

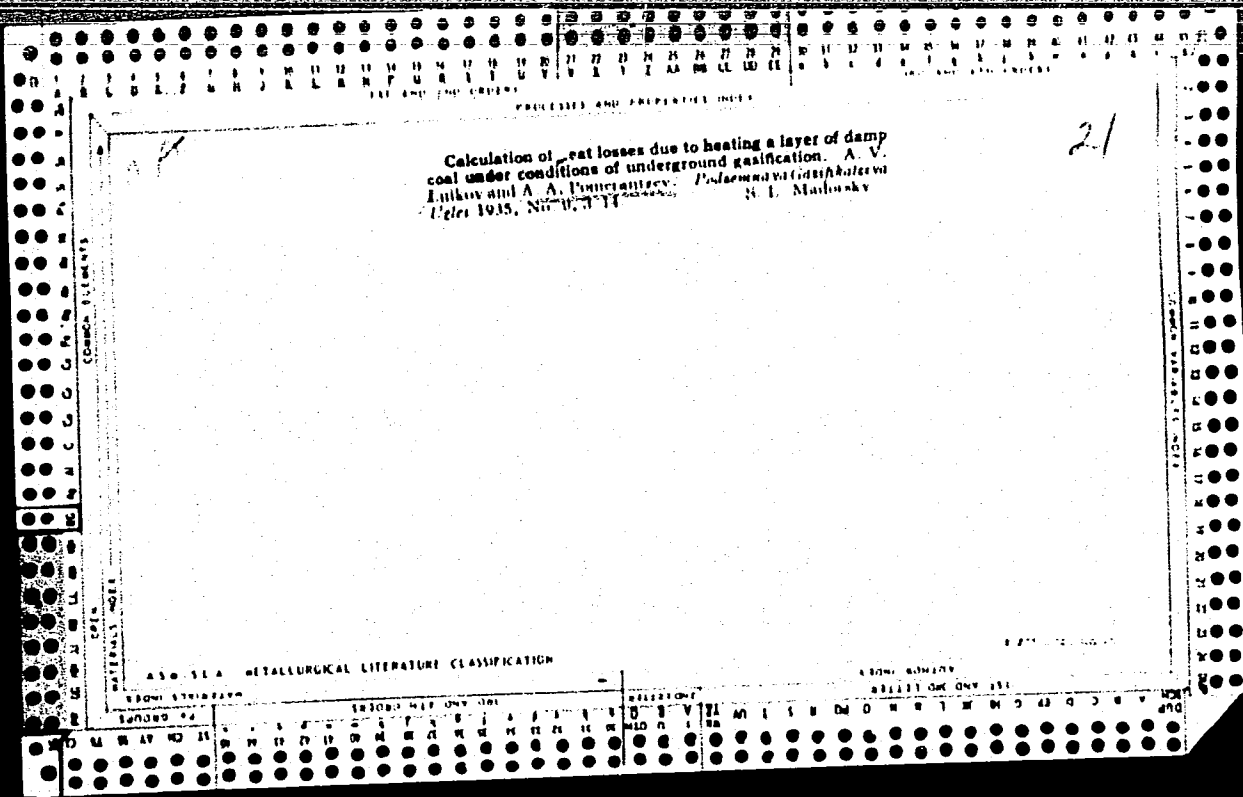
ABRAMYAN, A.Ya., prof.; ATABEKOV, D.N., prof.; VOROBTISOV, V.I., kand. med. nauk; GASPARYAN, A.M., prof.; GREBENSHCHIKOV, G.S., prof.; DZHAVAD-ZADE, M.D., kand. med. nauk; DUNAYEVSKIY, L.I., dots., prof.; LOPATKIN, N.A., dots.; POMERANTSEV, A.A., dots.; PYTEL', A.Ya., prof.; RIKHTER, G.A., prof.; RUSANOV, A.A., prof.; SMIRNOV, A.V., prof.; SYROVATKO, F.A., prof.; TSULUKIDZE, A.P., prof.; SHAPIRO, I.N., prof.; EPSHTEYN, I.M., prof.; PETROVSKIY, B.V., prof., otv. red.; BAKULEV, A.N., akademik, red.; GULYAYEV, A.V., prof.; YEGOROV, B.G., prof., red.; KUPRIYANOV, P.A., prof., red.; PANKRAT'YEV, B.Ye., prof., red.; FILATOV, A.N., prof., red.; CHAKLIN, V.D., prof., red. GORELIK, S.L., red.; GABERLAND, M.I., tekhn. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Gos. izd-vo med. lit-ry. Vol.9. [Surgery of the urinary and genital organs and the retroperitoneal space] Khirurgiia mochevykh i polovykh organov i zabriushinogo prostranstva. 1959. 630 p. (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Petrovskiy, Yegorov, Kupriyanov).

(RETROPERITONEAL SPACE--SURGERY)

(GENITOURINARY ORGANS--SURGERY)



1. POBERNANTSEV, A. A.

2. USSR (600)

"Bending of Rails During Cooling from High Temperatures
Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk. No. 2, 1941,
Scientific-Research Institute of Physics Moscow State University,
Submitted 13 Jul 1940.

9. [REDACTED] Report U-1530, 25 Oct 1951.

CA

2

The filtration of a gas through a reactive, porous

medium. A. B. Chervyakov, A. A. Pomerantsev, and
I. L. Parburov. *Doklady Akad. Nauk S.S.S.R.* 56, 727-9
(1947); *Chem. Zvest. (Russian Zone Ed.)* 1948, II, 8.--
When a gas penetrates a porous medium with which it re-
acts chemically, a reaction front is formed behind which
the gas retains its total (initial) concn. and in front of
which no gas exists. This front is displaced, since the
porous material is consumed. It is shown mathematically
that the velocity of displacement of this front is a linear
function of the amt. of gas consumed. This conclusion
was experimentally verified by measurements made on the
rate of filtration of air or N_2 satd. with I vapor through
dried starch paste contained in a special app.
M. G. Moore

Emerg. Inst. in. Kuzhynovskiy, A S U S S R

CA

The theory of carbon combustion in a tube of rectangular cross-section. A. B. Chernyshev, A. A. Ponomarev, and I. L. Parfurov (G. M. Krzhizhanov Energetics Inst., U.S.S.R.). *Izvest. Akad. Nauk S.S.S.R., Otdel. tekhn. Nauk* 1960, 1067-78.—Predvoditelev's theoretical study of combustion in cylindrical C tubes (C.A. 36, 4307^o) is extended to tubes of rectangular cross-section. Equations are derived for calcg. the temps. and the O₂ and CO₂ concns. within the tube at various conditions.
H. K. Livingston

POMERANTSEV, A. A.

36446. Lecheniye ripertrofii predstatel'noy zhelezv sinestrolom. Khirurgiya, 1949, No. 11, S. 61-68.

POMERANTSEV, A. A. I TOPCHAN, A. B.

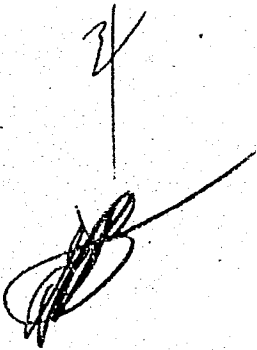
SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

POMERANTSEY, A.A.

