

OKOVANTSEV, L.A.: PETROV, A.F.

Electric centralization of station switched into dispatcher control.
Avtom., telem. i svyaz' no. 6:36-38 Je '57. (MLRA 10:7)

1. Rukovoditel' peredvizhnoy laboratorii signalizatsii i svyazi
Vsesoyuznogo nauchno-issledovatel'skogo instituta transportnogo
stroitel'stva (for Okovantsev).

2. Starshiy nauchnyy sotrudnik laboratorii (for Petrov).
(Railroads--Communication systems)

PETROV, A.F., inzh.

Radio relay communications in the construction of new railroads.
Transp.stroi. 11 no.3:13-15 Mr '61. (MIRA 14:3)
(Railroads—Construction) (Radio relay systems)

BYKOVSKIY, V.S.; KANEVSKIY, A.G.; PETROV, A.F.; BIRYUKOV, V.D., inzh.,
retsenzent; DOBSHITS, M.L., inzh., red.

[Dispatcher control in railroad construction] Dispetcherskoe
upravlenie zheleznodorozhnym stroitel'stvom. Moskva, Trans-
zheldorizdat, 1963. 95 p. (MIRA 16:5)

(Railroads--Construction)

(Railroads--Design and communication systems)

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001240410018-0

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CIA-RDP86-00513R001240410018-0"

PETROV, A. G.

PA 1979

USSR/Telephone Lines
Cables, Telephone

Nov 1946

"Reconstruction of Telephone Circuits in Connection
with the Rebuilding of Bridges," A. G. Petrov,
N. N. Luzhetskii, 2 pp

"Vestnik Svyazi - Elektro Svyaz'" No 11 (80)

Describes the re-routing of the Moscow telephone
circuits during the recent reconstruction of the
Moscow Railway Station.

1979

PETROV, A.G., inzhener; AZBUKIN, S.N., inzhener.

Stray currents and their control on the Moscow municipal telephone circuits.

Gor.khoz.Mosk. 21 no.3:30-32 Mr '47.

(MLRA 6:11)

(Moscow--Telephone lines) (Telephone lines--Moscow)

(Electric currents, Vagrant)

PETROV, A.G., inzhener; LUZHETSKIY, N.N., inzhener.

Automatic telephones in Moscow. Gor.khoz.Mosk. 21 no.2:29-31 7 '47.

(MLBA 6:11)

(Moscow--Telephone, Automatic) (Telephone, Automatic--
Moscow)

PETROV, A.G., inzhener; SERIKOV, A.G., inzhener.

Reorganizing line maintenance of urban telephone systems.
Vest. svyazi 7 no.8:3-4 Ag '47. (MLRA 9:1)
(Telephone lines)

PETROV, A.G. (Tomsk)

Modification of Professor Lobovin's operations in chronic
dacryocystitis. Kaz.med.zhur. no.3:88-89 My-Je'63.
(MLA 16:9)

(DACRYOCYSTITIS) (NOSE--SURGERY)

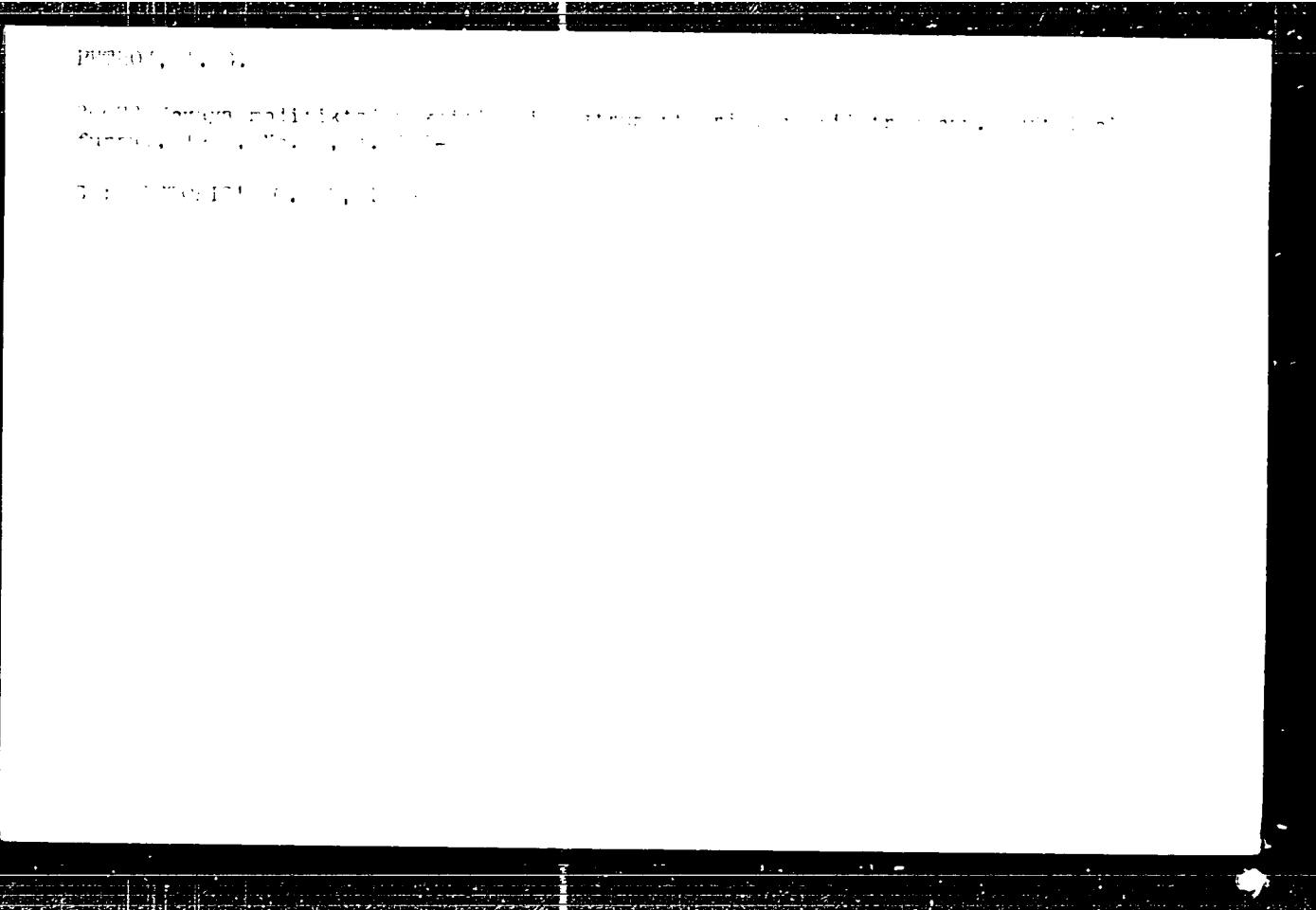
PETROV, A.G. (Iomsk)

Som observations of the action of hyposulfite. Kaz.med.shur.
no.1:73 1a-P¹⁰³. (M.L.A. 10.2)
(THE S. S. S. R. READING)

PETROV, A.G.

Treatment of suppurative otitis by lavage of the middle ear
with a formalin solution. Zhur.ush. nos. 1 gorl. pol. 23
no.2:76 Mr-Ap'63. (MLA 16-0)

1. Iz 5-y polikliniki g. omska.
(EAR-DISEASES) (FORMALDEHYDE-THERAPEUTIC USE)



PETROV, A.G. (Troitsk)

Symptom of hemorrhage in trachoma. Vest.oft. 32 no.6:35 H-D '53. (MLBA 6:12)
(Conjunctivitis, Gramlar)

PETROV, A.G.

Symptom of bleeding in trachoma. Sov.med.19 no.8:84-85 Ag '55.
(MLRA 8:10)

1. Iz otdelencheskoy bol'nitsy stantsii Troitsk-Yuzhno-Ural'skoy
zheleznoy dorogi (nachal'nik bol'nitsy N.A.Zemchanko)

(TRACHOMA, diagnosis,
eyelids bleeding test)

(EYELIDS, hemorrhage
in trachoma, diag.sympt.)

