, the specimens were hardened at 1,050,
950, 875, 820 and 775°C with subsequent tempering at 200°C for 1.5 hours. The
amount of residual austenite in the surface layer was determined by an X-ray
diffraction phase analysis, while the resistance to wear was determined by dry
rolling friction with 10% sliding. It is shown that, depending on the hardening
temperature, the amount of residual austenite in the surface layer varies in the
same steel grade over a wide range. In the 18KhGT grade steel the amount of re-

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S/123/62/000/010/005/013
A004/A101.

The effect of residual.....

sidual austenite in the surface layer changes from 65% .· a hardening temperature of 1,050°C to 25% when hardening takes place at ₃20°C, while the hardness changes correspondingly from HRC (?) to 60 [Abstracter's note: Obviously, the first magnitude is missing]. With such a reduction in residual austenite the resistance to wear increases. However, with a further reduction in residual austenite the resistance to wear decreases. This regularity can also be observed with the 30KhGT grade steel. The wear resistance of the grade 20 steel increased by up to 15% when the residual austenite was reduced in the cemented layer. With the 12Kh2N4A grade steel the wear resistance of the cemented layer increased considerably if the amount of residual austenite is reduced from 85 to 55%. A further reduction in residual austenite down to 15% results in an insignificant increase in wear resistance. It is pointed out that the cemented layer shows a maximum wear resistance if its ··ructure is composed of martensite, finely dispersed . carbides and 20 - 30% residual austenite in the form of fine grains. If the residual austenite content exceeds 30% the resistance to wear decreases. Less than 30% residual austenite in the form of uniformly distributed inclusions affect the wear resistance of the cemented layer in a favorable way. There are 2 figures.

[Abstracter's note: Complete translation] .   E. Spivak

Card 2/2

LAVRENT'YEV, V. V.

Category : USSR/Atomic and Molecular Physics - Physics of high-molecular substance   D-9

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1018

Author   : Ratner, S.B., Lavrent'yev, V.V.
Title   : Comparison of Friction and Electric Conductivity of Rubber.

Orig Pub : Zh. tekhn fiziki, 1956, 26, No 4, 853-856

Abstract : Data are compared on the variation of the coefficient of friction electric conductivity, strength, and parmeation to gas, all as functions of the amount of filler in the rubber, and the ideas developed by S.B. Ratner (Dokl. AN SSSR, 1953, 93, No 1), concerning the nature of friction, are checked. The authors cirticize the views of Schallamach, (Schallamach, A, Proceedings of the Royal Society, 1953, B66, 386) on the nature of friction of rubber, showing that experimental data are satisfactorily described by the following equation for the coefficient of friction: $\mu = \mu_\infty + Ap^{-h}$, where p is the specific load and h the hardness of the rubber; μ_∞ is the part of the friction coefficient independent of the load, and A is a constant.

Card   : 1/1

LAURENT'EV, VV,

D.-9

Category : USSR/Atomic and Molecular Physics - Physics of High-
Molecular Substances.

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 5455

Author   : Ratner, S.B., Lavrent'ev, V.V.
Title   : Proof of Existence of Static Friction in Rubber Without
Lubrication

Orig Pub : Dokl. AN SSSR, 1956, 108, No 3, 461-464

Abstract : In the analysis of the formulae of Tobol'skiy and others for
the dry friction of rubber

$$V = B \, exp \, (-E/RT) \, sinh(\alpha F/RT)$$

where V is the speed of the specimen, F the drawing force
(equal to the friction force), α and E are constants, and RT
has the usual meaning, G.M. Bartenev (Dokl. AN SSSR, 1954,
96, No 6; 1955, 103, No 6) concluded that V = 0 only if
F = 0, i.e., rubber has no static friction. An experimental
setup is described, in which it is possible to employ the
pendulum tribometer (Ratner, S.B. et al, Zavod, laboratoriya,
1954, No 7) to detect the presence of static friction.

Card   : 1/2

LAVRENTYEV, V. V., and RATHER, S. B.