②

Explosive concentrations in gas currents. New equation of the Rankin-Riemann type. I. A. A. Pomerantsev (Moscow Univ.). *Vestnik Moskov. Univ.* 8, No. 12, Ser. Fiz.-Mat. i Estestven. Nauk No. 8, 81-4 (1953).—Theoretical-math. P. finds a triple integral-circular gradient relation between the rate of the reaction and the streaming velocity such that a stationary boundary of the flame-front is obtained. F. H. Rathmann

34



SAUER, R.; POMERANTSEV, A.A., redaktor; GERMOGENOV, A.V., redaktor;
IL'IN, B.M., tekhnicheskii redaktor; SHAPOVALOV, V.I., tekhnicheskii redaktor

[The flow of compressible liquids. Translated from the French]
Tечения сжимаемой жидкости. Перевод с французского. Под ред.
A.A.Pomerantseva. Moskva, Izd-vo inostrannoi lit-ry, 1954. 312 p.
(Gas flow) (MLRA 7:9)

P. M. ERAN TSEV, A. A.

14(1)

PHASE I BOOK EXPLOITATION

SOV/2472

Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya

Konstruirovaniye i issledovaniye kompressorov i vakuum-nasosov (Design and Investigation of Compressors and Vacuum Pumps) Moscow, Mashgiz, 1958. 90 p. (Series: Its: Sbornik statey, 22) 5,000 copies printed.

Ed.: V.A. Romyantsev, Engineer; Ed. of Publishing House: A.M. Monastyrskaya; Tech. Ed.: A.F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Construction (Mashgiz): V.V. Pokrovskiy, Engineer.

PURPOSE: This collection of articles is intended for scientists and engineers working in the field of compressor manufacture, and also for students of vuzes specializing in compressors and vacuum pumps.

COVERAGE: The booklet consists of five articles. The first article presents investigation results and design data for determining resistances in strip-type automatic diaphragm valves. The second articles presents for the first time results of the investigation of large diameter diaphragms used in diaphragm-type compressors. The third article presents, also for the first time, experimental results and methods for designing metallic packings for piston-compressor

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Design and Investigation of Compressors (Cont.)

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rods. The fourth article presents test results and theoretical data for designing two-stage piston vacuum pumps. The last article presents data on designing diffusion-type oil vacuum pumps. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

Kondrat'yeva, T.F. Determination of Energy Losses in the Automatic Valves of Piston Compressors	3
Moskalev, V.A. Investigating the Strength of Compressor Diaphragms	21
Sekunova, O.N. Engineer. Performance of Piston Compressor Packings	33
Frolov, Ye.S., Engineer; and V.D. Lubenets, Candidate of Technical Sciences. Volumetric and Power Characteristics of a Two-stage Vacuum Pump With a Slide-Valve Gear	
Pomerantsev, A.A., Professor, Doctor of Physical and Mathematical Sciences and K.P. Shumskiy, Candidate of Physical and Mathematical Sciences. The Theory of High-vacuum Steam-injector Pump Nozzles	81

AVAILABLE: Library of Congress

Card 2/2

GO/gmp
11-24-59

AUTHOR:

TITLE:

PERIODICAL:

Pomerantsev, A. A.
1. Heat Exchange of Rarefied Gas With a Wall Round Which It Flows

S/170/60/003/005/001/017
B012/B056

Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 5,
pp. 3 - 11

TEXT: In the first part of the present paper, the flow of a rarefied gas round a wall is investigated. It is found that in rarefied gas the thickness of the boundary layer increases, the action of the boundary upon the rarefied gas is attenuated. This is expressed by the rarefied gas condition for the sliding of the moving molecules - formula (2) - and the thermal boundary conditions - formula (5') - for the flow round the wall. The hydrodynamic boundary conditions of the rarefied gas and the wall and for boundary conditions are approximated. Mention is made of the wall derived. These formulas are approximated. Mention is made of the wall Timiryazev (Ref. 2), P. P. Lazarev (Ref. 5), Meyyer (Ref. 7), A. K.

11/13/2001

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1. Heat Exchange of Rarefied Gas With a Wall
Round Which It Flows

S/170/60/003/005/001/017
B012/B056

and L. Boltzmann (Ref. 1). The second part deals with the flow of rarefied air round the wall. The processes occurring are jointly investigated. Papers by D. Chapman and M. Rubezin (Ref. 12), and H. Blasius (Ref. 13) are mentioned, and the assumptions made in Ref. 12 are used also in this case. However, the raising of the problem and its solution are modified according to the formulas developed in part one. In the immediate proximity of the wall, a boundary layer forms, outside which a viscous boundary layer develops, and outside the latter the rarefied gas flows as a potential flow. Should an ultrasonic flow be flowing round the wall, it is possible that a compression shock may occur before the wall. The problem raised is solved by the Blasius-Rubezin method (Refs. 12, 13). Formula (13) is derived, which is similar to that of Blasius-Rubezin. This equation is integrated under the new boundary conditions and in consideration of the sliding. This forms the subject of the third part of the present paper. In the fourth part, two limiting cases concerning the flow of a rarefied gas round the wall are then investigated: 1) Sliding develops into adhesion, and 2) sliding extends to the whole boundary layer (Fig. 2). There are 2 figures, 2 tables, and 13 references: 9 Soviet, 3 German, and 1 British. ✓c

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1. Heat Exchange of Rarefied Gas With a Wall S/170/60/003/005/001/017
Round Which It Flows B012/B056

ASSOCIATION: Gosudarstvennyy universitet im. M. V. Lomonosova,
g. Moskva (State University imeni M. V. Lomonosov, Moscow)

lc

Card 3/3

POMERANTSEV, A. A.

S/170/60/003/008/004/014
B019/B054

AUTHOR: Pomerantsev, A. A.

TITLE: II. Heating of a Wall by a Supersonic Gas Flow |

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 8,
pp. 39-46

TEXT: The problem studied here consists in a simultaneous investigation of the heating of the viscous gas by compression and of the heating of the wall by heat transmission. D. Chepman and M. Rubezin (Ref. 1) showed that the temperature distribution of the wall in the flow direction can be described by polynomial (1); the author gives the physical foundations of this formula. Then, he replaces formula (1) by (1') ✓c
 $T_w \approx T_2 - B(t)x^*(2 - x^*)$, where T_w , like in (1), gives the temperature of the wall. Then, the author derives the simplified equation (3') for calculating the heating of the wall. Subsequently, he obtains, on the basis of the differential equation for the heat exchange, a solution for the heating of the gas by flowing around a wall in a supersonic flow.

Card 1/2

POMERANTSEV, A. A.

"Theory of melting and scorching of a body (stefan's problem)."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange,
Minsk, BSSR, 5-9 June 1961

POMERANTSEV, A.A.

"On Free Convection Theory."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR,
June 1961.

Prof. of Physics, U. of Moscow

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29917
S/594/61/000/000/005/011
D234/D303

26.2181

AUTHOR: Pomerantsev, A.A.

TITLE: On the theory of surface melting and burning of a body (Stefan's problem)

SOURCE: Soveshchaniye po teplo- i massoobmenu. Minsk, 1961. Tezisy dokladov i soobshcheniy (Dopolneniye), 36-39

TEXT: The defect of all existing theories of surface melting is the use of a fixed system of reference for describing the phenomenon. Actually the boundary condition is satisfied on a moving boundary. The condition on that boundary is expressed by thermal balance of the melting element of the substance. To satisfy it, one concludes about the constancy of the arguments of functions which express the thermal balance in the domain of melting. It must be remarked that for the formulation of the balance, particular solutions are used instead of the general solution of the problem. This makes the problem lose the property of uniqueness. The present

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D234/D303

On the theory...

communication deals with the problem of surface melting of a half-limited body. The problem is solved as one-dimensional. In order to consider the melting front as fixed, the system of reference is made to "move" in the direction opposite to that of the movement of the melting front. The equation of heat conduction in such a system will have the form of the equation of convection

$$\frac{\partial T}{\partial t} - \xi \frac{\partial T}{\partial x} = k \frac{\partial^2 T}{\partial x^2},$$

where ξ is the velocity of surface melting. To find T and $\xi(t)$ the author uses, apart from boundary conditions etc., the expression for the heat balance at $x = 0$

$$\lambda_1 \frac{\partial T_1}{\partial x} - \lambda \frac{\partial T}{\partial x} = r \rho \dot{\xi}.$$

Index 1 refers to the melted substance, r is the heat of melting. The general solution obtained by the author is

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On the theory...