(HEMORRHAGE
eyelids in trachoma, diag. sympt.)

PETRUKOVICH, A.A., kand.tekhn.nauk (Gomel'); TARTAKOVSKIY, K.N., kand.-
tekhn.nauk (Gomel'); SMYKOV, Ye.K., kand.tekhn.nauk (Gomel');
LIPSKIY, M.V., do'sent (Gomel'); LIZOGUE, I.S., stantsiya "Belorusskoy"
(Gomel'); GANEVICH, V.I. (Gomel'); PETROV, A.G. (Gomel');
ZNAMENSKIY, P.I. (Gomel')

"The railroad track" by G.M.Shakhuniants. Reviewed by
Petrukovich and others. Bel.dor.transp. 1944. 1944. 1944. 1944.
(MirGiz)

1. Zamestitel' nachal'nika Belorusskoy dorogi (for Ganevich)
2. Nachal'nik sluzhby puti Belorusskoy dorogi (for Petrov)
3. Glavnyy inzh. sluzhby puti Belorusskoy dorogi (for Znamenskiy.
(Railroads--Track)
(Shakhuniants, G. M.)

POPOV, S.G.; TSURICHENKO, M.Ye., inzhener, retsenzent; PETROV, A.G.,
inzhener, redaktor.

[How to prevent defective production in machine construction
plants] Kak predupredit' brak na mashinostroitel'nom zavode.
Moskva, Gos. nauchno-tekhn. issledovaniya i inzhenerstva.
lit-ry, 1953. 70 p. (MLRA 7:7)
(Machinery industry) (Quality control)

IL'INSKIY, Sergey Aleksandrovich; PETROV, A.G., red.; FEDOROV, B.M.,
red.izd-va; PARAKHINA, N.L., tekhn.red.

[Tolerances and fits in woodworking] Dopuski i posadki v
derevoobrabotke. Moskva, Goslesbumizdat, 1960. 300 p.

(Woodwork)

(Tolerance (Engineering))

(MIRA 13:11)

PETROV, A.G., inzh.lesnogo khozyaystva

Work mechanization in the stabilization of sands and retention of
snow. Zemledelie 7 no.3:61-62 Mr '59. (MIRA 12:4)

(Soil stabilization)

(Snow fences)

PETROV, A.G.

Treatment of senile cataract with sodium thiosulfate. Zdrav. Bel.
9 no.3:54-56 Mr'63 (MIRA 16:12)

1. Iz zheleznodorozhnoy bel'nitsy g. Troitska (nachal'nik bol'nitsy Ch.K.Alekperov) i polikliniki No.5 g. Tomsk (glavnyy vrach - G.G.Poromareva).

PETROV, A.I., inzhener; OLAKOV, A.V., inzhener.

Increasing the productivity of electromechanical grinding. Vest.mash. 33 no.
10:75-79 0 '57. (MLRA 6:10)
(Grinding and polishing)

ABELEV, Yu.M., professor; KRUTOV, V.I., inzhener. PETROV, A.I., inzhener.

Building on fill. Stroi. prom. 35 no.5:16-20 My '57. (MIRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut osnovaniy i podzemnykh sooruzheniy Akademii stroitel'stva i arkhitektury SSSR (for Krutov). 2. Proyektno-konstruktorskoye byuro zavoda imeni Il'icha (for Petrov).
(Foundations) (Soil mechanics)

PETROV, A. I.

"The Results of Crossing Kazakh Meat-Tallow Sheep With Wool-Meat, Fine-Fleece Rams in the Southeastern Region of Dzhambul'skaya Oblast." Cand Agr Sci, Alma-Ata Zooveterinary Inst, Alma-Ata, 1954. (RZhBiol, No6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

PETROKANSKIY, B.I.; ZVEREV, N.P., rezensent; MIZIN, V.I.,
rezensent; PETROV, A.I., rezensent; KRISHTAL', L.I., red.

[Statistical accounting and the work analysis of a railroad
branch] Statisticheskii uchet i analiz raboty otdeleniia do-
rogi. Moskva, Izd-vo "Transport," 1964. 218 p.
(MIRA 17:6)

SOKOLOV, Konstantin Pavlovich; ~~PETROV, A.I.~~ redaktor; KOLOSKOVA, M.I.,
redaktor izdatel'stva; KRYNOCHKINA, K.V., tekhnicheskiy redaktor

[Geological interpretation of magnetic prospecting data] Geologi-
cheskoe istolkovanie magnitorazvedochnykh dannyykh. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр, 1956. 126 p.
(Prospecting--Geophysical methods) (MLRA 9:10)

71

C 9 PETROV, A. I

Reduction of free oxygen in the determination of nickel
 in cobalt products. A. I. Petrov, *Zhurnal Khim. Fiz.* 19
 1950, 26, 1000. Although blowing with H₂ requires some
 time for removal of O₂ from the test solution, which
 is not a great advantage, the method is very simple and
 requires less time. The test vessel, which
 contains a small amount of solution, is placed in the
 bath of a high-boiling liquid, and the solution is
 together with the reducing agent after which the
 other part of the solution is added. M. K.

AD: PA 1697-3

PETROV, A. I.

USSR/Metals - Nickel, Analysis Aug 50

"Accelerated Method for Determination of Copper in Nickelous Oxide, Metallic Nickel and Nickel Solutions," A. I. Petrov, Yuzhuralnikel' Combine

"Zavod Lab" Vol XVI, No 8, p 1006

Develops method for determination of Cu 2-3 times quicker than iodometric method. Nickelous oxide is fused with pyrosulfate of Na or K, the melt being lixiviated with water. Cu is separated from solution by quick electrolysis, dissolved

169743

USSR/Metals - Nickel, Analysis Aug 50
(Contd)

In solution of Fe-ammonium alum, and ferrous Fe thus formed is titrated potentiometrically with permanganate. Determination time is 40-50 min for nickelous oxide and 20 min for nickel solutions.

169743

GOLOSKEYEV, Anatoliy Dmitriyevich; PETROV, Aleksey Ivanovich; PETIN, M.I.,
red.; TIKHONOVA, Ye.A., tekhn.red.

[Handbook for pilots] Spravochnik lotsmana. Moskva, Izd-vo
"Morskoi transport," 1960. 163 p. (MIRA 14:1)
(Pilots and pilotage)

PETROV, A. I.