"Static Friction of Rubber," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Rubber Research Inst.

B-3,084;395

LnVRenT'Yev, VV·

LAVRENT'YEV, V.V.

External friction of rubber. Koll.zhur. 19 no.4:522-523 Jl-Ag '57.
(MIRA 10:10)

1.Moskovskiy gorodskoy pedagogicheskiy institut im. V.P. Potemkina,
Kafedra teoreticheskoy fiziki.
(Rubber)

LAVRENT'YEV, V. V.

20-4-23/60.

AUTHOR: Lavrent'yev, V. V.

TITLE: An Experimental Study of the Law of the Friction of Rubber Within a Wide Interval of Normal Pressures (Eksperimental'noye issledovaniye zakona treniya reziny v shirokom intervale normal'nykh davleniy).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 4, pp. 717-720 (USSR)

ABSTRACT: At first the most important results of some earlier papers are given. The theory by G.M.Bartenev for the friction of rubber on firm smooth surfaces furnishes the following dependence of the frictional force on the factual contact-surface and on the normal load: $F = CS^{\phi} + C_1 \omega P$. In this connection C and C_1 signify constants dependent on rubbing speed, temperature and on the molecular constants. ω takes into consideration the influence of the normal factual pressure P_{ϕ} on the amount u of the energy barrier. S_{ϕ} is the factual contact-surface and P is the normal load. According to Thirion the frictional force in big loads is practically independent on the normal pressure and consequently $\omega \approx 0$ may be put in the above-mentioned formula. In this case $F = CS^{\phi} = CS^{H}_{v}$ is obtained. The simple boundary conditions given here are satisfied by the interpolation formula $F = CS^{H}(\gamma_0 + \alpha p)/(1 + \alpha p)$. In this connection

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20-4-23/60

An Experimental Study of the Law of the Friction of Rubber
Within a Wide Interval of Normal Pressures.

ASSOCIATION: Moscow City Pedagogical Institute imeni V. P. Potemkin
(Moskovskiy gorodskoy pedagogicheskiy institut imeni V. P.
Potemkina).

PRESENTED: February 26, 1957, by P. A. Rebinder, Academician.

SUBMITTED: February 23, 1957.

AVAILABLE: Library of Congress

Card 3/3

LAVRENT'YEV, V. V.

20-4-23/60.

AUTHOR: Lavrent'yev, V. V.

TITLE: An Experimental Study of the Law of the Friction of Rubber Within a Wide Interval of Normal Pressures (Eksperimental'noye issledovaniye zakona treniya reziny v shirokom intervale normal'nykh davleniy).

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An Experimental Study of the Law of the Friction of Rubber   20-4-23/60

Within a Wide Interval of Normal Pressures.

$p=P/SH$ and $V_o = S_o/SH$ .apply. S_o is the surface of the contact at $p \to \infty$. From the above-given interpolation formula the formula $1/M = (1+ap)/C(a+V_o/p)$ is obtained for the reciprocal value of the coefficient of friction M. In order to be able to evaluate the various results of relevant earlier papers, the friction of rubber on smooth hard surfaces at normal loads of 1-200 kg/cm² has to be investigated. The method is based on the measurement of the force of the initial displacement according to an assumed duration of contact. The experimental data found are illustrated by a diagram. In small loads the Coulomb law and in big loads the Thirion formula are applicable. The formula by Ratner is not applicable to the friction of rubber. But the formula by Bartenev is applicable in the entire range of loads investigated here.

There are 4 figures, 1 table and 8 references, 4 of which are Slavic.

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An Experimental Study of the Law of the Friction of Rubber   20-4-23/60
Within a Wide Interval of Normal Pressures.

ASSOCIATION: Moscow City Pedagogical Institute imeni V. P. Potemkin
(Moskovskiy gorodskoy pedagogicheskiy institut imeni V. P.
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PRESENTED: February 26, 1957, by P. A. Rebinder, Academician.

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Card 3/3