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S/594/61/000/000/005/011
D234/D303

$$T = \frac{1}{2} T_p \left\{ \Phi^* \left(\frac{x_1}{2\sqrt{kt}} \right) + \Phi^* \left(\frac{x_2}{2\sqrt{kt}} \right) \right\},$$

where

$$x_1 = x + \bar{\xi} t; \quad x_2 = x - \bar{\xi} t;$$

$$\bar{\xi} = \frac{1}{t} \int \dot{\xi} dt; \quad \Phi^*(x) = \frac{2}{\sqrt{\pi}} \int_x^{\infty} e^{-x^2} dx. \quad \checkmark$$

The problem of melting a thin wall by a powerful heat source is considered. The difficulty in applying the above method is that the wall, after some time, will be heated up to its opposite side, and the temperature field in the vicinity of that side must become inhomogeneous. The difficulty is avoided by limiting the consideration to first instants of melting; at these instants the tempera-

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On the theory...

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S/594/61/000/000/005/011
D234/D303

ture field will resemble that in a half-limited body. In the case of heating by a powerful source, the heated part will be sublimated, and then r must be replaced by the heat of sublimation. The problem of melting a thin wall and taking into account the heating of the medium on the free side of the wall is also considered and a corresponding expression is obtained for the velocity of melting. The method developed here is applied to the problem of surface burning and heating of a half-limited body. The problem of burning must be considered together with that of the reaction of burning. An approximate solution of the two connected problems is given. The heat of the reaction of burning is taken into account by a boundary condition of the equation of heat conduction. The problem is solved with the aid of a generalized Carslow's method. [Abstracter's note: Essentially a complete translation]

ASSOCIATION: NGU

Card 4/4

POMERANTSEV, A.A.

Exact theory of free convection. Inzh.-fiz. zhur. 4 no.6:21-26
Je '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Heat—Convection)

POMERANTSEV, A.A.

Scheme of compactions formed in supersonic rarefied gas flows. Inzh.-
fiz. zhur. 7 no.8:59-63 Ag '64. (MIRA 17:10)

1. Gosudarstvennyy universitet im. M.V. Lomonosova, Moskva.

B.R.

ACCESSION NR: AP4044415

S/0170/64/000/008/0059/0063

AUTHOR: Pomerantsev, A. A.

TITLE: A model for onset of shock wave in supersonic flow of rarefied gases

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 8, 1964, 59-63

TOPIC TAGS: supersonic flow, rarefied gas, Knudsen number, free path, stagnation pressure, Mach number, shock wave

ABSTRACT: A critical value for the Knudsen number was calculated below which a compression shock is visible in front of a body moving at high speed in a rarefied atmosphere. The flow is divided into two zones: the undisturbed zone at a distance larger than a mean free path \bar{l} ahead of the body and the stagnant zone $\bar{l}^* \lesssim \bar{l}$ containing N^* molecules. At a distance \bar{l} the number of molecules N is related to \bar{l} by $N\bar{l} = A = 1.61 \times 10^{14}$. From particle mass and momentum conservation laws an expression is derived for Kn as a function of the Mach number M ,

$$\frac{1}{3M} Kn^3 + \left(\bar{M} - \frac{2}{3M} \right) Kn - \left(2\bar{M} - \frac{1}{3M} \right) \approx 0$$

Card 1/2

LYKOV , A.V., akademik, red.; SMOL'SKIY, B.M., prof., red.;
SHASHKOV, A.G., kand. tekhn. nauk, red.; PLYAT, SH.N.,
kand. tekhn. nauk, red.; POMERANTSEV, A.A., prof., red.;
ROMANENKO, P.N., prof., red.; PEREL'MAN, T.L., kand. fiz.-
mat. nauk, red.; YAROSHEVICH, O.I., kand. tekhn. nauk, red.;
BEL'ZATSKAYA, L., red. izd.-va; TIMOFEYEV, L., red. izd.-va;
SIDERKO, N., tekhn. red.; VOLOKHANOVICH, I., tekhn. red.

[Heat and mass transfer] Teplo i massopereenos. Minsk, Izd-
vo AN BSSR. Vol.1. [Thermophysical characteristics of materials
and methods for their determination] Teplofizicheskie kharakte-
ristiki materialov i metody opredeleniia. Pod obshchei red. A.V.
Lykova i B.M.Smol'skogo. 1962. 216 p. Vol.5. [Methods for
calculating and modeling heat-and mass-transfer processes] Meto-
dy rascheta i modelirovaniia protsessov teplo- i massoobmena.
1963. 471 p. (MIRA 16:10)

1. Vsesoyuznoye soveshchaniye po teplo- i massoobmenu. Ist,
Minsk, 1961. Akademiya nauk Bel.SSR (for Lykov).
(Materials--Thermodynamic properties)
(Heat--Transmission) (Mass transfer)

POMERANTSEV, A.A., doktor fiziko-matematicheskikh nauk, prof.; SEMIKHATOV,
S.N., doktor tekhn.nauk, prof.

"Vacuum condensers of the chemical machinery manufacture" by
K.P.Shumskii. Reviewed by A.A.Pomerantsev, S.N.Semikhatov.
Khim.mash. no.2:46-47 Mr '62. (MIRA 15:3)
(Condensers (Vapors and gases))

VOROBTSOV, V.I., kand.med.nauk; POMERANTSEV, A.A., dotsent

Life and creative activity of Nikolai Fedorovich Leznev; on the
30th anniversary of his death. Urologiia 27 no.4:3-6 JI-Ag '62.
(LEZNEV, NIKOLAI FEDOROVICH, 1873-1932)

AKULOV, N.S., akademik; GINZBURG, A.S., doktor tekhn.nauk, prof.;
KOSTERIN, S.I., doktor tekhn.nauk, prof.; LYKOV, A.V.,
akademik; POMERANTSEV, A.A., doktor fiziko-matematicheskikh
nauk, prof.; SIROTA, N.N., akademik; SHEVEL'KOV, V.L., doktor
tekhn.nauk, prof.

Aleksandr Savvich Predvoditelev; on his 70th birthday. Inz.-fiz.
zhur. 4 no.12:106-108 D '61. (MIRA 14:11)

1. Akademiya nauk BSSR (for Akulov, Lykov, Sirota).
(Predvoditelev, Aleksandr Savvich, 1891-)

POMERANTSEV, Aleksey Aleksandrovich. Prinimali uchastiye: MORAR,
A.V., aspirant; POMERANTSEVA, Ye.N.;

[Course of lectures on the theory of heat and mass transfer]
Kurs leksii po teorii teplo-massobmena. Moskva, Vysshaia
shkola, 1965. 349 p. (MIRA 19:1)

POMERANTSEV, A.K., inzh.

Protective panels for "Universal" and MG-2T boilers. Energetik
13 no.1:15 Ja '65. (MIRA 18:3)

POMERANTSEV, A.M., kand.tekhn.nauk; LOBANOV, A.Ye., inzh.

Intermediate supports of bridges with prestressed rods. Transp.
stroi. 14 no.8:49-50 Ag '64. (MIRA 18:1)

POMERANTSEV, A.M., dotsent.

Precast reinforced concrete trestle pile bridges. Trudy
MIIT no.85/86:50-64 '56. (MLRA 9:10)

(Bridges, Concrete)

POMERANTSEV, A.M., kand. tekhn. nauk; KROSTELEV, Yu. V., inzh.

Precast reinforced concrete bridges with supports of a new type.
Transp. stroi. 8 no.1:5-8 Ja '58. (MIRA 12:12)
(Bridges--Foundations and piers)

POMERANTSEV, A.M., dotsent; TSAR'KOV, A.A.

Supports of large and medium-size bridges with reinforcing elements.
Trudy MIIT no.126:19-55 '60. (MIRA 13:10)

(Bridges--Foundations and piers)

POMERANTSEV, Aleksey Nikolayevich; MYAGKOV, M.M., red.