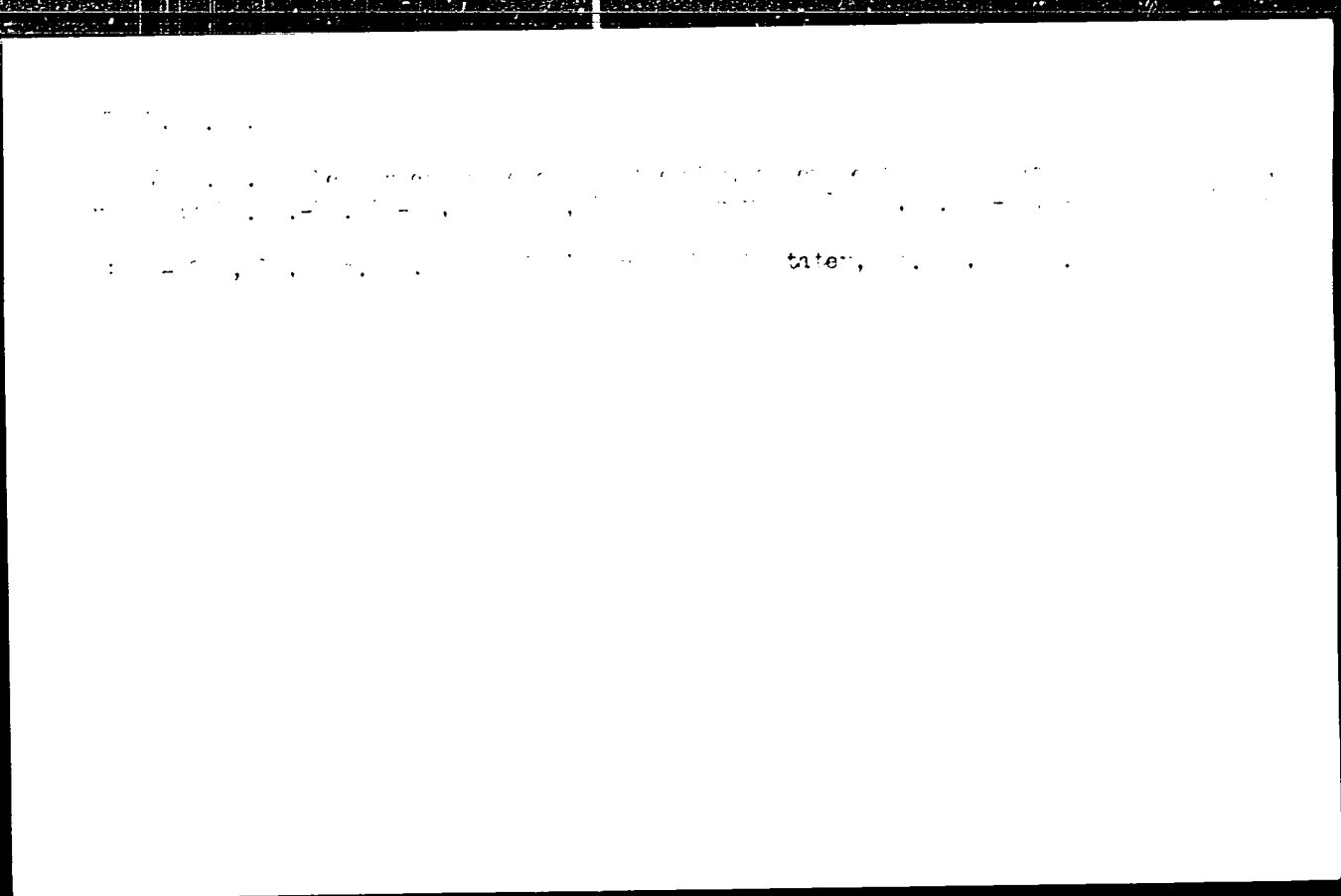
Physical similitude conditions of an incompressible fluid flowing
in rotary meters and methods of calibrating rotary meters. Izv.
tekh.no.4:3-6 J1-Ag '55. (MIRA 8:10)
(Flow meters)

PETROV, A.I.

Method for processing data of depth gauges. Neft.khoz. 35 no.2:43-
46 P '57. (MLRA 10:3)
(Oil wells--Equipment and supplies)

~~PETROV, Andrey Ivanovich; DROBAKH, Viktor Terent'yevich; PETROVA, Ye.A.,~~
vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Measuring pressures and fluid and gas losses in oil production]
Izmereniia davlenii i raskhodov zhidkosti i gaza na neftiannykh
promyslakh. Moskva, Gos.nauchno-tekhn.izd-vo nef. i gorno-top-
livnoi lit-ry, 1959. 178 p. (MIRA 12:11)
(Oil fields--Production methods) (Measuring instruments)



PETROV, Aleksandr Iosifovich

(Kazakh State Agricultural Inst) - Academic degree of Doctor of Biological Sciences, based on his defense, 7 May 1955, in the Council of the Inst of Experimental Biology of the Acad Sci KASSR, of his dissertation entitled: "The Apple and Fruit Moth in Central Asia (biology and methods of combating it)."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 1, 11 Jan 56, Byulleten' VAK 1956, Incl. J. CS/NY-548

PETROV, A.I., kandidat vel'skokozyastvennykh nauk, dotsent.

Ways and possibilities for using the chalcid fly *Ageniaspis fuscicollis* Dalm. in the biological control of *Hyponomeuta malinellus* and *Hyponomeuta padellus*. Trudy Resp.sta.zashch.rast.2:151-163 '55.

(MIRA 10:1)

(Trans-III Ala-Tau--Chalcid flies) (Insects, Injurious and
beneficial--Biological control) (Fruit--Diseases and pests)

Author: General A. I. Petrov, Institute of Entomology and Plant Pathology, USSR Academy of Sciences, Leningrad, USSR.

Abstract: The spread of the apple tree fruit moth, *Grapholitha pomonella* L., and the European spruce sawfly, *Pristiphora abietis* L., in the USSR.

Author: Petrov, A. I.
Inst: Institute of Entomology and Plant Pathology, USSR Academy of Sciences, Leningrad, USSR.
Title: The spread of the apple tree fruit moth, *Grapholitha pomonella* L., and the European spruce sawfly, *Pristiphora abietis* L., in the USSR.

Orig Pub: Tr. Inst. Entom. i Rastv. Zhivotn. 1973, No. 1, p. 1-10.

Abstract: The spread of the apple tree fruit moth, *Grapholitha pomonella* L., and the European spruce sawfly, *Pristiphora abietis* L., in the USSR. Both species are present to the north of the Ural mountains line to the present day.

Serial 143

A. Wick / General and Special Zoology. Insects of the
ful Insects and Mites. Fruit and Berry Tree
Pests.

Abstr Jour: Zool Zhurn., 1957, 2612.

Author : Petrov, M. I.

Inst : Institute of Zoology, 13 Kazan St.

Title : The Systematic Position of the Mosquitoes of the
Hyponomeuta Latr. genus, which Damage Fruit
and Stone Fruit Tree Species (Lepidoptera,
Hyponomeutidae).

Orig Pub: Tr. Inst. Zool. Akad. Nauk SSSR, 1957, 2, 4-16.

Abstract: The permanent breeding centers and the recent
settlement of *H. malinella* and *H. cellus* are
the wild growing fruit trees of the mountainous
regions of Asia and Europe. Under laboratory
conditions leaders of these species are reared.

Card 1/1

General and Special Ecology of Insects. A general
ecology of insects in relation to fruit and berry crop
insects.

Abstract Jour: Ref. Zh. Entomol., 1971, 10, 3, 207.

Abstract: and do not produce any visible damage. The
selection of seeds by the caterpillars, their
method of feeding, protection from enemies,
preparation for pupation and the form of pupae,
pupae, the selection of feeding plants by the
adult moths for the purpose of egg laying, the
form of the over-wintering and the sites where
they are located are sharply differentiated and
well expressed in both species. Under natural
conditions the moth feeds only on apple trees,
while the fruit tree moth feeds on certain hard-
thorn-tree species, plums, the black bitter al-
mond, and in gardens on grapes, currants,

Card 2/3

1953 / General and Applied Entomology. Insects. General
ful Insects and their Pests. Fruit and Berry Pests.
Pests.

Abstract: Ref. Entomol., No. 1, 1953, 232.

Abstract: and black apricot. The morphological features
in both species, except in the outer illars,
are difficult to distinguish. *H. albellus*
and *H. albellus* *H. variabilis* and *H. aliv-*
orella are independent species. *H. aliv-*
Adrianov.

Card 3/3

PETIOV, Aleksandr Iosifovich, doktor biol. nauk, prof.; KHARIN, Sergey Aleksandrovich, kand. sel'skokhozyaystvennykh nauk; GUSEVA, M.P., red.; NAZARENKO, L.I., red.; OYSTRAKH, V.G., tekhn.red.

[Protection of agricultural crops from pests in Kazakhstan]
Zashchita sel'skokhoziaistvennykh kul'tur ot vrediteloi v Kazakhstane. Alma-Ata, Kazakhskoe gos. izd-vo, 1957. 578 p. (MIRA 11:4)
(Kazakhstan--Agricultural pests)

PETROV, Aleksandr Iosifovich, prof., doktor biolog.nauk; VATOLKINA, K.A., kand.sel'skokhozyaystvennykh nauk; MARKIN, A.K., kand. sel'skokhozyaystvennykh nauk; BARANOV, M.F., red.; SOKOLOVA, N.N., tekhn.red.; DEYEVA, V.M., tekhn.red.