[Participation of rural trade-union activists in the control over capital construction] Uchastie sel'skogo profaktiva v kontrole za kapital'nym stroitel'stvom. Moskva, Profizdat, 1964. 38 p. (Bibliotekha sel'skogo profsoiuznogo aktivista, no.10(34)) (MIRA 18:7)

POMERANTSEV, A.P. (Kiyev)

Subacute aleukemic myelosis with ulcers of Peyer's patches.
Klin.med.33 no.7:77-78 J1 '55. (MLRA 8:12)

(LEUKEMIA, ALEUKEMIC, complications,
Peyer's patch ulcerations)

(INTESTINES,

Peyer's patch ulcerations in aleukemic leukemia)

1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
PROCESSES AND PROPERTIES INDEX																										PROCESSES AND PROPERTIES INDEX																									
F																																																			
2871. THEORY OF CARBON COMBUSTION IN TUBE OF RECTANGULAR CROSS SECTION. Chernyshev, AV., Pomerantsev, AA and Farberov, IL. (Izvest. Akad. Nauk S.S.S.R., Otd. Tekh. Nauk (Bull. Acad. Sci. U.S.S.R. Sect. Tech. Sci.), 1948, 1067-1078; abstr. in chem abstr., 1950, vol. 44, 5196). Prødvoditelev's theoretical study of combustion in cylindrical C tubes is extended to tubes of rectangular cross section. Equations are derived for calculating the temperatures and the O ₂ and CO ₂ concentrations within the tube at various conditions.																																																			
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POMERANTSEV, A.V., inzh.

Engineering methods for the determination of parameters of the rotor
wheel of an excavator. Stroi. i dor. mash. 10 no.10:21-24 0 '65.
(MIRA 18:10)

POMERANTSEV, A.V., inzh.

Determining the basic dimensions of rotary excavator working
components. Stroi. i dor. mash. 9 no.7:14-16 J1 '64.

(MIRA 18:3)

POMERANTSEV, B.I.

DECEASED

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PHARMACOLOGY

FOMERANTSEV, B. P.

"The Clinical Characteristics of the New Cardiac Glucosides, 'Erizimin' and 'Tsimarin.'" Cand Med Sci, First Moscow Order of Lenin Medical Inst, Moscow, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

PCMERANTSEV, D.

Vrednye Nasekomye i Borba s Nimi v Lesakh i Lesnykh Polosakh - Yugo-Vostochna
Evropeiskoi Ch. SSSR (Struggle Against Harmful Insects in the South-Western
Forested Regions of the European Part of the USSR)

210 p. 1.00

SO: Four Continent Book List, April 1954

POMERANTSEV, G. P.

32636. K metodike obratnogo raschisdeniya dlin i vesov ryby. Trudy ural'skogo otd-niya (vsesoyuz nauch.-issled. In-t ozern. i Rechn. Ryb. Khoz-va), T. iv. 1949, s. 274-88 bibliogr: 16 nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

POMERANTSEV, G. P.

32637. Ozero uvil'dy i usloviya akklimatizatsii v nem sigovykh. Trudy ural'skogo otd-niya (vsesoyuz nauch-issled. In-t ozer. i rech. Byb. khoz-va), T. iv, 1949, s. 21-64, -bibliogr: s. 63-64

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

IGIERANTSEV, G. F.

Cörangus Albula. Fishes - Ural Mountain Region.

Acclimatization of the Ladogan whitefish
in Ural lakes. Dokl, An SSSR, 81, no. 5, 1951.
Ural'skoye Otdeleniye BNIOPKH Sverdlovsk.

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Red. 17 April 1951

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

POMERANTSEV, I. N.
CA

PROCESSES AND PROPERTIES INDEX

Working up pyrites slag from sulfuric acid production into copper sulfate and insecticides or fungicides. I. N. Pomerantsev and D. R. Sorkina. *J. Chem. Ind. (Moscow)* 1954; No. 1, 47-54. One part of ground slag is extd. with 3 parts of 1% H₂SO₄. Each soln. is used for 1 fresh extn., 1% H₂SO₄ being used each time. Of the Cu in the slag, 78.7% is removed, and about half as much Fe. Addn. of air during the extn. fails to oxidize the insol. sulfides and so does not increase the yield. The ext. is boiled with KClO₃ to oxidize all the Fe; then CaCO₃ is added and the soln. boiled. Fe(OH)₃ ppts., leaving nearly pure CuSO₄ in soln. This can be obtained by evapn. of the soln. or the latter may be treated with CaCO₃, As₂O₃ or Ca₃(AsO₄)₂ to give Cu(OH)₂, CuCO₃, CuHAsO₄ or Ca₃Cu₂(AsO₄)₂, resp. If Fe is not first removed, the yields of these compts. fall off, and Na₂CO₃ must be added during their prepn. H. M. Leicester

18

AND-SEA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

15

POMERANTSEV, I.-N.

Treating burned pyrites to produce copper-containing fungicides. I. N. Pomerantsev and D. R. Sorkina. *Trans. Sci. Inst. Ferrous and Nonferrous Metals U.S.S.R.* No. 123, 144-54 (1955).—The Cu content of burned pyrites fluctuates between 0.8 and 1.6%. It is recommended to use the following methods for recovering Cu: disintegration of the slag (to pass a 60 mesh); extn. with cold 1% H₂SO₄ under agitation; concn. by repeated extn. (6 extns. yield solns. contg. 15-18 g. Cu per l.); purification of the extn. by oxidation (Cl or KClO₃), followed by pptn. of Fe with chalk. CuSO₄ and various Cu salts and Cu-As compds. can be prepd. It is more advantageous not to remove the Fe in prepg. Cu-As compds. A. A. Bochtling

ASME 33 A METALLURGICAL LITERATURE CLASSIFICATION

PROCESS AND PROPERTIES INDEX

B-III-1

POMERANTSEV, I.-N.
BC

Copper acetate (Pomerantsev, I. N. *Pomerantsev*, *Travaux. Ser. Inst. Pétrole, Moscou, U.S.S.R.*, 1954, No. 122, 126-128). A prep. equiv. to Parigiani is obtained by dissolving 40-60 g. of As_2O_3 in 1 litre of hot H_2O and then adding the calc. amount of $CaCO_3$, followed by 400 g. of $CuSO_4$ in 1 litre of H_2O . After boiling, the ppt. is collected, dried at $100-110^\circ$, and ground. Addition of >3% of "petroleum acids" during the process facilitates the suspension of the final product. *Ch. Abstr.* (5)

METALLURGICAL LITERATURE CLASSIFICATION

EDOM SCHINIV

EDOM SCHINIV

PROCESSES AND PROPERTIES INDEX

15

CA POMERANTSEV, I. N.

Copper arsenites. I. N. Pomerantsev. *Trans. S.S. Inst. Fertilizers and Insectofungicides U. S. S. R. No. 122; 154-61(1935).*—The expts. were carried out for the purpose of replacing Paris green with a cheaper As prepn. An insectofungicidal prepn. in many instances equivalent to Paris green was prepd. from 50-60 g. As_2O_3 in one l. H_2O , which was heated to dissolve As_2O_3 , by adding to the boiling soln. the required amount of $CaCO_3$ and then a soln. of $CuSO_4$ (400 g. in one l. of H_2O) at 80-90°, bringing the entire mixt. to boiling, filtering, drying at 100-110° and grinding to pass through 150-200 mesh. Up to 3% of petroleum acids, when added during the process improve the floating ability of the prepn. A. A. Boehlingk

AS. S. LA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

POMERANTSEV, I. N., Docent

Cand Tech Sci

"Investigation in the Field of Fluxes and Slags Used in Technology of Light Metals"
Sub 19 Feb 51, Moscow Inst of Nonferrous Metals and Gold imeni M. I. Kalinin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

Enumeration, T.V.

SUVOROVSKAYA, Natal'ya Aleksandrovna; TITOV, Valeriy Ivanovich; BRODSKAYA, Valentina Mikhaylovna; VASIL'YEV, Pavel Ivanovich; LIPSHITS, Bella Moiseyevna; ELENTUKH, Mariya Pavlovna; TROITSKAYA, M.I., kand.tekhn.nauk, retsenzent; POMERANTSEV, I.M., kand.tekhn.nauk, retsenzent; KOZHUKHOVA, M.A., kand.tekhn.nauk, retsenzent; VAGINA, N.S., red.; KOSOLAPOVA, E.F., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.red.

[Technical analysis in nonferrous metallurgy] Tekhnicheskii analiz v tsvetnoi metallurgii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 567 p. (MIRA 11:2)
(Nonferrous metals--Metallurgy)

POMERANTSEV, L.I., inzhener.

Incorporating additional current transformers in MXP-153-D
circuit breakers. Energetik 3 no.12:21-22 D '55. (MLRA 9:2)
(Electric circuit breakers)

DR. POMERANTSEV, L. I.

AID P - 3712

Subject : USSR/Electricity
Card 1/1 Pub. 29 - 17/25
Author : Pomerantsev, L. I., Eng.
Title : Mounting of secondary current transformers on circuit breakers of the MKP-153-D type
Periodical : Energetik, 12, 21-22, D 1955
Abstract : The author describes the enlargement of a circuit breaker bushing for the installation of secondary bushing-type current transformers. One drawing.
Institution : None
Submitted : No date

SHCHERBAKOV, V.I.; POMERANTSEV, L.M.; YUDITSKIY, S.A.

Basic pneumatic control devices. Stan.i instr. 33 no.2:5-10
F '62. (MIRA 15:1)

(Pneumatic control)

POMERANTSEV, L.M.; SHCHERBAKOV, V.I.; YUDITSKIY, S.A.

Designing pneumatic counting and storage systems. Stan. i instr. 32
no.7:4-7 JI '61. (MIRA 14:6)

(Pneumatic control)

POMERANTSEV, L.M.

Mechanism producing steady torque. Priborostroenie no.2:25
F '59. (MIRA 12:2)

(Mechanical movements)

24(O)

AUTHOR:

Pomerantsev, L. M., Engineer

SOV/119-59-2-10/17

TITLE:

Mechanism for Generating a Constant Torque (Mekhanizm dlya sozdaniya postoyannogo krutyashchego momenta)

PERIODICAL:

Priborostroyeniye, 1959, Nr 2, pp 25-25 (USSR)

ABSTRACT:

The mechanism consists of a container enclosed on all sides the inner walls of which are formed like two opposed involute branches. The container is excentrically fixed to an axis the center of rotation of the container coincides with the center of both involutes. A spherical or cylindrical weight is then put into the container and there moves along the one or the other involute branch. As the container is balanced out statically the produced torque only depends on the value of the weight. The constant torque produced may in various devices be used for regulation. It also is possible to transform this constant torque by well known means (gears, cog-wheels). Further, it is possible to transform the torque into a constant linear movement as is shown by an example (by means of a string stretched between 2 rolls). There is 1 figure.

Card 1/1

28,000 1089, 1068

22916
S/121/61/000/007/001/004
D040/D112

AUTHORS: Pomerantsev, L.M., Shcherbakov, V.I., and Yuditskiy, S.A.

TITLE: Designs of pneumatic counting-memory systems

PERIODICAL: Stanki i instrument, no. 7, 1961, 4-7

TEXT: The discussed pneumatic automatic control systems have been built and tested at the ENIMS pneumatics laboratory. The article presents a detailed discussion of general design principles of these systems, which are suitable for use in machines, machine tools, or automatic transfer lines. They have been described previously (Shcherbakov, V.I., and Yuditskiy, S.A., "Stanki i instrument", no. 10, 1960). A pneumatic memory unit - giving a command for actuating the work element of the machine after it has received a given number of pressure pulses - is included into the control system if the work element has to function periodically after a certain number of cycles. The interaction principle of counting-memory system elements is shown in a block diagram (Fig. 1) where the channels memorizing action pulses are marked $1_n, 2_n, 3_n, \dots, n_n$, and the channels memorizing the return pulses - $\bar{1}_n, \bar{2}_n, \bar{3}_n, \dots, \bar{n}_n$. Π is the action pulse channel and $\bar{\Pi}$ the return pulse channel. The

Card 1/4

22916

S/121/61/000/007/001/004
DC40/D112

Designs of pneumatic counting-memory systems

top system in (Fig. 1) is symmetric, with only one channel for each received pulse (both action and return), and the bottom one is asymmetric and memorizes action pulses only. The "memorizing valves" are four-way air-distribution valves. Pulse amplifiers (Fig. 3) in the form of three-way valves may be used in the units for compensating pressure drop in the air lines. A weak pulse acts on the membrane (1), the membrane pushes the pusher (2), and the valve (3) opens wider and passes a high-pressure pulse from the line. The duct from the amplifier to the "memorizing valve" is connected to the atmosphere when the amplifier is in the zero position. The article includes descriptions of high-order units built up from simple counting-memory units by means of addition and multiplication operations, and calculations for determining the necessary number of valves for different arrangements. Two practical examples are given - a simple binary unit controlling the switch of a conveyor transporting parts, and a unit in a storage hopper in an automatic transfer machine giving control commands after the passage of every sixth part. There are 10 figures and 1 Soviet-bloc reference.

Card 2/4

POMERANTSEV, L.M.

Opticomechanical device for checking curvilinear working surfaces.
Priborostroenie no.5:18-20 My '60. (MIRA 14:5)
(Optical instruments)

POMERANTSEV, L.M., inshener.

Device for controlling model vanes of hydraulic axial turbines and
pumps. Trudy VIGI no.20:23-40 '56. (MLRA 10:4)
(Hydraulic turbines) (Pumping machinery)

S/121/62/000/002/001/004
D040/D113

AUTHORS: Shcherbakov, V.I., Pomerantsev, L.M., and Yuditskiy, S.A.

TITLE: Universal pneumatic command units

PERIODICAL: Stanki i instrument, no. 2, 1962, 5-10

TEXT: A new rotor-type command unit developed by ENIMS is described, and, in connection with system combinations proposed for pneumatically controlling automatic machines which require quick settings for different operational cycles, pneumatic control units with air distributor blocks are discussed. Schematics of different operators and examples of possible control circuits are given. References are made to Soviet and English-language sources dealing with pneumatic control circuits and memory valves controlling logic circuits. One suggested control circuit corresponds to an asymmetric counting-memory unit previously described by the authors (Ref. 3: Stanki i instrument, no. 7, 1961). The new rotor-type command unit, shown in a diagram, includes a camshaft bearing a sprocket, driven by a pneumatic piston, and three-way valves actuated by the cams. It is suggested that auxiliary four-

Card 1/2

POMERANTSEV, L. M., Cand of Tech Sci — (diss) "Investigation of the Technology of Working Out and Control of the Working Surface of Blades of Horizontal Hydroturbines," Moscow, 1959, 17 pp (Moscow Aviation Engineering Institute) (KL, 4-60, 120)

POMERANTSEV, L. M.

NUMBER BOOK IDENTIFICATION 504/5324

Moscow, Aviatstionnyy tekhnologicheskii institut

Voprosy avtomatizatsii i mekhanizatsii tekhnologicheskikh protsessov. (Problems in the Automation and Mechanization of Manufacturing Processes) Moscow, Oborongiz, 1973. 183 p. (Series: Itogi Nauki i Tekhn., v. 9) Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Ministerstvo vysshego obrazovaniya SSSR.

Ed.: A. I. Isayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: I. A. Suvorova; Tech. Ed.: N. A. Pukhlikova; Managing Ed.: A. B. Zaynovskaya.

PURPOSE: This collection of articles is intended for engineer-technologists and scientific workers in the field of technology of machine construction, and students in the same special field.