[Protecting cotton plants from pests and diseases] Zashchita khlopchatnika ot vreditel'ei i boleznei. Moskva, 1958. 486 p.
(Cotton--Diseases and pests) (MIRA 12:1)

PETROV, A.I.

Distribution of the moths *hyponomeuta malinellus* Z. and *H. padellus*
L. and areas of their harmful activities in the U.S.S.R. Trudy Inst.
zool. AN Kazakh. SSR 8:39-47 '58. (MIRA 11:6)
(Moths) (Fruit--Diseases and pests)

PETROV, A.I.

Systematic position of moths of the genus *Hyponomeuta* Latr.
(Lepidoptera, Hyponomeutidae) injurious to apple and stone fruit.
Trudy Inst. zool. AN Kazakh. SSR 8:48-66 '58. (MIRA 11:6)
(Moths) (Fruit--Diseases and pests)

PETROV, A.I.

Abiotic factors restricting mass multiplication of the apple fruit
miner. Trudy Inst. zool. AN Kazakh. SSR 8:67-73 '58. (MIRA 11:6)
(Apple--Diseases and pests) (Moths)

BATLASHVILI, I.D.; BEY-BIYENKO, G.Ye.; BOGDANOV-KAT'KOV, N.N.; GERASIMOV, B.A.; GILYAROV, M.S.; DMITRIYEV, G.V.; ZVERZZOMB-Z'BOVSEIY, Ye.V.; ZIMIN, L.S.; KOLOBOVA, A.N.; MEDVADEV, S.I.; MISHCHENKO, A.I.; PETROV, A.I.; RYABOV, M.A.; SAVZDARG, E.E.; SELIVANOVA, S.N.; SKORIKOVA, O.A.; TROPKINA, M.F.; SHAPOSHNIKOV, G.Kh.; SHCHEGOLEV, V.N., prof., doktor sel'skokhoz.nauk; ESTERBERG, L.K.; YAKHONTOV, V.V.; REUTSKAYA, O.Ye., red.; CHUMAYEVA, Z.V., tekhn.red.

[Classification of insects on the basis of damage to crops] Opre-
delitel' nasekomykh po povrezhdeniam kul'turnykh rastenii. Izd.4,
perer. i dop. Leningrad, Gos.izd-vo sel'khoz.lit-ry, 1960. 607 p.
(MIRA 14:1)

(Insects, Injurious and beneficial)

ACC NR: AP6024373

SOURCE CODE: UR/0280/66/000/002/0141/0148

AUTHOR: Kukhtenko, V. L.; Petrov, A. I. (*Moscow*)

ORG: none

TITLE: Using self-adjusting systems to compensate for the errors due to "parasitic" feedback

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 141-148

TOPIC TAGS: self adaptive system, noise jamming, circuit design, automatic control system, harmonic oscillation

ABSTRACT: The dynamics of certain automatic control systems is characterized by the presence of harmful ("parasitic") feedback which disturbs the specific characteristic of the control circuit. A typical block diagram of such a system is shown in Fig. 1 where W_1 and W_2

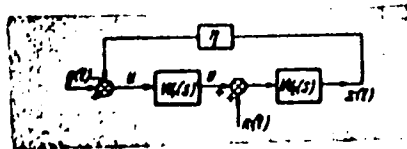


Fig. 1

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ACC NR: AP6024373

are the operators of basic-circuit elements and "parasitic" feedback, which may be either positive or negative, arises via the coefficient $\eta(t)$ which, compared with the transient process in the basic circuit, is a slowly varying time function. The control effect is represented by the signal $g(t)$; the noise, by the signal $n(t)$; and the output coordinate, by the quantity $x(t)$. The article considers a possible method of compensating such parasitic feedback with the aid of a self-adjusting system with forced oscillations and compares the dynamic characteristics of two types of systems of this kind: multiplier type and narrow-band filter type. This method consists in introducing additional feedback into the control system by adding a series-connected element with the coefficient $u(t)$ which is adjusted by means of a self-adjusting system so as to equal in magnitude (and reverse in polarity) to the coefficient $\eta(t)$, as well as an element with the transfer function $W_{10}(s)$ (Fig. 2).

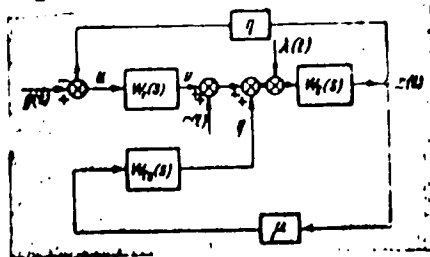


Fig. 2

Card 2/3

ACC NR: AP6024373

The operation of the self-adjusting system is based on the analysis of the harmonic oscillations introduced into the system. The calculations proceed from the premise that the error in the compensation of parasitic feedback is small and that the automatic control system (Fig. 2) is asymptotically stable. It is shown that the dynamic characteristics of adjustment processes in both types of self-adjusting systems are the same. Orig. art. has: 88 formulas, 7 figures.

SUB CODE: 02, 12, 09/ SUBM DATE: 06Oct64/ ORIG REF: 001/ OTH REF: 001

Card 2/3

L 35902-06 ENI(m)/ENP(w)/I/LHI(L)/EII LJP(c) ILJH
 ACC NR: AP6007352 SOURCE CODE: UR/0126/66/021/002/0248/0251

AUTHORS: Zhurkov, S. N.; Betekhtin, V. I.; Petrov, A. I.; Slutsker, A. I.

ORG: Physico-Technical Institute Im. A. F. Ioffe (Fiziko-tekhnicheskiy institut)

TITLE: Strength of aluminum at low temperature and disorientation of blocks

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 2, 1966, 248-251

TOPIC TAGS: aluminum, x ray spectroscopy, crystal lattice, tensile strength,
RUPTURE STRENGTH

ABSTRACT: An x-ray analysis of ruptured aluminum specimens, broken at -180C, was carried out. The study was undertaken to determine the reasons for the deviation of the experimentally determined destruction time τ from that calculated from the relationship

$$\tau = \tau_0 e^{\left(\frac{U_0 - \gamma\sigma}{RT}\right)}$$

where U_0 , τ_0 and γ are characteristic constants of the material, σ is the applied stress, R is the gas constant, and T is the absolute temperature. The experimental procedure followed is described by A. I. Slutsker and Ye. A. Yegorov (PTE, 1959, 5, 89). The experimental results are presented graphically (see Fig. 1). It is concluded that the deviation of τ from the theoretical expression is caused by the variation in γ . The variation in γ is believed to be caused by a disorientation of blocks in the aluminum specimens.

Card 1/2

UDC: 539.292:539.4

L 35902-66

ACC NR: AP6007352

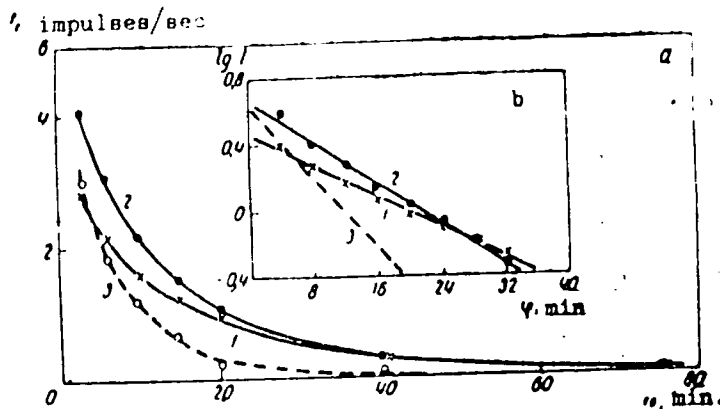


Fig. 1. Dependence of the scattering intensity on the scattering angle for aluminum specimens, ruptured at different conditions. 1 - $T = -180C$, $\sigma = 11 \text{ kg/mm}^2$; 2 - $T = -180C$, $\sigma = 16 \text{ kg/mm}^2$; 3 - $T = 18--200C$, $\sigma = 1.6--4.5 \text{ kg/mm}^2$.