COVERAGE: This collection of articles considers, on the basis of investigations conducted, methods for the automation of manufacturing processes involving the machining of parts on metal-cutting machine tools; it presents information regarding a suitable selection of machine tools for lot production and deals with methods of mechanizing the machining and inspection of parts having a complex form.

III. Isayev, A. I., Doctor of Technical Sciences, Professor; and L. M. Pomerantsev, Engineer. Investigation of the Technology of the Machining and Checking of the Working Surfaces of the Blades of Propeller-type Hydro-turbines 46

IV. Dmitriyevskiy, I. V., Docent, Candidate of Technical Sciences; and I. S. Kartasheva, Candidate of Technical Sciences. On the Problem of Criteria for Reliable Checking of Measuring Instruments 74

V. Chistyakov, A. A., Docent, Candidate of Technical Sciences. Methods for Determining Permissible Unbalance of the Rotors of High-speed Turboengines Operating on Roller Bearings 91

AVAILABLE: Library of Congress

Card 5/5

AO/Pal
4-4-60

3

SOLOV'YEV, S.N., kand.tekhn.nauk; POMERANTSEV, L.M., kand.tekhn.nauk

Experimental investigation of a hydraulic copying rest.
Vest.mash. 40 no.9:65-67 S '60. (MIRA 13:9)
(Lathes)

POMERANTSEV, L.M.

Call Nr: AF 1129927

AUTHOR: See Table of Contents

TITLE: New Processes in Hydraulic Machine Building (Novoye v gidromashinostroyeni)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo mashinostroitel'noy literatury, Moscow, 1956, 66 pp., 1600 copies. (TRUDY VIGM, Nr XX)

ORIG. AGENCY: Vsesoyuznyy nauchno-issledovatel'skiy institut gidromashinostroyeniya

EDITORS: Liferenko, N.N., Candidate of Technical Sciences; Editor-in-Chief: Pokrovskiy, N.V., Engineer; Technical Editors: Matveyeva, Ye.N. and Uvarova, A.F.; Corrector, Semenova, O.I.

Card 1/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

PURPOSE: This collection of articles is intended for engineers, technicians, innovators in hydraulic machine production methods and allied fields.

COVERAGE: This material deals with the work carried out by the technological department of the VIGM (All-Union Institute of Hydromachinery) on improvements in the technology of hydraulic machinery. Casting of hydraulic machine parts by the investment process (lost wax) and methods of casting in shell molds are discussed and illustrated. Processes of casting machine parts from high-strength magnesium-containing cast iron are demonstrated and explained. Methods on gaging vanes of axial-flow hydraulic machinery are illustrated and tables of standardized quality requirements for machines are included. The collection contains Russian contributions. No personalities are given. There are 7 bibliographic references, all of which are Slavic.

Card 2/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

Table of Contents:

1. Vasina, Z.M., Eng. Experiment in the Manufacture of Impellers for Centrifugal Pumps Made From Chrome Steel 1 X13, by the Investment Casting (Lost Wax) Method. 3-10

No personalities mentioned. No references.

2. Radin, I.A., Engineer. The Manufacture of Impellers for Centrifugal Pumps by Casting in Shell Molds. 11-22

No personalities mentioned. No references.

Card 3/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

3. Pomerantsev, L.M., Engineer. Measuring Device for Checking
Pattern Vanes of Hydraulic Propeller Turbines and
Pumps. 23-40

No personalities mentioned. No references.

Card 4/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

4. Fokin, G.F., Eng. Casting Hydraulic Machine Parts from
High-strength Magnesium-containing Cast Iron. 41-49

Personalities mentioned include: Bazhenova, V.V., and
Yavorinskiy, L.M. There are 7 bibliographic references,
all of which are Slavic.

Card 5/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

5. Korovin, B.I., Candidate of Technical Sciences. Standardization of Quality Requirements for the Manufacture of Propeller Pumps and Small and Medium Hydraulic Turbines. 50-67

No personalities mentioned. No references.

AVAILABLE: Library of Congress

Card 6/6

ACCESSION NR: AP4043974

S/0121/64/000/008/0004/0007

AUTHORS: Pomerantsev, L. M.; Voskresenskiy, V. V.

TITLE: A pneumatic positioning system for programmed control of the index board of an automatic line

SOURCE: Stanki i instrument, no. 8, 1964, 4-7

TOPIC TAGS: pneumatic control, programmed control, pneumatic system

ABSTRACT: The mechanical system for a 12-position processing of a part is schematically presented and its operation is explained. Control of the process is accomplished by an electrically energized pneumo-system, the block diagram of which is presented. The complete operating cycle is explained; the fundamental component of this system is provided by a pneumo-relay (see Fig. 1 on the Enclosure) which, under the control pressure of 2.25 kg/cm², reliably controls working pressures up to 9 kg/cm². The relay operated reliably in the crossed-hatch area of the characteristic diagram as shown in Fig. 1. The time and frequency of a relay response depends principally on the volume of the tubing connecting the relays and on the pressure. The use of this relay for logic functions is presented in tabular form. Four possible combinations of single variable inputs and the 16 possible combinations of 2 input variables are discussed. The tables include both conventional
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51"
ACCESSION NR: AP4043974

notations and normal disjunctive and normal conjunctive algebraic notations. Examples of sequential operations are presented for such functions as storage, one-cycle delay, and pneumo-triggering. A four-stage system using pneumatic binary counters to reduce the number of components in a system is explained. The small size of the pneumo-relays (25 x 25 x 40 mm) and their high reliability give them advantages over similar electrical relay systems. Pneumo-systems tested for more than a million cycles verified their reliability, simplicity, and adaptability. Special attention was given to eliminating false signals arising with transient contact of the relays. Orig. art. has: 3 tables and 5 figures.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: IE , DP

NO REF SOV: 003

ENCL: 01

OTHER: 001

Card 2/3

ACCESSION NR: AP4043974

ENCLOSURE: 01

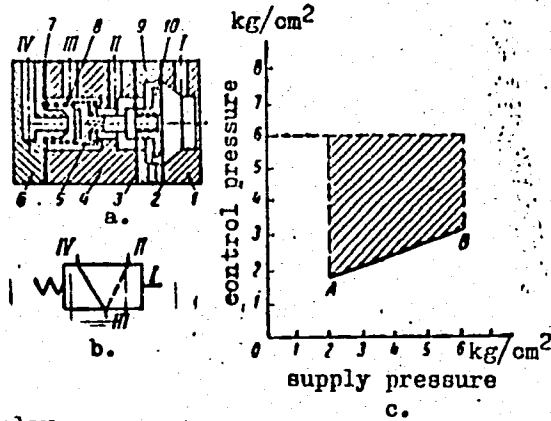


Fig. 1. Pneumo-relay.

a. Construction: 1- cover; 2- response membrane; 3- sealing membrane;
 4- framework; 5- channel; 6- cover; 7- gasket; 8- spring; 9- separator;
 10- flanged bushing.

b. Conventional representation: solid line - closed contact; dashed line -
 open contact.

c. Characteristic.

3/3

POMERANTSEV, I.M.; VOSKRESENSKIY, V.V.

Pneumatic position system of program control for a dividing
table of an automatic line. Stan.1 instr. 35 no.8:1-7 Ag '64.
(MIRA 17:10)

POMERANTSEV, L. M.

Pomerantsev, L. M.

"Investigation of the technology of machining and control of the working surfaces of the blades of propeller hydroturbines." Min Higher Education USSR. Moscow Aviation Technological Inst. Moscow, 1956. (Dissertation for the Degree of Doctor in Sciences.)

Knizhnaya letopis'
No. 35, 1956. Moscow.

POMERANTSEV, L.V. [author]; MENSHTIN, N.F. [reviewer] (Moscow).

"Make it yourself." L.V.Pomerantsev. Reviewed by N.F.Menshtin. Fiz. v
shkole 13 no.5:79-80 S-0 '53. (MLRA 6:8)
(Pomerantsev, L.V.) (Physical instruments)

POMERANSEV, M.M., kand.tekhn.nauk

Grab-type loading tractors. Mekh.i avtom.proizv. 16 no.7:38-39
Jl '62. (MIRA 15:8)

(Tractors)

ПОДЪЕМНЫЕ МАШИНЫ

LESHKEVICH, A.I., kandidat tekhnicheskikh nauk; POMERANTSEV, M.M.,
kandidat tekhnicheskikh nauk.

New machines for piling and loading lumber on landing points.
Mekh.trud.rab. 11 no.5:15-19 My '57. (MIRA 10:7)
(Cranes, derricks, etc.) (Lumberyards)

POMERANTSEV, M.M.

POMERANTSEV, M.M.; KHARITONOV, V.V., redaktor; AGRANOVSKAYA, N.D.,
redaktor; SHITS, V.P. tekhnicheskiy redaktor.

[Loading timber with a TL-3 winch at the landing point] Pogruzka
drevesiny lebedkoi TL-3 na nizhnem sklade. Moskva, Goslesbumizdat,
1955. 35 p. (MLRA 8:8)
(Lumber--Transportation) (Hoisting machinery)

VOYEVODA, Dmitriy Kondrat'yevich; POMERANTSEV, Mikhail Mikhaylovich;
ALPATSKIY, I.V., red.; KALININA, L.M., red.izd-va;
SHIBKOVA, R.Ye., tekhn. red.

[Self-loaders and their performance at lower timber land-
ings and timber transshipment bases] Avtopogruzchiki, ikh
rabota na nizhnikh lesnykh skladakh i lesoperevalochnykh
bazakh. Moskva, Goslesbumizdat, 1962. 53 p.

(MIRA 16:11)

(Lumber--Transportation)

44271

S/190/63/005/001/014/020
B101/B18611.2210
AUTHORS:

Karpov, V. L., Pomerantsev, N. M., Sergeev, N. M.

TITLE:

Nuclear magnetic relaxation in irradiated rubbers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 1, 1963, 100-107

TEXT: A study has been made of the nuclear magnetic resonance spectra of CKĒ (SKB) butadiene rubber with 60 - 70% 1,2 bonds, and CKĀ (SKD) butadiene rubber with 90-95% 1,4 bonds. Irradiation was carried out with Co^{60} in doses up to 500 Mrad. Results: Non-irradiated SKB showed a line 0.2 ± 0.02 oe broad. Upon irradiation, the intensity of this line decreased with increasing dose for SKB irradiated at 10^{-5} mm Hg or in air. Instead a line of 9.2 ± 0.3 oe width appeared, the intensity of which increased with the dose. The spectrum of non-irradiated SKD was equal to that of non-irradiated SKB. With irradiated SKD, the intensity of the narrow line also decreased with increasing dose, and that of the broad line increased. The only difference was that the intensity of the narrow line still noticeable at high doses (150 - 300 Mrad) fell to the background noise at 70-80 Mrad with SKB irradiated in vacuum, at ~ 180 Mrad with SKB irradiated in air, and at

Card 1/3

Nuclear magnetic relaxation...

S/190/63/005/001/014/020
B101/B186

200-220 Mrad with SKD irradiated in vacuum. Measurement of the line width between -100 and +20°C showed that the motion of protons was inhibited at -90°C. This temperature corresponded to a line width of 9.1 ± 0.4 oe. According to I. G. Powles (Polymer, 1960, 219) an activation energy of 1.5 -2 kcal/mole was calculated for non-irradiated SKB, and a correlation time τ_{cor} was found in the order of 10^{-7} - 10^{-8} while activation energies, calculated according to dielectric or mechanical relaxation methods, equal 30 and 39 kcal/mole. Conclusion: Irradiation converts the protons from a state with high correlation frequency, 10^5 - 10^6 cps, to an inhibited state with 10^1 - 10^2 cps; there is a transition state with 10^2 - 10^3 cps. Discussion of data found by H. S. Gutowsky et al. (J. Chem. Phys., 27, 537, 1957) concerning magnetic relaxations of rubber vulcanized with sulfur shows that the C-C cross linking due to irradiation is more solid than the one due to S-bonds because the potential barrier of rotation is lower for the latter. 3-5% of the protons remain uninhibited when the rubber is irradiated in air. Oxygen-containing cross links with low potential barriers are formed. There are 6 figures. ✓

Card 2/3

Nuclear magnetic relaxation...

S/190/63/005/001/014/020
B101/B186

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: July 25, 1961

X

Card 3/3

POMERANTSEV, N.M.

Demonstration of self-inductance phenomena by means of the Wheatstone
bridge. Fiz.v shkole 7 no.3:53-54 '53. (MLRA 6:11)

1. Moskva, Avtotskhicheskoy institut. (Self-inductance)

GVOZDOVER, S.D.; POMERANTSEV, N.M.

Form of signals in magnetic resonance in the case of non-interacting, spinning particles. Vest.Mosk.un. 8 no.6:85-94 Je '53. (MIRA 6:10)

1. Fizicheskiy fakul'tet. (Electromagnetism) (Nuclear physics)

POMERANTSEV, N. M.

The shape of magnetic resonance signals of atomic nuclei.
S. D. Cvyzdover and N. M. Pomerantsev. *Vestnik Moskov. Univ.* 8, No. 9, *Ser. Fiz.-Mat. i Estestv. Nauk*, No. 6, 70-91(1953); cf. *C.A.* 48, 9189c. — The signal shape in nuclear magnetic resonance expts. is represented by the solution of an integral equation. A method of solving this equation is developed which is suitable for the treatment of most of the cases encountered in practice. For several cases which have not been considered previously, the signal shapes are represented graphically. E. Gora

POMERANTSEV, N. M.

Dissertation: "Dynamic Methods of Studying Nuclear Paramagnetism." Cand Phys-Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 23 Jun 54, (Vechernyaya Moskva, Moscow, 14 Jun 54.

SO: SUM 318, 23 Dec 1954

POMERANTSOV, N. M.

5956
DETERMINATION OF THE TRANSVERSE RELAXATION
TIME OF NUCLEAR MAGNETIC MOMENTS. S. D.

Gvozdoer, N. M. Pomerantsov, and A. P. Pollakova
(Moscow State Univ.) Soviet Phys. JETP 1, 471-4 (1955)
Nov. (in English). Zhur. Eksptl. i Teoret. Fiz. 28, 584-8
(1955) May. (in Russian).

A new method is proposed for determining the transverse relaxation time from the shape of the magnetic resonance signals from atomic nuclei. In applying this method the inhomogeneity of the magnetic field over the volume of the sample can be measured simultaneously. The experiments indicated the usefulness of this method and agreed with the results of other authors, which were obtained by other methods. (auth)

3

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Phys
Sci

pmf
1955

POMERANTSEV, N. M.
USSR/Nuclear Physics - Magnetic Resonance of Nuclei

FD-1680

Card 1/2 : Pub. 129-5/25

Author : Pomerantsev, N. M.

Title : Application of self-excited oscillatory systems for the study of magnetic resonance of atomic nuclei

Periodical : Vest. Mosk. un., Ser. fizikom. i yest. nauk, Vol. 10, 47-52, Feb 1955

Abstract : In experiments on the magnetic resonance of atomic nuclei a sample of the substance containing nuclei that possess magnetic moment is placed in a strong constant magnetic field perpendicularly to which is imposed a weak high-frequency magnetic field; the resonance signals due to the precession of the resulting vector of nuclear magnetization are observed during coincidence of the angular frequency of the radio-frequency field with the Larmor frequency of precession of the nuclear magnetic moments ($\omega = gH_0$). In the apparatus employed the oscillator creating the high-frequency magnetic field must possess a negligible noise factor; however, such requirements are not satisfied by ordinary radio apparatuses (e.g. GSS6) and therefore special oscillators are needed. In the present work the author discusses the theory and application in experiments on the magnetic resonance of atomic nuclei of a self-excited system in which the sample is placed directly in the coil of the oscillatory circuit of the oscillator. He acknowledges the

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guidance of Prof. S. D. Gvozdover. Four references: S. D. Gvozdover and A. A. Magazanik, ZhETF, 8, 705, 1950; A. A. Andronov and S. E. Khaykin, Teoriya kolebaniyy (Theory of Oscillations); S. D. Gvozdover and Pomerantsev, Vest. Mosk. un., Sept 1953; B. A. Jacobson and R. K. Wangsnes, Phys. Rev., 73, 942, 1948.