Orig. art. has: 2 tables and 2 graphs.

SUB CODE: 11/ SUEM DATE: 17Feb65/ ORIG REF: 012/ OTH REF: 004

Card 2/2

123456789, Federal...
123456789, Federal...

[Multiple-reading...
from the practice of...
Province...
tsokhet na oryts...
oblasti. Kuly...
79 J.

PETROV, Al.

Let us build a Georgian National Agricultural Museum.
Selskostop nauka no. 5/6, 711-712 '63.

PETROKANSKIY, B.I.; ZVEREV, N.P., retsenzent; MIZIN, V.I.,
retsenzent; PETROV, A.I., retsenzent; KRISHAL', L.I.,
red.; MURAVIYEVA, N.D., tekhn. red.

[Statistical accounting and the work analysis of a rail-
road division] Statisticheskii uchet i analiz raboty ot-
delenia dorogi. Moskva, Izd-vo "Transport," 1964. 218 p.
(MIRA 17:3)

PETROV, A.I.

Using some selected fluids in checking volume flowmeters.
Trudy inst. Kom. stand. mer i izm. prib. no.66:67-74 '62.
(MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta
standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov
SSSR.

(Flowmeters--Testing)

L 10715-63 EPF(c)/EWT(m)/EDS--AVFTC/APOC--Pr-4--EW/DJ
ACCESSION NR: AF3002057 8/2589/62/000/066/0067/0074

AUTHOR: Petrov, A. I.

59

TITLE: Checking volume meters by liquid substitutes

SOURCE: USSR. Komitet standartov, ser, 1 izmeritel'nykh priborov. Trudy* institutov Komiteta, no. 66 (126), 1962. Issledovaniya v oblasti izmereniy davleniya, rashoda i vakuma, 67-74

TOPIC TAGS: volume meters, checking of instruments

ABSTRACTS: Meters were checked out on two liquids, one of which had a viscosity of μ sub 1 approximately equals 25 centipoise while the other had a viscosity of μ sub 2 approximately equals 1 to 1.5 centipoises. Transformer oil, water, and kerosene were used as the liquids. Author then derives a meter constant which is based on purely mathematical methods. Orig. art. has: 5 figures, 1 table and 13 formulas.

ASSOCIATION: VNIIC

SUBMITTED: 24Jun61

DATE ACQ: 20Apr63

ENCL: 00

Card 1/2

PETROV, Andrey Ivanovich; DROBAKH, Viktor Terent'yevich; PETROVA,
E.A., ved. red.; VORONOVA, V.V., tekhn. red.

[Techniques of measuring the pressure and consumption of
fluids and gas] Tekhnika izmereniia davlenii i raskhodov
zhidkosti i gaza. 2., dop. i perer. izd. Moskva, Gostop-
tekhizdat, 1963. 216 p. (MIRA 16:4)
(Fluids--Measurement) (Pressure--Measurement)

PETROV, Andrey Ivanovich; DROBAKH, Viktor Terent'yevich; PETROVA, Ye.A., ved. red.; VORONOVA, V.V., tekhn. red.

[Techniques of measuring the pressure and consumption of fluids and gas] Tekhnika izmereniia davlenii i raskhodov zhidkosti i gaza. 2. dop. i perer. izd. Moskva, Gosgoptekhnizdat, 1963. 246 p. (MIRA 16:4)

(Pressure--Measurement)

(Oil well drilling fluids--Measurement)

(Oil wells--Hydraulic fracturing)

(Gas, Natural--Measurement)

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BULANOV, A.I.; DURNEV, A.I.;
YELISEYEV, S.V.; ZAKATOV, P.S.; IZOTOV, A.A.; KARLOV, G.M.;
KUZ'MIN, B.S.; KUKUSHKIN, A.D.; KOLUPAYEV, A.P.; K. ZLCVA, Ye.A.;
LARIN, B.A.; LARIN, D.A.; LARIN, B.A.; LITVINOV, B.A.; MAZAYEV,
A.V.; PELLINEN, L.P.; PETROV, A.I.; SOLOV'YEV, A.I.; TOMILIN, A.F.;
URALOV, S.S.; USFENSKIY, M.S.; FOMIN, M.P.; SHISHKIN, V.M.; SHCHEGLOV,
A.P.; SUDAKOV, S.G., otv. red.; KOMARKOVA, L.M., red. izd-vag; SINGUROV,
V.S., tekhn. red.

[Instruction concerning the building-up of a state geodetic network
in the U.S.S.R.] Instruktsiia o postroenii gosudarstvennoi geodezi-
cheskoi seti Ssoluza SSR; obiazatel'na dlia vseh vedomstv i uch-
rezhdenii, proizvodiaschikh gosudarstvennye geodezicheskie seti.
Moskva, Izd-vo geodez. lit-ry, 1961. 459 p. (MIRA 15:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i karto-
grafii.

(Geodesy)

PETROV, A.I.

Various effects of cobalt salts, differing in their anions, on
forage cabbage. Trudy Kar. fil. AN SSSR no.29:50-58 '61.
(MIRA 15:2)
(Cabbage—Fertilizers and manures)(Cobalt salts)(Anions)

KOPII, B.S.; MIKHAYLOV, A.V.; CHLENOV, A.F.; IDOV, P.I.; YUKHNOV, I.I.;
TSARSKIY, S.V.; BARANOV, V.A.; PETROV, A.I.; LIFSHITS, L.Z.;
ABATUROV, K.I.; SOKOL'SKAYA, Zh.M.; MEZHEVICH, V.N.; DAYYDOV,
L.I.; VLASIKHIN, A.V.; CHEKALOV, L.N.; STARICHKOV, T.I.;
KHUBLAROV, A.Ye., red.; PITERMAN, Ye.L., red. izd-va; PARFKHINA,
N.L., tekhn. red.

[Our beacons; collection of articles on progressive workers in
lumber, paper, woodworking industries and forestry] Nashi maiaki;
■bornik ocherkov o peredovykh liudiakh lesnoi, bumazhnoi i derevo-
obrabatyvaiushchei promyshlennosti i lesnogo khoziaistva. Moskva,
Goslesbumizdat, 1961. 125 p. (MIRA 15:2)
(Forests and forestry) (Wood-using industries)

PETROV, A.I., podpolkovnik; VEKSHININ, I.V., mayor

Artificial satellites for military use; from the foreign
press. Vest. protivovozd.obor. no.4:47-49 Ap '61.

(MIRA 14:7)

(Artificial satellites)

KOLDOBSKIY, A.G.; MEDVEDEV, S.I.; PISKOPPEL', F.G.; YAKOBSON, M.G. Prinimali uchastiye: BERKHIN, I.B.; OSLIKOVSKAYA, Ye.S.; PEREKISLOVA, A.M.; LITVIN, V.M.; PARKHOMENKO, Ye.V.; STOTIK, A.M.; SHAPIRO, T.I.; STRUMILIN, S.G., akad., glav. red.; ALEKSENKO, G.V., red.; ANISIMOV, N.I., red.; VOLODARSKIY, L.M., red.; GERSHBERG, S.R., redaktor; red.; PETROV, A.I., red.; POSVYANSKIY, S.S., red.; BAZAROVA, G.V., kand. ekonom. nauk, starshiy nauchnyy red.; KISEL'MAN, S.M., starshiy nauchnyy red.; LIVANSKAYA, F.V., kand. ekonom. nauk, starshiy nauchnyy red.; GLAGOLEV, V.S., nauchnyy red.; NEDBAYEV, V.I., nauchnyy red.; TUMANOVA, N.L., nauchnyy red.; TOVMASYAN, M.E., red.; BLAGODARSKAYA, Ye.V., mladshiy red.; SHUSTROVA, V.M., mladshiy red.; ZENTSEL'SKAYA, Ch.A., tekhn. red.

[The economic life of the U.S.S.R.; chronicle of events and facts, 1917-1959] Ekonomicheskaya zhizn' SSSR; khronika sobytii i faktov 1917-1959. Glav. red. S.G.Strumilin. Chleny red. kollegii: Aleksenko i dr. Moskva, Gos. nauchn.izd-vo "Sovetskaya entsiklopediya," 1961. 779 p. (MIRA 14:10)

1. Tsentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. Lenina (for Litvin, Parkhomenko, STOTIK, Shapiro).

(Russia—Economic conditions)

SHER, I.D., prof.; TOLSTYKH, A.N. Prinsipialni uchastiye: RYBAKOVA, T.A.;
BOGACHEV, K.K.; KULESHOV, F.M.; PETROV, A.I.; NADEZHINA, A.,
red.; TELEGINA, T., tekhn. red.

[Accounting and operational technique in the Construction bank;
textbook] Uchet i operatsionnaya tekhnika v stroibanke; uchebnoe
posobie. Kollektiv avtorov pod rukovodstvom I.D.Shera i A.N.Tol-
stykha. Moskva, Gosfinizdat, 1961. 215 p. (MIRA 14:12)
(Banks and banking--Accounting)

VINOGRADOV, Aleksandr Nikolayevich; CHERNOMORDIK, D.I., prof., retsenzent;
PETROV, A.I., red.; USENKO, L.A., tekhn. red.

[Why it is necessary to have separate accounting in every railroad
department] Zachem nuzhen uchet y kazhdom zheleznodorozhnom pred-
priatii. Moskva, Vses. izdatel sko-poligraf. ob"edinenie M-va
putei soobshcheniia, 1961. 49 p. (MIRA 14:10)
(Railroads—Accounts, bookkeeping, etc.)

AM4016091

BOOK EXPLOITATION

S/

Krasnosel'skiy, Mark Aleksandrovich; Petrov, Anatoliy Ivanovich;
Povolotskiy, Abram Isaakovich; Zabreyko, Petr Petrovich

Plane vector fields (Vektorny*ye polya na ploskosti) Moscow, Fiz-
matgiz, 63. 0245 p. illus., biblio. 11000 copies printed.

TOPIC TAGS: vector field, vector field on plane, field on closed
curve, vector field singular points, homotopic vector field, degree
of mapping singular point index, solvability of equations, boundary
value problem, singular differential equation

PURPOSE AND COVERAGE: The book is devoted to an important geometri-
cal analysis method and its applications to different problems of
algebra, polynomials, function theory, and theory of ordinary dif-
ferential equations. Many important results are claimed to be
original with the authors. It contains applications of the theory
of plane vector fields to existence theorems for systems of differ-

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ential equations, the arrangement of roots of polynomials, singular points and periodic solutions of ordinary differential equations, critical points of harmonic and pseudoharmonic functions, oscillation theorems, two-point boundary problems, and others. It is designed for the reader familiar only with the principles of mathematical analysis, students specializing in physics and mathematics, graduate students, and scientists interested in various nonlinear problems. It can also serve as an introduction to more complicated branches of mathematics, connected with applications of topological methods. The book is based on a special course read by one of the authors (M.A.K.) at the Voronezh University and several papers delivered to the Voronezh Seminar on Functional Analysis.

TABLE OF CONTENTS [abridged]:

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Ch. I. Rotation of vector field - - 7
Ch. II. Index of singular points - - 61
Ch. III. Applications - - 96
Supplement - - 225

SUB CODE: MM

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NR REF SOV: 024

OTHER: 009

DATE ACQ: 19Dec63

Card 3/3

PETROV, A.I.

Ecological basis for methods to control the fruit-tree and apple-tree
Institute of Zoology, Akh-Karakh, SSR, 195-11, 1950. (MIRA 1951:11)
(Fruit--diseases and pests)

PETROV, A.I., prof.; LESHCHINSKIY, M.I., kand. ekon. nauk; MAKSIMOVA, V.N., dotsent; MALYY, I.G., dotsent; MOSKVIN, P.M., dotsent; TITEL'BAUM, N.P., dotsent; URINSON, M.S., dotsent; EYDEL'MAN, M.R., kand. ekon. nauk; GUREVICH, S.M., red.; GRYAZNOV, V.I., red.; PYATAKOVA, N.D., tekhn. red.

[Course in economic statistics] Kurs ekonomicheskoi statistiki. Izd.3., dop. i perer. Moskva, Gosstatizdat TsSU SSSR, 1961. 507 p.
(MIRA 14:6)

(Statistics)

KUTUKOV, A.I., red.; ZAYTSEV, A.P., red.; DROGALIN, G.V., red.; POLESIN, Ya.L., red.; KOSTYUKOV, N.H., red.; KURAS, D.M., red.; LUZHNIKOV, A.M., red.; RODIONOV, I.S., red.; BLOKH, S.S., red.; SULTANOV, D.K., red.; BIBILUROV, V.P., red.; PETROV, A.I., red.; KHARCHEVNIKOV, N.M., red.; ANDRIANOV, E.I., red.; GADZHIINSKAYA, M., red. izd-vo; BERESLAVSKAYA, L.Sn., tekhn. red.

[Safety regulations for petroleum and gas producing industries]
Pravila bezopasnosti v neftegazodobyvalushchei promyshlennosti.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960.
123 p. (MIRA 14:3)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po nadzoru za bezopasnym vedeniem rabot v promyshlennosti i gornomu nadzoru.
2. Tsentral'nyy apparat Gosgortekhnadzora RSPSR (for Kutukov, Zaytsev, Drogalin, Polesin, Kostyukov, Kuras, Luzhnikov, Rodionov, Blokh).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut po tekhnike bezopasnosti (for Sultanov).
4. Upravleniya ukругov Gosgortekhnadzora RSPSR (for Bibilurov, Petrov, Kharchevnikov).
5. Tsentral'nyy komitet profsoyuza rabochikh neftyanoy i khimicheskoy promyshlennosti (for Andrianov).
(Oil fields--Safety measures)
(Gas industry--Safety measures)

PETROV, A. K., Doc Biol Sci -- (iss) "Growth and development of the elk
compared with ~~that of~~ cattle." Mos, 1958. 28 pp (Min of Agriculture USSR,
Mos Vet Acad), 170 copies (KL, 18-58, 97)

-2-

PETROV, A.K., agronom.

Creators of new working methods. Nauka i pered.op. v sel'khoz.
no.9:54 S '56. (MLRA 9:10)
(Fruit culture) (Perov, Nikolai Vasil'evich)

PETROV, A.K.

Siberian-Turkestan apple hybrids. Priroda 45 no.3:96-98 Mr '56.
(MIRA 9:7)

1.Vosseyuznaya sel'skokhozyaystvennaya vystavka.
(Apple)

PIK, I.Sh.; NOTKIN, B.M.; PETROV, A.K., red.; ZHURAVSKIY, Ya.B., red.;
LUR'YE, M.S., tekhn.red.; KOGAN, V.V., tekhn.red.

[Experience in molding articles made of aminoplasts] Opyt
pressovaniia izdelii iz aminoplastov. Pod obshchei red. A.K.
Petrova. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1960.
139 p. (MIRA 1):9)

(Aminoplastics)

PETROW, A.K.

Divider strips on roving machines. Obs.tekh.orgt. [MLP] no.10:
40-41 '56. (MIRA 11:11)
(Spinning machinery)

PETROV, A.K.

Tool for measuring and cutting bands. Obs.tekh.opyt. [MIP] no.16:
69-71 '56. (MIRA 11:11)
(Spinning machinery)

PETROV, A. K.