Institution : -

Submitted : December 16, 1953

POMERANTSEV, N.M.

Simple signal recording circuit for magnetic resonance of atomic
nuclei. Vest.Nosk.un. 10 no.8:57-58 Ag '55. (MLRA 9:1)
(Nuclear magnetic resonance)

USSR/ Physical Chemistry - Molecule. Chemical bond

B-4

Abs Jour : Referat Zhur - Knimiya, No 4, 1957, 10884

Author : Gvozdover S.D., Pomerantsev N.M., Polyakova A.L.

Title : Determination of Time of Transversal Relaxation of Nuclear Magnetic Moments

Orig Pub : Zh. eksperim. i teor. fiziki, 1955, 28, No 5, 584-588

Abstract : A theoretical determination is made of the correlation between the quantity $\alpha = (2/aT_2)^{1/2}$, which includes the time of transversal relaxation of the nuclei T_2 , and the ratio Z of amplitudes of first and second extremes of dispersion signal arising on non-adiabatic passage of magnetic field through resonance; herein α is a quantity proportional to the rate of modulation of the magnetic field. Correlation between α and Z is presented in the form of a table and graph. By the described method, a determination was made of time T_2 for spins of F^{19} nuclei in the compound $BF_3 \cdot 2H_2O$: $T_2 = 0.9 \cdot 10^{-3}$ second.

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POMERANTSEV, N. M.

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USSR/Nuclear Physics - Nuclear magnetic moments

Card 1/1 Pub. 146 - 18/28

Author : Pomerantsev, N. M.

Title : ~~Relaxational processes during interaction of nuclear magnetic moments with oscillatory contour~~
: Relaxational processes during interaction of nuclear magnetic moments with oscillatory contour

Periodical : Zhur. eksp. i teor. fiz., 29, September 1955, 375-376

Abstract : The writer relates the results of his earlier work (Vestnik MGU, 2, 47, 1955) on the interaction of nuclear magnetic moments with oscillatory contour connected to a self-excited oscillatory system to the simple case where the oscillatory contour is fed from an external oscillator, the original system of equations having the following form: $V'' + w^2 V = w^2 E \cdot \cos(w_0 t - \psi) - w V' / Q - A M_x$, $W' + [1/T_2 + i g H_z] W - i g B M_z V' = 0$, where E, w_0, ψ are amplitude, frequency, phase of oscillations of the oscillator, and Q is the figure of merit of the contour. Five references: e.g. S. D. Gvozdover, A. A. Magazanik, *ibid.*, 20, 705, 1950.

Institution : Moscow State University [MGU]

Submitted : April 4, 1955

Pomerantsev, N. M.

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RELAXATION PROCESSES IN THE INTERACTION OF
NUCLEAR MAGNETIC MOMENTS WITH AN OSCILLATOR
LOOP. N. M. Pomerantsev (Moscow State Univ.). Soviet
Phys. JETP 2, 681-2(1956) May. (In English). Zhur.
Ekspil. i Teoret. Fiz. 29, 375-6(1955) Sept. (In Russian)

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Котельникова, Н. И.

Category : USSR/Magnetism - Magnetic Radiospectroscopy

F-6

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4064

Author : Kessenikh, A.V., Pomerantsev, N.M.

Title : Quantitative Comparison of the Theory of Magnetic Resonance of Atomic Nuclei with Experiment.

Orig Pub : Vestn. Mosk. un-ta, 1956, No 3, 57-62

Abstract : The theoretically-calculated and experimentally-obtained forms of nuclear magnetic resonance signals were compared. Signals from protons in water containing paramagnetic salt were studied. The signals were observed in a weak radio-frequency field. Theoretical form of the signal was calculated on the basis of the Bloch equations with allowances for the inhomogeneity of the constant magnetic field. Good agreement was obtained between the theory and experiment in the region of the first and second extrema of the signal. The discrepancy between the theory and experiment in the region farther away from resonance is attributed to the idealization of the distribution function of the field inhomogeneity, used in the calculations.

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TITLE: Study of Proton Magnetic Resonance (Izucheniye magnitnogo rezonansa protonov)

u(t). Conclusions derived from the theory are confirmed experimentally.

A method, based on the measurement of amplitudes of absorption signal extrema was used to determine the time of relaxation.

The bibliography contains 6 references, of which 3 are Slavic (Russian). The article contains the following illustrations: 2 circuits, 3 oscillograms and 4 graphs.

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PRESENTED BY:

SUBMITTED: No date

AVAILABLE: At the Library of Congress

Card 2/2

ENDRYU, E. [Andrew, E.R.],; POMERANTSEV, N.M., [translator],; SKUBUR,
Ye. H., [translator],; LAZUKIN, V.N., red.; TELESNIN, N.L., red.
SOKOLOVA, T., tekhn. red.

[Nuclear magnetic resonance] Yadernyi magnitnyi rezonans. Moskva,
Izd-vo inostr. lit-ry, 1957. 299 p. [Translated from the English].
(MIRA 11:11)

(Nuclear moments)
(Magnetism)

POMERANTSEV, N. M.

AUTHOR: Pomerantsev, N. M., and Kvlividze, V. I. 120-2-16/37

TITLE: A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals. (Chuvstvitel'naya Skhema dlya Nablyudeniya Signalov Yadernogo Magnitnogo Rezonansa).

PERIODICAL: Pribery i Tekhnika Eksperimenta, 1957, No.2, pp. 56 - 59 (USSR).

ABSTRACT: The main experimental problem in nuclear magnetic resonance work is how to increase the sensitivity (signal to noise ratio) of the apparatus. Besides the use of low noise installations it is usually necessary to apply other methods of increasing this ratio. In the present article the description is given of an arrangement incorporating the full compensation of the signal of the amplifying channel input (Ref. 4) as compared to the partial compensation method described in references 1 and 2. The "resistive voltage" as frequency carrier is introduced in this case after the amplification of a nuclear magnetic resonance signal. An improvement in the S/N ratio is obtained and although the relative noise cannot be reduced during the compensation process, its absolute value is made smaller, so that for a constant value of the magnetic resonance signal the S/N ratio is improved. If, for the

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A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals.

partial compensation, the resistive voltage is of the order of mV, for a complete balance it may become of the order of one or a fraction of a microvolt. It is then smaller than the noise level and in principle the S/N ratio will be determined solely by the receiver noise and the pure absorption or dispersion observed. The resistive voltage of correct phase is fed into the mixer where detection occurs (as opposed to Reference 4.). The mixer is a multiplying circuit with integration. The integration constant is so chosen so as to pass low frequency components without distortion, the high frequency noise is reduced considerably in the same manner as in a high frequency phase sensitive detector with the frequency pass band reduced to the required value. The experimental arrangement consists of a generator with a power amplifier, the output voltage of which is fed into the compensator. The latter consists of a coil with a sample placed in its constant magnetic field. The signal of the magnetic nuclear resonance from the compensator is applied to a high frequency amplifier, then to a multiplier where it is multiplied by the generator voltage with a proper phase

Card 2/4 shift, obtained with a phase inverter (variable). After

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A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals.

SUBMITTED: August, 8, 1956.

ASSOCIATION: Faculty of Physics of the Moscow State University
imeni M. V. Lomonosov. (Fizicheskiy Fakul'tet MGU im.
M. V. Lomonosova.)

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