27850. Petrov, A. K. Zashchitnye lesnyye polosy v bor'be s zapukhoy les i step'
1949, No. 1 s. 70-74

SO: L tosis' Zhurnal'n. kn. S atey, Vol 27, 1949

POPAZOV, A. I. •

3 312 E. Popov, S. I. ...
Step 1 Poln ...

... L ...

• 1 POPAZOV, D. I.

PETROV, A.K. inzh.

Gluing bent and kerfed parts in high-frequency current fields.
Der.prom. 7 no.3:1-3 Mr '58. (MIRA 11:4)

1.Moskovskiy lesotekhnicheskij institut.
(Gluing)

PETROV, A.K., inzh.

Gluing wood under high-frequency current field conditions.
Der.prom. 8 no.1:5-6 Ja '59. (MIRA 12:1)

1. Moskovskiy lesotekhnicheskiy institut.
(Gluing) (Induction heating)

PETROV, A K

1110) FINE I BOOK EXCITATION 50V/1000
 Vesoyuznyy naftyanoy naučno-issledovatel'skiy geologorazvedochnyy institut
 Geokhimiya (seriya) no. 5 (Collected papers on Geochemistry, Seriya "Leningrad, Gosoptekhnizdat, 1958. (Series) 1st study, 9 p. 23) 1700 copies printed.
 Pet. Pavel Petrovich Andreyev. (Ed.) L. Ya. Rusakova; Tech. Ed. I. M. Gennadiyeva.
 (Ukrainian) The book is intended for the technical and scientific personnel of institutes and laboratories. Central Scientific Research Laboratories of the petroleum industry and all those interested in the geology and geochemistry of petroleum.
 Petrov, A. K. Some Methods of Calculating the Gas Solubility Coefficient of Rocks
 Petrov, A. K. Method of Determining the Permeability of the Crustal Rock Cores
 Petrov, A. K., S. I. Baklanov, and A. L. Zolotarev. Possible Determination of CH₄ and C₂H₆ Groups by Infrared Absorption Spectra in the 1000-2700 cm⁻¹ Range
 Voronov, I. K. Application of the Capillary Method for Calculating the Total Number of Live Bacteria
 AVAILABLE: Library of Congress

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GLEBOVSKAYA, Ye.A.; MAKSIMOV, E.I.; PETROV, A.K.

Possibility of determining CH_3 - and CH_2 - groups by infrared
absorption spectra within the $3000 - 2700 \text{ cm}^{-1}$ range. Trudy
VNIGRI no.123:243-252 '58. (MIRA 11:12)
(Hydrocarbons--Spectra) (Spectrum, Infrared)

SOV/75-14-3-17/30

5(3)
AUTHORS: Glebovskaya, Ye. A., Maksimov, E. I., Petrov, A. E.

TITLE: Quantitative Determination of CH₂-Groups in Open Chains With Not Less Than Four Links

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, PP 478-482 (USSR)

ABSTRACT: The methane-naphthene parts of the hydrocarbons in petroleum or bitumen can be characterized by their CH₃ and CH₂ group content by application of infrared spectroscopy. These two groups are separately determined by the oscillations of the CH-bonds. The deformation vibrations as well as the valency vibrations of the groups CH₃ and CH₂ have different frequencies and are characterized by the difference in the absorption intensity. In the present paper the deformation vibrations of the CH-bonds are used for the quantitative determination of the CH₂-group-content in open chains with more than four links. The deformation vibrations of CH-bonds in methylene groups appear in the range of 800-700 cm⁻¹ as wide absorption bands. Liquid normal paraffins

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Quantitative Determination of CH₂-Groups in Open
Chains With Not Less Than Four Links

SOV/75-14-4-17/30

give one single band at 720 cm^{-1} . This band is divided into two components (Refs 1, 3) in the case of crystalline normal paraffins, fatty acids, and other compounds with methylene chains. Table 1 gives the relation between the characteristic frequencies of the deformation vibrations of the CH₂-group and the length of the chain (Ref 4). Molecules not containing chains of more than four links of the CH₂-group do not absorb in the range of $13.8 - 13.9\ \mu$ ($725 - 720\text{ cm}^{-1}$). The authors investigated the absorption in the range from 13.2 to $14.4\ \mu$. Measurements were made by means of the one-ray instrument IKS-11; no solvent was used. First the group absorption coefficient of the substance concerned has to be determined for the quantitative determination of the CH₂ group, as this coefficient has different values in different instruments and under different determination conditions. In the determination of liquid and solid substances it is necessary to know the molecular weight and density of the substance to be able to determine the CH₂ group content as a

Part 2/4

Quantitative Determination of CH₂-Groups in Open
Chains With Not Less Than Four Links

SOV/75-14-4-17/10

number of CH₂ groups per molecule. For computing the part by weight of the CH₂ groups in the solution only the molecular weight must be known. The accuracy of the determination is ± 1 in the computation of the number of the CH₂ groups in the molecule and $\sim 10\%$ in the determination of the part by weight. 2 tables show the results of the measurements of the integral intensity of the absorption in the range 13.2 - 14.4 μ for the computation of the number of CH₂ groups per molecule for the alkanes from heptane to heptadecane (Table 2) and for the solid paraffins C₃₆H₇₄, C₂₀H₄₂ and stearic acid (Table 3). Table 4 gives the results of the measurement of the integral intensity of absorption in the range 13.2 - 14.4 μ for the determination of the part by weight of CH₂ groups for the alkanes from heptane

Card 3/4

Quantitative Determination of CH_2 -Groups in Open
Chain With Not Less Than Four Links

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to heptadecane. Table 5 gives the results of analyses of artificial mixtures of hydrocarbons concerning their contents of CH_2 groups ($n \geq 4$). There are 1 figure, 5 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nefteyny nauchno-issledovatel'skiy geologorazvedochnyy institut, Leningrad (All-Union Scientific Research Institute for Geologic Prospecting of Petroleum, Leningrad)

SUBMITTED: March 19, 1957

Page 4,4

STROGANOV, Anatoliy Il'ich; PETROV, Aleksey Konstantinovich;
ZVEREV, Boris Fedorovich; SVET, Ye.B., red.; KUZNETSOVA, G.Ya.,
tekhn. red.

[Economy of magnesite in steel smelting]Ekonomiya ~~magnezita~~ v
staleplavil'nom proizvodstve. Cheliabinsk, ~~Cheliabinskoe~~ knizh-
noe izd-vo, 1962. 41 p. (MIRA 16:1)
(Smelting furnaces--Maintenance and repair)
(Refractory materials)

STROGANOV, A.I.; PETROV, A.B.; LABUNOVICH, G.A.; SVET, Ye.B., red.

[raw materials for steelmaking] Сырье материалы в сталеплавлении
и производстве. Челябинск, Южно-Уральское книжное изд-
во, 1964. 71 p. (MIRA 18:5)

LEVENETS, N.P.; SAMARIN, A.M.; SEMIKIN, I.D.; KAZAKOV, V.E.; BEMBINEK, Ye.I.;
PANYUKHNO, L.G.; SVINOLOBOV, N.P.; AVERIN, S.I.; SMIRNOV, V.M.;
ZELENSKIY, V.D.; LAYKO, B.G.; TISHCHENKO, O.I.; OKHRIMOVICH, B.P.;
DANILOV, A.M.; TISHKOV, Yu.Ya.; PANOV, M.A.; MARKELOV, A.I.;
PETROV, A.K.; VASILEVSKIY, P.A.; PASYUK, K.I.; NESTEROV, V.I.;
KHRUSTAL'KOV, L.A.; GLAZKOV, V.S.; MAKAGON, V.G.; FOMIN, G.G.;
TRISHCHENKO, V.D.; KORZH, V.P.; SUYAROV, D.I.; ARSEYEV, A.V.;
PAVLYUCHENKO, A.A.; ZHADAYEV, V.G.; KONDORSKIY, R.I.; MOROZOVA,
I.A.; KOCHETOV, V.V.; PRUZHINER, V.L.; MALEVICH, I.A.;
MALIOVANOV, D.I.; ZAKOVRYASHIN, I.I.; NOVSKIY, I.S.; NOVIKOVA,
V.P.; GRISHIN, K.N.; MOSKOVSKAYA, M.L.; KORNEYEV, B.M.

Inventions. Met. i gornorud. prom. no.3:75-76 My-Je '64.
(MIRA 17:10)

PETROU, A.K.

18 18
 Influence of deoxidation with aluminum on quality of structural steel. N. G. Antropova, I. M. Kallina, and A. K. Petrou (Met. Works, Zlatoust). *Stal* 17, 84-9 (1961). Fractured sections of Al-killed quenched steel show on their surface flake-like defects which sharply affect the transverse properties of the metal. Investigation showed that the surface of these defects contains more Al and N than the body of the metal. This was established metallographically by x-rays and by microchem. dens. Exptl. melting with different amts. of Al for deoxidation established a direct connection between the defect and Al addn. In the solidification process, Al not combined with O liquefied and was absorbed on the surface of cast crystals; N diffused at a much faster rate, then combined with Al to form a film of nitride which causes the defect. J. D. Cat

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AUTHOR: PETROV, A.K., OKHRIMOVICH, B.P., engineers of the PA - 2396
Ironworks of ZLATOUST (Zlatoustovskiy metallurgicheskiy zavod).
TITLE: Influence of Hot-Top Configuration on the Macrostructure of Ingot.
(Vliyaniye formy pribyl'mey nadstavki na makrostrukturu slitka. Russian)
PERIODICAL: Stal', 1957, Vol 17, Nr 2, pp 130-135 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 5 / 1957

ABSTRACT: The essential reason for the defectiveness of the macrostructure in that part of the ingot that is below the dead head, is the incrustation at the contact point of the ingot with the head piece for the dead head. The nature of these defects and the new construction of the head pieces are described. With the use of these wide head pieces the defects are largely reduced, so that the output of usable steel is increased by about 2% by this construction. Working with these head pieces also does not bring about any transversal cracks but by the contraction strain developing with the cooling process it leads to a disengagement. This makes work easier and accelerates the passing-on of the ingots to the blooming-mill train. (8 tables, 7 illustrations and 4 citations from Slavic literature).

ASSOCIATION: Ironworks of Zlatoust (Zlatoustovskiy metallurgicheskiy zavod).
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress
Card 1/1

137 38 0 11777

Translation from Referativnyi Zhurnal Metalurgiya, 1977, No. 1, pp. 1-10

AUTHOR Petrov, A.K.

TITLE Improving Electric Arc Furnace Steelmaking Techniques (Isto-
vershenstvovaniye tekhnologii vypivki stali v dugoobochennykh
tropechakh - Tekhnologiya proizvodstva krupnykh profilyev
legirovannykh staley)

PERIODICAL Izv. Nauchno-issled. i obrab. chernoy metalurgii, 1977, Vol.
18, pp. 38-43

ABSTRACT The results of an investigation of the causes of the appear-
ance of defects in the macrostructure and fracture of large
structural steel shapes and of measures to eliminate them at
the Zlatoust metallurgical plant are set forth. When grade
38KhMY1A and 32KhY1A steels are made with the addition of
Al in the ladle, spotty segregation (SS) is observed in 27% of
heats of open-hearth steel and 61% of electric steel heats, and
laminated woody fracture in 16% of all heats. Improvement of
smelting and pouring procedures and of the soaking of the cast
gots for pouring did not accomplish elimination of these defects.

Card 1-2

137 58 0 1177

Improving Electric Arc Furnace Steelmaking Techniques

It is established that in areas of SS there is an increased content of Si, V nonmetallic inclusions (NI) and reduced [Al]. Moreover, these segments have a distinctive crystalline structure, and the dark spots on transverse templates had a counterpart in dark stripes on the longitudinal ones. In the light of the data obtained, the appearance of SS is explained in terms of excavated NI in the steel, and the origin of laminated woody fracture is sought in the deposition of films of NI rich in Al_2O_3 along the grain boundaries. A description is offered of the basic conditions of a new smelting process characterized by an improvement in degasification and deoxidation of steel and by the introduction of Al 30 min before tapping. This makes possible a reduction in rejects due to SS to 5-5%, and complete elimination of laminated woody fracture. Laminated woody fracture was eliminated from 3KhVFYA steel by introducing V in the ladle and Al into the furnace before tapping. Fractures of large shapes of structural steel not alloyed with Al revealed a defect in the form of individual fine granular areas of spalls de the plane of fracture (spallation fragments). Films of AlN were found at the boundaries of these areas, and the tendency of the steel to form cleavages increased with the amount of Al added for purposes of deoxidation, as did the number of flaws in the billets. Elimination of spallation areas was accomplished by reduction of the amount of added Al to 0.3 kg/t for Cr-Mn-Si steel and to 0.3-0.5 kg/t for 18KhNVA steel. Bibliography: 9 references. Card 2/2. Electric furnaces--operation--improvement--techniques--steelmaking.

AUTHORS: Petrov, A.K., *Trudovye Resheniya*, No. 10, 1980, Yel'.

TITLE: The Influence of the Refining Conditions on the Quality of Steels with Aluminum Additions (Vliyeniye usloviy prisdadki legirovaniya na kachestvo staley s legirovaniyem)

PERIODICAL: *Stal'*, 1980, No. 10, p. 1774-1776 (USSR)

ABSTRACT: The influence of the conditions of refining aluminum additions to steels alloyed with aluminum on the formation of specific defects for aluminum alloyed steels was investigated. Steels 38KhMnAl and 38KhAl produced with additions of aluminum to the ladle are seldom obtained with a required quality. 80% of specimens with metal and 1% of metal from electric furnaces with a defective fine to spot liquid and layered fracture of Charpy's specimens is contained in over 10% of the metal. On the basis of an investigation, a new technology for production of these steels was developed. Main points: 1) refining of metal should be carried out at a velocity of decarburisation 0.35 - 0.40 C/m with a good renewal of slag in order to obtain an intensive de-phosphorus and de-sulphurisation of the steel. During refining, slag is decarburised at first with dry coke breeze and then with ferrosilicon or silico-manganese to such an extent that before the removal of the refining slag, the metal is the

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test vessel in which the liquid contained 1.5% Mn, 0.15% Si. The refining slag should be carefully stirred in order to prevent redox reactions between silicon and aluminum. Aluminum is added to the clean surface of the metal 30 minutes before tapping. When smelting the above steels in the manner indicated, the proportion of rejects due to spalling decreased 2.5 times due to layer fracture to zero; the volume of metal left in dressing decreased 2.5 times; the total loss of metal due to the above mentioned defects decreased to 3%. Steel 38KhVFN - 11th steel (C 0.35-0.42, Mn < 0.40, Si 0.15-0.37, Cr 1.5-1.8, Ni < 0.30, W 0.2-0.40, V 0.1-0.2, Al 0.4-0.7, P < 0.03, S < 0.035%) is being produced as a replacement for steel 38KhMYA. Even when the technology of production is strictly maintained, the fracture of all hardened specimens from rods 30 mm diameter shows a coarse layered structure (Figures 1 and 2). Investigations indicated that on the surface of the layered fracture, there is a higher concentration of aluminum, vanadium and nitrogen than on the surface of a normal fracture. It was therefore

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concludes that... part in the... practice, vanadium... added 30-40... addition of... Experimental heats were made... which vanadium... aluminium by... into the furnace... before tapping... ladle when the metal... temperature was... (the first portions of metal were topped without slag). A marked improvement in the structure of the fracture of hardened specimens was obtained (Figure 3). Thus, the method by which vanadium is added to the aluminium alloyed steel has a considerable influence on its quality. It is concluded that the work should be continued. There are 3 figures and 1 Soviet ref.

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Card 3/3 1. Aluminum-steel alloy--production. 2. Aluminum-steel alloy --properties